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Speculation

Arran Gare agare@swin.edu.au

Swinburne University,

Melbourne, Australia

Definition:

‘Speculation’ originally meant ‘reflective observation’. It came to mean ‘conjecture’ or ‘mere conjecture’ as philosophers strove for certainty, consecrating science as rigorously acquired knowledge accumulated through application of the scientific method and devalued the cognitive status of other discourses. The present conventional meaning of speculation, where the place of observation has disappeared, is a by-product of this consecration. In this entry I show how through efforts to defend the status of these other discourses, the original meaning of ‘speculation’ was not only revived but built upon by speculative philosophers. They showed that speculation is primordial to all experience and thinking, with past speculations embodied in language as ‘dead’ metaphors. Revealing the possibility of elaborating alternative metaphors frees us not only from these dead metaphors to overcome the dead-ends of current science, opening up new possibilities for enquiry, but the possibility of reconceiving ourselves and our place in nature. In this way, speculation makes it possible to transform ourselves, creating radically new ways of living and new forms of life. On this view, speculation, by opening new possibilities, could free us from the destructive trajectories of current civilization.

Keywords: speculation; scientism; dialectics; metaphors

Historical context

Currently, ‘speculation’ is taken to mean conjecturing without conclusive evidence, or the activity of proposing possible answers to questions based on limited knowledge or information. Tacitly, speculation is counterposed to knowledge based on practical experience, rigorous observation or rigorous reasoning and is defined as inferior to these and not to be taken seriously. This everyday usage can be regarded as common sense, but it has not come to us through the evolution of common-sense. It is the product of a long history of philosophical disputes ramifying through the entire culture of Western civilization. The current meaning of ‘speculation’ is inextricably linked to other concepts that also have gained their current meaning through equally long histories of philosophical disputes. The concepts of evidence, knowledge and information are obvious examples. The word ‘speculation’ has its origins in the Latin ‘*speculum*’ which meant mirror, reflection and reflective consciousness, and late Latin ‘*speculationem*’ which meant contemplation or observation with the root ‘*spek*’ coming from the proto-Indian-European, meaning ‘to observe’. So, originally ‘speculation’ meant ‘reflective observation’. According to the Oxford English Dictionary, the original English word meant ‘To look or gaze at (something); to examine, inspect, or observe closely or narrowly’ or ‘To observe or view mentally; to

consider, examine, or reflect upon with close attention; to contemplate; to theorize upon.’ In the mid-fifteenth century ‘speculation’ was taken to mean the pursuit of the truth by means of thinking, or thinking or meditating on a subject. Evidently, the place accorded to observation in speculation gradually dropped out. It was only later that ‘conjecture’ became central to the concept, and only from the late sixteenth century that speculation gained its disparaging sense of ‘mere conjecture’.

This disparaging sense gained momentum with the Seventeenth Century scientific revolution and the quest for absolute foundations for knowledge and absolute certainty, whether through reason associated with mathematics, deductive thinking modelled on mathematical reasoning, or on what is immediately given to the senses. Most importantly, this revolution was associated with the differentiation of scientific knowledge from all other kinds of knowledge. This claim for scientific knowledge was consolidated in the Nineteenth Century through Auguste Comte’s positivism and in the Twentieth Century through logical empiricism, and more specifically, logical positivism. Logical empiricism was founded on empiricism and the newly developed symbolic logic, and effort to provide absolute foundations for mathematics either through logic or through precisely defined formal rules of manipulation of symbols. Certainty could be achieved through a combination of induction and deduction. What was seen to be most important in theories is that they generated predictions that could be verified. Science was seen to advance by the development of more general theories able to deduce more particular theories as special cases, implying a deterministic universe. The successful application of science to technology was a further way of validating scientific knowledge. While logical positivism has been severely critiqued in philosophy, it retains its hold on culture as justifying ‘scientism’, the belief that only science gives us real knowledge. Rather than sense experience or observational statements, it is common now to think that knowledge is certain because it is grounded in data, or information, allowing some role to conjectures in developing knowledge, providing these are not merely speculative and conform to measurements or statistical analysis of data. It is in this context that the pejorative sense of speculation has gained the status of ‘common sense’.

