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Concerning Stephen Hawking's Claim that Philosophy is Dead¹

The relations at present between philosophy and the sciences are not especially good. Let's begin with Stephen Hawking's famous words at the May 2011 Google Zeitgeist conference in England:

[...] almost all of us must sometimes wonder: Why are we here? Where do we come from? Traditionally, these are questions for philosophy, but philosophy is dead. Philosophers have 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.²

According to Hawking, philosophy is dead. Others are more generous and claim only that philosophy will be dead in the near future, and only partly dead. For example, brain researcher Wolf Singer tells us that he is interested in philosophy for two reasons: first because “progress in neurobiology will provide some answers to the classic questions in philosophy,” and second because “progress in the neurosciences raises a large number of new ethical problems, and these need to be addressed not only by neurobiologists but also by representatives of the humanities.”³ In other words, Singer is interested in philosophy as a potential takeover target for the neurosciences, though he reassures us that philosophers should not fear this ambition, since Singer still needs ethics panels that will “also” include representatives of the humanities alongside neurobiologists. Having escaped its medieval status as the handmaid of theology, philosophy will enter a new era as the ethical handmaid of the hard sciences.

¹ This article was originally presented as a lecture on August 17, 2012 at the dOCUMENTA (13) art festival in Kassel, Germany. The occasion was a public discussion with the Austrian physicist Anton Zeilinger that took place in the Ständehaus.

² Matt Warman, “Stephen Hawking tells Google ‘philosophy is dead’”, *The Telegraph*, May 17, 2011. <http://www.telegraph.co.uk/technology/google/8520033/Stephen-Hawking-tells-Google-philosophy-is-dead.html>.

³ Wolf Singer, interviewed in Thomas Metzinger, *The Ego Tunnel: The Science of the Mind and the Myth of the Self*, New York: Basic Books, 2009, p. 71.

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Nor is it only scientists who dream of this program; some philosophers are eager for it as well. Consider the structural realists James Ladyman and Don Ross, who take pleasure in announcing that “Special Relativity ought to dictate the metaphysics of time, quantum physics the metaphysics of substance, and chemistry and evolutionary biology the metaphysics of natural kinds.”⁴ The philosopher Peter van Inwagen opens his book *Material Beings* with the words of physicist Richard Feynman:

What is an object? Philosophers are always saying, “Well, just take a chair for example.” The moment they say that, you know that they don’t know what they are talking about any more. What is a chair? Well, a chair is a certain thing over there... certain? How certain? The atoms are evaporating from it from time to time – not many atoms, but a few – dirt falls on it and gets dissolved in the paint; so to define a chair, precisely, to say exactly which atoms are chair, and which atoms are air, or which atoms are dirt, or which atoms are paint that belongs to the chair is impossible.⁵

Van Inwagen believes that nothing exists except the tiniest physical particles (whatever those might be) and living creatures, so that mid-sized non-living entities such as tables and chairs do not really exist. How triumphant he must have felt when including Feynman’s remarks in the epigraph to his book. Yet van Inwagen forgot to include the following remark from the philosopher of science Paul Feyerabend: “The younger generation of physicists, the Feynmans, the Schwingers, etc., may be very bright; they may be more intelligent than their predecessors, than Bohr, Einstein, Schrödinger, Boltzmann, Mach and so on. But they are uncivilized savages, they lack in philosophical depth...”⁶ Nor did van Inwagen include the following words from physicist Carlo Rovelli, a sort of anti-Hawking in his view of philosophy’s relation to science:

If a new synthesis is to be reached, I believe that philosophical thinking will be once more one of its ingredients... As a physicist involved in this effort, I wish that philoso-

⁴ James Ladyman and Don Ross, with David Spurrett and John Collier. *Every Thing Must Go*, Oxford: Oxford University Press, 2007, p. 9.

⁵ Taken from the epigraph to Peter Van Inwagen, *Material Beings*, Ithaca, NY: Cornell University Press, p. vi.

