Dynamis 2026

Abstracts of Contributed Papers

Jere Hallikainen (University of Helsinki)

Scientific realism through consensus and reliability

In my presentation I take stock of the recent scientific realism debate and attempt to figure out whether it has truly ended in a stalemate as some of its participants have claimed. (It should be noted that this sentiment is not new, cf. Fine 1984.) I claim that, on the contrary, the main arguments for scientific anti-realism fail and that scientific realism is the correct position, without relying on the no-miracles argument, questionable metaphysical assumptions such as the correspondence theory of truth, or decrees about what psychological stances it is rational/fitting/permissible to take towards our best and most successful scientific theories. All that is required for scientific realism is that there is a sound success-AND-truth inference pattern which faces no counter-examples that do not amount to what I call "scorched earth tactics" (e.g. brain-in-a-vat skepticism and Berkeleyan idealism). I put a social epistemological and pragmatic twist on the debate and defend what I call Indisputable Scientific Realism.

ISR is the thesis is that there are scientific theories which are both (i) considered to be true by an overwhelming scientific consensus, and (ii) parts of a complex, mutually dependent network of practices, processes and techniques, such that (iii) doubting their truth is no longer possible without appealing to considerations that generalize beyond scientific anti-realism to a global skepticism, and which are thereby collective knowledge.

The theories in (i) include but are not limited to what Vickers 2022 calls future-proof scientific claims or scientific facts, items such as "The Sun is main sequence star", "Earth's water masses change form as described by the water cycle", "DNA has a double-helix structure", "Anthropogenic global warming is taking place and is primarily caused by burning fossil fuels" and "COVID-19 is caused by a SARS-CoV-2 virus infection", which even the most hard-nosed scientific anti-realists have a hard time denying with a straight face.

For (ii), I appeal to Cartwright et al. 2022 who characterize science as an interlaced complex system ("tangle") of products: reliable practices, processes and techniques, not merely a set of true and false theories. Even if a scientific anti-realist wishes to remain skeptical about, say, the existence of photons and whether quantum electrodynamics is a true theory of how light behaves, it should be indisputable to all parties in the debate that, say, manufactured lasers and cloud computing servers work, i.e. they reliably do what we want them to do, and our only explanation of their operational principles invoke the truth of the very scientific theories that the anti-realist calls into question. I conclude by considering some potential anti-realist objections to (iii) and whether they are more viable than previous dialectical moves in the scientific realism debate.

Santtu Heikkinen (University of Helsinki)

How Tenable Is Panpsychism as an Independent Position?

In this talk I will explore the tenability of panpsychism as an independent position distinct from substance dualism and idealism. This independence requires it to both keep to a monistic understanding of substance while maintaining some role for matter or the material to avoid collapsing into a phenomenalist form of idealism. My approach to evaluating whether it succeeds in both aims is an analysis of the nature of properties in panpsychist frameworks. Property dualist panpsychism makes a distinction between material or physical properties and phenomenal properties whereas property monist panpsychism aims to avoid such category distinctions and sees all properties to fall into the same ontological category.

I argue that property dualist panpsychism faces at least two problems. One is the question of the relationship between material or physical and phenomenal properties, including the nature of their interaction. A supervenience of one on the other has difficulty avoiding the epiphenomenalism of the supervenient class of properties, whereas causal interaction between the two faces a mind-body problem roughly corresponding to the one facing Cartesian dualism. Another problem, proposed by Galen Strawson, is that the material or physical and phenomenal properties of any object or entity carrying both can in principle be seen to constitute two proper parts of the entity, so that the totality of those properties can be cleaved into a wholly material and a wholly phenomenal part, resulting in a picture difficult to distinguish from substance dualism. Both issues complicate the issue of distinguishing property dualist panpsychism from substance dualism in a meaningful way.

Property monist panpsychism, on the other hand, faces the issue of establishing a clear and ontologically meaningful role for the material. If phenomenal properties are ubiquitous in nature and there is only one kind of properties, the place for the material is questionable. One possible answer is to reserve a place for the material as the dispositionality or causal powers of phenomenal, qualitative properties, which form the intrinsic, categorical base of reality. This, however, would make matter non-fundamental and ontologically dependent on the intrinsic phenomenal. It is unclear whether such a framework would retain matter in a manner robust enough to distinguish it from idealism. Similar problems arise if we see the material as merely the structural or relational features of reality.