Such scientism has always faced opposition. The first major challenge to this conception of knowledge came from Giambattista Vico. Vico was proposing a New Science, characterized as ‘Speculative Geometry of the Civil World’, but essentially, he was upholding and greatly advancing the humanities and the traditions of rhetoric and history. Arguing that we can know the truths of geometry because we ourselves created it, he argued that the human world can be understood in its historical development because we created it. Because we did not create nature, we cannot really understand it.

Philosophers in Germany offered the strongest defence of speculation, however. Kant was their main point of departure. Like Vico, Kant argued that we can truly understand only that which we ourselves have created, with mathematics taken as a model for this. However, Kant also argued that all we experience is in some sense our creation, produced by synthetic thinking involving imagination, forms of intuition (space and time) and the categories of the understanding. What we observe is guided by questions formulated in terms of these concepts. Kant’s critical philosophy aimed to defend such conceptual knowledge, along with the principles of practical reason and aesthetic judgements of taste. This was neither analytic nor empirical knowledge, but *synthetic a priori* knowledge. Such knowledge would seem to require some form of speculative imagination to account for it. In *Critique of Pure Reason* (1996, A635f. and B663f., p.612) Kant considered but rejected this, characterizing speculation as a fruitless theoretical exercise in which cognition aims at an object, or concepts of an object, of which one cannot gain any experience. He invoked dialectics, but merely to show that it is impossible to choose between rival doctrines on issues central to traditional speculative philosophy.

This provoked a reaction, and it was through this reaction that speculation came to be strongly defended. Typically, G.W.F. Hegel defended speculative philosophy through dialectics. Dialectics as conceived by Hegel, under the influence of both Kant and Plato, has a negative side, as the way to

expose one-sidedness of abstract propositions of understanding and how these necessarily veer into their opposites. Speculative philosophy was defended by Hegel (1975, §81, p.115ff.) as the ‘positive’ or speculative side of dialectics. It is the process of overcoming contradiction, one-sidedness, and differences to achieve more comprehensive knowledge, including self-knowledge. In the Preface to his *Phenomenology of Spirit* (1977, §61, p.38), Hegel examined the claim to be able to ground knowledge on a foundation of sense-certainty, revealing this claim to be one-sidedness, leading through successively less one-sided ‘solutions’ to the conclusion that ‘knowledge’ cannot be treated in abstraction from self-understanding achieved through world-history. Building on the Socratic question that allows us to bring any aspect of experience before the mind and consider its being and meaning, he introduced the notion of the ‘speculative sentence’. While the Socratic question makes the mind dialectical, allowing it to move from one question to another, the speculative sentence, as interpreted by Donald Verene (2009, p.ix), ‘turns this series back on itself, revealing its pattern of self-development.’ As Verene noted, (p.x) ‘speculation excludes neither reflection nor analysis’ but is the ‘logic of question and answer that is the key to philosophy, far more than argument. Anyone can argue, but few can ask the right questions.’ While reflection and argument operate at a distance from the object, ‘[t]o speculate ... is ... to narrate the inner life of the object.’ (p.3) As a speculative philosopher, Hegel was concerned to provide a systematic and comprehensive understanding of human existence and its place in the cosmos, encompassing the natural sciences, history, literature and art, and revealing the possibility for freedom in how we live and organize society.

Hegel defended a form of Idealism, claiming that nature itself is a product of Spirit. Our knowledge of nature only reveals Spirit in nature. Idealism was common to many other philosophers opposing scientism. Subsequently, most philosophers abandoned Idealism, and along with it, speculative philosophy, and its quest for comprehensive understanding. Philosophy was then riven by the opposition between those with a primary allegiance to science conceived of as having found the way to acquire certain knowledge of reality, as with most analytic philosophers, or to the humanities often sympathetic to some form of Idealism. This opposition did not exhaust the traditions of philosophy, however. Other traditions, including most Marxists, pragmatists and many phenomenologists, extolled practical knowledge over speculation. In some cases, these philosophers aligned themselves with science, as with orthodox Marxists, in others, with the humanities, as with humanist Marxists, hermeneutic philosophers and ordinary language philosophers. Either way, these philosophers also tended to dismiss speculative philosophy. The combination of scientism with the privileging of action over speculation led to the identification of knowledge with techno-science and the assumption that all true knowledge shows us how to control the world, including people, more efficiently. The only possibilities for the future are those which will be delivered by technology.

