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The shining: Illuminating philosophy and futures studies

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ABSTRACT

In this paper, I analyze the connections between philosophy and futures studies. I write from the perspective of contemporary analytic philosophy of science, which analyzes fields of inquiry by focusing on their actual practices, methods, conceptual structures, and the ontological and epistemological assumptions embedded in them. I argue for a pragmatic and structured approach that clarifies the field's methods, concepts, and both ontological and epistemic aspects. Futures studies faces several methodological and conceptual challenges that invite philosophical attention, yet philosophical analysis is easily distracted by abstract debates about issues such as metaphysical nature of time and possibility rather than issues that concern futures studies as it is. I distinguish between *philosophy of futures studies*, which analyzes how the field generates knowledge and what ontological assumptions about reality are implicit in its practices, and *philosophy in futures studies*, where philosophical insights contribute to futures studies itself. I argue that there are several core questions in philosophy of futures studies and suggest ways to approach them by using tools built in philosophy of science. I also discuss conceptual engineering as way of conducting philosophy. By prioritizing analytical precision over grand metaphysical speculation, this paper outlines a development strategy for a philosophy of futures studies that offers systematic tools for examining the issues within the field rather than general philosophical questions that are not unique to the field.

1. Introduction

The horror in *The Shining* (Kubrick, 1980) is in Jack's descent into producing nothing but repeated text while isolated in the Overlook Hotel – paralleling how philosophical writing frequently spirals into dense theoretical abstractions that add little to genuine understanding. Much like navigating the Overlook Hotel, the relationship between philosophy and futures studies can be disorienting and complex. The topic is the future, or futures, and that is where we enter the maze. Discussions about the metaphysical nature of time, the existence of future possibilities, or the limits of human knowledge have frequently been dominant in human thinking about the future. However, we need not lose our minds in the disorienting conceptual space. In this paper, I attempt to show how philosophical analysis can clarify and even enhance futures studies as a field, if serious attention to the topic is paid. I also point out that while intellectually engaging, certain grand philosophical debates contribute little to our philosophical understanding about how futures studies as a field of research works.[1]

After reading this article, the reader will – I hope – have a clearer sense of what philosophical analysis can and cannot do for futures studies. The paper discusses what contemporary philosophy of science is and how its tools apply to futures studies. Philosophical issues

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[1] In general, often when I discuss fields of research, I call them "science" for brevity. Whether or not this is fitting in cases like futures studies is, again, a meta-level question that needs its own attention.

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arise throughout the field – in the relationship between methods and goals, in the coherence of core concepts, in the ontological and epistemological assumptions built into research practices, and so on – and these issues can be categorized and addressed systematically. As we know, futures studies is characterized by plurality: diverse methods serve different purposes, operate at different timescales, and rest on different assumptions.

This plurality is a strength, but it requires care. Without attention to how different approaches work and philosophical frames behind the approaches, the field may generate philosophical debates that rest on unnecessary friction. The main problem, of course, is that, without philosophical reflection, the field lacks self-understanding, philosophically speaking. Throughout the paper, I assume the sophistication of futures studies and the richness of its existing reflective work – indeed my aim is to point towards that sophistication and expand from there, and I hope to achieve this by showing how systematic philosophical analysis can enrich what the field already does with self-reflective care.

The approach I take is based on contemporary analytic philosophy of science. This tradition does not impose abstract and external philosophical frameworks onto fields of inquiry. Instead, it focuses on how the fields actually operate – their methods, goals, objects of study, and theoretical commitments – and analyzes the ontological and epistemological assumptions embedded in those practices. The aim is clarification and systematization of what is actually done and how the field of study improves itself. This is different from philosophical discussions that sometimes occur within futures studies, which often engage with grand theoretical frameworks – such as debates about integral theory, poststructuralism, or consciousness development – that, whatever their merits, operate at a highly abstract and, to put it bluntly, sometimes obscure levels (see, e.g., discussions in Futures vol 40, no 2, 2008 and vol 42, no 2, 2010 – to which we come back later in more detail). In this paper, I argue that futures studies scholars should be more engaged with philosophy that helps to understand certain issues that the field raises, not with "philosophy" viewed as a struggle between ultimate-reality theories that prescribe what research can and should be.

There are two different ways of understanding the connection between philosophy and futures studies. 1) Philosophy *of* futures studies, which analyzes the field of research itself, focuses on questions about how the field, in fact, generates knowledge or insights.[2] Such analysis attempts to understand how claims about possible futures can be generated and justified, what such claims mean and how they function in our knowledge systems, and how the methods of futures studies could be clarified. This includes examining what ontological assumptions – about causation, possibility, agency, social structures – are implicit in the field's methods and theories. Philosophy of science is not mere epistemology; it attends to, for example, ontology, but ontology as embodied in research practice, not as independent metaphysical speculation. The same applies to philosophy of futures studies: it examines not only how knowledge claims are justified but also what assumptions about reality are built into methods and concepts. In contrast, 2) philosophy *in* futures studies considers the integration of philosophical insights into the discipline itself. In this case, philosophy serves as a source of knowledge among other sources of knowledge that we use to understand futures. For example, theories of ethics are a prime example of this: What is a desirable future needs to be assessed through some ethical or axiological principles.

I wish to note that I am not claiming that *reflective* discussions have been absent from futures studies. On the contrary, such discussions exist and the field has developed sophisticated ways of examining how futures are produced, contested, and mobilized (see, for example, Granjou et al. 2017 discussing anticipatory practices; Oomen et al. 2022 analyzing techniques of futuring). My aim is to articulate how analytic philosophy of science goes beyond these efforts, i.e., what philosophical analysis of a field includes. In fact, reflective work on any field should be seen to form a continuum with philosophy of science, when philosophy is understood, as in this paper, in practice-oriented manner (see e.g., Woodward, 2003; Woodward, 2015 discussing the issue). What this paper contributes is an explicit articulation of how analytic philosophy of science frames these questions and a systematic organization of the issues that arise. Any work, whether inserted under philosophy or futures studies, that provides us understanding about how the field works and how it may be improved, contributes to the philosophical project I will outline in this paper. To be sure, I am not arguing that philosophical reflection is absent in futures studies; rather, I argue that there is certain philosophical work to be done with regards to field, and this work needs to be conducted in orderly manner. My goal is to explicate what achieving philosophical understanding means and implies, not that none exist already.