I tentatively suggest that panpsychists may have to accept either a substance dualist or idealist metaphysics, depending on their understanding of the ontology of properties, or otherwise turn to neutral monism as a further alternative.

Samuli Isotalo (University of Turku)

Part of Nature's Infinite Power: God and Modes in Spinoza

According to Spinoza, ordinary things, such as Sofia and Socrates, are modes of God. How this is to be understood remains deeply contested. A common approach interprets modes according to the model of Aristotelian accidents, that is to say, as features that inhere in the substance without belonging to its essence. On this view, supported by the distinction between Natura naturans and Natura naturata, Spinoza's system is read as effectively dividing reality into "two compartments", one being the self-subsistent divine essence, another the accidental realm of modes.

In my presentation, I argue against such "two compartments" view. If modes are taken as external to God's essence, then, given that nothing exists outside God, this risks reducing God to a merely accidental unity, when modes are taken together with God. Moreover, it encourages a picture of God as a ruler standing over nature, as that of a king ruling over his kingdom – a picture Spinoza explicitly rejects.

I develop an alternative interpretation based on Spinoza's claim that "God's power is his essence itself" (E1p34), together with his claim that finite singular things are "parts of God or Nature's infinite power" (E4p4d). I argue that modes are best understood as non-independent, subsisting parts of God, finite determinations of God's infinite power, each possessing its unique intrinsic structure, yet existing and operating within the whole, only in the context of which it gets its being and significance. This requires that we understand the word "part" not as an independent object from which the whole would be constructed, but instead as something that emerges from the whole due to the infinite power of God.

Augusta Koivusalo (University of Helsinki)

Heidegger and the Relationship Between Metaphysics and Logic.

In 1929, Martin Heidegger delivered his famous inaugural lecture *What is Metaphysics?* in Freiburg, placing the concept of nothing at the heart of metaphysics. In 1932, Carnap attacked the lecture as a prime example of metaphysical nonsense. Carnap believed that advancements in logical analysis had made the overcoming of metaphysics possible. On his view, statements such as "the nothing nothings" violate logical syntax, rendering them entirely meaningless.

This paper argues that Carnap's critique, while influential, mischaracterizes Heidegger's project. Heidegger's aim is to challenge the very assumption that logic provides the foundation for philosophical inquiry. During his metaphysical period, Heidegger advances a conception of metaphysics that is irreducible to logic, and instead, allows us to explore the conditions under which beings (or entities) can appear as such. This does not involve a rejection of logic but a delimitation of its scope.

I argue that the Heideggerian separation between logic and metaphysics anticipates (structurally, not historically) contemporary critiques of modal metaphysics. In particular, I connect Heidegger's metaphysics to Kit Fine's neo-Aristotelian account of essence, which rejects the reduction of essence to modality and of metaphysics to modal logic. Both Heidegger and Fine resist the idea that metaphysical structure can be captured through formal relations alone. Now, there are obvious differences between Heidegger's phenomenological approach and contemporary analytic metaphysics. The goal is not to assimilate the two but to highlight structural affinities. The comparison reveals a shared commitment to understanding metaphysical structure in a way that is not reducible to formal logic or to standard modal frameworks.

By bringing Heidegger into dialogue with contemporary analytic metaphysics, the paper aims to show that his work is not opposed to logical analysis, but offers a substantive conception of metaphysics that remains philosophically relevant today.

Gustaf Malmberg (University of Helsinki)

Non-Local Experience in Time

It is the purpose of this talk to review Alexander Wendt's argument for non-local experiences in time and evaluate the claims from philosophy and physics that Wendt uses to argue his claim. It is my view that his reliance on collapse interpretations and delayed choice experiments might be misplaced as recent interpretations of the results of delayed choice do not necessarily imply retrocausality.

In Quantum Mind and the Social Sciences, Wendt discusses, among many other things, the fixity of the past and the philosophical camps that argue for the indeterminate epistemological or ontological status of historical facts. An epistemic change would constitute a change in our knowledge of historical facts while an ontological change constitutes a change in what actually happened and existed. Wendt favours an ontological reading for the possibility of changing past events, presenting arguments that the relational properties of events and the people who lived through them may be changed by our attitudes towards those events a long time after they have occurred. For example, no person that fought in WWI did so until after the fact and each individual event that constitutes WWI did not have the relation of being part of WWI until after. What changed was that WWI came into being first afterwards which introduces a new ontology. Wendt argues then that the changing of the relational properties of these events constitutes an actual ontological change in the event rather than an epistemic change. These relational properties must be considered ontological in social life lest we believe that only material properties are ontological. With an appeal to the fundamental feature of non-locality in quantum mechanics and delayed choice experiments (a physics experiment that shows that the path that a particle takes in a double-slit experiment may be changed after it has already passed through both slits), Wendt argues that our own experiences in time are also non-local

and that the entanglement of our memories with the past experiences imply that the past and the present are not entirely separate. The past is therefore not entirely set in stone and it is possible for us to change it. While it is important to remain open to weird implications from quantum mechanics, Wendt is overly reliant on specific interpretations, collapse interpretations in this case, to base his entire argument of quantum mind on.