⁶ The passage can be found in Imre Lakatos and Paul Feyerabend, *For and Against Method: Including Lakatos’s Lectures on Scientific Method and the Lakatos-Feyerabend Correspondence*, Chicago: University of Chicago Press, 2000, p. 385.

phers who are interested in the scientific conceptions of the world would not confine themselves to commenting [on] and polishing the present fragmentary physical theories, but would take the risk of trying to look ahead.⁷

In what follows, I would like to talk about how philosophy might once again take the risk of looking ahead, rather than willingly accepting a new handmaid's status centuries after it escaped that role in the religious context.

1. The Division of Labor

Let's begin with some general considerations before zeroing in on a specific philosophical problem. To a large extent, the natural sciences in the modern period have been separated from the arts, humanities, and social sciences according to a division of labor. The two types of disciplines seem, at first glance, to deal with two completely different kinds of reality. Nature is objective, works according to immutable law, and is a question of mindless physical matter that should be calculated with exact mathematical precision. By contrast, the human realities dealt with by the other type of discipline are subjective, consisting of the projection of arbitrary values and perspectives onto inert matter. If René Descartes's dual ontology of *res extensa* and *res cogitans* is not the cause of this modern split, it remains an exemplary milestone along the modern path, with its taxonomy of just *two* basic kinds of entities: the natural and the human.

This division has held up fairly well, with shifting levels of prestige for the two sides. In classical education the liberal arts were king; gaining a command of Greek and Latin was considered to be nobler than grubbing around in dealings with physical nature. Today, the situation is largely the reverse. An astonishing series of breakthroughs over the past four centuries has established the revolution in mathematical physics as one of the most important events in human history. Ingenious insights have awakened the human race to universal gravitation, a unified electromagnetism, the laws of chemical elements and the origin of species, special and general relativity, the quantum theory, and facts about neighboring planets, distant exploding stars, and the origin of the universe itself. New insights are surely just around the corner, but even those already ob-

⁷ Carlo Rovelli, "Halfway Through the Woods," in J. Earman & J. Norton (eds.), Pittsburgh: University of Pittsburgh Press, 1997, p. 182.

tained have generated a familiar roster of practical breakthroughs running from penicillin and the automobile through lasers, computers, and atomic energy. By contrast it might seem that metaphysics, once known as queen of the sciences, has made little conceptual progress and achieved no practical results, so that Stephen Hawking might not even seem rash when he says that philosophy is dead. Governments and funding agencies can hardly be blamed for taking more interest in the tangible results of the hard sciences than in the seemingly aimless speculations of the philosophers.

In 1959, C. P. Snow spoke of the “two cultures” separating the humanities and arts from the natural sciences.⁸ But not everyone has accepted the idea of a division of labor here, and frequently one side has claimed supremacy over the other. Attempts have sometimes been made to reduce science to social facts about scientific practice, scientific texts, or scientific politics. The annoyance of scientists at this tendency was expressed in the famous 1996 Sokal Hoax, in which a nonsensical parody article about quantum gravity evaded the watchdogs and was published in the postmodernist journal *Social Text*, supposedly proving that recent French philosophy is nothing but meaningless jargon.⁹ Working in the other direction, there have been numerous attempts to reduce all human reality to facts about tinier physical things. The sciences of the brain are making the latest aggressive attempt to commandeer or eliminate philosophical problems, and perhaps they too will someday be infiltrated by a Sokal-like prank.¹⁰

Now in one respect, there must always be a division of labor in intellectual life. It takes long study and a certain polished expertise to make cutting-edge discoveries about tectonic plates, or the genetics of viruses, or the teleportation of photons, or the chemistry of acids, or the history of capitalism, or the story of Captain Ahab’s hunt for the white whale, or the morphology of the Turkic languages, or the stylistic features of analytic cubism, or metaphysics. None of these fields can be turned into the handmaid of the others, but each has a

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⁸ C. P. Snow, *The Two Cultures*, Cambridge (UK): Cambridge University Press, 2012.

⁹ For an explanation of the hoax and the text of the hoax article, see Alan Sokal and Jean Bricmont, *Fashionable Nonsense: Postmodernist Intellectuals’ Abuse of Science*, New York: Picador, 1998.

