

# Materialism

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**Materialism** is a form of philosophical monism that holds that matter is the fundamental substance in nature, and that all things, including mental states and consciousness, are results of material interactions. According to philosophical materialism, mind and consciousness are by-products or epiphenomena of material processes (such as the biochemistry of the human brain and nervous system), without which they cannot exist. This concept directly contrasts with idealism, where mind and consciousness are first-order realities to which matter is subject and material interactions are secondary.

Materialism is closely related to physicalism—the view that all that exists is ultimately physical. Philosophical physicalism has evolved from materialism with the theories of the physical sciences to incorporate more sophisticated notions of physicality than mere ordinary matter (e.g. spacetime, physical energies and forces, and dark matter). Thus, the term *physicalism* is preferred over *materialism* by some, while others use the terms as if they were synonymous.

Philosophies contradictory to materialism or physicalism include idealism, pluralism, dualism, panpsychism, and other forms of monism.

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## Overview

Materialism belongs to the class of monist ontology, and is thus different from ontological theories based on dualism or pluralism. For singular explanations of the phenomenal reality, materialism would be in contrast to idealism, neutral monism, and spiritualism. It can also contrast with phenomenalism, vitalism, and dual-aspect monism. Its materiality can, in some ways, be linked to the concept of determinism, as espoused by Enlightenment thinkers.

Despite the large number of philosophical schools and subtle nuances between many,<sup>[1][2][3]</sup> all philosophies are said to fall into one of two primary categories, defined in contrast to each other: *idealism* and *materialism*.<sup>[a]</sup> The basic proposition of these two categories pertains to the nature of reality—the primary distinction between them is the way they answer two fundamental questions: "what does reality consist of?" and "how does it originate?" To idealists, spirit or mind or the objects of mind (*ideas*) are primary, and matter secondary. To materialists, matter is primary, and mind or spirit or ideas are secondary—the product of matter acting upon matter.<sup>[3]</sup>

The materialist view is perhaps best understood in its opposition to the doctrines of immaterial substance applied to the mind historically by René Descartes; however, by itself materialism says nothing about how material substance should be characterized. In practice, it is frequently assimilated to one variety of physicalism or another.

Modern philosophical materialists extend the definition of other scientifically observable entities such as energy, forces and the curvature of space; however, philosophers such as Mary Midgley suggest that the concept of "matter" is elusive and poorly defined.<sup>[4]</sup>

During the 19th century, Karl Marx and Friedrich Engels extended the concept of materialism to elaborate a *materialist conception of history* centered on the roughly empirical world of human activity (practice, including labor) and the institutions created, reproduced or destroyed by that activity. They also developed dialectical materialism, by taking Hegelian dialectics, stripping them of their idealist aspects, and fusing them with materialism (see Modern philosophy).<sup>[5]</sup>

## Non-reductive materialism

Materialism is often associated with reductionism, according to which the objects or phenomena individuated at one level of description, if they are genuine, must be explicable in terms of the objects or phenomena at some other level of description—typically, at a more reduced level.

**Non-reductive materialism** explicitly rejects this notion, however, taking the material constitution of all particulars to be consistent with the existence of real objects, properties or phenomena not explicable in the terms canonically used for the basic material constituents. Jerry Fodor argues this view, according to which



In 1748, French doctor and philosopher La Mettrie espouses a materialistic definition of the human soul in L'Homme Machine

empirical laws and explanations in "special sciences" like psychology or geology are invisible from the perspective of basic physics.<sup>[6]</sup>

## Early history

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### Before Common Era

Materialism developed, possibly independently, in several geographically separated regions of Eurasia during what Karl Jaspers termed the Axial Age (c. 800–200 BC).

In ancient Indian philosophy, materialism developed around 600 BC with the works of Ajita Kesakambali, Payasi, Kanada and the proponents of the Cārvāka school of philosophy. Kanada became one of the early proponents of atomism. The Nyaya–Vaisesika school (c. 600–100 BC) developed one of the earliest forms of atomism (although their proofs of God and their positing that consciousness was not material precludes labelling them as materialists). Buddhist atomism and the Jaina school continued the atomic tradition.

Ancient Greek atomists like Leucippus, Democritus and Epicurus prefigure later materialists. The Latin poem *De Rerum Natura* by Lucretius (99 – c. 55 BC) reflects the mechanistic philosophy of Democritus and Epicurus. According to this view, all that exists is matter and void, and all phenomena result from different motions and conglomerations of base material particles called *atoms* (literally 'indivisibles'). *De Rerum Natura* provides mechanistic explanations for phenomena such as erosion, evaporation, wind, and sound. Famous principles like "nothing can touch body but body" first appeared in the works of Lucretius. Democritus and Epicurus, however, did not hold to a monist ontology since they held to the ontological separation of matter and space (i.e. space being "another kind" of being) indicating that the definition of *materialism* is wider than the given scope of this article.

