

Informal thoughts on Friedrich Lange's 1875 classic
The History of Materialism (in three volumes)
By Chris Wright

In a footnote early on, Lange makes the interesting, though perhaps obvious, observation that materialism can lead straight into subjective idealism. You have the notion that the basic constituents of the world are material; then you have the (Lockean) notion, congenial to materialists, that the only way we know of material “things in themselves” is through our sense-perceptions, so that we don’t have direct access to matter in itself; and then you can easily get the (Berkeleyan) position that we might as well discard the material things-in-themselves as unknown and unknowable. All we know, and all there are, are sensations and ideas in our mind. Apparently the Greeks never took this idealistic step. It’s understandable why Berkeley took it, but of course in doing so he contradicted science and was quite wrong—and also made it a mystery as to how we could have these sensations and ideas in the first place. (In principle, materialistic science has little difficulty in explaining the origins of sense-perceptions—although it’s true that the conceptual leap from neurobiological processes to subjective experience is a mystery.)

The change from the materialism of Democritus and, sort of, Protagoras and the Sophists to the anti-materialism of Plato and, in a different way, Aristotle was probably related to the suspicion that materialism, with its “sensationalism” (Protagoras’s and Aristippos’s emphasis on the particularity of sensations, an anti-universalist or -objectivist position), was democratic, populist, vulgar, etc. Or so it seems to me. Materialism had led to the relativism of Protagoras, the valorization of the individual as the measure of all things, with the idea that there was no objective truth but that only appearances mattered, such that the lowest person had access to as much truth as the “highest.” And anyway, the Sophists seem to have been a rather democratic phenomenon, frowned on by conservative and older aristocratic types. Their very *dialectical* method, and their questioning, their cynicism, etc., bespoke hostility towards authority and tradition. Actually, in some respects Socrates himself must have belonged in spirit to this school—Aristophanes was right about that—given his irreverence, his radical doubt, and so on. Nietzsche saw this. (“With dialectics, the masses always end up on top.”) It’s kind of puzzling, then, that Plato so admired Socrates, in light of Plato’s radically anti-democratic instincts. In any case, Plato hated all this democratic nonsense, all this emphasis on flux and relativism and sensations and pleasure (Aristippos) and matter, so he undertook to prove it was all illusion, that only the timeless, the divine, the anti-material, the idealistic Forms were reality. It was sort of an intellectual version of authoritarian reaction. He hated the vulgar masses and so tried to convince himself that their world, their conceptions, they themselves were illusions, or botched manifestations of the Forms; he alone, with his beauty and goodness and truth and

aristocratic consciousness, was real. Aristotle didn't go to these extremes, didn't feel such a need to deny the world he lived in, but did, nonetheless, look askance on democracy and the *hoi polloi*. Thus, he theorized a sort of compromise between materialism and idealism.

As for Socrates, Lange reminds me, in a later chapter, that despite having points of contact with the Sophists he was also opposed to them. And hence to the spirit of theoretical and practical materialism. He was conservative, a dogmatic moralist, interested in the universal truths of reason that explain the world, even religious in a monotheistic sort of way. He was temperamentally and intellectually opposed to mechanistic materialism, less interested in efficient causes than in final causes, *reasons* for why the world is as it is. Unlike the materialists, he was prone to anthropomorphizing. "His entire conviction is that the reason which has created the world-structure proceeds after the manner of human reason; that we can follow its thoughts everywhere, although we must at the same time admit its infinite superiority. The world is explained from man, not man from the universal laws of nature. ...Everywhere we have an anthropomorphic activity. A plan, a purpose must first be provided, and then the matter and the force to set it going. We see here how much of a Socratic Aristotle still was at bottom with his antithesis of form and matter, and the government of efficient causes by the final purpose." Socrates' was a basically theological conception. "The architect of the worlds must be a Person who can be conceived and imagined by man, though he may not be understood in all his actions." So, ironically, Socrates can be seen as inaugurating a (rationalistic) religious tendency that Plato carried forward and later the Neoplatonics and Christians filled out with different and more explicitly religious content.