However, some speculative philosophers embraced naturalism, although often without being recognized for doing so. This was the case with Friedrich Schelling who explicitly rejected Idealism. They can best be characterized as speculative naturalists, upholding the ambitions of speculative philosophy and the conception of humans as essentially creative as defended by speculative Idealists, while holding that nature preceded humanity, and humanity emerged and evolved as participants in a creative nature. Aligning themselves with the humanities, they challenged the characterization of science by its rationalist and empiricist defenders and their claims that science achieves indubitable knowledge, and following from this, challenged prevailing scientific theories. Embracing Kant’s argument that all our knowledge of the world is organized by imagination and concepts, but rejecting his claim to have shown that only one set of concepts are coherent and thereby valid, they argued that existing concepts could be transcended. Attacking Newtonian science, for making sentient life and mind unintelligible, Schelling outlined a speculative physics that could replace Newtonian physics, revealing new possibilities for science that had a major influence on subsequent developments in physics, chemistry and biology. (Gare, 2011)

Speculative naturalism was later revived and advanced by C.S. Peirce, Henri Bergson and Alfred North Whitehead and their followers. Whitehead launched a particularly strong defence of speculative philosophy or metaphysics. While this tradition of speculative naturalism was eclipsed by logical empiricism and phenomenology within mainstream philosophy, and later by structuralism and poststructuralism, the ideas of these philosophers were kept alive among philosophers of science and sympathetic scientists. In demolishing logical positivism in the third quarter of the Twentieth Century philosophers of science further developed their arguments, showing the central role for speculation in science itself. This again aligned science with the humanities, and along with granting a place to speculation in science, also gave a place to speculation in transforming humanity and creating the future. As with Schelling, these philosophers provided the means to defend the ideas of Vico and the speculative Idealists on naturalistic foundations. It is this tradition of philosophy that provides a real challenge to the denigration of speculation, and it is through their work that what is speculation can be characterized and defended and shown to be central to science as well as the humanities and everyday, practical life. Work in speculative philosophy or metaphysics has also been strongly supported within the natural sciences by theoretical scientists striving to overcome the heritage of Newtonian science and its implicit assumptions, and the failures of more recent physics. Such work has helped inspire what has been called the speculative turn in recent philosophy associated with speculative realism, speculative materialism and speculative naturalism, with a revived interest in Schelling (Levi, Srnicek and Harman, 2011; Gare, 2011).

What is speculation

It is in the context of the original meaning of speculation, the change of meaning associated with the quest for certain knowledge, and then the reaction to this by speculative philosophers, that its nature and significance can be understood. To begin with, the tendency to exclude observation from the meaning of speculation and then defining it as being in some way inferior to observation should be rejected. Speculation begins in reflective observation. Later efforts to revive and defend speculation have revealed new dimensions to such reflective observation.

Speculation potentially brings everything into question, beginning with appearances and beliefs, methods of inquiry and knowledge of methods for acquiring and ascertaining claims to knowledge, and more fundamentally, the concepts which define domains for investigation and conceptions of subjects able to speculate. Speculation is not necessarily philosophical speculation; however, reflective observation challenges one-sided thinking and if pursued long enough, almost inevitable leads to speculative metaphysics, or to sympathy for it. Whitehead (1933) characterized philosophy itself as ‘an attitude of mind towards doctrines ignorantly entertained’ and in defending speculative philosophy argued:

No science can be more secure than the unconscious metaphysics which tacitly it presupposes. The individual thing is necessarily a modification of its environment, and cannot be understood in disjunction. All reasoning, apart from some metaphysical reference, is vicious. Thus the Certainties of Science are a delusion. They are hedged around with unexplored limitations. Our handling of scientific doctrines is controlled by the diffused metaphysical concepts of our epoch. Even so, we are continually led into errors of expectation. Also, whenever some new mode of observational experience is obtained the old doctrines crumble into a fog of inaccuracies. (p.154)

Disparaging speculation involves denial of this, claiming that there is an indubitable ground or method underpinning knowledge that is beyond questioning. Speculation in its broadest sense brings into question all claims to certainty and is radically opposed to such dogmatism, including dogmatic scepticism.