### Early Common Era

Wang Chong (27 – c. 100 AD) was a Chinese thinker of the early Common Era said to be a materialist.<sup>[7]</sup> Later Indian materialist Jayaraashi Bhatta (6th century) in his work *Tattvopaplavasimha* ('The upsetting of all principles') refuted the Nyāya Sūtra epistemology. The materialistic Cārvāka philosophy appears to have died out some time after 1400; when Madhavacharya compiled *Sarva-darśana-samgraha* ('a digest of all philosophies') in the 14th century, he had no Cārvāka (or Lokāyata) text to quote from or refer to.<sup>[8]</sup>

In early 12th-century al-Andalus, Arabian philosopher Ibn Tufail (a.k.a. Abubacer) wrote discussions on materialism in his philosophical novel, *Hayy ibn Yaqdhan* (*Philosophus Autodidactus*), while vaguely foreshadowing the idea of a historical materialism.<sup>[9]</sup>

### Modern philosophy

Thomas Hobbes (1588–1679)<sup>[10]</sup> and Pierre Gassendi (1592–1665)<sup>[11]</sup> represented the materialist tradition in opposition to the attempts of René Descartes (1596–1650) to provide the natural sciences with dualist foundations. There followed the materialist and atheist abbé Jean Meslier (1664–1729), along with the works of the French materialists: Julien Offray de La Mettrie, German-French Baron d'Holbach (1723–1789), Denis Diderot (1713–1784), and other French Enlightenment thinkers. In England, John "Walking" Stewart (1747–1822) insisted on seeing matter as endowed with a moral dimension, which had a major impact on the philosophical poetry of William Wordsworth (1770–1850).

In late modern philosophy, German atheist anthropologist Ludwig Feuerbach would signal a new turn in materialism through his book *The Essence of Christianity* (1841), which presented a humanist account of religion as the outward projection of man's inward nature. Feuerbach introduced **anthropological materialism**, a version of materialism that views materialist anthropology as the universal science.<sup>[12]</sup>

Feuerbach's variety of materialism would go on to heavily influence Karl Marx,<sup>[13]</sup> who in the late 19th century elaborated the concept of historical materialism—the basis for what Marx and Friedrich Engels outlined as scientific socialism:

The materialist conception of history starts from the proposition that the production of the means to support human life and, next to production, the exchange of things produced, is the basis of all social structure; that in every society that has appeared in history, the manner in which wealth is distributed and society divided into classes or orders is dependent upon what is produced, how it is produced, and how the products are exchanged. From this point of view, the final causes of all social changes and political revolutions are to be sought, not in men's brains, not in men's better insights into eternal truth and justice, but in changes in the modes of production and exchange. They are to be sought, not in the philosophy, but in the economics of each particular epoch.

— Friedrich Engels, *Socialism: Scientific and Utopian* (1880)

Through his *Dialectics of Nature* (1883), Engels later developed a "materialist dialectic" philosophy of nature; a worldview that would be given the title dialectical materialism by Georgi Plekhanov, the father of Russian Marxism.<sup>[14]</sup> In early 20th-century Russian philosophy, Vladimir Lenin further developed dialectical materialism in his book *Materialism and Empirio-criticism* (1909), which connected the political conceptions put forth by his opponents to their anti-materialist philosophies.

A more naturalist-oriented materialist school of thought that developed in the middle of the 19th century was **German materialism**, which included Ludwig Büchner (1824–99), the Dutch-born Jacob Moleschott (1822–93) and Carl Vogt (1817–95),<sup>[15][16]</sup> even though they had had different views on core issues such as the evolution and the origins of life in nature.<sup>[17]</sup>

## Contemporary history

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### Analytic philosophy

Contemporary analytic philosophers (e.g. Daniel Dennett, Willard Van Orman Quine, Donald Davidson, and Jerry Fodor) operate within a broadly physicalist or scientific materialist framework, producing rival accounts of how best to accommodate the mind, including functionalism, anomalous monism, identity theory, and so on.<sup>[18]</sup>

Scientific materialism is often synonymous with, and has typically been described as being, a reductive materialism. In the early 21st century, Paul and Patricia Churchland<sup>[19][20]</sup> advocated a radically contrasting position (at least, in regards to certain hypotheses): eliminative materialism. Eliminative materialism holds that some mental phenomena simply do not exist at all, and that talk of those mental phenomena reflects a totally spurious "folk psychology" and introspection illusion. A materialist of this variety might believe that a concept like "belief" simply has no basis in fact (e.g. the way folk science speaks of demon-caused illnesses).

With reductive materialism being at one end of a continuum (our theories will *reduce* to facts) and eliminative materialism on the other (certain theories will need to be *eliminated* in light of new facts), revisionary materialism is somewhere in the middle.<sup>[18]</sup>

## Continental philosophy

Contemporary continental philosopher Gilles Deleuze has attempted to rework and strengthen classical materialist ideas.<sup>[21]</sup> Contemporary theorists such as Manuel DeLanda, working with this reinvigorated materialism, have come to be classified as *new materialist* in persuasion.<sup>[22]</sup> **New materialism** has now become its own specialized subfield of knowledge, with courses being offered on the topic at major universities, as well as numerous conferences, edited collections and monographs devoted to it.

