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Interpreting Michel Henry's "What Science Doesn't Know"

In 1989, phenomenologist Michel Henry (1922–2002) wrote an article called "*What Science Doesn't Know*" published in the French popular science magazine *La Recherche*[1]. Beyond the provocative title, the essay rises issues relevant to today's philosophy of mind. I wish to provide an analytical reading of Henry's article that conveys a convergence of ideas from different traditions.

The gist of Henry's argument is that scientific knowledge as started by Galileo is unable to account for the subjective experience, and that the problem of consciousness is methodological rather than ontological, which transforms the question "how do subjective qualities derive from objective properties?" into "what is the way of life of a philosopher of mind?"

I'll structure my expository part in three steps: 1) an epistemological analysis of the origin of modern science, 2) the consequences of the identification of scientific knowledge with ontology in modern culture, and 3) the methodological and normative perspective that Henry proposes to account for the subjective experience. I'll follow my expository part with a discussion where I make connections with authors in philosophy of mind (Depraz, Goff, Thompson, Varela), and finally I'll articulate some criticisms that could be addressed to Henry's view.

[1] Michel Henry, *Ce que la science ne sait pas*. La Recherche, n°208, 1989.
Original French version: http://www.palim-psao.fr/article-10642826.html
English translation: https://www.academia.edu/5595142/What_Science_Doesnt_Know_by_Michel_Henry

The Galilean decision

Henry is interested in the nature of the subjective experience: what is consciousness? How to properly account for the phenomenal experience? Will we be able to understand consciousness the same way we understand digestion or electromagnetism? Henry asks if consciousness can be understood scientifically. But first we must clarify what is meant by "scientifically". Henry has a specific idea of science in mind. Scientific knowledge is not understood as merely empirical knowledge, for example the list of constellations in the night sky or the observation that water boils when heated. He's aiming instead at a specific model of science, namely, mathematical physics. Modern physics has introduced an archetype of scientific knowledge to which all other special sciences ought to be reducible either in practice or in theory. In order to assess whether modern scientific knowledge is suited for understanding the subjective experience, Henry takes a genealogical approach and goes back to the ideas that started modern science.

The foundations of modern science were laid out in the seventeenth century. Something remarkable was then articulated. Speaking of what "heat" is, here's what Galileo wrote in *The Assayer* (1623):

> "It now remains for me to tell [...] some thoughts of mine about the proposition "motion is the cause of heat," and to show in what sense this may be true. But first I must consider what it is that we call heat, as I suspect that people in general have a concept of this which is very remote from the truth. For they believe that heat is a real phenomenon or property, or quality, which actually resides in the material by which we feel ourselves warmed. Now I say that whenever I conceive any material or corporeal substance, I immediately feel the need to think of it as bounded, and as having this or that shape; as being large or small in relation to other things, and in some specific place at any given time; as being in motion or at rest; as touching or not touching some

> other body; and as being one in number, or few, or many. From these conditions I cannot separate such a substance by any stretch of my imagination. But that it must be white or red, bitter or sweet, noisy or silent, and of sweet or foul odor, my mind does not feel compelled to bring in as necessary accompaniments. Without the senses as our guides, reason or imagination unaided would probably never arrive at qualities like these. Hence I think that tastes, odors, colors, and so on are no more than mere names so far as the object in which we place them is concerned, and that they reside only in the consciousness. Hence if the living creature were removed, all these qualities would be wiped away and annihilated. But since we have imposed upon them special names, distinct from those of the other and real qualities mentioned previously, we wish to believe that they really exist as actually different from those."

Galileo introduces four main ideas in this text. First, Galileo seeks to make the universe intelligible. To do so, he distances himself from previous views according to which sensible qualities exist as such in the world. People used to view the world through qualitative lenses, leaning on human sensations and human effort to tell their stories and the story of the world. Heat was a sensible quality that belongs to warm bodies, and distances were expressed as what a man could walk for a certain duration of time. A "league" for example was the distance a person could walk in an hour. Galileo refuses that view, for it confuses what we feel with what there is.

To clear up that confusion, Galileo makes a conceivability argument: in order to conceive of material bodies, one needs only to think of specific properties: shape, size, quantity, motion, relation, and location in space and time. One cannot imagine a material substance without using these properties. However, one does not need properties like heat or smell to conceive of material bodies. The first set of properties are the objective

properties: we need them to conceive of material bodies, and given a common standard, we can measure them and agree about them. The second set of properties, such as heat, smell, or taste, are not necessary to conceive of material bodies. They are subjective qualities. They reside in consciousness and are not present in the material bodies themselves.