Mika Oksanen (University of Helsinki)

Descriptive Metaphysics as a Transcendental Prolegomenon to Revisionary Metaphysics

This talk studies the distinction between descriptive and revisionary metaphysics. It is argued that the distinction is more obscure than is often supposed and requires explication. I propose that it is essential to descriptive metaphysics as originally conceived by Peter F. Strawson that it usesthe method of transcendental arguments to find conceptions presupposed by all of our rational thinking or action. (This does not, however, imply that it would be committed to transcendental idealism.) Because of this the viability of descriptive metaphysics is dependent on the existence of sound transcendental arguments with conclusions that are not wholly trivial.

Even if some transcendental arguments are sound, Strawson did not give any good reason to think that revisionary metaphysics would be at the service of descriptive metaphysics, as he claimed. I will argue that descriptive metaphysics should instead be at the service of revisionary metaphysics. Descriptive metaphysics should be the preparation, the prolegomenon, for revisionary metaphysics. However, though this conclusion is similar to that of Peter Simons and Markku Keinänen, this does not entail that descriptive metaphysics should be taken to just study diverse conceptions of what there is as Keinänen proposes. As Keinänen acknowledges, this would diverge greatly from what Strawson originally intended, in my view too greatly. Rather, descriptive metaphysics uses transcendental arguments to get at the metaphysical implications of a single system of pre-scientific knowledge presupposed by all scientific research.

Tuomas K. Pernu (University of Eastern Finland)

On the Distinction of the Qualitative and the Quantitative

There is an entrenched distinction between qualities and quantities. Typically – though often implicitly – these are assumed to constitute two different, mutually exclusive kinds of properties. Moreover, in the sciences, a widespread paradigm holds that researchers operate with two different kinds of methods: qualitative and quantitative. Not only are these typically treated as fundamentally different, mutually exclusive ways of doing science, they are often treated as amounting to thoroughly separate cultures, or worldviews, the differences of which can never be reconciled.

Here, I review the foundations of the qualitative and quantitative distinction. Note, first, that there is a sizable literature on the metaphysics of quantities, and there is a vast literature on measurement. Nothing comparable exists with respect to qualities. This is strange, considering how widespread and fundamental the distinction between qualities and quantities is taken to be, and how frequently the term "qualitative" appears both in philosophy and in science. This situation has, however, a fairly simple explanation – or so I claim. Namely, that the qualitative and the quantitative are not fundamentally distinct, but the latter category is in fact based on the former. That is, quantitative properties are certain kinds of qualitative properties. This explains the bias in analysing these properties: the focus has been on identifying the subset of qualities we should designate as quantitative.

Qualities can be shown to be fundamental in relation to quantities in a variety of ways. I will here focus on basic reflections on the notion of quantity, and historical developments with regard to measurement (quantity calculus and dimensional analysis in particular). This makes it quickly apparent how quantities are based on qualities (albeit tacitly so).

Consider the basic distinction between multitudes (discrete, or countable quantities) and magnitudes (continuous, or measurable quantities). Multitudes are straightforwardly based on qualities: multitudes are distinctness – categorical differences – between individual items. This is the basis of set theory (and hence all of maths): that we can perceive, count, and think abstractly about collections of separate items.

Magnitudes, on the other hand, are not as straightforward to handle. Formally, we state: $|Q| = \{Q\}[Q]$ (based on Maxwell (1873, p. 1)). That is, the quantity value ($|Q|$) – a magnitude – of a quantity (Q) is a product of the numerical value (real number) ($\{Q\}$) and the unit of the quantity ($[Q]$). Note that this expresses a relation of proportionality between a unit and a magnitude. None of this gives an account of what quantities are, and how they relate to each other – and how quantities relate to qualities.