—Paradoxical character, Socrates. Both democratic and anti-democratic, elitist and anti-elitist, conservative and radical, rationalistic and religious (fused together, as in fact has often been the case), etc. Seemingly skeptical of everything, but convinced that Truth existed and had only to be discovered (by means of dialectical criticism, rigorous criticism of one's conventional beliefs, the discovery of proper and timeless *definitions* of things).

Aristotle, of course, had no patience for the mechanistic materialism of Democritus and others. *Teleology* is kind of the opposite of mechanism. But it's an understandable and tempting extension of human intention to nature, which does, after all, at first glance seem to exhibit *design*. Ultimately Aristotle was led to "a pantheistic theory, which makes the divine thought everywhere permeate matter, and realize itself and become immanent in the growth and becoming of all things." Matter is passive, form is active; and the movement towards form animates all matter. But this movement is an expression of the unmoved mover, God. So God is everywhere, so to speak. —And yet he is also transcendental, so I wouldn't say it's a strict pantheism.

Anyway, decades after Aristotle, the pendulum swung again, back to materialism.

This was especially so with Epicurus, but also with the Stoics and others. "The historical circumstances which prepared the way for the new influence were the destruction of Greek freedom [by the Macedonians] and the collapse of Hellenic life..." The Platonic state and Aristotle's politics had been opposed to individualism, but now, in the third century B.C., "individualism was of the essence of the time, and an entirely different stamp of men arose to take control of the thought of the age." Scientific research became more pronounced again, etc.

The practical standpoint which Socrates had asserted in philosophy allied itself now with individualism, only to become the more one-sided in consequence. For the supports which religion and public life had previously offered to the consciousness of the individual now completely gave way, and the isolated soul sought its only support in philosophy. So it came about that even the materialism of this epoch, closely as it also, in the contemplation of nature, leaned upon Democritus, issued chiefly in an ethical aim—in the liberation of the spirit from doubt and anxiety, and the attaining of a calm and cheerful peacefulness of soul. [Epicureanism.]

Lange is worth quoting on Stoicism:

At the first glance we might suppose that there is no more consistent materialism than that of the Stoics, who explain all reality to consist in bodies. God and the human soul, virtues and emotions, are *bodies*. There can be no flatter contradiction than that between Plato and the Stoics. He teaches that that man is just who participates in the idea of justice; while, according to the Stoics, he must have the substance of *justice* in his body.

This sounds materialistic enough; and yet, at the same time, the distinctive feature of materialism is here wanting—the purely material nature of matter; the origination of all phenomena, including those of adaptation and spirit, through movements of matter according to universal laws of motion.

The matter of the Stoics possesses the most various forces, and it is at bottom force that makes it what it is in each particular case. The force of all forces, however, is the deity which permeates and moves the whole universe with its influence. Thus deity and undetermined matter stand opposed to each other, as in the Aristotelian system the highest form, the highest energy, and the mere potentiality of becoming everything that form produces from it—that is, God and matter. The Stoics, indeed, have no transcendental God, and no soul absolutely independent of body; yet their matter is thoroughly pervaded, and not merely influenced, by soul;

their God is identical with the world, and yet he is more than mere self-moving matter; he is the “fiery reason of the world,” and this reason works that which is reasonable and purposeful, like the “reason-stuff” of Diogenes of Apollonia, according to laws which man gathers from his consciousness, and not from his observation of sensible objects. Anthropomorphism, therefore, teleology, and optimism profoundly dominate the Stoic system, and its true character must be described as “pantheistic.”

It was left to Epicurus to revive mechanistic materialism. I won't say anything about him, except that his whole system is subordinated to the goal to free people from suffering, from fear and anxiety. The point of studying nature is to free yourself from fear and anxiety, a goal that is attained as soon as you show how events can be explained from universal natural laws rather than supernatural causes (presumably because that shows their necessity and makes them comprehensible to human reason—and also frees us from our terror of the gods, and from the destructive irrationalities of religion). –Atheism is liberating! (Epicurus probably wasn't literally an atheist, but, given his conception of the gods, he was something like it).

Again, there are many points of contact between Epicureanism, Stoicism, and major tendencies of Indian thought.