¹⁰ For a prominent recent example of exaggerated philosophical claims based on neuroscience, see Thomas Metzinger, *Being No One: The Self-Model Theory of Subjectivity*, Cambridge, MA: Bradford Books, 2004. A detailed critique of Metzinger can be found in my article “The Problem with Metzinger,” *Cosmos and History*, Vol. 7, No. 1, 2011, pp. 7–36.

certain autonomy, a local texture and color not masterable from the outside. None can be entirely reduced to some master discipline that explains it away as the derivative product of some deeper and tinier layer of things whose workings might explain it. This is why philosophy has a task, and why philosophy is *not* dead, the glowing public reputation of Hawking notwithstanding. Philosophy is both the most ambitious and the humblest of activities – ambitious because it aspires to talk about everything, and humble because in it is etymology philosophy is only a *love* of wisdom, not a wisdom that exhausts things all the way to the bottom. Philosophy must make room for every topic that exists, while also not claiming to master or reduce or master any of these topics. No other discipline can make both claims, just as only the maker of globes addresses the entire world without claiming an exhaustive model of any part of the planet.

It is a triviality to say that philosophy is the most general form of inquiry, but this claim becomes more interesting once we specify just why it is general. In 1894, the underrated Polish philosopher Kazimierz Twardowski wrote as follows:

metaphysics must be definable as the science of objects in general, taking this word in the sense here proposed. And this is indeed the case. The particular sciences, too, deal with nothing else but the objects of their changes, their properties, as well as the laws according to which objects affect each other. Only, the particular sciences always deal with a more or less limited group of objects, a group which is formed by the natural context or a certain purpose. The natural sciences, in the widest sense of the word, for example, are concerned with the peculiarities of those objects which one calls inorganic and organic bodies; psychology investigates the properties and laws characteristic of mental phenomena, of mental objects. [But] metaphysics is a science which considers all objects, physical – organic and inorganic – as well as mental, real as well as nonreal, existing objects as well as nonexisting objects; investigates those laws which objects in general obey, not just a certain group of objects.¹¹

For Twardowski (and I am in agreement here), philosophy is not restricted by any division of labor, but must consider all objects: from fictional characters, to organic and inorganic bodies, to mental, non-mental, real, and imaginary objects, to artworks, to large assemblages of technical equipment that roam across

¹¹ Kasimir Twardowski, *On the Content and Object of Presentations: A Psychological Investigation*, trans. R. Grossmann, Dordrecht: Martinus Nijhoff, 1977, p. 36.

farms and lurk beneath the sea. Philosophy must address all of these objects without reducing them to one privileged kind that would explain the others. Philosophy has the inherent need to talk about *both* natural and artificial objects, not just sit on ethics panels as Wolf Singer suggests, and not just do so-called “interdisciplinary” work that really means total deference by philosophy to the findings of the hard sciences, as Thomas Metzinger seems to wish.

Along with this systematic ambition to have something to say about everything, philosophy must also retain a certain modesty. Socrates, the ancestral hero of our discipline, is famous for holding that the only thing he knows is that he knows nothing. This is not an empty or sarcastic pose, but has a very precise sense. At the opening of Plato’s *Meno*, we read the following exchange between Socrates and the title character:

Meno: Can you tell me, Socrates, can virtue be taught? Or is it not teachable but the result of practice, or is it neither of these, but men possess it by nature or in some other way?

Socrates: [...] I myself, Meno, am as poor as my fellow citizens in this matter, and I blame myself for my complete ignorance about virtue. If I don’t know what something is, how could I know what qualities it possesses?¹²

Notice the paradox here. Normally, we think of ourselves as knowing something precisely through its qualities. But in this passage and in others, Socrates tells us that we need to know a thing apart from and prior to its qualities. If all method and all knowledge tries to pinpoint the genuine qualities of things, philosophy is a counter-method and counter-knowledge that aims at the thing-in-itself in separation from its qualities. But if philosophy stands alone in its ambition to consider every kind of object (including the unreal) it is not alone in its status as a counter-method or counter-knowledge: here, philosophy has *art* as its neighbor and close friend. By contrast, even the etymology of the word “science” suggests that it aspires to be a knowledge, which always means a direct access to the qualities of things and a skeptical attitude towards any ghostly excess in the things that would not be accessible to discursive reason (even if the tact and

