



Emergentism

Emergentism, usually traced in the West to the 19th century British philosophers, Bain, Lewes and Mill, is traditionally understood as an alternative to reductionism. One is a reductionist about X's if one holds that X's properties are *explained* by reference to the properties of some more basic type of entity Y. The classic successful case of reduction is the reduction of heat to the mean kinetic energy of molecules. Normally philosophers and scientists wish to reduce “higher” more mysterious levels, such as life or mind, to lower-level, better understood phenomena on which those higher phenomena *supervene* (in the way that mental processes are believed to supervene on, or be based on, physiochemical processes in the brain).

One is an *emergentist* about X's if one holds that X's *supervene* on Y's but that X's properties *cannot* be explained solely by reference to Y's properties (that is, if there is a non-trivial “explanatory gap” between X's properties and Y's properties). Thus, emergentists hold that X's properties are *novel* relative to Y's properties in the way that mental states seem novel relative to matter. Using this example, mental properties are said to *emerge from* brain processes. The item that emerges, e.g., in this case, mental properties, is called “the emergent”. The supervenience-requirement distinguishes emergentism from most species of vitalism (substantive vitalism being the view that the difference between living and non-living matter depends on the presence of some *immaterial vital* agent over and above the material base). Finally, although the present discussion conforms, for simplicity, to the standard formulation that the emergent is properties, this is too narrow. A more complete account would allow that the emergent can also be substances, laws, boundary conditions, etc.

Emergent Materialism

Emergentism in the West is generally understood as emergent materialism, the view that the properties of higher-level X's *supervene* on but are not reducible to the properties of lower level *material* phenomena. This is because emergent materialism was proposed as a purported reasonable middle position between “mechanistic materialism” on the one hand, which invokes

only crude mechanical properties of matter, and substantive vitalism on the other. For this reason, Western philosophies are often blind to the fact that there are many additional non-materialist *emergence-like* views in both Western and the Eastern philosophy. For example, although Whitehead, with his Platonist commitments, is British and an emergentist, he is not a British emergentist because the British emergentists, Bain *et al*, defend versions of emergent materialism.

Different Types of Emergence

It is common to distinguish between *weak*, epistemological, emergence, and *strong*, ontological, emergence. The “weak” emergentist only claims that *as far as our knowledge goes*, X’s appear to emerge from Y’s, but hold that it is possible that with greater knowledge X’s would turn out to be reducible to Y’s after all. The “strong” emergentist, by contrast, claims that emergence is an *ontologically* real phenomenon independent of human limitations. “Weak” emergence seems quite trivial because it is based on the accidents of human knowledge. “Strong” (ontological) emergence is much more interesting.

One must also distinguish between *synchronic* emergence and *diachronic* emergence. Synchronic emergence is, roughly, emergence at a time, e.g., someone’s mental states are emergent from their brain states. Diachronic emergence is emergence over time, the most well-known version being *emergent evolution*, the view that novel forms of existence emerge over time. Different versions of emergent evolution are defended by Henri Bergson in France, Lloyd Morgan and Roy Wood Sellars in the United States, and S.I. Alexander and Karl Popper in England. Popper holds that Hegel’s dialectical metaphysics is more similar to Bergson’s view than is normally recognized.

There are two main different *traditional* kinds of formulations of the emergence-relation. On the first, X’s are said to be emergent from Y’s if and only if the properties of X’s are, as it is said, “greater than the *additive* sums of” the properties of the parts of X’s. However, this formulation is flawed because it fails to take account of the *structure* of the Y’s. Correcting for that omission, one says that the properties of X’s are emergent from those of their Y-parts if the properties of the X’s are “greater than the additive sum” of Y’s *structurally organized* properties. That is, even after one reckons in the structure of the parts, there is still an explanatory gap between the properties of the organized parts and the emergent properties.

Most philosopher's do not deny that there are emergent properties. Even G.E. Moore, who was an implacable foe of the emergence he saw in Hegel, admitted that there are emergent properties in the area of values, specifically, that if value C is a combination of values A and B, C can be greater than the additive sum of A and B, e.g., the cosmos is good, and consciousness is good, but a consciousness of the cosmos is greater than the additive sum of the two "parts". Similarly, the view that there are *epiphenomenal* (causally impotent) emergent qualities is not considered controversial. The heated battle is over the emergence of *downward causal forces* for this seems to imply that one can get causally more out of the physical product than one puts into it, which appears to violate *conservation laws* in physics.