Galileo then applies the conceivability argument to the subjective qualities: "*without the senses as our guides, reason or imagination unaided would probably never arrive at [subjective] qualities.*" Galileo claims that imagination alone cannot derive subjective qualities such as taste, smell or color from objective properties. Subjective qualities are given, not derived.

Finally, Galileo imagines a world without living creatures. Such a world is conceivable, because one needs only objective properties to describe it. That world would be barren of subjective qualities, since these are contingent to the existence of living creatures.

Galileo's view can be summed up as follows:

- The universe is conceivable with objective properties alone. Objective properties are necessary.
- Subjective qualities are not necessary to conceive of the universe. Subjective qualities are not necessary.
- Only objective properties can ground natural sciences.
- Subjective qualities are given to living creatures. Living creatures and subjective qualities are contingent.

That view is the epitome of modern science. In "*What Science Doesn't Know*", Michel Henry translates Galileo's view in the following words:

> "This world is given to us in the form of sensible appearances that vary from one individual to another and which are thus contingent. But this sensible basis of the world, these ungraspable "sensible qualities," transitory as they are, are only an appearance from which one must make an abstraction if one wants to understand the true being of the universe. The universe is comprised of extended material bodies, each having a form and thus a shape. But while these bodies can very well exist without one imagining their sensible qualities, these qualities cannot on the contrary exist without the material bodies that support them: the former are the accident, the latter the essence, this true-being of things that Galileo had in mind."

Galileo kickstarted modern science by making an intellectual decision in the form of a methodological choice: in order to understand the universe, one must focus on objective properties and put aside subjective qualities. This decision will be further developed by Descartes (1637), who draws major philosophical implications from Galileo's perspective. If nature is indeed conceivable with objective properties alone, one can nonetheless doubt the existence of material bodies. But if subjective qualities exist only in consciousness, one however cannot doubt the existence of consciousness. Hence, the full picture of the universe that encompasses both material bodies and consciousness is inherently dualistic. There are material bodies on the one hand, and there is consciousness on the other. Ontological dualism appears to be the consequence of a methodology and not the premise of a worldview.

Henry stresses on that consequence: "*either one gives a purely methodological meaning to the Galilean reduction, or one grants the Galilean reduction an ontological*

meaning." In other words, one could be ontologically agnostic about Galileo's methodological decision. Galileo does not deny the existence of subjective qualities, he merely says that we do not explicitly need them in the language of physics. Henry criticizes the modern scientific worldview for going a step too far, in saying that the material universe as conceivable by the mind is the only kind that exists. We have shifted imperceptibly from a methodological to an ontological interpretation of the Galilean decision. The driving force behind that shift is the success of modern science and its technological applications. That shift has gradually granted an ontological status to objective properties, while dismissing subjective qualities as non fundamental. Knowledge of objective properties has become the only kind of acceptable knowledge. That view has considerable implications for modern civilization.

The cultural divide

If modernity is based on the idea that the only reliable knowledge is the objective knowledge, what does that mean for human culture? First, we need to ask what knowledge is used for. Broadly speaking, knowledge has two purposes: to understand, and to take action. We want to understand nature and ourselves, and we want to shape our environment and live well. Therefore we can identify the following four domains: 1) understanding nature, 2) technology, 3) understanding ourselves, and 4) ethics. Notice the duality that governs this classification: on the one hand, there is nature and the control of nature, and on the other hand there are humans and the actions of humans. This divide is at the heart of modern culture, and it is the result of the objective and subjective separation that started in the seventeenth century onward.

Henry argues that our philosophical picture is at discomfort because there are contradictions and incomplete overlap between our scientific worldview and our practical experience. There are several symptoms of that discomfort such as the need for well-being practices and counsel on how to navigate modern life, or the spread of superficial entertaining that absorb users into a never ending stream of fleeing sensations. If scientific knowledge provides us with all the knowledge we need, asks Henry, "*shouldn't we be surrounded by confident individuals moving happily through life?*"

How individuals and society should shape their way of life is the question that seems unexhausted by the modern concept of knowledge. Ethics are part of that question, but only a part: architecture, lifestyle, community building, etc., are all facets of the normative problem that Henry is concerned with. Common wisdom states that science is not responsible for what humans use it for. Science is innocent on the subject of weapons or biological experimentation. It does not decide which technology to develop or invest on, and where to put human work. But if science cannot ground normative values, which authority should guide our actions? Which technologies and tools should we as a society choose to develop?