The great age of Greek speculative philosophy came to an end with Epicurus. But advances continued in other fields, such as geometry, astronomy, anatomy, medicine, the study of grammar, history, and philology. We moderns tend to denigrate the achievements of the ancients in science, but the Hellenic and Hellenistic truly were astonishing eras. They saw the birth of the essential scientific notion that the world is a natural unity governed by universal laws. Doubtless that wasn't always clearly perceived, and few such laws were discovered then in comparison with the modern age, but it was at least a decisive advance. –Ironically, however, few of the great ancient “scientists” belonged to materialistic schools of philosophy. Not the mathematicians, for instance; and not Galen, Pliny, or Ptolemy, who inclined to pantheism. An odd fact.

So, on to the Romans. For a long time they weren't at all inclined to materialism, even in its practical aspect: they were a martial people, hard and cruel, not luxurious and wanton, nor given to scientific and philosophical speculation. But this had to some extent changed by the end of the Republic, when decadence was setting in. Stoicism and Epicureanism, usually in vulgarized and diluted forms, colonized the Roman mind. The least vulgar or diluted expression of Epicureanism was in Lucretius's famous poem *De Rerum Natura*, which Lange discusses at length, and which was still delighting materialists in the eighteenth century. –In fact, Lange remarks that “it is only in our days [the 1860s, etc.] that, for the first time, materialism seems to have broken completely away from the old traditions.” A striking observation. The eighteenth

century, after all, was still steeped in the forms and content of the classical world; only in the nineteenth century was all that stuff *finally*, in large measure, left behind. And yet not entirely: the weight of antiquity was still felt—though less so than before—in some aspects of culture and education even into the first half of the twentieth century! It’s amazing that it wasn’t until my dad’s generation that classical memories and identities were decisively discarded, except from a few dusty corners of academia. –Observe the remarkable continuities of history! “The past isn’t dead; it isn’t even past,” to quote Faulkner. Marxism: the incubus of history weighing on the brains of the living.

Materialism of course didn’t have much of a chance in Christian Europe, which was more hostile to it than Islam and the Arab civilization. Even in philosophy, first Neoplatonism and then Aristotelianism reigned. Lange has a thoughtful critique of Aristotelianism, particularly of how its notions of form and matter, actuality and potentiality, substance and accident, etc. are merely subjective projections—mental constructs—and do not exist objectively in the things themselves, and therefore lead us astray when we take them to be objectively valid and do *not* help us comprehend the in-itself nature of the world, but I’ll skip over that. It’s worth pointing out, though, that Aristotle’s depreciation of matter as passive and so forth contributed in its own way, even up to early modern times, to impeding any acceptance of materialism. For instance, how is a “dark, inert, rigid, and absolutely passive substance” to *think*, as it must on a truly materialist conception of the world? So these legacies of Aristotelianism had to be overcome.

It took hundreds of years, but they were. From the fourteenth to the seventeenth centuries, a galaxy of European thinkers and artists and (proto-)scientists slowly and usually unconsciously laid the groundwork for a transcendence of Aristotelianism and of the anti-materialist dogmas of the Church. The Humanists, the warriors of the Reformation, even some of the late Scholastics, and of course scores of sixteenth-century scientists and philosophers, all paved the way for the reappearance of materialism and with it modern science. Giordano Bruno, for example, under the influence of Copernicus, in the late sixteenth century undertook a “reevaluation” of that much-maligned category *matter*, proclaiming it to be active and to contain everything within itself. “Matter is not without forms—nay, it contains them all, and since it unfolds what it carries concealed within itself, it is in truth all nature and the mother of all living things.” But Bruno was still pantheistic. Francis Bacon was *almost* a complete materialist: e.g., “among all philosophical systems, Bacon places that of Democritus highest. He asserts in his praise that his school had penetrated deeper than any other into the nature of things. The study of matter in its manifold transformations carries us farther [Bacon argues] than Abstraction. Without the assumption of atoms nature cannot be well explained. Whether final causes operate in nature cannot be definitely decided; at all events, the inquirer must confine himself efficient causes only.” But on important points he was equivocal, and he concentrated almost exclusively on method,

so Lange refrains from calling him the true restorer of materialism. He was influenced by an environment saturated with alchemy and astrology, which, with their spirits and sympathies and antipathies and whatnot, were anything but mechanistically materialist.