Whole and Part

That traditional whole-part formulation is, however, flawed because it appears that not all of the relevant wholes can be said to have "parts" in the required sense. The alternative sort of formulation, tracing to that diverse group of philosophers that emphasize the importance of the *creative process* is that X's are emergent from Y's in the sense that X's are the *novel* product of a *creative process or synthesis or evolution*. This is extremely important because there are many emergence-like views in Western philosophy that do not fit the definition of emergent materialism, e.g., the Pre-Socratics, Plato, Aristotle, Kant, Hegel, Marx, Heidegger, and Wittgenstein. It is also important because there are many emergence-like views in Asian philosophy, most obviously in Taoism, Buddhism and Hinduism, and, perhaps, in Japanese aesthetics, that advert to the creation of novel items but do not employ the traditional Western "whole-part" formulation or subscribe to materialism. For this reason, one seldom finds explicit references to emergentism *per se* in commentaries on Eastern philosophy (although this is changing), but one does find comparisons between the emergence-like views of Bergson and Whitehead with certain views in various Asian philosophers.

Conclusion

Despite the heated battles over emergence in the past centuries, emergentism has in recent decades made a robust comeback in both science and philosophy, sometimes under the description of *self-organizing systems*, and many distinguished philosophers now admit that non-

trivial emergent phenomena must be countenanced. Further, the concept may help to appreciate the meaning and significance of various Asian philosophies.

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Further Reading

Alexander, S.I. 1920. *Space, Time, and Deity*, Vol's I and II. London: Macmillan.

Bechtel, William, and Richardson, Robert. 1998. "Vitalism". *Routledge Encyclopedia of Philosophy*, E. Craig, (ed.). London: Routledge.

Bergson, Henri. 1944. *Creative Evolution*. New York: Random House.

Broad, C.D. 1925. *Mind and its Place in Nature*. London: Harcourt.

Bunge, Mario. 1977. "Emergence and the Mind". *Neuroscience XI*.

Chang, Chung-yuan. 2011. *Creativity and Taoism: A Study of Chinese Philosophy, Art and Poetry*. Singing Dragon Publisher.

———. 2013. *Tao – A New Way of Thinking: A Translation of the Tao Te-Ching with an Introduction and Commentaries*. Singing Dragon - Harper Colophon Books.

Clarke, J.J. 2002. *The Tao of the West: Western Transformations of Taoist Thought*. London: Routledge.

———. 2013. *The Self-Creating Universe*. Xlibris Corporation.

Corradini, Antonella, and O'Connor, Timothy. 2010. *Emergence in Science and Philosophy*. New York: Routledge

Davies, Paul, and Clayton, Philip., (ed's.) 2008. *The Re-Emergence of Emergence: The Emergentist Hypothesis from Science and Religion*. Oxford: Oxford University Press.

Davidson, Donald. 1999. "The Emergence of Thought." *Erkenntnis* 51: 7-17.

Emmanuel, Steven. 2017. *Buddhist Philosophy: A Comparative Approach*. New York: Wiley.

Engels, Fredrich. 1994. *Ludwig Feuerbach and the End of Classical German Philosophy*. Marx-Engels Internet Archive. URL: <http://marxists.org/archive/marx/works/1886/ludwig-feuerbach/index.htm>

Ganeri, Martin. 2015. *Indian Thought and Western Theism*. London: Routledge.

Hartshorne, Charles. 2010. *Whitehead's View of Reality*. Cambridge: Cambridge Scholars Publishing.

Hasker, William. 1999. *The Emergent Self*. Ithaca: Cornell University Press.

Hustwit, J.R. "Process Philosophy". *Internet Encyclopedia of Philosophy* URL: <https://www.iep.utm.edu/processp/>

Kakol, Peter. 2009. *Emptiness and Becoming: Integrating Mādhyamika Buddhism and Process Philosophy*. Dehli: D.K. Printworld.