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¹² Plato, “Meno,” in *Five Dialogues*, trans. G.M.A. Grube and rev. John M. Cooper, Indianapolis: Hackett, 2002, pp. 59–60.

taste found in all great scientific lives alert us that even science displays the features of an art). I have discussed this topic in my dOCUMENTA notebook *The Third Table*, and will return to the theme later in the present discussion.¹³

2. Mining

The claim that all natural, artificial, human, inhuman, real, and unreal spheres are made of objects, and that philosophy's mission is to give a theory of these objects, might sound so harmless and obvious as to be completely vacuous. Who could reject such a broad and sweeping claim? The answer is that virtually the entire history of philosophy and science rejects it. Indeed, it is striking how unanimously objects have been attacked as the very incarnation of human naiveté.

Often I have recounted the story of how the pre-Socratic thinkers of Ancient Greece, from around 600 B.C., forged an entire discipline from the undermining of objects, reducing them to some smaller, more primordial element from which all the various different-sized objects are built. This began with Thales of Miletus and his claim that *water* was the first principle of everything. Anaximenes followed with *air* as the primordial element of choice. More flexibility came with the famous theory of Empedocles that there are no fewer than *four* equiprimordial elements: water, air, earth, and fire, joined by love and separated by hate. Democritus was the best-known champion of uncuttable physical atoms. Alongside these theorists of primary elements was a different but overlapping set of pre-Socratic thinkers who sought something even deeper than water, air, or atoms: a more primordial, indeterminate mass from which all of these individual things must emerge. This is the shapeless *apeiron*, an indefinite blob from which everything arises and into which everything returns. The sole argument was over whether this *apeiron* existed in the past, exists in the present without our knowing it, or will exist in the future once all definite qualities are destroyed. Pythagoras and Anaxagoras saw the *apeiron* as lying in the distant past, before it inhaled vacuum or spun around too rapidly, causing it to shatter into the individual objects that surround us today. Parmenides held that this *apeiron* (which he called "being" instead) exists in the present, though our

¹³ Graham Harman, "The Third Table/Der dritte Tisch," dOCUMENTA (13) Notebooks series, ed. Katrin Sauerländer, German version trans. Barbara Hess, 2012.

senses and mere opinions deceive us into seeing a multitude of diverse things. Only the ominous Anaximander saw the *apeiron* as lying in the distant future, after the work of justice annihilated all opposites, all individual things, returning everything to the primordial, indeterminate womb (a view that probably influenced Karl Marx's conception of class struggle). In the view of all such theories, mid-sized objects are too shallow to be the truth: they must all be reduced to more basic underlying components. The problem with such doctrines is that they cannot account for the relative autonomy of a thing from its component pieces. If all the atoms in my body were removed, then I tend to think I would be destroyed. But numerous atoms can be replaced or removed without my being changed, just as the European Union is not necessarily destroyed whenever a few of its citizens die every minute, or even when various member nations arrive or depart. Objects are something over and above their components just as children are something over and above their parents – not because the results are “unpredictable,” but because even if they were completely predictable with godlike vision, the physical dependence of a larger thing on its smaller components does not entail an identity between the larger thing and the exact population and position of those components. Or at least this is one way of defining the famous concept of “emergence.”

Along with these undermining, anti-object-oriented philosophies which have been popular in Ancient Greek thought, the history of the natural sciences, and in recent philosophies of the pre-individual (Gilles Deleuze and especially Gilbert Simondon come to mind), we also find the reverse movement, which I have called an “overmining” approach. Here the object is treated not as too shallow, but as too *deep* to be the truth. Why posit invisible entities lying behind appearances? For everything is appearance, relation, or event rather than substance. Everything is dynamic flux and flow rather than static independent entities. Everything is just an appearance in the mind, or exhaustively knowable through mathematical equations. There is no dark or ghostly residue in the world, and nothing is unknowable to a carefully observing conscious mind. The problem with these overmining theories is that they have no way to explain why anything changes. If the world were exhaustively deployed in its current state, with nothing left unexpressed in the here-and-now, it is impossible to explain why anything would ever shift or move from what it is now to something else. All change requires that there be some unexpressed surplus or residue, some *non*-relational component in objects that allows them to enter a series of new relations.