Jane Bennett's book *Vibrant Matter* (2010) has been particularly instrumental in bringing theories of monist ontology and vitalism back into a critical theoretical fold dominated by poststructuralist theories of language and discourse.<sup>[23]</sup> Scholars such as Mel Y. Chen and Zakiyyah Iman Jackson, however, have critiqued this body of new materialist literature for its neglect in considering the materiality of race and gender in particular.<sup>[24][25]</sup>

Métis scholar Zoe Todd, as well as Mohawk (Bear Clan, Six Nations) and Anishinaabe scholar Vanessa Watts,<sup>[26]</sup> query the colonial orientation of the race for a "new" materialism.<sup>[27]</sup> Watts in particular describes the tendency to regard matter as a subject of feminist or philosophical care as a tendency that is too invested in the reanimation of a Eurocentric tradition of inquiry at the expense of an Indigenous ethic of responsibility.<sup>[28]</sup> Other scholars, such as Helene Vosters, echo their concerns and have questioned whether there is anything particularly "new" about this so-called "new materialism," as Indigenous and other animist ontologies have attested to what might be called the "vibrancy of matter" for centuries.<sup>[29]</sup> Other scholars such as Thomas Nail have critiqued "vitalist" versions of new materialism for its depoliticizing "flat ontology" and for being ahistorical in nature.<sup>[30][31]</sup>

Quentin Meillassoux proposed *speculative materialism*, a post-Kantian return to David Hume which is also based on materialist ideas.<sup>[32]</sup>

## Defining 'matter'

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The nature and definition of *matter*—like other key concepts in science and philosophy—have occasioned much debate:<sup>[33]</sup>

- Is there a single kind of matter (*hyle*) that everything is made of, or multiple kinds?
- Is matter a continuous substance capable of expressing multiple forms (*hylomorphism*);<sup>[34]</sup> or a number of discrete, unchanging constituents (*atomism*)?<sup>[35]</sup>
- Does it have intrinsic properties (*substance theory*)<sup>[36][37]</sup> or is it lacking them (*prima materia*)?

One challenge to the conventional concept of matter as tangible 'stuff' came with the rise of field physics in the 19th century. Relativity shows that matter and energy (including the spatially distributed energy of fields) are interchangeable. This enables the ontological view that energy is *prima materia* and matter is one of its forms. In contrast, the Standard Model of particle physics uses quantum field theory to describe all interactions. On this view it could be said that fields are *prima materia* and the energy is a property of the field.

According to the dominant cosmological model, the Lambda-CDM model, less than 5% of the universe's energy density is made up of the "matter" described by the Standard Model, and the majority of the universe is composed of dark matter and dark energy, with little agreement among scientists about what these are made of.<sup>[38]</sup>

With the advent of quantum physics, some scientists believed the concept of matter had merely changed, while others believed the conventional position could no longer be maintained. For instance Werner Heisenberg said, "The ontology of materialism rested upon the illusion that the kind of existence, the direct 'actuality' of the

world around us, can be extrapolated into the atomic range. This extrapolation, however, is impossible...atoms are not things."<sup>[39]</sup>

The concept of matter has changed in response to new scientific discoveries. Thus materialism has no definite content independent of the particular theory of matter on which it is based. According to Noam Chomsky, any property can be considered material, if one defines matter such that it has that property.<sup>[40]</sup>

## Physicalism

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George Stack distinguishes between materialism and physicalism:

In the twentieth century, physicalism has emerged out of positivism. Physicalism restricts meaningful statements to physical bodies or processes that are verifiable or in principle verifiable. It is an empirical hypothesis that is subject to revision and, hence, lacks the dogmatic stance of classical materialism. Herbert Feigl defended physicalism in the United States and consistently held that mental states are brain states and that mental terms have the same referent as physical terms. The twentieth century has witnessed many materialist theories of the mental, and much debate surrounding them.<sup>[41]</sup>

However, not all conceptions of physicalism are tied to verificationist theories of meaning or direct realist accounts of perception. Rather, physicalists believe that no "element of reality" is missing from the mathematical formalism of our best description of the world. "Materialist" physicalists also believe that the formalism describes fields of insentience. In other words, the intrinsic nature of the physical is non-experiential.

## Criticism and alternatives

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### From contemporary physicists

Rudolf Peierls, a physicist who played a major role in the Manhattan Project, rejected materialism: "The premise that you can describe in terms of physics the whole function of a human being ... including knowledge and consciousness, is untenable. There is still something missing."<sup>[42]</sup>

Erwin Schrödinger said, "Consciousness cannot be accounted for in physical terms. For consciousness is absolutely fundamental. It cannot be accounted for in terms of anything else."<sup>[43]</sup>

Werner Heisenberg, who came up with the uncertainty principle, wrote, "The ontology of materialism rested upon the illusion that the kind of existence, the direct 'actuality' of the world around us, can be extrapolated into the atomic range. This extrapolation, however, is impossible ... Atoms are not things."<sup>[44]</sup>

### Quantum mechanics

Some 20th-century physicists (e.g., Eugene Wigner<sup>[45]</sup> and Henry Stapp),<sup>[46]</sup> as well as modern day physicists and science writers (e.g., Stephen Barr,<sup>[47]</sup> Paul Davies, and John Gribbin) have argued that materialism is flawed due to certain recent scientific findings in physics, such as quantum mechanics and chaos theory. According to Gribbin and Davies (1991):

Then came our Quantum theory, which totally transformed our image of matter. The old assumption that the microscopic world of atoms was simply a scaled-down version of the everyday world had to be abandoned. Newton's deterministic machine was replaced by a shadowy and paradoxical conjunction of waves and particles, governed by the laws of chance, rather than the rigid rules of causality. An extension of the quantum theory goes beyond even this; it paints a picture in which solid matter dissolves away, to be replaced by weird excitations and vibrations of invisible field energy. Quantum physics undermines materialism because it reveals that matter has far less "substance" than we might believe. But another development goes even further by demolishing Newton's image of matter as inert lumps. This development is the theory of chaos, which has recently gained widespread attention.