That is, for the defenders of speculative philosophy, speculation is not separate from other realms of discourse that can achieve certainty, let alone an inferior discourse. All discourses are based on assumptions that are questionable. Speculative thinking acknowledges this explicitly, not only about itself, but also about other discourses and activities. Speculative philosophy is not self-contained but exists through constantly engaging with other discourses, activities and forms of life, brings the assumptions of these into question, revealing the possibility of replacing them. Particular issues or entities can be focussed on, but by the very nature of this must lead to questioning of the boundaries defining these issues or entities. Questioning inevitably leads to the crossing of disciplinary boundaries and then to philosophy in its original sense as love of wisdom, associated with the quest for a comprehensive understanding of the cosmos in all its complexity and our place within it. Beyond questioning, speculative philosophy proposes new ways of conceiving the world, providing new insights, opening up new avenues of inquiry, new research programs, new projects for action and the possibility of new forms of life.

The difficulty in characterizing what is involved in such speculation is evident not only in the differences between different philosophers, but from Whitehead's claim (1929, p.51) that 'speculative Reason is in its essence untrammelled by method. Its function is to pierce into the general reasons beyond limited reasons, to understand all methods as coordinated in a nature of things only to be grasped by transcending all method.' This can never be finally achieved. As Whitehead continued, 'This infinite ideal is never to be attained by the bounded intelligence of mankind.' Speculation is best characterized through its history, although it has to be recognized that any portrayal of it is itself provisional with the potential to be transcended. However, as noted with reference to Hegel, the revived defence of speculation in Germany following Kant was inextricably linked with the notion of dialectics, and it is relation to dialectics that it be best characterized. Dialectics itself has been characterized in different ways, however. This is not a problem since thinking dialectically involves taking anywhere as a starting point and through critique and considering then developing alternatives, moving to more adequate characterizations of that which is being investigated. For Plato, dialectics was the art of conversation in pure thinking. German speculative philosophers built on Kant's use of the term 'dialectics' but rejected his characterization of dialectical arguments as sterile, never able to reach conclusions. While incorporating Kant's insights on imagination and concepts they used Plato's notion of dialectics to reconceive it as creative.

Fichte, and then following him, Hegel, Schleiermacher and Schelling, regarded their work as speculative because along with experience of sensible objects and the concepts required to cognize them they gave a place to a third kind of experience – experience of the development of cognition and then appreciating the adequacy or otherwise of concepts used to interpret experience. Fichte embraced Kant's argument that there is a synthetic component to all our experience and judgements, involving imagination and construction, but went beyond Kant to argue that we can explain concepts as the emerging through the organism's practical engagement in the world, and that synthesis also makes possible speculative knowledge, knowledge of how old concepts could be brought into question and new concepts and conceptual frameworks elaborated to replace these. In characterizing this process, 'synthesis' was used by Fichte to reformulate dialectics as a dialectical synthetic method. It involves revealing contradiction or vicious circularities in previously derived sets of propositions and then seeking out some new higher principle that allows one to avoid the contradiction or circularity, and is therefore declared 'necessary'. There can be no algorithm for solving such problems. Every such problem must be dealt with in its own terms, each requiring a fresh exercise in creative problem solving. This is not conceptual analysis, logical inference or syllogistic reasoning, nor is it empirical observation, but is thoroughly synthetic. It cannot be derived from the problematic set of concepts it resolves but is a product of imaginative thinking.

Hegel's reformulation of this dialectic involves three steps: taking a view, belief, concept or category as fixed, then reflecting on this to reveal what is implicit within it, but also, to reveal its abstractness

and one-sidedness and one or more contradictions. This is followed by a speculative step of positive reason in which a higher stage is reached which embraces earlier beliefs, concepts or categories to achieve a more concrete, because less one-sided perspective. However, Hegel only gave an attenuated place to imaginative thinking. The later work in *Logic* was criticised by Schelling for geometrizing the dialectic, failing to acknowledge the creativity and openness of dialectics which, Schelling claimed, can never be completed.