But what is perhaps most remarkable about these two opposed strategies for destroying the role of objects is that they always lean on each other as supplements. An undermining approach such as atomism claims that all tables, chairs, and animals are really just aggregates of atoms, and thereby places atoms at the bottom of the world. Yet at the same time it makes these atoms knowable, interchangeable with all the qualities that can be truly ascribed to atoms, and in this way the tiniest depth of the world is brought to the accessible surface where everything can be observed and known. The ultimate tiny physical layer coincides with the uppermost layer of lucid human awareness. By the same token, consider an ultra-relational metaphysics such as that of Bruno Latour, who tells us that a thing is nothing more than whatever it modifies, transforms, perturbs, or creates.¹⁴ If this were true, then everything would be nothing more than its current effects on everything else; the surface events and interactions of the world at this moment would be its only existing layer, with nothing held in reserve and no possible engine of change. As if sensing this difficulty, Latour in recent years has introduced the concept of an unformatted “plasma” lying beneath relations, which sounds a lot like the shapeless pre-Socratic *apeiron*.¹⁵ We need a name to describe this double strategy of undermining and overmining that is so prevalent throughout intellectual life, and I have recently toyed with “duomining,” an industrial term that refers to the simultaneous use of data and text mining.¹⁶ But for all these ways of undercutting objects, we can use the simple term “mining.” Philosophy’s mission is not only to cast its net as widely as possible, catching fish as diverse as protons, armies, cats, unicorns, Napoleon, and right triangles, but also to avoid every form of *mining*, by which I mean every form of undermining, overmining, or more often both. Philosophy cannot aspire to be a form of knowledge, for precisely the reasons Socrates gave to Meno, but this does not make it “dead” as Hawking supposes. Instead, philosophy has the paradoxical mission of trying to give us a certain indirect access to things *in separation* from

¹⁴ Bruno Latour, *Pandora's Hope: Essays in the Reality of Science Studies*, Cambridge, MA: Harvard University Press, 1999, p. 122.

¹⁵ Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*, p. 50, note 48, Oxford: Oxford University Press, 2005. For my critique of Latour's concept of plasma, see Graham Harman, *Prince of Networks: Bruno Latour and Metaphysics*, Melbourne: re.press, 2009, pp. 132–135.

¹⁶ For the most accessible use of the term “duomining,” see Aditi Chawla and Deepty Sachdeva, “Impact of Duomining in Knowledge Discovery Process,” Special Issue of International Journal of Computer Science & Informatics (IJCSI), ISSN (PRINT): 2231–5292, Vol. II, Issue 1-2, pp. 121–126.

their qualities, even though things have often been conceived as nothing more than the bundle of their qualities, so that an apple would really be nothing more than the seven, fifteen, or perhaps three hundred apple-qualities that we correctly identify in it. Not that the whole is “more than the sum of its parts,” as in the usual cliché, but that the whole is *less* than the sum of its parts. An apple is something *less* than all the excessive outbursts of sweetness and greenness and coldness through which it is announced. But this “less” is perhaps even more fascinating than the detailed whole.

3. Conclusion

Let’s return in closing to the possible secret alliance of philosophy and the arts. It should be clear enough that art does not aim at discursive knowledge of anything in the world. Some philosophers, following Wilfrid Sellars, distinguish between the manifest and scientific images of the world.¹⁷ Even if the scientific image is never directly achievable due to inevitable theory change over time, it is said to be present as a goal or *telos* that we can approach ever more nearly. This conception is clearly inapplicable to the arts. What sense would it make to say that Cézanne approaches the “scientific image” of Mont Sainte-Victoire ever more closely with each painting, or that Wagner’s Ring Cycle tells us more about the “scientific image” of gold or dragons than lesser operas would?