— Paul Davies and John Gribbin, *The Matter Myth*, Chapter 1: "The Death of Materialism"

## Digital physics

The objections of Davies and Gribbin are shared by proponents of digital physics who view information rather than matter to be fundamental. Famous physicist and proponent of digital physics John Archibald Wheeler wrote, "all matter and all things physical are information-theoretic in origin and this is a participatory universe."<sup>[48]</sup> Their objections were also shared by some founders of quantum theory, such as Max Planck, who wrote:

As a man who has devoted his whole life to the most clear headed science, to the study of matter, I can tell you as a result of my research about atoms this much: There is no matter as such. All matter originates and exists only by virtue of a force which brings the particle of an atom to vibration and holds this most minute solar system of the atom together. We must assume behind this force the existence of a conscious and intelligent Mind. This Mind is the matrix of all matter.

— Max Planck, *Das Wesen der Materie*, 1944

James Jeans concurred with Planck saying, "The Universe begins to look more like a great thought than like a great machine. Mind no longer appears to be an accidental intruder into the realm of matter."<sup>[49]</sup>

## Religious and spiritual views

According to Constantin Gutberlet writing in *Catholic Encyclopedia* (1911), *materialism*, defined as "a philosophical system which regards matter as the only reality in the world...denies the existence of God and the soul."<sup>[50]</sup> In this view, materialism could be perceived incompatible with world religions that ascribe existence to immaterial objects.<sup>[51]</sup> Materialism may be conflated with atheism; according to Friedrich A. Lange (1892), "Diderot has not always in the Encyclopædia expressed his own individual opinion, but it is just as true that at its commencement he had not yet got as far as Atheism and Materialism."<sup>[52]</sup>

Most of Hinduism and transcendentalism regard all matter as an illusion, or *maya*, blinding humans from knowing the truth. Transcendental experiences like the perception of Brahman are considered to destroy the illusion.<sup>[53]</sup>

Joseph Smith, the founder of the Latter Day Saint movement, taught: "There is no such thing as immaterial matter. All spirit is matter, but it is more fine or pure, and can only be discerned by purer eyes; We cannot see it; but when our bodies are purified we shall see that it is all matter."<sup>[54]</sup> This spirit element is believed to always have existed and to be co-eternal with God.<sup>[55]</sup>

Mary Baker Eddy, the founder of the Christian Science movement, denied the existence of matter on the basis of the allness of Mind (which she regarded as a synonym for God).<sup>[56]</sup>

## Philosophical objections

In the *Critique of Pure Reason*, Immanuel Kant argued against materialism in defending his transcendental idealism (as well as offering arguments against subjective idealism and mind–body dualism).<sup>[57][58]</sup> However, Kant with his refutation of idealism, argues that change and time require an enduring substrate.<sup>[59][60]</sup>

Postmodern/poststructuralist thinkers also express a skepticism about any all-encompassing metaphysical scheme. Philosopher Mary Midgley<sup>[61]</sup> argues that materialism is a self-refuting idea, at least in its eliminative materialist form.<sup>[62][63][64][65]</sup>

## Varieties of idealism

Arguments for idealism, such as those of Hegel and Berkeley, often take the form of an argument against materialism; indeed, the idealism of Berkeley was called *immaterialism*. Now, matter can be argued to be redundant, as in bundle theory, and mind-independent properties can, in turn, be reduced to subjective percepts. Berkeley presents an example of the latter by pointing out that it is impossible to gather direct evidence of matter, as there is no direct experience of matter; all that is experienced is perception, whether internal or external. As such, the existence of matter can only be assumed from the apparent (perceived) stability of perceptions; it finds absolutely no evidence in direct experience.

If matter and energy are seen as necessary to explain the physical world, but incapable of explaining mind, dualism results. Emergence, holism and process philosophy seek to ameliorate the perceived shortcomings of traditional (especially mechanistic) materialism without abandoning materialism entirely.

## Materialism as methodology

Some critics object to materialism as part of an overly skeptical, narrow or reductivist approach to theorizing, rather than to the ontological claim that matter is the only substance. Particle physicist and Anglican theologian John Polkinghorne objects to what he calls *promissory materialism*—claims that materialistic science *will* eventually succeed in explaining phenomena it has not so far been able to explain.<sup>[66]</sup> Polkinghorne prefers "dual-aspect monism" to materialism.<sup>[67]</sup>

Some scientific materialists have been criticized for failing to provide clear definitions for what constitutes matter, leaving the term *materialism* without any definite meaning. Noam Chomsky states that since the concept of matter may be affected by new scientific discoveries, as has happened in the past, scientific materialists are being dogmatic in assuming the opposite.<sup>[40]</sup>

## See also

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- Aleatory materialism



- Antimaterialism beliefs:
  - Gnosticism
  - Idealism
  - Immaterialism
  - Maya (religion)
  - Mind–body dualism
  - Platonic realism
  - Supernaturalism
  - Transcendentalism
- Cārvāka
- Christian materialism
- Critical realism
- Cultural materialism
- Dialectical materialism
- Economic materialism
- Existence
- French materialism
- Grotesque body
- Historical materialism
- Hyle
- Incorporeality
- Madhyamaka, a philosophy of middle way
- Material feminism
- Marxist philosophy of nature
- Metaphysical naturalism
- Model-dependent realism
- Naturalism (philosophy)
- Postmaterialism
- Physical ontology
- Philosophy of mind
- Quantum energy
- Rational egoism
- Reality in Buddhism
- Scientistic materialism
- Substance theory
- Transcendence (religion)