- Kim, Jawegon Beckermann, Angsar, and Flores, Hans, (ed's). 1992. *Emergence or Reduction?* Berlin: *de Gruyter*.
- Li, Chenyang, and Perkins, Franklin. 2015. *Chinese Metaphysics and its Problems*. Cambridge: Cambridge University Press.
- Lowe, E.J. 2000. "Causal Closure Principles and Emergentism". *Philosophy* 75 (4): 571-585.
- Margolis, Joseph. 1986. "Emergence". *The Philosophical Forum*. Vol. XVII (4): 271-295.
- McDonough, Richard. 2002. "Emergence and Creativity: Five Degrees of Freedom". (Pp. 283-321) In *Creativity, Cognition, and Knowledge*. Terry Dartnall, (ed.). Westport: Praeger
- . 2004. "Wittgenstein, German Organicism, Chaos, and the Center of Life". *Journal of the History of Philosophy*. 42 (3): 297-326
- . 2006. *Martin Heidegger: Being and Time*. New York: Peter Lang.
- . 2011. "A Synoptic View of Kant's Emergentism," *Iyyun* 60: 245-274 .
- . "Sellars, Roy Wood (1880-1973)". *Internet Encyclopedia of Philosophy* URL: <https://www.iep.utm.edu/sella-rw/>
- . "Plato: Organicism". *Internet Encyclopedia of Philosophy* URL: <https://www.iep.utm.edu/platoorg/>
- Morgan, C. Lloyd. 1923. *Emergent-evolution*. London: Williams and Norgate
- Mill, J.S. 1999. *Logic of the Moral Sciences*. Indianapolis: Open Court.
- Moore, G.E. 1994. *Principia Ethica*. Cambridge: Cambridge University Press
- Morgan, C. Lloyd. 1923. *Emergent-evolution*. London: Williams and Norgate;
- Mourelatos, Alexander. 1986. "Quality, Structure, and Emergence in Later Pre-Socratic Philosophy". *Proceedings in Boston Colloquium in Ancient Philosophy*. 2: 127-194.
- Nagel, Ernest. 1979. *The Structure of Science*. Indianapolis/Cambridge: Hackett. Pp. 374-80
- Neville, Robert. 1980. *From Nothing to Being: The Notion of Creation in Chinese and Western Thought*. 30 (1): 21-34.
- O'Connor, Timothy. 2006. "Emergent Properties". *Stanford Encyclopedia of Philosophy*. URL: <http://plato.stanford.edu/entries/properties-emergent/>
- Odin, Steve. 1982. *Process Metaphysics and Hua-Yen Buddhism: A Critical Study of Cumulative Penetration vs. Interpretation*. Albany: SUNY Press
- . 2016. *Tragic Beauty in Whitehead and Japanese Aesthetics*. Lexington Books
- Pepper, Stephen. 1926. "Emergence". *Journal of Philosophy*. 23 (9): 241-245. URL: <http://www.ditext.com/pepper/merge.html>
- Polyani, Michael (1968). "Life's Irreducible Structure," *Science*, 160 (3834): 1308-1312
- Popper, Karl. 1956. *The Open Society and its Enemies*. Princeton: Princeton University Press

- . 1961. *The Poverty of Historicism*. New York: Harper Torchbooks
- Prigogine, Ilya and Stengers, Isabelle. 1984. *Order Out of Chaos*. New York: Bantam Books
- Randall, John Herman. 1965. *Aristotle*. New York: Columbia University Press
- Rueger, Alexander. 2000. "Physical Emergence: Synchronic and Diachronic". *Synthese* 124 (3): 297-322
- Sarker, Anil. 1991. *Buddhism and Whitehead's Process Philosophy*. Hong Kong: South Asian Publishers
- Scarborough, Milton. 2009. *Comparative Theories of Nonduality: The Search for a Middle Way*. London: A&C Black.
- Sellars, Roy Wood. 1970. *Principles of Emergent Realism*. Warren H. Green
- Sellars, Wilfrid, and Meehl, Paul. 1949. "Aristotelian Philosophies of Mind" in R.W. Sellars, V.J. McGill, and Marvin Farber, (ed.s), *Philosophy for the Future: The Quest of Modern Materialism*. New York: Macmillan
- . 1956. *The Concept of Emergence, Minnesota Studies in the Philosophy of Science, Vol. I*. Herbert Feigl and Micheal Scriven, (ed's). Minneapolis: University of Minnesota Press. URL: <http://www.ditext.com/sellars/ce.html>
- Seok, Bongrae, (ed.) 2019. *Naturalism, Human Flourishing, and Asian Philosophy: Owen Flanagan and Beyond*. LondonL Routledge
- Shoemaker, Sydney (2002). "Kim on Emergence," *Philosophical Studies*, 108 (1/2)" 53-63
- Silberstein, Michael and John McGeever. 1999. "The Search for Ontological Emergence," *The Philosophical Quarterly*, 49: 182-200
- Yates, F. Eugene. 2012. *Self-Organizing Systems: The Emergence of Order*. New York: Springer Science
- Yong, Amos. 2012. *The Cosmic Breath: Spirit and Nature in the Christianity-Buddhism-Science*. Brill