However, I need to be also frank in that I do argue where fruitful philosophy ends and unnecessary conceptual friction begins, when it comes to futures studies – this issue is discussed in Section 4. Debates about whether one grand framework subsumes another, or about developmental stages of consciousness as prerequisites for methodological insight (see Hayward, 2008; Slaughter, 2008), are not what I mean by philosophy of futures studies. I return to the issue below in detail. I argue that such debates may be intellectually stimulating, but they do not clarify methods, sharpen concepts, or help researchers understand the epistemic status of their claims. The approach I advocate is more modest but, I believe, useful as a complement to existing reflective work.

Throughout the paper, I use Causal Layered Analysis (Inayatullah, 1998) as an illustrative example of the philosophical issues discussed in the paper. Causal Layered Analysis (CLA), developed by Sohail Inayatullah (1998), is a methodological framework that analyzes futures by moving through four layers: litany (visible surface events), social causes (systemic factors), worldview (deeper values and perspectives), and myth/metaphor (unconscious cultural underpinnings in discourses). The method aims to "open up the present and past to create alternative futures" by revealing how deeper cultural and social patterns shape our understanding of what's possible. CLA's theoretical foundation in poststructuralism suggests that knowledge and possibilities are framed by underlying epistemic structures, so by examining these deeper layers, we can uncover and potentially transform our assumptions about the future.

The point of choosing CLA as the main illustration is not in presenting it as an ideal method that has no limitations or challenges.

[2] I leave it open whether we *represent* or *present* the future (or futures). Such debates should take place, but that metalevel claim on what kind of debates there should be, is what I establish in this paper.

Rather, it is chosen because it is distinctively clear about its goal, objects of study, methods, and theoretical framework. Roughly: Goals define what research, in overall sense, attempts to achieve, objects of study determine the targets of investigation, methods establish procedures of inquiry, and theories refer to systems of knowledge created and relied on in the process.[3] CLA, in this paper, is the object of philosophical analysis – a type of case study – not something we rely on as somehow "philosophically best" framework, whatever that would even mean (see Section 4).

The paper proceeds as follows. Section 2 introduces briefly contemporary philosophy of science, subbranch of which the philosophy of futures studies is (or should be). Section 3 focuses philosophy *of* futures studies by explaining how contemporary philosophy of science needs to be taken into account in futures studies. Section 4 explains why traditional grand questions – the nature of time, the existence of future, and so on – are not central to developing the field and should not be in the center of focus of philosophical discussions about the field. Section 5 analyzes philosophy *in* futures studies and discusses how philosophical insights might serve as a source of knowledge in futures studies. Section 6 is an illustrative section that connects the discussion concerning the relationship between philosophy and futures studies to more concrete issues in futures studies, such as managing uncertainty. Section 7 discusses conceptual engineering and suggests that we need to create conceptual systems that serve research and do not focus on how concepts should "really" be understood or what they "really" mean. Section 8 outlines a development strategy for philosophy of futures studies that can make philosophy more relevant to the field, as philosophical issues are everywhere whether we like it or not – that is what contemporary philosophy of science has shown.

2. Contemporary Philosophy of Science Briefly

Philosophy is concerned with general questions about reality, knowledge, concepts, action, and moral principles. However, such broad considerations alone are not sufficient for understanding science or fields of research as they are. A more focused approach is required, one that analyzes the structure of research practice, the processes of knowledge production, and the ways in which research develops over time. This type of research is called philosophy *of* science. In the same way, we need philosophy of futures studies.

Before proceeding, a clarification is necessary. When I speak of "philosophy of science," I do not mean to claim that futures studies is, or must be, a science in some narrow sense in order to be studied under philosophy of science. Philosophy of science, as practiced today, analyzes any systematic field of inquiry (at least any academically respected field) – its methods, concepts, goals, and the assumptions embedded in its practices. The tools of philosophy of science apply wherever there is structured researches aimed at generating knowledge or insight, and this is independent of whether that inquiry resembles, let's say, physics or biology. Some futures studies work may be closer to design, craft, or even artistic practice; the philosophical approach I advocate can examine these modes of inquiry as well by asking what they aim to achieve, what methods they employ, and what assumptions they carry. The term "science" in "philosophy of science" should be understood broadly, as it is in contemporary philosophy of science.

The key insight from twentieth-century philosophy of science is that understanding any field of research, be that physics, biology, economic, or futures studies (in our case) requires studying how it actually works. History of philosophy of science proves why all grand attempts to tame the essence of science fail in front of the plurality of scientific practices. Popper (1963) proposed falsifiability as a criterion for science, Kuhn (1970) [(1962)]) argued that science undergoes paradigm shifts, Lakatos (1971) introduced research programs as the nature of science, and Feyerabend (1975) argued for radical methodological pluralism. All these attempts, while having been influential to a great extent, from the contemporary point of view, share the same flaw: they do not discuss in detail scientific practices but make general claims about all science. What matters for our purposes is this shared lesson: to understand a field, one must examine its actual practices and development, not impose external criteria. Science is not an ahistorical monolith (see also Virmajoki 2022a).

The practice-oriented approach in philosophy of science can be characterized by certain features. It recognizes that science operates within social, institutional, and value-laden contexts, which influence not only the selection of research questions but also the interpretation of results (Longino, 1990; Douglas, 2009). Kuhn's (1970) [(1962)]) notion of paradigms – shared theories, methods, and assumptions – shows how structure and coherence emerge but also how certain perspectives may be marginalized (Grasswick, 2011). That science reflects human interests and social conditions (Kitcher, 2001) does not make it arbitrary; it clarifies how knowledge is produced collectively within shared but sometimes contested norms.

Moreover, as an illustration, we may focus on the development of accounts of scientific explanation. Modern attempts to understand scientific explanation, analytically speaking, began in the development of the deductive-nomological model (Hempel & Oppenheim, 1948). However, the model proved too narrow and problematic; it carries technical problems but more importantly it only works in fields where there are clear laws to be used in explanation – it did not take into account how sciences, in fact, provide explanatory understanding. Today, a widely accepted theory holds that explanation involves identifying factors such that interventions on them would change the outcome (Woodward, 2003). This shift came from analyzing how scientists actually explain, not from abstract argument. Similarly, scientific modeling often involves idealizations – deliberate simplifications that allow researchers to focus on key mechanisms (Weisberg, 2007; Cartwright, 1983). The Duhem-Quine thesis shows that hypotheses depend on background assumptions (Gillies, 1993), with practical implications for how we interpret failed tests and inform policy (Carrier & Nordmann, 2011).