## Notes

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a. <sup>^</sup> Indeed, it has been noted it is difficult if not impossible to define one category without contrasting it with the other.<sup>[2][3]</sup>

## References

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1. Edwards, Paul, ed. (1972) [1967], *The Encyclopedia of Philosophy*, Vols.1-4 . ISBN 0-02-894950-1, 978-0-02-894950-5. (Originally published in 8 volumes.)

2. Priest, Stephen (1991), *Theories of the Mind*, London: Penguin Books. ISBN 0-14-013069-1, 978-0-14-013069-0.
3. Novack, George (1979), *The Origins of Materialism*, New York: Pathfinder Press, ISBN 0-87348-022-8
4. Mary Midgley *The Myths We Live By*.
5. Marx, Karl. 1873. "Afterword to the Second German Edition (<https://www.marxists.org/archive/marx/works/1867-c1/p3.htm>)."*Capital*, Vol. 1, transcribed by H. Kuhls.
6. Fodor, Jerry A. 1981. *RePresentations: Philosophical Essays on the Foundations of Cognitive Science*. Massachusetts: The MIT Press. ISBN 9780262060790. (Excerpt of Ch. 1 ([http://mitp-content-server.mit.edu:18180/books/content/sectbyfn?collid=books\\_pres\\_0&id=5895&fn=9780262560276\\_sch\\_0001.pdf](http://mitp-content-server.mit.edu:18180/books/content/sectbyfn?collid=books_pres_0&id=5895&fn=9780262560276_sch_0001.pdf))).
7. *The Cambridge Companion to Atheism (2006)* (<https://books.google.com/books?id=tAeFipOVx4MC&pg=PA228>), p. 228, at Google Books
8. *History of Indian Materialism* (<http://www.carvaka4india.com/2011/12/history-of-indian-materialism.html>), Ramakrishna Bhattacharya
9. Urvoy, Dominique. 1996. "The Rationality of Everyday Life: The Andalusian Tradition? (Aropos of Hayy's First Experiences)." pp. 38–46 in *The World of Ibn Tufayl: Interdisciplinary Perspectives on Ḥayy Ibn Yaqẓān*, edited by L. I. Conrad. Brill Publishers, ISBN 90-04-09300-1.
10. Thomas Hobbes (Stanford Encyclopedia of Philosophy) (<http://plato.stanford.edu/entries/hobbes/>)
11. Pierre Gassendi (Stanford Encyclopedia of Philosophy) (<https://plato.stanford.edu/entries/gassendi/>)
12. Axel Honneth, Hans Joas, *Social Action and Human Nature*, Cambridge University Press, 1988, p. 18.
13. Nicholas Churchich, *Marxism and Alienation*, Fairleigh Dickinson University Press, 1990, p. 57: "Although Marx has rejected Feuerbach's abstract materialism," Lenin says that Feuerbach's views "are consistently materialist," implying that Feuerbach's conception of causality is entirely in line with dialectical materialism."
14. see Plekhanov, Georgi: 1891. "For the Sixtieth Anniversary of Hegel's Death;" 1893. *Essays on the History of Materialism*; and 1895. *The Development of the Monist View of History*.
15. Chadwick, Owen. 1990. *The Secularization of the European Mind in the Nineteenth Century*. Cambridge University Press. p. 165: "During the 1850s German...scientists conducted a controversy known...as the materialistic controversy. It was specially associated with the names of Vogt, Moleschott and Büchner." p. 173: "Frenchmen were surprised to see Büchner and Vogt.... [T]he French were surprised at German materialism."
16. *The Nineteenth Century and After*, Vol. 151 (<https://books.google.com/books?id=8-VXAAAIAAJ&q=>). 1952. p. 227: "the Continental materialism of Moleschott and Buchner."
17. Andreas W. Daum, *Wissenschaftspopularisierung im 19. Jahrhundert: Bürgerliche Kultur, naturwissenschaftliche Bildung und die deutsche Öffentlichkeit, 1848–1914*. Munich: Oldenbourg, 1998, pp. 210, 293–99.
18. Ramsey, William. [2003] 2019. "Eliminative Materialism § Specific Problems With Folk Psychology (<http://plato.stanford.edu/entries/materialism-eliminative/#SpeProFolPsy>)" (rev.). *Stanford Encyclopedia of Philosophy*.
19. Churchland, P. S. (1986). *Neurophilosophy: Toward a Unified Science of the Mind/Brain*. Cambridge, MA: MIT Press.
20. Churchland, P. M. (1981). "Eliminative Materialism and the Propositional Attitudes". *Journal of Philosophy*. 78: 67–90.
21. Smith, Daniel; Protevi, John (1 January 2015). Zalta, Edward N. (ed.). *Gilles Deleuze* (<http://plato.stanford.edu/archives/win2015/entries/deleuze/>) (Winter 2015 ed.).