These questions are signs of theoretical shortcomings. The problem according to Henry is that materialist philosophy has separated mind and body but only accounted for the latter. In the absence of a proper consideration for the subjective life, modern dualism is left with a void to fill, and one should be concerned by what kind of beliefs and practices are filling that void. How to properly address the subjective experience? We need a theory of mind that takes subjective qualities seriously, and that is an issue of philosophy of mind.

The hard problem of life

The puzzle of philosophy of mind is best articulated by David Chalmers' hard problem of consciousness (Chalmers, 1995). Chalmers argues that we can conceive of the body and the brain in functional terms, explain how and why they behave the way they do (the "easy" problem), but we do not see why these functions should be accompanied by a phenomenal experience (the hard problem). Thus, the hard problem of consciousness can be formulated as "*the issue of whether it is conceptually possible to derive subjective experience or phenomenal consciousness from objective physical nature.*" (Lutz, 2004) Interestingly, Galileo has suggested that we cannot derive sensible qualities from reason and imagination alone. Why do we find it hard to derive subjective experience from physical knowledge about the brain and the body? This question has become a separate topic in philosophy of mind called the "meta-problem of consciousness."

Retrospectively, we can say that Henry addresses the meta-problem of consciousness. Henry's approach is to trace back the construction of modern physical knowledge, and show that the hard problem of consciousness is a consequence of the ontological interpretation of the Galilean methodological decision. Consciousness was eliminated from the scope of physical knowledge from the get-go. When interpreted ontologically, the Galilean decision makes physical knowledge inherently dualistic.

What is Henry's approach to account for the subjective experience? Henry starts by not committing to any ontology, especially not one based on objective knowledge. An ontological commitment would start with an idea of what there is and try to derive what appears. Let's call that attitude the natural attitude. The Galilean decision has shown that the natural attitude is powerful for dealing with objects and relations between objects.

However, it is unclear how to derive the existence of a phenomenal subject from that view, since the subjective qualities are either put aside (Galileo) or treated as unexplained effects of objective causes (the hard problem).

Instead, like Descartes, Henry starts with the phenomenological experience. The phenomenological experience is the absolute grounding since one cannot doubt having a phenomenal experience. Galileo and Descartes are right in saying that subjective qualities are not properties of objective physical bodies, since we can still experience sensations even if we're epistemically mistaken about the world like during a dream or in front of an optical illusion. Therefore, if subjective qualities can affect us independently of objective situations, it follows that what we're affected by is ourselves. That ability to be self-affected is what defines subjectivity, and it's what Henry calls life.

What is life? Life is not an ontological concept, and here Henry departs from Descartes' substantive mind. "*Life is not something, but rather a knowing.*" For Henry, life is a form of knowledge. What does life know? It knows joy and suffering. This form of knowledge is non-spatial, non-representable, but it permeates all that is undertaken. Perceiving colors, handling an instrument, caressing a body, are all experiences whose phenomenal manifestation is a modulation of the two fundamental tonalities of life: joy and suffering. That is why all life is tinted: "*the blue of the sky, the green of trees, the serene or threatening character of a landscape, the sweetness of scents, the beauty of shapes of old cities or the dread in the monstrous suburbs of our time.*"

How is this approach helpful in the context of philosophy of mind? In a way, Henry says that consciousness, or the subjective experience, or "life" as Henry calls it, is not mysterious. "*Everyone knows what life is.*" We do not need a metaphysical answer to tell

us what consciousness is. This perspective has two consequences: the first is normative, and the second is methodological.

From a normative perspective, Henry claims that the knowledge of life is the primordial knowledge. The evolution of modern scientific knowledge has inverted the orders of knowledge, until it reached a point where it tries to derive the lived experience from an objective third person perspective, of which the hard problem of consciousness is the ultimate expression: how can a phenomenal subject even exist if we start from the natural physical world as conceived by the mind? Following that inversion, human activities that do not engage in the pursuit of objective knowledge become unintelligible: why would one engage in an artistic practice? Why would one engage in a meditative practice? When objective knowledge grounds metaphysics, activities other than science are treated charitably at best. And yet, humans engage passionately about movies, video games, religion, lifestyle, sports, etc. For Henry, these are not derivative activities that have only sociological explanations. A theory of mind should account for that diversity in a robust fashion. Life, understood as inescapable joy and suffering, is where investigation should start from.

Which leads to the methodological perspective. Henry argues that all what a subject undertakes, including any theoretical enterprise, is embodied in a living subjective experience. Understanding a scientific theory cannot be separated from the practice of the theory, and the practice of a theory relies on experiential knowledge that is not explicitly articulated in the theory. Epistemologically, this means that there is no definitive end to scientific knowledge, since grounding does not rely on a set of objective properties, but on a practice that assumes the phenomenological experience as a necessary rolling start. This

has an interesting consequence for philosophy of mind: if the phenomenal experience is outside the scope of third person objective knowledge, and if the phenomenal experience is a form of knowledge nonetheless, then understanding consciousness must take the form of a lived practice where the practitioner experiences her own life. The problem of consciousness thus becomes: what is the practice that is able to capture and describe the phenomenological life in a satisfying way? Or, in other words: what is the way of life of a philosopher of mind?