[3] Consider psychology. As a *goal*, for example, there is understanding behavior in different situations; as an *object of study*, for example, there are cognitive processing and emotional responses; as *a method*, for example, experiments can be used; and as a *theory*, for example, there are models of executive functions.

Philosophy of science also engages substantive debates, but does so by focusing on how science works and its historical trajectories. For example, one major debate concerns scientific realism: whether our best theories approximately describe reality. Realists argue theories succeed because they are true; antirealists point to abandoned successful theories (see Psillos, 1999). I mention the realism debate not because futures studies must resolve it, but to illustrate how philosophy of science contains and manages ongoing disputes. What matters for our purposes is that these disputes are conducted by examining actual scientific practice and its successes (or failures, for that matter).

What matters for our purposes is that contemporary philosophy of science treats different fields as they are and do assume all science is similar. For example, one might say, without contradiction, that physics seeks unifying laws, biology focuses on mechanisms, sociology studies social structures, and so on. Scientific pluralism – the view that plurality may be an ineliminable character of inquiry (Kellert et al. 2006) – follows from analyzing practice across disciplines. This pluralism is crucial for futures studies, where diverse methods are used and where different methods are suited to different purposes and timescales. Futures studies benefits from understanding pluralism of science, as we are not then lost in debates about "true nature" of the field. We may focus on the field as it is in its plurality. I now turn to this issue and return to it in Section 6 after making certain necessary clarifications about what philosophy can and cannot achieve when it comes to futures studies.

3. Philosophy *of* Futures Studies

Now to the main question: what is philosophy of futures studies? Philosophy *of* futures studies seeks to understand how the field operates, what challenges it faces, how its methods can be justified or improved, and how its core concepts interrelate. Moreover, philosophy of futures studies does not only analyze epistemological questions about knowledge but also ontological assumptions embedded in methods and conceptual coherence across the field. This is not a matter of imposing some abstract and external philosophical system and applying it to futures studies. Rather, it means analyzing what futures researchers actually do and attempts to clarify the assumptions, concepts, and inferential structures embedded in that practice. We can organize this reflection around six questions:

3.1. How Does Futures Studies Work in Practice?

This question focuses on analyzing what futures researchers do – the topics they study, the goals they pursue, the methods they apply, and how they interact with other institutions. For example, a scenario workshop might investigate near-term technological changes, while a research project might analyze long-term social transformations through a set of interviews, Delphi study, and so on. However, listing these methods alone is not enough. We must *ask* why researchers adopt particular approaches. Understanding actual projects reveals how curiosity, research interests, funding structures, policy demands, and stakeholder expectations shape the field. Again, I wish to point out that the claim is not that futures studies have been ignorant in these questions; on the contrary, it is a highly reflective field. Futures studies has produced extensive body of literature reflecting on its own methods and purposes (see, e.g., Bell, 2009; Niiniluoto, 2001). In addition, the field has developed sophisticated analyses of how futures are produced and contested through concrete practices (see, e.g., Granjou et al. 2017; Oomen et al. 2022).

For the reason that the field is reflective in its nature, this all might sound philosophically rather uninteresting. However, describing the field as it is practiced provides insight into the values and assumptions that drive futures studies. For example, a government's focus on climate change may prioritize certain scenario-building efforts. A corporate concerned with consumer trends may emphasize short-term forecasting. These differences illustrate the diversity within futures studies and highlight the need to analyze the more philosophically deep issues related to internal tensions, justifications, and conceptual foundations. Before we can analyze a field, we have to describe it.

3.2. What Problems and Tensions Does the Field Face?

Once we understand how futures studies works, we can recognize not only scientific pluralism (see above) but also competing demands that shape the field. As is well known, many formulate multiple scenarios to reflect uncertainty, yet policy-makers often seek a single, reliable forecast. This familiar tension illustrates how the *goal* (set from the outside, so to speak) of supporting decisions does not always align with the *method* and *theory* based on multiple futures, unpredictability, various perspectives, and so on. Another example of such tension arises around ethical considerations: when we speak of "desirable futures," do we assume present-day values remain valid, or should we account for the preferences of future generations? Axiological futurism, the inquiry into how human values could change in the future, asks exactly such difficult questions (see Danaher, 2021). We need to recognize tensions within the field, meaning tensions in its workings, such as tension between what is asked from the field and what methods are available, – not tensions between different approaches; I return to this latter issue below.

3.3. How Can the Field's Approaches Be Justified?

The question of justification does not seek absolute foundations. Instead, it asks how a given approach aligns with the goals it aims to achieve and the type of knowledge it seeks to produce. For example, consider a research project that creates narratives of the future. The rationale for the project might be that certain future changes need to be provided in a form that the stakeholders can digest. But what are the narratives based on in term of justification – what is their relation to evidence and how is that evidence related to possible

futures? For example, if the narratives are based on interviews and interpretation, how robust are the narratives – or rather: are they robust enough for correct use by stakeholders?

A necessary condition of justification of a method is its usefulness with respect to a goal. A method that clarifies cultural shifts may not offer precise forecasts but could spur critical reflection among stakeholders. That it does not offer a precise forecast is no argument against the method. A quantitatively robust tool might fail to capture social transformations yet could give credible near-term predictions. Justifying these methods means showing they meet certain needs – helping clients adapt to uncertainty, stimulating debate, highlighting ethical trade-offs, or what have you – rather than claiming predictive infallibility. This pragmatic approach to justification is characteristic of contemporary philosophy of science. One does not ask whether a method is justified in some absolute sense, but whether it is justified relative to specific goals and contexts.

3.4. How Might New Approaches Be Developed?

Since futures studies develops further constantly, we must analyze how emerging methods arise and how they could be created. Researchers often adapt ideas from other fields – such as complex systems modeling or risk analysis – so they can address issues inherent in futures studies such as uncertainty in situations where stakes are high.