Dimensional analysis answers the question of how quantities relate to each other. Quantity dimensions are functions expressing the relationship of a given quantity to other quantities; this gives us a formal tool for dealing with base and derived quantities. But now we are left with the question: what are base quantities?

Although we can, at least in principle, fix the base quantities arbitrarily, the question still remains how the items in the set of base quantities, once it is fixed, relate to each other. The answer should be clear: they differ categorically; each base quantity constitutes its own dimension. That is, each base quantity – like mass and length – are qualitatively different from each other, but internally homogenous in a way that allows us to measure them (i.e. speak of each of them in terms of magnitudes).

This is an analysis based on philosophy (or metaphysics) of science. The question of whether there is a separate route to the same conclusion based on purely metaphysical analysis – by

showing, perhaps, how the idea that quantities are a subset of qualities falls naturally out of the typical theories of properties – is left open.

Paavo Pylkkänen (University of Helsinki)

Can physics provide us with an ontology?

The noble aim of scientific metaphysics is that science ought to provide us with an ontology. James Ladyman and Don Ross (2007: 45) go so far as to suggest that the only role left for metaphysics is to bring together the results of the different sciences into a unified world view, as there is no scientific discipline which does that. When it comes to the nature of the physical world, for example, we ought to let physicists work out the ontology, and metaphysicians ought to wait for the results and not interfere with their 'intuitions' which are not suited to understand those deeper levels of reality that fundamental physics studies.

But is that really a viable strategy and division of labor? It may not be sufficiently understood that physics has so far failed to provide us with a coherent, commonly accepted ontology. Not only has it turned out to be very difficult to bring together two fundamental theories, quantum theory and general relativity, but the interpretation of quantum theory itself remains a major unresolved issue, after a hundred years of interpretational debate. Physicists have not been very successful in resolving the issues, so I suggest that clearly an interaction between physicists and philosophers (including metaphysicians) is to be recommended (cf. Guay and Pradeu 2022).

There are, of course, some physicists who value philosophy and who have worked especially hard to provide coherent ontological models of the physical world. As an example of this I will discuss David Bohm's 'pilot wave' interpretation of quantum theory. It aims to provide an ontological picture of the physical world and involves radical assumptions. For example, Bohm postulated that a new type of 'active information' is a fundamental feature of the world at the quantum level (Bohm and Hiley 1993). We are used to think about information as something for us, but Bohm emphasized its objective and active role. Information – and its 'meaning' – is an objective commodity which exists in the world independently of the human mind and makes things happen. I will discuss the state-of-the-art of the Bohmian program, noting how Bohm himself suggested that the postulate of active information solves key problems in his theory (such as the strange and arbitrary mathematical form of the 'quantum potential', the problem of the multidimensionality of the many-body wave function, and the problem of empty wave packets). I will then move on to discuss the broader metaphysical implications of the notion of active information, to issues such as materialism vs. idealism and causation, including the problem of mental causation.

Maija Raasakka (University of Jyväskylä)

Information, structure and the missing epistemic agent

The purpose of my presentation is to elaborate on the criticism aimed at Ladyman and Ross's (2007) informational structural realism and suggest a modification that would strengthen the theory. Consequently, I argue that in order to form a coherent informational ontology, the overlap between epistemology and ontology needs to be addressed. Thus, a coherent theory has to specify the role of an epistemic agent.

Ladyman and Ross (2007) present a comprehensive account of the ontological primitivity of information-theoretic relations in their informational structural realism, while simultaneously defending radically naturalistic metaphysics. Ladyman and Ross argue, on the basis of fundamental physics, that the conventional model of the world being composed of individuals is misleading. Instead, the ontological prime is an informational structure, which manifests as regularities. These regularities are formalizable by means of information theory.

Ladyman and Ross's theory has faced criticism concerning the conditions of the primitive structure in question. What has been questioned is, for example, whether an informational structure can be ontologically primitive in the first place. I argue that there is a more significant problem underlying these remarks: the role of an epistemic agent is insufficiently defined. This insufficient definition is what leads to potential confusion concerning the informational structure in the first place. Moreover, I argue that this concerns not only the theory in question, but also informational ontologies more broadly. Hence, in order to form a coherent information-centric ontology, the necessary overlap between epistemology and ontology needs to be addressed, and the role of an epistemic agent specified.

I present a proposal for this specification which would strengthen Ladyman and Ross's informational structural realism. By implementing the concept of 'level of abstraction' by Floridi (2011), one can form a more coherent stance of the connectedness of epistemology and ontology. Consequently, informational structural realism becomes a more robust theory: it can be viewed as a theory about both the primitive informational structure of the world and the observer's special relation to it. Thus, it is a promising candidate for a coherent, realist informational ontology.