Discussion

I tried to interpret Michel Henry's article using concepts and ideas from contemporary philosophy of mind. In "*What Science Doesn't Know*", Henry gives an epistemological account of modern science based on Galileo's work, discusses its ontological consequences for modern culture and philosophy of mind, and defends a methodological and normative perspective to account for the subjective experience. A proper critique of Henry's view is beyond the scope of this short commentary. However, I wish to provide some links to convergent ideas in philosophy of mind, and then point to a few criticisms we could address to Henry's propositions.

Convergence

Similar readings of Galileo's epistemological work have been made in the context of metaphysics and philosophy of mind. For example see Philip Goff (2018):

> "Before Galileo, people quite naturally took it that the world is full of sensory qualities: colours, sounds, smells, tastes. So people though that the spiciness of the paprika is really in the paprika, or the smell of the flowers is really in the flowers, and that colours are really on the surfaces of objects. But the problem

> is that it's hard to see how you can capture these kinds of qualities in the purely quantitative language of mathematics."

Like Henry, Goff argues that modern physical knowledge was made possible precisely by putting aside subjective qualities, and therefore physicalism is unable to account for the subjective experience. However, despite their remarkable convergence on the interpretation of Galileo, Goff and Henry have different projects. Goff pursues an ontological and metaphysical project and goes on to defend panpsychism. He traces back his view to Russellian monism (Alter & Nagasawa, 2012), i.e. the idea that science unveils extrinsic properties such as structures and patterns, but is mute on the intrinsic properties of physical systems. The only knowledge we have of intrinsic properties is that we are ourselves physically instantiated and that we have a subjective phenomenal experience. One would conclude from there that experience or consciousness is an intrinsic ontological property.

Henry on the other hand is a phenomenologist who does not commit to a specific cosmological ontology (Gagnon, 2010). He is more concerned with the methodological and normative implications of modern thought following the identification of scientific knowledge with ontology. We can find criticisms of modern ontological perspectives that echo some of Henry's concerns in recent philosophy of mind. For example, Evan Thompson (2004) writes:

> "In the hard problem as classically conceived, the gap is absolute, because there is and can be no conceptual unity to the mental and the physical, consciousness and the brain. Consciousness is equated with qualia, which are supposed to be phenomenal properties that resist functional analysis, while the body is equated with structure and function, with mechanism. Given these equivalences, one must either mechanize consciousness in order to reduce it to

> a brain state, or be a property dualist. This way of dividing up the universe is thoroughly Cartesian. Although physicalist philosophy of mind today rejects Descartes' substance dualism, it maintains both the underlying conceptual separation of mind and life, and the equation of life with mere mechanism."

Thompson targets two mainstream ideas in the philosophy of cognitive science: 1) the idea that the physical-mental gap is to be resolved with an ontological proposition, and 2) the idea that life is a settled problem that has no bearing on consciousness and the subjective experience. Thompson inherits his interest in the first person perspective from the phenomenological tradition, especially from Husserl and Merleau-Ponty, and he borrows elements from biology and neuroscience, based on the work of original scientists such as Francisco Varela[2].

Similarly to Henry, Thompson warns about the philosophical implications of ontologies built on third person knowledge, although contrary to Henry, he advocates for a positive dialogue between the two perspectives:

> "There is the need for back-and-forth circulation between scientific research on the mind and disciplined phenomenologies of lived experience. Without such circulation, the danger for the scientist and philosopher is nihilism, by which I mean the inability to stop experiencing things and believing in them in a way one's theory says is an illusion. Theoretical ideas like "being no one" (that there are no such things as selves but only neural self-models) (Metzinger, 2003), or that consciousness is the brain's "user illusion" (Dennett, 1991), bear witness to this predicament. An appreciation of what Francisco and I called the "fundamental circularity" of science and experience reminds us that such models of consciousness are objectifications that presuppose, on an empirical level, the particular subjectivities of the scientists who author them, but also,

[2] The previous quote is pulled from a tribute lecture Thompson gave at the Sorbonne in 2004 in honor of the late Francisco Varela.

> on a transcendental level, the intentionality of consciousness as an a priori openness to reality, by virtue of which we are able to have any comprehension of anything at all. Experience is thus, in a certain sense, irreducible."