The point behind this question is to remind ourselves that research is a historical activity that needs to be developed further. The development of new approaches has three aspects that require analysis: *Pragmatic aspect*: Should approaches from other fields be adopted? Is there some convenient method to be adopted to achieve certain goal? *Epistemic aspect*: How can we modify existing or borrowed approaches to be more suitable for the goals of futures studies? *Meta-aspect*: Should we reconstruct the goals, i.e., what the field, or its subfield, attempt to achieve? We may notice that sometimes a method becomes so influential that its use begins to shape the field. In such cases, do we reassess the goals of the field so that the method determines them? This happened in physics: Mathematical modeling, once proven effective, came to shape how the goals and limits of physics could be seen (see e.g., Cohen, 2010).

3.5. What Is the Conceptual Core of Futures Studies?

We discuss concepts and conceptual issues in Section 7 in detail, but here we can get an initial grasp of the issue by noticing how Wendell Bell (2009) [(1997)]), in his widely influential works, proposed a "transdisciplinary matrix" of futures studies. This matrix contains the following element: "*Shared key concepts (e.g., image of the future, future shock, tempocentrism, time frames, time horizons, alternative futures, possible futures, probable futures, preferable futures, post-industrial society, sustainable development, self-altering prophecy, issues management, scenarios, trends, life-sustaining capacities of the Earth, human values, among others)*". It is important to understand these types of concepts and how they are related to each other and especially to the methods, goals, and theories in the field. However, listing concepts is not the same as providing conceptual insights. This leads us to the next question.

3.6. Is the Conceptual Core Coherent and Consistent?

This question is an extremely important continuation of the question above. We have to ask whether the basic concepts (provided by some framework like the "transdisciplinary matrix") fit together. And if so, do they fit together naturally or in an ad hoc manner. For example, Bell's list may turn out to include mutually incompatible elements – for example, one could argue that *life-sustaining capacities of the Earth* and *alternative futures* do not fit together any longer (Slaughter, 2020). One may also wonder how natural the listing is.

In general, the question about coherent and consistent concepts reflects the change from *reductive philosophical conceptual analysis* to what is called "conceptual engineering." Conceptual engineering, as I use the term (see Section 7), refers to the process of creating and refining concepts in order for them to serve research practice effectively. Rather than asking what a concept "really means" – as if there were some essential meaning to be discovered – conceptual engineering asks how concepts should be defined and related to one another so that they enable clear thinking, sound inference, and productive research. For example, in futures studies, it would be good to steer clear whether possibilities are understood in subjective terms (what we consider possible, given what we know) or in objective terms (what could be out there, given certain contingencies). To understand the issue, notice that futures studies often asks about probability and desirability at the same time, even though *probability* leans towards objective and *desirability* towards subjective concepts. We return to this issue about concepts in Section 7.

3.7. In Conclusion

Each of the questions above addresses a crucial aspect of how philosophy can make futures studies more understandable and robust. Analyzing how the field operates naturally reveals tensions and raises questions of justification. From there, we see the need to refine methodologies while clarifying and aligning core concepts. By systematically tackling these issues, philosophy of futures studies, in the sense I offer in this paper, helps us to maintain both rigor and openness. It provides a framework for understanding how futures studies works, why it encounters specific dilemmas, and how it might improve methods and concepts. Ultimately, this reflective stance supports what futures studies already does well: remaining flexible, relevant, and self-aware. Philosophy is in continuum with self-reflection conducted in futures studies. Without understanding the field – what researchers in the field do and what issues they face – there are no philosophical questions to be asked and answered (see on similar issue Woodward, 2015).

3.8. An illustration

Let us focus on CLA (Inayatullah, 1998) to illustrate the discussion above in a bit more detail. First, we need to ask how does CLA work in practice? In CLA researchers analyze four layers: surface issues (litany), system/social causes, worldview/discourse, and deep myths/metaphors, and how the deeper levels shape, constrain, and build the more surface levels. Movement between the levels is the significant element in this method. But more importantly, we need to understand why researchers use CLA. The method assumes that deeper cultural patterns shape how people envision futures, and that by exposing these patterns, we can open up new possibilities.

Take, for example, the philosophical questions about justification of methods with respect to goals mentioned above. CLA's value is not, of course, in predictive accuracy – it does not seek that – but in the ability to reveal how different layers of understanding shape thinking concerning futures. But this raises, again, a deeper question. One could ask: how do we know that the layers presumably found in a research project actually structure people's thinking about futures? What is the relationship between the evidence gathered (like interviews or texts) and claims about deeper cultural patterns; how are answers by, let's say participants, *translated* to insights concerning the levels?

This leads us to analyze CLA's concepts and their interconnections more systematically. For example, when researchers identify something as "litany," they are making claims about its relationship to deeper systemic causes and patterns. Similarly, the concept of "worldview" does significant theoretical work in connecting surface phenomena to fundamental ways people understand reality and possibility. These concepts imply specific relationships between layers – myths and metaphors shape worldviews, which influence how futures can be conceived at more surface levels. But this raises questions about how these conceptual relationships map onto social reality. When researchers identify a worldview or myth in their analysis, what exactly are they picking out in the social world? How do we validate the presumed connections between layers, for example, how a particular myth shapes a worldview which then constrains conceived futures?

These conceptual questions connect directly to research practice and methodology. The concepts assume researchers can reliably identify phenomena at different layers and trace connections between them. But this raises questions about what counts as evidence for these relationships. When a researcher claims that a particular metaphor shapes how a group thinks about possible futures, what considerations can ground this claim? The concepts also imply certain research practices.

This analysis reveals both CLA's clarity and areas where it raises further questions. Like any research approach, it embodies certain assumptions about knowledge and reality that deserve philosophical scrutiny. Understanding these questions and assumptions can help improve both the method itself and our broader understanding of how futures studies generates meaningful insights.

Notice what this analysis does and does not do. It does not ask whether poststructuralism is "true" or whether CLA captures the "real" structure of social reality in some metaphysical sense. Instead, it analyzes how the method's concepts relate to each other, what assumptions they carry, how the methodological core connect to evidence and research practice, and where tensions or ambiguities arise. This is what contemporary philosophy of science does. "Philosophy of futures studies" in some other sense I leave others to be discussed, if such discussion is needed.

4. Why "Grand Questions" Should Not Be Central

When we analyze futures studies philosophically, we might begin with fundamental questions: What is time? Do future possibilities truly exist? How much can humans know about the future? However, looking at how philosophy of science has developed, we see why these grand questions should not be the main focus when trying to understand or improve futures studies.