22. Dolphijn, Rick; Tuin, Iris van der (1 January 2013). "New Materialism: Interviews & Cartographies" (<http://www.openhumanitiespress.org/books/titles/new-materialism/>).
23. Bennett, Jane (4 January 2010). *Vibrant Matter: A Political Ecology of Things* (<https://books.google.com/books?id=OcUcmAEACAAJ>). Duke University Press. ISBN 9780822346333.
24. "Animal: New Directions in the Theorization of Race and Posthumanism" (<https://www.academia.edu/6169668>). *www.academia.edu*. Retrieved 8 May 2016.
25. Chen, Mel Y. (10 July 2012). *Animacies: Biopolitics, Racial Mattering, and Queer Affect* (<https://books.google.com/books?id=Y793tgAACAAJ>). Duke University Press. ISBN 9780822352549.
26. "Dr. Vanessa Watts" (<http://miri.mcmaster.ca/team/dr-vanessa-watts/>). *McMaster Indigenous Research Institute*. 12 December 2018. Retrieved 9 May 2020.
27. Todd, Zoe (2016). "An Indigenous Feminist's Take On The Ontological Turn: 'Ontology' Is Just Another Word For Colonialism". *Journal of Historical Sociology*. **29** (1): 4–22. doi:10.1111/johs.12124 (<https://doi.org/10.1111%2Fjohs.12124>). ISSN 1467-6443 (<https://www.worldcat.org/issn/1467-6443>).
28. Watts, Vanessa (4 May 2013). "Indigenous Place-Thought and Agency Amongst Humans and Non Humans (First Woman and Sky Woman Go On a European World Tour!)" (<https://jps.library.utoronto.ca/index.php/des/article/view/19145>). *Decolonization: Indigeneity, Education & Society*. **2** (1). ISSN 1929-8692 (<https://www.worldcat.org/issn/1929-8692>).
29. Schweitzer, M.; Zerdy, J. (14 August 2014). *Performing Objects and Theatrical Things* (<https://books.google.com/books?id=MEJvBAAAQBAJ>). Springer. ISBN 9781137402455.
30. Nail, Thomas (10 December 2018). *Being and motion*. New York, NY. pp. 11–54. ISBN 978-0-19-090890-4. OCLC 1040086073 (<https://www.worldcat.org/oclc/1040086073>).
31. Gamble, Christopher N.; Hanan, Joshua S.; Nail, Thomas (2 November 2019). "What is New Materialism?". *Angelaki*. **24** (6): 111–134. doi:10.1080/0969725x.2019.1684704 (<https://doi.org/10.1080%2F0969725x.2019.1684704>). ISSN 0969-725X (<https://www.worldcat.org/issn/0969-725X>). S2CID 214428135 (<https://api.semanticscholar.org/CorpusID:214428135>).
32. Meillassoux, Quentin. 2008. *After Finitude*. Bloomsbury, p. 90.
33. Herbermann, Charles, ed. (1913). "Matter" ([https://en.wikisource.org/wiki/Catholic\\_Encyclopedia\\_\(1913\)/Matter](https://en.wikisource.org/wiki/Catholic_Encyclopedia_(1913)/Matter)). *Catholic Encyclopedia*. New York: Robert Appleton Company.
34. "Hylomorphism" (<http://www.britannica.com/ebc/article-9041771>) *Concise Britannica*
35. "Atomism: Antiquity to the Seventeenth Century" (<http://etext.lib.virginia.edu/cgi-local/DHI/dhi.cgi?id=dv1-21>) Archived (<https://web.archive.org/web/20060909182942/http://etext.lib.virginia.edu/cgi-local/DHI/dhi.cgi?id=dv1-21>) 9 September 2006 at the *Wayback Machine* *Dictionary of the History of Ideas*  
 "Atomism in the Seventeenth Century" (<https://web.archive.org/web/20050305082323/http://etext.lib.virginia.edu/cgi-local/DHI/dhi.cgi?id=dv1-22>) *Dictionary of the History of Ideas*  
 Article by a philosopher who opposes atomism (<http://people.umass.edu/schaffer/papers/Fundamental.pdf>) Archived (<https://web.archive.org/web/20061221163403/http://people.umass.edu/schaffer/papers/Fundamental.pdf>) 21 December 2006 at the *Wayback Machine*  
 Information on Buddhist atomism ([http://www.abstractatom.com/buddhist\\_atomism\\_and\\_the\\_r\\_t\\_theory\\_of\\_time.htm](http://www.abstractatom.com/buddhist_atomism_and_the_r_t_theory_of_time.htm)) Archived ([https://web.archive.org/web/20070216202614/http://www.abstractatom.com/buddhist\\_atomism\\_and\\_the\\_r\\_t\\_theory\\_of\\_time.htm](https://web.archive.org/web/20070216202614/http://www.abstractatom.com/buddhist_atomism_and_the_r_t_theory_of_time.htm)) 16 February 2007 at the *Wayback Machine*  
 Article on traditional Greek atomism (<http://plato.stanford.edu/entries/democritus/>)  
 "Atomism from the 17th to the 20th Century" (<http://plato.stanford.edu/entries/atomism-modern/>) *Stanford Encyclopedia of Philosophy*
36. "Stanford Encyclopedia of Philosophy on substance theory" (<http://plato.stanford.edu/entries/substance/>). *Plato.stanford.edu*. Retrieved 24 June 2013.
37. "The Friesian School on Substance and Essence" (<http://www.friesian.com/essence.htm>). *Friesian.com*. Retrieved 24 June 2013.