If the problem of consciousness is not to be framed as an ontological problem seen from a third person perspective, then the question becomes how one should conduct her investigations on consciousness. For both Varela and Thompson, philosophy of cognitive science has yet to seriously consider life as an essential ingredient for consciousness, and to properly address the question of how a cognitive scientist goes about to capture that which is always assumed, i.e. her lived experience:

> "The dualism of concern to Francisco Varela was not the abstract, metaphysical dualism of mental and physical properties, but rather the dualism of mind as a scientific object versus mind as an experiencing subject."

These methodological questions permeate across researchers in phenomenology and cognitive science of the enactive and embodied inspiration. See for example Depraz (1999): "*the intrinsic ambivalence built into phenomenology is simply this duality of the subject, at once both theoretical and existential*", or Varela (1983): "*whatever it is that we know, it is not separate from what we do to know it*". Both observations make the case for a philosophy of mind where the propositions do not necessarily take the form of a third person statement *à la* physical sciences, but instead incorporate the very way of life of the philosopher of mind, as to put the experience back into the theory.

Criticism

From a critical point of view, we could think of at least three different problems regarding Henry's work: 1) the foundational attitude toward knowledge that guide Henry's

phenomenology, 2) the relevance of Galileo's epistemology given the progress of physics, and 3) Henry's duality between life and biology.

The foundational attitude. Henry has a foundational project. He inherits from the Cartesian and the phenomenological traditions, both of which have deep epistemological concerns, including the desire to ground scientific knowledge philosophically. Against that view, we could oppose a coherentist perspective, which admits no special philosophical foundation to scientific knowledge. See for example Neurath (1959):

> "There is no way of taking conclusively established pure protocol sentences as the starting point of the sciences. No tabula rasa exists. We are like sailors who must rebuild their ship on the open sea, never able to dismantle it in dry-dock and to reconstruct it there out of the best material. Only the metaphysical elements can be allowed to vanish without trace. Vague linguistic conglomerations always remain in one way or another as components of the ship."

In a radical coherentist epistemology, justification of knowledge is built on a network of coherent beliefs that sustain themselves and are constantly updated. Is Henry's view opposed to a coherentist perspective? We can argue that in the context of philosophy of science, Henry would accept the idea of a networked set of beliefs, but he would hold the subjective experience as a normative and methodological starting point. In other words, the subject does indeed hit the ground running (as do the sailors on the ship), but the phenomenal subject holds a form of knowledge that is absolute and the source of all meaning.

Galileo's epistemology. Henry argues his view from a strong philosophical interpretation of Galileo's work. Challenging that view, one can ask if Galileo's set of objective properties still hold in light of the most recent advances in contemporary physics. For example, does modern physics conceive of physical objects as necessarily located in space and time? Haven't these properties been superseded by more fundamental ideas such as information and more abstract mathematical structures such as symmetry or conservation? I would argue that even though contemporary physics has introduced notions of non-locality or entanglement, the spatiality both Galileo and Henry have in mind is the spatiality of our cognitive structures. If location in space and time no longer has an absolute physical counterpart, it has simply shifted toward the tools and the media with which the mind makes conceptual connections.

However, it would be interesting to ask physicists and philosophers of physics some of the following questions: are smells and colors outside physical knowledge by definition? Was the Galilean decision of putting aside subjective qualities the condition of possibility of physical sciences? Is it still the condition of possibility of physics? Or was it just a moment in its development, and we could in principle handle smells and colors the same way we handled distances and velocities?

Duality of life and biology. For Henry, life is the foundation of the subjective experience. Life is also self-appearing, by which he means that the subjective phenomenality (the one Descartes could not doubt) must self-reveal. For something to appear, and in order to avoid an infinite regress (Seyler, 2016), there must be an ability to self-appear, and that is life. However, Henry does not identify life with biological systems.

One can't help but wonder about the relation between life understood as self-appearing (Henry), and life conceived as a complex emergent organism studied by evolution and biology. Granted, Henry's philosophical approach is not cosmological, and he does not engage in an epistemological project where everything must fit in a framework of objective relationships seen from nowhere and everywhere. Still, if one is to engage positively in the philosophy of mind and consciousness, there seems to be unavoidable questions: which are the biological structures that allow self-appearing from a first-person perspective? Is a dog alive in Henry's sense? Most likely yes. How about a tree? Or a virus? What is alive and what is not? The duality of manifestation between what the mind *conceives of* and what the subjectivity *feels*, between the cosmological science and the acosmical subjectivity, is probably the most intriguing aspect of Henry's phenomenology.

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