Let me be clear about what I am and am not claiming. I am not claiming that grand metaphysical questions are meaningless or that they have no place in philosophy. I am claiming that they should not be the focus of philosophy *of* futures studies – that is, the philosophical analysis of futures studies as a field of inquiry. The reason is not that metaphysics is illegitimate, but that it rarely (though sometimes, when generating perhaps new methods) helps us understand or improve how futures studies actually works. This is a pragmatic argument about where philosophical attention should be directed, not a dismissal of metaphysics as such.

First, these questions, while interesting, are not unique to futures studies. Questions about whether anything exists beyond the present moment or about the nature of knowledge apply to all fields. Philosophy of science began making real progress when it moved away from abstract debates about the possibility of knowledge and focused instead on how science actually works. We want to understand how futures studies in particular works (for example, what unique features and problems it has in contrast to other fields of research) and leave answering the grand questions to those with interest in them specifically.

Second, history shows that these foundational philosophical questions are unlikely to be fully resolved. If conducting futures studies required answers to the grand questions, little would be achieved. Yet, research methods can be developed and applied even when such questions remain open. We do it all the time. Just as science continues to develop without answering ultimate questions about the nature of reality, futures studies can evolve without resolving philosophical debates about the nature of future possibilities.

Third, we usually learn about these philosophical questions by analyzing how research works, rather than the other way around. Our understanding of what humans can know comes from studying how different fields generate reliable knowledge. For example, physics demonstrates that we can achieve reliable knowledge through experiments and mathematical modeling. While this was, in history, a philosophical debate, it no longer is. Experiments and modeling provide knowledge, and the success of physics has proven this. Similarly, futures studies itself illustrates how humans can systematically analyze future possibilities. We know what we can know about the future by looking at how the future is studied, not the other way around.

One might object that sometimes fruitful research methods spring exactly from grand philosophical questions. The debates between Integral Futures and CLA could be cited as an example (see the special issues in *Futures* [vol. 40 (2) and vol. 42 (2)]; Slaughter, 2008;

Inayatullah, 2010). However, these debates illustrate precisely my concern rather than countering it.

Consider some of the central concepts that are present in these discussions. Ramos (2010) criticizes how Integral Futures positions itself as capable of "subsuming" alternative approaches into its framework. I do not take a stance on the issue, but wish to use this as illustration. The notion of *subsuming* remains ambiguous. In context, *subsuming* refers to a social-epistemic practice in which a dominant framework reinterprets other approaches through its own categories, thereby subordinating them as "less complete" versions of itself (Ramos, 2010). But what does it even mean in the first place for one framework to "subsume" another? Is this a claim about logical entailment – that everything stateable in another framework can be restated in Integral terms? Is it a claim about explanatory hierarchy – that Integral theory explains why those other frameworks work? Or is it a sociological claim about how practitioners position themselves relative to different methodologies? The term is used as if its meaning were self-evident, but it is not, and the debates proceed without clarifying it.

Or consider Gebserian ideas taken up in Integral Futures debates. Hayward (2008) relies on Gebser's historical schema of successive structures of human consciousness, but the nature of this schema is invoked more than explained. Gebser, supposedly, offers a developmental spectrum of consciousness structures and claims that an integral perspective arises by integrating them. This is made possible only by countering the dominant mental mode and recovering the earlier, non-mental ones. But what does this all mean for futures studies? Is it intended to be a serious claim about long-term transformations in human cognitive capacities and, thereby, something that could in principle be investigated through archaeology, cognitive science, anthropology, and so on? Or is it a phenomenological typology describing different modes of lived experience? Maybe a normative ideal about how we *ought* to think? Perhaps simply a metaphorical device to provide food for thought? The framework is presumed to perform substantial explanatory and justificatory work, but what would count as evidence for or against such historical claims remains unspecified. It is difficult to see how futures researchers could connect these large-scale assertions to empirical work or methodological choices. This is exactly the kind of ambiguity that philosophy of futures studies, as understood in this paper, aims to analyze and make clearer. The issue is not whether Gebser's framework is inspiring, but that engaging in discussions about it does little to clarify methods, concepts, or epistemic commitments in futures studies. A philosophy of futures studies – focusing on actual research practice – must therefore ask: if such historical-structural claims are to matter for futures studies, what is their empirical content, how might they be assessed, and how do they relate to existing methods? Without having such clarification, these frameworks remain examples of the grand metaphysical discussions that, to put it bluntly, generate rhetorical heat but offer little methodological light.

Similarly, the claim that practitioners must achieve certain "developmental stages" before they can properly employ integral methods (Hayward, 2008; Slaughter, 2008) raises immediate questions. Slaughter (2008, p. 134) argues that "One of the central insights to emerge from IF, in fact, is that it is the level of development of the practitioner that determines how well or badly any particular method will be used." But how are these stages identified? What, exactly, is the relationship between a psychological developmental stage and the capacity to use a research method? If someone applies a method and produces useful results, but has not achieved the requisite developmental stage, what follows – are the results invalid, or is the developmental theory mistaken, or something else? These questions are not addressed; the framework is presented as if it were self-evidently coherent while it raises tricky questions as mentioned.

Notice that these debates also involve charges of issues like "epistemic absolutism" and what Bussey (2010) calls the "integral trap" – the tendency for a framework that claims comprehensiveness to become hegemonic. But what are the criteria for these categories? When does a comprehensive framework become "absolutist"? These terms may function rhetorically – as criticisms or defenses – but their analytical content is thin. From the perspective of analytic philosophy of science, this is precisely the problem. The debates generate a lot of heat but little light. They do not clarify the epistemic status of claims made by futures studies research, do not analyze how concepts in the field relate to one another and could be perhaps refined, do not examine how methods connect to evidence, and do not help researchers understand the assumptions embedded in their practice. These are debates between grand frameworks about which framework is "philosophically" more comprehensive or "better" – the kind of discourse that does not advance the field in the eyes of analytic philosophy of science.

This is not to say that those engaged in such debates are not serious thinkers or that their work has no value in many contexts. It is to say that this kind of philosophical engagement does not serve the purposes I have outlined for philosophy of futures studies. The question is not whether Integral theory or poststructuralism or any other grand framework is "correct." The question is whether – or rather *how* – debating such matters helps futures researchers do better research. In their current form, the debates do not clarify much.