38. Bernard Sadoulet "Particle Dark Matter in the Universe: At the Brink of Discovery?" *Science* 5 January 2007: Vol. 315. no. 5808, pp. 61 - 63
39. Heisenberg, Werner. 1962. *Physics and philosophy: the revolution in modern science*.
40. Chomsky, Noam. 2000. *New Horizons in the Study of Language and Mind*
41. Stack, George J. (1998), "Materialism" (<https://books.google.com/books?id=G3UBxqkkCX8C&pg=PA171>), in Craig, E. (ed.), *Routledge Encyclopedia of Philosophy: Luther to Nifo*, Routledge, pp. 171–172, ISBN 978-0-415-18714-5
42. "Matter Undermined" (<https://economictimes.indiatimes.com/opinion/vedanta/matter-undermine/d/articleshow/17055344.cms>). *The Economic Times*. 2 November 2012. Retrieved 21 June 2019.
43. "General Scientific and Popular Papers." In *Collected Papers*, Vol. 4. Vienna: Austrian Academy of Sciences. Braunschweig/Wiesbaden: Vieweg & Sohn. p. 334.
44. Heisenberg, Werner. 1962. *Physics and philosophy: the revolution in modern science*
45. Wigner, Eugene Paul (6 December 2012). *Philosophical Reflections and Syntheses* (<https://books.google.com/books?id=EFboCAAQBAJ&pg=PA252>). ISBN 9783642783746.
46. Stapp, Henry. "Quantum interactive dualism - an alternative to materialism." *Journal of Consciousness Studies*
47. [1] (<https://www.forbes.com/sites/johnfarrell/2017/01/29/a-physicist-talks-god-and-the-quantum/amp/>)
48. Zurek, Wojciech H., ed. 1990. "Information, Physics, Quantum: The Search for Links." In *Complexity, Entropy and the Physics of Information*.
49. Jeans, James. 1937. *The Mysterious Universe*. p. 137.
50. Gutberlet, Constantin (1911). "Materialism" ([https://en.wikisource.org/wiki/Catholic\\_Encyclopedia\\_\(1913\)/Materialism](https://en.wikisource.org/wiki/Catholic_Encyclopedia_(1913)/Materialism)). In Herbermann, Charles (ed.). *Catholic Encyclopedia*. 10. New York: Robert Appleton Company.
51. "Encyclopaedia Britannica: Soul Religion and Philosophy" (<https://www.britannica.com/topic/soul-religion-and-philosophy>).
52. Lange, Friedrich Albert (1892). *History of Materialism and Criticism of Its Present Importance* (<https://books.google.com/books?id=Rng3AAAAMAAJ>). English and foreign philosophical library. 2: History of materialism until Kant (4 ed.). K. Paul, Trench, Trübner, & Company, Limited. pp. 25–26. Retrieved 21 June 2019. "Diderot has not always in the Encyclopædia expressed his own individual opinion, but it is just as true that at its commencement he had not yet got as far as Atheism and Materialism."
53. mahavidya.ca (<http://www.mahavidya.ca/2015/06/25/maya-the-concept-of-illusion/>)
54. *Doctrine and Covenants* 131:7–8
55. Smith, Joseph (1938). Smith, Joseph Fielding (ed.). *Teachings of the Prophet Joseph Smith*. Salt Lake City: Deseret Book. pp. 352–354. OCLC 718055 (<https://www.worldcat.org/oclc/718055>).
56. Eddy, Mary Baker. 1934. *Science and Health with Key to the Scriptures*. Boston: The First Church of Christ Scientist. p. 468.
57. Kant, Immanuel. "The refutation of idealism." pp. 345–52 in *Critique of Pure Reason* (1st ed.), edited by N. K. Smith. (2nd ed., pp. 244–7).
58. Kant, Immanuel. "The refutation of idealism." pp. 345–52 in *Critique of Pure Reason* (1st ed.), edited by N. K. Smith. A379, p. 352: "If, however, as commonly happens, we seek to extend the concept of dualism, and take it in the transcendental sense, neither it nor the two counter-alternatives — pneumatism [idealism] on the one hand, materialism on the other — would have any sort of basis. ... Neither the transcendental object which underlies outer appearances nor that which underlies inner intuition, is in itself either matter or a thinking being, but a ground (to us unknown)..."