Building on Plato's, Hegel's and Fichte's notions of dialectics, Schelling went on to challenge Newtonian science to align science with history and art. Thought, including thought associated with practical engagement in the world, is inherently synthetic, Schelling argued, and begins with genuine opposition either between thought and something opposing it, or other factors within thought. This necessitates a new synthetic moment that can be treated as a product or factor in the next level of development. Building on Kant's and Fichte's ascription of a central place to imagination in such synthesis, Schelling developed Kant's concept of construction and extended Fichte's genetic approach from the development of cognition to the development of the whole of nature. He characterized 'intellectual intuition' as a form of knowledge gained through a reflective and imaginative experimentation and construction by the productive imagination of the sequence of forms produced by the procreative causality of what is unconditioned (the 'Absolute'). Referring to this dialectic as the 'standpoint of production' in contrast to the Kantian 'standpoint of reflection', Schelling sought to show not only the social conditions for objective knowledge (as with Hegel), but the nature of the world that enables it to be known objectively and explained while at the same time producing life and subjects that can achieve knowledge of it and of themselves. In doing so he gave a place to will as well as constructive imagination in the production of truth. This in essence is the whole project of *Naturphilosophie*, or speculative naturalism.

This work on speculation and dialectics was enormously influential, but later developments of these ideas were fragmented, and often made no mention of speculation, or dialectics. Schleiermacher, a contemporary of Hegel and Schelling and strongly influenced by Schelling, lectured on dialectics and intended to produce a work on this as his *magnum opus*, but died before he could write it. He is now known principally for having inspired the development of hermeneutics. While work on hermeneutics should be seen as advancing our understanding of dialectics and speculation, especially in the case of Paul Ricoeur, these terms were not used. Karl Marx and the Marxists also developed dialectics. However, Marx's dialectics influenced by both Hegel and Schelling was primarily critical, and Friedrich Engels' dialectics formulated as three laws was fundamentally undialectical. Both tended to extoll praxis as superior to speculative thinking. The identification of dialectics with Marxism had the unfortunate consequence that the term 'dialectics' was dropped from the vocabulary of philosophers who did not want to be identified with Marxism, just as the identification of speculative philosophy with Idealism led other philosophers to avoid the term 'speculation'. Speculative dialectics had its most significant impact on work in the philosophy of science, and here that it was best defended, but it was not identified as such.

Speculation and the philosophy of science

While major scientists continued the Schellingian tradition of speculative naturalism, freeing themselves from the assumptions of Newtonian science, reflections on science itself came to be dominated by the development of symbolic logic, that is, logic incorporating algebraic methods of reasoning developed in mathematics. This culminated in the development of logical empiricism and logical positivism emphasising the importance of deductive logic, giving some place to inductive logic, and no place to speculation. However, some of the most important logicians rebelled against this and did defend speculation, most importantly, C.S. Peirce and Alfred North Whitehead.

Influenced by Kant, Hegel and Schelling and a scientist himself, Peirce as a logician argued that along with deduction and induction, there is also 'abduction'. This is another name for speculative reasoning, while Peirce's characterization of the circular relationship between these three forms of reasoning is really a further development of work in dialectics. For Peirce, abduction is the most important form of thinking, exemplified by Kepler's explaining the observation of the observed positions of planets by postulating elliptical orbits. He was interested not only in particular scientific theories and defended metaphysical speculation, arguing that without reflection on metaphysics scientists are dominated by crude, unexamined forms of metaphysics. Abductive thinking is 'ampliative', that is, creative. Although not fully developing the idea, Peirce held such thinking to be metaphorical. He noted (1998, p.392): 'Metaphysics has been said contemptuously to be a fabric of metaphors. But not only metaphysics, but logical ... concepts need to be clothed in such garments. For a pure idea without metaphor ... is an onion without a peel.' Deduction as 'necessary reasoning' has a place in working out the implications of ideas postulated through abduction, and observations are made on the basis of questions posed in terms of such ideas.

It was Whitehead, however, who focussed explicitly on defending speculative philosophy. His contribution to understanding speculation was obscured by his claim that it has no method. Seen against the background of the history of speculative dialectics, however, it becomes apparent that Whitehead was part of this tradition and making a number of important contributions to it. When it came to proposing new ideas or theories, he claimed a method of descriptive generalization, meaning 'the utilization of specific notions, applying to a restricted group of facts, for the divination of the generic notions which apply to all facts.' (Whitehead, 1978, p.5) Although he seldom used the term, he also was invoking the use of metaphors. He showed what is involved in elaborating and extending such theories by committing oneself to them, striving to show how they can be applied first in one case, and then in all other cases. He observed the difficulty of avoiding blind spots in any speculative metaphysical scheme and argued that it is only through having rival schemes that the limitations of each could be revealed.