This suggests that philosophy of futures studies should focus on making futures studies more systematic and clear, rather than seeking to construct perfect foundations. Instead of searching for some absolute principles that futures studies must follow, we should examine how futures studies can be understood as a field of research in the way described in the previous section. In fact, focusing too much on foundational philosophical questions can weaken futures studies by diverting attention from key methodological issues. Instead of debating whether the future "really exists" or whether it can be "really" known, we should prioritize improving the ways in which futures are studied in practice. A more modest, research-oriented approach has worked well in philosophy of other fields, and should, thereby, be adopted explicitly to futures studies.

To be sure, I am not dismissing ontology. Every method embeds ontological assumptions, and analyzing those assumptions is part of philosophy of futures studies. What I am setting aside is speculative metaphysics that operates independently of research practice, such as debates about the ultimate nature of time or possibility that proceed without reference to how futures studies actually works. The ontological assumptions embedded in CLA, or in scenario planning, or in Delphi methods, are proper objects of analysis. However, the question of whether the future "really exists" in some metaphysical sense is not a proper object of analysis in philosophy of futures studies, because answering it one way or another does not change how any research is conducted or how we understand how the field works.

5. Philosophy *in* Futures Studies

There is another side to the issue. Philosophy can enrich futures studies not only by analyzing methods but also by providing tools and insights for exploring possible and desirable futures. We can use philosophy as a source of knowledge *in* futures studies side-by-side with other sources.

The distinction between philosophy *of* and philosophy *in* futures studies is crucial. Philosophy *of* futures studies, as discussed in the previous sections, analyzes the field itself – its methods, concepts, and assumptions. Philosophy *in* futures studies is different: here, philosophical theories, concepts, and arguments become resources that futures researchers draw upon in the content of their work. Just as futures studies might draw on economics, sociology, or ecology as sources of knowledge about how the world works, it can draw on philosophy, for example, as a source of knowledge about values, justice, and the good.

Consider questions related to justice – a core topic if we are ever to touch desirability issues. One might argue that justice can be understood in two ways: as maintaining existing rights and systems or as working toward a better, more just society. The first approach focuses on stability and small, gradual changes, while the second challenges unfair structures and pushes for wider transformations.[4] This difference matters for futures studies. If justice is based on today's rules, future changes will likely be slow and controlled. But if justice is seen as aiming for an ideal future, then the focus shifts to wider reforms that rethink how society is organized. This affects policy, decision-making, and how we assess risks. Using philosophy can have wide implications; and when some philosophical assumptions are implicit in a futures studies project, we need to turn back to philosophy of futures studies exactly because philosophy has implications.

Moreover, contemporary political philosophy offers concepts that can be used *in* futures studies. For example, Rawls (1999) [(1971)]) introduced a thought about the so-called veil of ignorance, which hides one's social position. Then we ask, given such veil of ignorance, how would we wish the society to be? We do not know who we are, given the veil, and thereby we need to look beyond our current positions and what benefits us in those positions. In other words, Rawls suggests an egalitarian position concerning justice. Now, we can apply such mental device to imagine futures that are just. Rawls also introduced the so-called difference principle, which requires that any inequalities should help those who are worst off. This principle might help us to gauge futures scenarios that seek to reduce systemic disadvantages.

However, we can also understand morality as based on reasoning together, not just individual moral intuition or imposed rules (Scanlon, 1998). This approach is relevant for participatory methods in futures studies, where open discussion shapes possible outcomes. Then we have Nozick (1974) who argues that justice is not about who has what right now, but whether past transactions were fair. If they were, the resulting distribution – no matter how unequal – is just. The point here is that such a minimal-state view clashes with egalitarian visions of future reforms. This leads to contrasting visions of future societies – one actively shaping fairness, the other relying on individual freedoms. We can draw on philosophical arguments when we try to gauge desirable futures that are desirable (at least partly) because the society of the future is a society with justice.

The point is not that futures researchers must become experts in political philosophy or resolve longstanding philosophical disputes. The point is that these philosophical resources – concepts, distinctions, arguments – can sharpen thinking about issues like desirable futures. When a study asks about desirable outcomes, it is implicitly engaging with questions that philosophers have analyzed. Drawing on that analysis can make the futures studies more explicit and the normative claims clearer and a subject to an open debate (that also uses conceptual tools already existing in philosophy). Notice that when philosophical theories are used in futures studies, questions arise about how they are applied – and these become questions for philosophy *of* futures studies to analyze.

Finally, we must also note that "philosophy" can mean different things. In this paper, I have been discussing philosophy as an academic discipline – a body of arguments, concepts, and methods developed primarily in the Western analytic and continental traditions. But "philosophy" can also refer to broader worldviews or systems of assumptions – what might be called a "philosophy of life" or the philosophical dimensions of various cultural and religious traditions. These broader philosophical perspectives can also serve as resources *in* futures studies, informing how researchers and participants think about time, change, value, and possibility. The integration of diverse philosophical traditions into futures work would be undeniably valuable. However, notice that this integration raises its own questions about translation, commensurability, and context. These are precisely questions that philosophy *of* futures studies can help to analyze.

To summarize, philosophy contributes to futures studies by providing ethical, epistemological, and conceptual perspectives. This does not mean theories should be applied uncritically; rather, they must be adapted to suit the needs and uncertainties of futures studies. This kind of approach carries the promise to make futures studies more ethically aware, more conceptually robust, and better equipped to handle debates on its nature and background. Again, we may notice that works on these issues exist (see Slaughter, 2020; Inayatullah, 1998; Danaher, 2021) and they form a continuum with philosophy. However, there is plenty of resources in philosophy that still wait their use in futures studies.

6. Methodological Pluralism in Futures Studies

This section discusses briefly, from a point of view of philosophy of science, how futures studies in its plurality of perspectives is related to questions about knowledge, methodology, and purpose. The field investigates what does not yet exist, meaning it cannot rely

[4] The debate is old (see e.g., Sidgwick, 1907 [1874] – and goes back to antiqueue), but contemporary political philosophy has developed precise conceptual tools that may be useful for futures studies.

on direct observation in the way that historical or present-focused research can. Instead, it must gather indirect evidence – through trends, expert judgment, historical analogies, and theoretical models – and then integrate these systematically. The question is: how do we justify claims about things that have not yet occurred? This reflects a core philosophical puzzle about unobservable phenomena, closely related to debates in philosophy of science.