59. *Routledge Encyclopedia of Philosophy* (<http://www.rep.routledge.com/article/DB047SECT7>). Archived (<https://web.archive.org/web/20070206102552/http://www.rep.routledge.com/article/DB047SECT7>) 6 February 2007 at the Wayback Machine: "Kant argues that we can determine that there has been a change in the objects of our perception, not merely a change in our perceptions themselves, only by conceiving of what we perceive as successive states of enduring substances (see Substance)."
60. Kant, Immanuel. "The refutation of idealism." pp. 345–52 in *Critique of Pure Reason* (1st ed.), edited by N. K. Smith. B274, p. 245: "All determination of time presupposes something permanent in perception. This permanent cannot, however, be something in me..."
61. Midgley, Mary. 1990. *The Myths We Live By*.
62. Baker, L. 1987. *Saving Belief*. Princeton: Princeton University Press
63. Reppert, V. 1992. "Eliminative Materialism, Cognitive Suicide, and Begging the Question." *Metaphilosophy* 23:378–92.
64. Seidner, Stanley S. 10 June 2009. "A Trojan Horse: Logotherapeutic Transcendence and its Secular Implications for Theology." Mater Dei Institute. p. 5.
65. Boghossian, Peter. 1990. "The Status of Content." *Philosophical Review* 99:157–84; and 1991. "The Status of Content Revisited." *Pacific Philosophical Quarterly* 71:264–78.
66. However, critics of materialism are equally guilty of prognosticating that it will *never* be able to explain certain phenomena. "Over a hundred years ago William James saw clearly that science would never resolve the mind-body problem." *Are We Spiritual Machines?* ([http://www.designinference.com/documents/1999.10.spiritual\\_machines.htm](http://www.designinference.com/documents/1999.10.spiritual_machines.htm)) Dembski, W.
67. "Interview with John Polkinghorne" (<http://www.crosscurrents.org/polkinghorne.htm>). Crosscurrents.org. Retrieved 24 June 2013.

## Further reading

---

- Buchner, L. (1920). *Force and Matter*. New York, Peter Eckler Publishing Co.
- Churchland, Paul (1981). *Eliminative Materialism and the Propositional Attitudes* (<https://www.jstor.org/stable/2025900>). The Philosophy of Science. Boyd, Richard; P. Gasper; J. D. Trout. Cambridge, Massachusetts, MIT Press.
- Field, Hartry H. (1981), "Mental representation", in Block, Ned Joel (ed.), *Readings in Philosophy of Psychology*, 2, Taylor & Francis, ISBN 9780416746006
- Flanagan, Owen J. (1991). *Science of the Mind 2e* (<https://books.google.com/books?id=80HlwMz3bvwC>). MIT Press. ISBN 978-0-262-56056-6. Retrieved 19 December 2012.
- Fodor, J.A. (1974). "Special Sciences", *Synthese*, Vol.28.
- Gunasekara, Victor A. (2001). "Buddhism and the Modern World (<http://www.buddhismtoday.com/english/buddha/Teachings/basicteaching11.htm>)". *Basic Buddhism: A Modern Introduction to the Buddha's Teaching*. 18 January 2008
- Kim, J. (1994) Multiple Realization and the Metaphysics of Reduction (<https://www.jstor.org/stable/2107741>), *Philosophy and Phenomenological Research*, Vol. 52.
- La Mettrie, La Mettrie, Julien Offray de (1748). *L'Homme Machine (Man a Machine)*
- Lange, Friedrich A.,(1925) *The History of Materialism* (<http://www.worldcat.org/title/history-of-materialism/oclc/703434926>). New York, Harcourt, Brace, & Co.
- Moser, Paul K.; Trout, J. D. (1995). *Contemporary Materialism: A Reader* (<https://books.google.com/books?id=-vIzCvCAxpgC>). Psychology Press. ISBN 978-0-415-10863-8. Retrieved 19 December 2012.
- Priest, Stephen (1991), *Theories of the Mind*, London: Penguin Books, ISBN 0-14-013069-1 Alternative ISBN 978-0-14-013069-0
- Schopenhauer, Arthur (1969). *The World as Will and Representation*. New York, Dover Publications, Inc.

- Seidner, Stanley S. (10 June 2009). "A Trojan Horse: Logotherapeutic Transcendence and its Secular Implications for Theology" (<https://docs.google.com/gview?a=v&q=cache:FrKYAo88ckkJ:www.materdei.ie/media/conferences/a-secular-age-parallel-sessions-timetable.pdf+%22Stan+Seidner%22&hl=en&gl=us>). *Mater Dei Institute*
- Turner, MS (5 January 2007). "Quarks and the Cosmos". *Science*. **315** (5808): 59–61. Bibcode:2007Sci...315...59T (<https://ui.adsabs.harvard.edu/abs/2007Sci...315...59T>). doi:10.1126/science.1136276 (<https://doi.org/10.1126%2Fscience.1136276>). PMID 17204637 (<https://pubmed.ncbi.nlm.nih.gov/17204637/>). S2CID 30977763 (<https://api.semanticscholar.org/CorpusID:30977763>).
- Vitzthum, Richard C. (1995) *Materialism: An Affirmative History and Definition* (<https://books.google.com/books/about/Materialism.html?id=odjWAAAAMAAJ>). Amherst, New York, Prometheus Books.

## External links

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- "Materialism" ([https://en.wikisource.org/wiki/1911\\_Encyclop%C3%A6dia\\_Britannica/Materialism](https://en.wikisource.org/wiki/1911_Encyclop%C3%A6dia_Britannica/Materialism)). *Encyclopædia Britannica*. **17** (11th ed.). 1911.
  - Stanford Encyclopedia:
    - Physicalism (<http://plato.stanford.edu/entries/physicalism/>)
    - Eliminative Materialism (<http://plato.stanford.edu/entries/materialism-eliminative>)
  - Philosophical Materialism (by Richard C. Vitzthum) ([http://www.infidels.org/library/modern/richard\\_vitzthum/materialism.html](http://www.infidels.org/library/modern/richard_vitzthum/materialism.html)) from infidels.org
  - Dictionary of the Philosophy of Mind on Materialism (<https://sites.google.com/site/minddict/materialism>) from the University of Waterloo
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