While the philosophies of Peirce and Whitehead were marginalized by logical empiricism, phenomenology, and ordinary language philosophy, from the 1950's onwards their ideas were resurrected by historically oriented philosophers of science. Norwood Russell Hanson revived Peirce's work on abduction in his work on patterns of discovery. Thomas Kuhn was strongly influenced by both Hanson and the historian of science, James Conant, who in turn had been strongly influenced by Whitehead. Later philosophers of science extended and refined their work. Most importantly, they examined the role of metaphors in science. Mary Hesse and Rom Harré were involved in this, but the most profound insights on metaphors came from Mark Johnson and George Lakoff. Johnson defined his own work as a development of Kant's philosophy; however, his doctoral thesis was supervised by Ricoeur, and in transcending Kant's philosophy his work mirrored the earlier transition from Kantian critical philosophy to speculative dialectics. Lakoff then showed how mathematics itself is based on the elaboration of metaphors. Johnson and Lakoff together showed that language is largely composed of metaphors and metonyms, evidencing the speculative element in all our thinking, and experiencing. Despite not defining this as the study of dialectics or speculation, work on metaphor has greatly advanced our understanding of speculation and its significance.

Summary: speculation and the possible

Freed by the proponents of speculative philosophy and post-positivist philosophy of science from the distorting claims scientism, we can now recover the original meaning of speculation as reflective observation, enriched by the work of these philosophers. Peirce's notion of abduction provides the most useful starting point. This is the dimension of reasoning left out by logical empiricists in their characterization of valid reasoning, and from Peirce's perspective, it is the most important part of

reasoning. Abduction is not simply a matter of deductive necessity nor of making provisional extrapolations on the basis of observed regularities, nor a combination of them, while deduction and induction presuppose previous abductive inferences. These are in the form of metaphors, beginning with metaphors that have congealed into the background, habitual assumptions as dead metaphors, or new metaphors. Speculative enquiry begins with questioning these previously taken for granted ways of perceiving and interpreting experience, making explicit the metaphors underlying them and making it possible to replace them. One of the most important challenges is to ask the right questions. The next step is to explore alternative ways of interpreting or conceiving that which is being questioned, and it is here that more creative thought is required. It is here that the deployment, development and utilizing of new metaphors to overcome contradictions, inconsistencies, paradoxes, blind spots and one-sidedness in past beliefs and interpretations of experience becomes important. Then comes the difficult process of articulating these metaphors into coherent frameworks of concepts and elucidating experience through them. To avoid blind-spots, it is necessary to entertain other possible ways of making sense of that which is being examined and choose between them. This is a dialectical process which also grants a place to deduction and induction, but always understood in relation to abduction. No phase of this is easy or straightforward, and there is no ultimate finality in inquiry. Speculative thinking exposes one-sided thinking and leads beyond particular situations and problems and ultimately brings into question the deepest assumptions of science, philosophy and civilization, and constructs of alternatives in the unending quest for insight and a coherent, comprehensive understanding of the world.

Acknowledging speculation in this sense supports Vico's claim that humanity is largely self-creating. Through speculation, not only are new possibilities for research opened up as taken for granted assumptions are brought into question and radically new concepts and ways of thinking developed, but new possibilities for society, civilization and humanity are created. We can reconceive our conceptions of ourselves, our relations to each other and to other life-forms, not only theoretically, but practically, envisaging and thereby creating new possibilities for the future, transforming the way we live, the way we organize and how we engage with the rest of nature. As Mikhail Epstein (2012, p.7) argued, humans create themselves by creating 'new images, signs and concepts of themselves ... humans do not so much discover something in the world of objects as build their very subjectivity by way of self-description and self-projection.' Speculation frees us from the assumption that we are condemned by human nature to continue on our current paths, no matter how disastrous the consequences. Speculation creates new possibilities.

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