This epistemic situation – studying what cannot be directly observed – is not unique to futures studies. Historians study events no one alive has witnessed. Astrophysicists study phenomena billions of light-years away. Evolutionary biologists reconstruct processes that occurred millions of years ago. In each case, researchers rely on indirect evidence and inference. Philosophy of science has developed sophisticated accounts of how such inferences can be justified (one of many examples being Currie, 2018), and these accounts are relevant to futures studies. The key message conveyed here is that the impossibility of direct observation does not preclude systematic research – it simply shapes the kinds of evidence and inference that are appropriate.

On this front, Gordon (1992), 35) reminds us that methods for understanding the future work only under certain conditions and remain imperfect. Human choices and chance ensure that complete predictability is impossible – this is something Popper (1957) already argued. Therefore, futures studies employs a range of methods. The Delphi method, for instance, emerged at the RAND Corporation in the 1950s (Linstone & Turoff, 1975). It relies on structured rounds of expert feedback, aiming to refine collective insights while mitigating social pressure and bias. Delphi remains valuable for informed decision-making in areas where precise prediction is unfeasible (see e.g., Bolger & Wright, 2011), yet methodological care is required. The method has historical roots and has developed ever since. This development is an example of a topic that requires philosophical scrutiny. For example, it might be difficult to say whether different types of Delphi studies, in fact, are connected methodologically tightly together, or whether there are different interpretations of what the method consists of.

Here we see philosophy *of* futures studies at work. The question is not whether Delphi is “truly scientific” or whether it captures “real” knowledge about the future. The question is more precise: What does Delphi assume about the relationship between expert judgment and future outcomes? Under what conditions do those assumptions hold? How should results be interpreted given those assumptions? When different researchers use Delphi differently, are they using the same method or, in reality, different methods that share a name? These are tractable questions that can improve practice. But they only arise in the context of actual futures studies.

Futures studies must also handle different timescales. Traditional trend analysis may be effective for short periods, but longer horizons and deep uncertainty demand other methods (Brier, 2005; Chapin, 2011; Virmajoki & Laakkonen, 2024). O’Mahony et al. (2024) note that short-term economic forecasts aim for specificity, whereas scenario analysis acknowledges uncertainty and outlines a set of possible future trajectories. A philosophical connection to pluralism emerges here: different knowledge claims require different tools; different timescales require different approaches.

This pluralism is not a defect to be overcome but a rational response to the diversity of questions futures studies addresses. A method suited to forecasting next quarter’s sales figures is not suited to exploring possible civilizational trajectories over the next century. A method suited to surfacing stakeholder assumptions is not suited to quantitative trend extrapolation. The philosophical task is not to find the one correct method but to understand which methods are appropriate for which purposes, what each method assumes, and how different methods might complement or conflict with one another.

One fundamental question in futures studies is how we should handle uncertainty in our knowledge about the future. Consider the Delphi method here. The method raises core epistemological questions about the nature and justification of futures knowledge. The key philosophical tension lies between the need to support concrete decision-making and the inherent plurality and uncertainty of future possibilities. When structured consensus-building through iterative feedback is used, we must examine both the pragmatic value (does it help stakeholders make decisions?) and the epistemic foundations (what kind of knowledge can such a process generate?). Research itself has revealed limitations in assuming expert opinion can be straightforwardly aggregated into reliable knowledge about futures (Hussler et al. 2011; Rowe & Wright, 2011).

The contrast between the Delphi method and CLA is instructive. Delphi aggregates expert judgment through structured iteration; CLA dives into the layers of meaning through interpretive analysis. They assume different things about what matters in futures studies, what counts as evidence, and what kind of insight is possible. Neither is simply "better" – they serve different purposes. And it is philosophy of futures studies as outlined above that can clarify these differences and, therefore, maybe even help researchers choose methods appropriate to their questions and understand what certain methods can and cannot deliver.

It is important to notice that, there are also arguments concerning what topics futures studies *should* focus on. For example, Fergnani & Chermack (2020) have recently argued that futures studies should concentrate its effort to develop theories about futures and foresight interventions and empirical data to test such theories. If executed successfully, this research project could build a unified theoretical basis. The problem is that futures studies is much more than a mere study of futures and foresight capabilities and interventions. The theoretical unity would come at the cost of cutting off several central parts of futures studies. On the other hand, according to Niiniluoto (2001), futures studies is fundamentally a design science that helps with the rational planning of our future, rather than being purely a descriptive science or critical theory. It combines theoretical and empirical research, methodology, philosophy, and political action, with its core function being to develop technical norms that connect means (actions) with ends (desired future states) in a systematic way. However, the problem is that we often just want to understand the thinking concerning future rather than affect the future directly. What is and should be futures studies? The debate continues.

These debates about the nature and purpose of futures studies are themselves philosophical – they concern what the field is for and how it should be organized. Philosophy of futures studies can contribute to these debates by clarifying what is at stake: What would be gained and lost by pursuing theoretical unity? What does it mean to call futures studies a “design science”? Are the different visions of the field compatible and even complementary or genuinely competing? Philosophy of futures studies continues from where the field’s self-reflection is located, and it can use philosophical frameworks and ideas *in* trying to clarify and explicate the field.

In summary, the field has long reflected on its epistemic, methodological, and ethical challenges, and developed diverse approaches to address them. Philosophy of futures studies, as I have characterized it, can contribute to these ongoing discussions by offering systematic tools for analyzing how different research methods can work together, what each assumes, and where tensions arise. This links directly to philosophical concerns about unobserved phenomena, pluralistic methodologies, and value-driven inquiry. As the field advances, the interplay between method and theory and between practice and philosophical analysis should be a main issue to which attention is paid.

7. Conceptual Engineering

In Section 3, we discussed concepts and introduced the notion of conceptual engineering. To make futures studies really work, we need to find clarity concerning its conceptual heart. As we have seen, conceptual engineering is a process of creating and refining concepts so they better serve research practice – not a search for what concepts "really" mean. Chalmers (2020) argues that conceptual engineering can involve both *de novo* conceptual engineering, which generates new terms, and conceptual re-engineering, which updates existing ones. In futures studies, there is a wide range of concepts – such as *plausible futures*, *preferable futures*, and *trends* – some of which are closer to each other than others. Now the question is, how should these concepts be analyzed and understood so that they align with each other and the context where they are used? Woodward (2015) argues that concepts should be evaluated based on their practical usefulness in scientific investigation and reasoning. In other words, concepts should help clarify ambiguous claims, guide reliable inference procedures, and identify what can and cannot be learned from available evidence. This is the pragmatic approach to concepts that aligns with the broader orientation of this paper.