Imagine that all of the works on display at the current dOCUMENTA were shipped away from the city of Kassel to some distant warehouse, and replaced by detailed prose descriptions of the works typed on a few sheets of paper. While this might gain Carolyn Christov-Bakargiev the reputation of a great Dadaist *impresaria*, it is safe to say that much would be lost through this exercise.¹⁸ The claim is not refuted by the interest that many viewers have taken in Kai Althoff’s letter of apology in lieu of an artwork, since under the scenario I have described, Althoff’s letter would also be replaced with a second-degree prose description: “The work is a letter of apology from the artist to the Artistic Director of dOCUMENTA, composed in a profusely self-lacerating tone...” and so forth.¹⁹ It has

¹⁷ Wilfrid Sellars, “Philosophy and the Scientific Image of Man,” in *Frontiers of Science and Philosophy*, ed. Robert Conley, Pittsburgh: University of Pittsburgh Press, 1962, pp. 35–78.

¹⁸ Ms. Christov-Bakargiev is the Artistic Director of dOCUMENTA (13).

¹⁹ The German artist Kai Althoff (b. 1966) was invited to contribute a work to dOCUMENTA (13), but realized at some point that he would be unable to deliver a completed work by the dea-

long been noted that works of literature cannot be paraphrased.²⁰ The analytic philosopher Max Black showed this more specifically in the case of metaphor.²¹ From the thought experiment about removing all the artworks from DOCUMENTA, we are reminded of the unparaphraseability of works in the visual arts, and the notorious stupidity of attempting to sum up the “meaning” of such works in the pronouncements of overreaching critics. We have seen that the same holds in philosophy. For Socrates to know only that he knows nothing is not an empty phrase or a contradiction in terms, but a refusal of paraphrase as a model of philosophy: virtue, like every other topic discussed in the Platonic dialogues, cannot be replaced by a series of facts about virtue. This does not mean that we are left with no cognitive access to reality at all, but simply that this access must be oblique or indirect, not a paraphrase.

There is little cause for wonder when scientific philosophy (and note that I do not say “science,” which has often worked in a philosophical manner, unlike most science-worshipping brands of philosophy) demands *knowledge*. It demands further that this knowledge take the form of discursive paraphrase. For example, in one amusing passage the arch-scientific philosopher Daniel Dennett mocks the practice of wine tasting. When the taster spits on the floor and describes the wine as “a flamboyant and velvety Pinot, though lacking in stamina,” Dennett imagines a machine able to replace such descriptions with objective chemical formulae, paraphrasing a qualitative human experience with a set of underlying physical conditions that generate it.²²

But we have seen that this sort of undermining never gives access to the taste of the wine, any more than the statement of the Pinot drinker above can exhaust it. To do this is always to paraphrase an object in terms that do not belong to the object in its own right, but only to its relations with something else. In refusing all paraphrase, philosophy join wine-tasting, literature, art, and numerous

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dline. He therefore wrote a letter of apology to the Artistic Director, which she then persuaded Althoff to submit as his requested contribution to the show. The letter was displayed in the Fredericianum in a glass case, in much the same manner as pottery or an old book.

²⁰ See Cleanth Brooks, *The Well Wrought Urn: Studies in the Structure of Poetry*, New York: Harcourt, Brace, & World, 1947.

²¹ Max Black, *Models and Metaphors*, Ithaca, NY: Cornell University Press, 1962.

²² Daniel Dennett, “Quining Qualia,” in *Consciousness in Modern Science*, ed. A. Marcel and E. Bisiach, Oxford: Oxford University Press, 1988. Accessed online on August 16, 2012 at <http://ase.tufts.edu/cogstud/papers/quinal.htm>.

other disciplines in insisting that its primary strategy must be an indirect approach to the *non*-relational reality of things. In our time there is still a tendency to associate relational approaches in philosophy and the arts with the fresh and the cutting edge, while autonomous objects are treated as retrograde relics of a bygone reactionary era. But once we realize that relationality is a form of paraphrase, a way of translating a thing into something that it is not, a new view on the problem is possible. Relationality starts to look like an idea once but no longer liberating. Given that things are a surplus, a dark nucleus outside their current accidental dealings with other things, to address this surplus via indirect means is a program that can never be exhausted. Philosophy is no more dead than art.