Jaakko Reinikainen (Tampere University)

Reference to (and Metaphysics of) Fish – Some Ideas

It appears evident both that we can refer to fishes as a kind and that this kind exists even as we admit that there is very little in the way of similarity among the members of the kind recognized by current biology. For example, contrary to popular belief, not all paradigmatic fishes are cold-blooded, and not all of them apply gills as their primary breathing mechanism. This raises a

puzzle: if fishes do exist and if we can really talk about them, how is this explained if not by the innate cohesion of the kind itself? How are determinate reference and kindhood possible here?

There is a fairly intuitive answer available in the literature, which is that the reference to fish is hybrid in nature. The reference is determined in part by causal-perceptual contact with paradigmatic tokens of fish combined with a unifying referential descriptive intention, for example "All these animals living in water". The view is called hybrid because it combines a causal-historical element of reference with a descriptive element, which only together are necessary and sufficient to fix the reference of "fish". According to some views, the reference fixing also plays an important role in explaining the nature of the fishy kind itself: while fishes are arguably a natural kind, the cohesion of the kind is explained not just by joints inherent to nature but also, and perhaps more importantly, by various pragmatic interests and dispositions of humans related to fish.

In this paper, I first argue against the hybrid view for "fishes" by showing that it entails wrong results about the status of certain modal claims about fishes. For example, if the reference of "fish" is partly determined by the attributed properties of living in water and being animals, it is impossible to empirically discover fishes that do not live in water or which are not animals. But this is, in fact, a live epistemic possibility, at least in a suitably abstract sense. Second, I argue that it may well in fact be a metaphysically necessary fact that fishes are aquatic animals, and further, that this modal fact can be explained by a so-called pure causal-historical theory of reference fixing about "fish". The correct modal profile for fish must be explained, I claim, via a posteriori truths about the actual tokens of the kind.

Pasi Valtonen (Tampere University)

Semantic Modelling and Engineering of Cognitive Content

The semantic view has a long history in conceptual engineering. The idea that conceptual engineering aims to change the meaning of words or the semantic content of concepts has been around as long as conceptual engineering. Manuel Gustavo Isaac characterizes the semantic view of concepts as a view according to which "concepts are construed as semantic entities". They are compositional constituents of our thoughts. The semantic view is focused on the semantic features of concepts and holds that concepts have a semantic structure.

In contrast, the psychological view treats concepts as cognitive entities and has recently gained popularity. The view sees concepts as structured bodies of information about individuals or categories and classes that are constructed and activated to support higher cognitive processes. Following Edouard Machery, Isaac adheres to the psychological view, criticizing the semantic approach with the following objection. It is not at all trivial how things are represented. While the semantic view is very focused on the referents of concepts, the view has neglected the broader aspects of the representational machinery. In other words, the truth conditional contribution is one thing but sometimes even more important is what people think

about the referents and what kind of inferences they draw from the referents. This is cognitive content and the main focus in my talk is the semantic accommodation of it.

The central claim is that the semantic view provides a framework for accommodating cognitive content. Conceptual engineering, in general, poses two very basic questions: (i) What is being engineered, and (ii) how is it engineered? These questions apply equally to cognitive content. The semantic modelling of three types of cognitive content addresses the first—the what-question—while the case studies of engineering address the second—the how-question. As a result, the semantic modelling is understood as a formal representation of semantic content and of cognitive content. Whereas engineering is understood as an intentional effort to change the content of a concept. My view rests on the idea that meaning is more than truth conditions, an insight well recognized in contemporary semantics. I suspect that the objection to the semantic approach stems from an unduly narrow understanding of semantics. It is true that Frege held that psychology is irrelevant to logic and to the theory of meaning, whose ultimate aim is the Truth. Therefore, any kind of psychological colouring should be viewed as irrelevant. This led to a view, echoed by Isaac, that compositionality and the pursuit of truth are the key concerns of logic and semantics. Yet, this perspective has been widely challenged by semanticists. Dummett criticized Frege for excluding various implicatures and conversational features. Stephen Neale noted that Dummett's critique revealed the untenability of Frege's position. Since then, semantics has changed significantly, incorporating attitudes, biases, and beliefs into its models of meaning. On this basis, I argue that the semantic framework is well equipped to accommodate cognitive content and the engineering of it.