For example, what does "desirable future" mean? Should we define it in terms of our values so that desirable future is one where what we value is as it should be? If we accept this definition, then we can connect the concept of "desirable futures" to research practices where our values are made visible. Or should we define it in terms of what future generations find valuable? If so, what research procedure could track down what futures are desirable – we cannot ask the future generations anything. In the earlier case, we are able to employ the concept in studies that are about us and our understanding of futures. In the latter case, this is no longer the case. However, in the first case, it seems a bit arrogant to say that our values are what matter in the future (values do change, see Danaher, 2021). In the second case, we are not that arrogant but lose contact to current methods. We need to engineer the right version of the concept. The point is not to discover the hidden essence of a meaning but to make a decision about how to use the concept productively.

Moreover, rather than relying on the usual philosophical approach where we simply try to ask for the meaning of a concept *simpliciter*, we must analyze how different concepts reinforce or constrain each other. Consider, again, CLA which rests on interconnected concepts like *litany*, *systemic causes*, *worldview*, and *myth/metaphor*. The layers that the concepts refer to gain meaning through their relationship to one another. Also, Chalmers (2020) argues that concepts derive their importance primarily from their practical and theoretical utility. This means that trying to understand the concept "litany" in isolation from other levels – and without understanding the logic of CLA – reveals little if we do not also examine what analytical and practical work this concept does within the method. This connects to our earlier discussion of CLA: the philosophical task is to analyze how concepts function within the method, not to debate whether poststructuralism provides the "true" account of social reality.

Conceptual frameworks must also serve both researchers and diverse stakeholders. Futures studies is a peculiar field in that we create the future through action, and the study of the future cannot be detached from the future itself – we can create it through research (although most things happen despite the field). This means that key terms must remain accessible while retaining scholarly precision. This suggests that we should treat concepts both as research instruments and as social tools. And the meaning of the terms should be defined in accordance with this duality. It makes little sense to discuss, for example, "desirable futures" if it is not connected to how the relevant stakeholders might understand the concept. However, this does not mean that scholarly conceptual engineering does not work in futures studies. Rather, conceptual engineering offers a structured way to maintain this balance between the duality of research and stakeholder use of concepts. Conceptual engineering, if done wholeheartedly, helps futures studies remain both rigorous and relevant, allowing concepts to evolve without sacrificing the clarity necessary for sound research.

8. Conclusion: Development Strategy

Philosophy of futures studies can draw on established philosophical tools and adapt them to the peculiarities of the field. Rather than constructing entirely new foundations, we can analyze ideas from philosophy of other fields (like philosophy of social sciences) and adjust them for futures studies, which operates under unique conditions due to its subject matter, the future or futures.

Futures studies could benefit especially from comparisons with historiography (i.e., the study of history), where researchers reconstruct events they cannot directly observe. Historians interpret evidence to form plausible narratives, just as futures researchers gather signals, data, and expert insights to envision possible futures. Virmajoki (2022b) notes that historical counterfactuals often resemble scenario thinking and even suggests that philosophical frameworks from other fields can be relevant to futures studies. The key is to borrow and adapt carefully. This means, especially, that futures studies scholars pay attention to what is distinctive about futures studies while recognizing what it shares with other forms of inquiry.

The openness of the future introduces further complexity. In philosophy of science, it has been argued that methodological pluralism is crucial for addressing complex phenomena. In futures studies, different methods create competing trade-offs. Roughly, as we have seen, forecasting seeks short-term precision but struggles with long-term complexity, whereas scenario planning explores multiple pathways but lacks predictive relevance. The philosophical challenge is how to handle such trade-offs without losing methodological rigor. Here, philosophy contributes in two ways. First, it helps to analyze how different research methods can work

together by recognizing the distinct epistemological assumptions of each approach. If the assumptions are in contradiction with each other, there is a serious methodological incompatibility. But it is better to know that something cannot be done than it is to not know and make futile attempts. Second, it helps to analyze how values inevitably shape research without sacrificing the clarity and systematicity that good research requires. For example, when studying futures of technologies, researchers must consider both empirical evidence and how methodological choices reflect certain assumptions. This is the systematic approach to knowledge generation. Philosophical analysis remains essential, for example, when addressing ethical and technological dilemmas. We need to ask philosophical questions when we face difficulties within research. We should not ask them abstractly and speculate.

A productive way forward is to adapt insights from other subbranches of philosophy of science, for example from debates concerning values or narratives in science. If done carefully, this approach builds on a foundation built by others without importing unnecessary theoretical baggage. The focus remains on analyzing puzzles, especially conceptual ones, that arise within futures studies as it is done. Progress will not depend on solving abstract philosophical puzzles but on improving how futures studies operates and communicates.

The madness in The Shining arose from isolation and obsession with writing things that did not relate to surrounding reality, as Jack Torrance lost himself in endless repetition that had no connection to the reality of the Overlook Hotel maintenance. Philosophy of futures studies faces a similar risk – becoming trapped in grand metaphysical questions that are not connected to research (see Section 4). But by grounding philosophical analysis in the actual practice of futures studies rather than abstract speculation, we can illuminate genuine methodological and conceptual challenges and help the field develop. The philosophical work I am advocating is not glamorous. It is, to be honest, dull but also careful, detailed, and oriented toward practice. But it is the kind of work that can lead to advancement.

And yes, we are the caretakers – *we have always been the caretakers* (see Kubrick, 1980). By this I mean simply that philosophical reflection on futures studies is not something external to the field; something to be imported from outside. It is something futures researchers themselves must engage in. The questions I have raised – about methods, concepts, assumptions, justifications – are questions that arise from within the practice of futures studies.

Finally, people may consider philosophy and futures studies in different ways; I am not claiming that the approach outlined here is the only possible one. However, it is clear, explicit, and based on contemporary philosophy of science.

CRediT authorship contribution statement

Veli Virmajoki: Investigation, Conceptualization.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work the author(s) used GPT4 in order to improve grammar. After using this tool/service, the author (s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication. The ideas are provably presented before the instruments came available.

Declaration of Competing Interest

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