Still, Bacon did help bring about modern science, by his emphasis on data collection and induction. As we know, he was the inductive empiricist, Descartes the deductive rationalist. Both contributed to science. But there's an irony here: while in its essential points materialism really starts from Bacon, its takes its *mechanistic*, or *mechanical*, character largely from Descartes, who—as I've learned from Chomsky—used the idea of mechanism (e.g., an old clock) to distinguish the material world from the human mind, the realm of freedom that isn't governed by the laws of mechanics. So, even though metaphysically and epistemologically Descartes started from his *cogito ergo sum*, doubting the existence of the external world, a position that can easily lead into idealism—and, furthermore, even though he believed in an immaterial substance, namely the soul—he gave the materialism of the eighteenth century one of its defining characteristics (although really, perhaps, this definitive conception goes back to Democritus).

With his *ad hoc* “God wouldn't deceive me, so there must be a world,” Descartes escaped idealism and was able to investigate nature. He wasn't strictly an atomist, though: he thought matter was infinitely divisible, since however small you get you can always imagine another division. And, unlike most or all true atomists, he denied that a vacuum could exist in nature. Still, he was extremely close to atomism: “he substitutes for the atoms small round corpuscles, which remain in fact quite as unchanged as the atoms, and are only divisible in thought, that is, potentially...” Hm. So, as opposed to atoms, there are corpuscles. That strikes me as hair-splitting. Anyway, he set aside all mystical explanations of nature by explaining every natural phenomenon by the laws of mechanical impact. Plants and animals and everything else—except, in part, humans, who have free will—are essentially *machines*. Again, I've learned from Chomsky where this story is headed: Newton demonstrated that the laws of mechanics are not enough to explain the world, for his system requires the incomprehensible *action-at-a-distance*; and with this move, strictly mechanistic/mechanical materialism, just a few decades after its rebirth, collapsed again forever (though few thinkers immediately recognized this implication). Now all kinds of “occult” things were admitted into science and the external world: forces, action at a distance, eventually magnetic fields and whatnot, then the paradoxes of general relativity and finally quantum mechanics. Pure clock-like contact physics is infinitely more primitive than all this...and yet, of course, all this remains materialism, and even, loosely speaking, “mechanistic” materialism, in that no Intelligence is behind it, no design. And the only thing that is now seen as existing is—*matter*. Matter/energy is everything in the universe. Thus, pure materialism has completely triumphed after a long history of being held back and despised,

notwithstanding Democritus, Leucippus, and Epicurus, and, in ancient India, the Charvaka school of philosophy. –How fascinating and ironic history is!

To continue: Lange, perhaps eccentrically, gives credit for the revival of materialism to Pierre Gassendi first and foremost. Gassendi resurrected Epicurus, and so spread the doctrine of atomism, which later, in modified forms, had such success. But of course *Hobbes* is more famous as a self-conscious materialist, and ultimately was surely more important (or so it seems to me). He proposed an all-encompassing philosophy of materialism that was so influential I needn't discuss it. But apparently he wasn't an atomist, unlike Gassendi and most other materialists.

Needless to say, the progress of materialism was, in the final analysis, a product of the development of mercantile and then industrial capitalism. England and France were its main homes in the eighteenth century. As a philosophy, it was used mostly in a negative way in France, to criticize the Church and superstition and irrational traditions; it was more positive and, perhaps, sophisticated in England, especially as it flowered in the sciences. Robert Boyle and Isaac Newton are the two great early names there. Boyle was more important than is often thought, for instance in rejecting alchemy (unlike Newton) and all vestiges of Aristotelianism, and in introducing materialistic foundations into science. He was a rigorous experimenter and dedicated sharer of data and ideas with his colleagues, practices that were essential to advancing science. He and Newton were much influenced by Gassendi's Epicureanism, and so, like nearly all the moderns, were atomists, though they rejected (again, like most or all the moderns) the absolute indivisibility of the atoms. (If God created atoms he must be able to divide them.) Lange goes on to discuss Newton's inadvertent invalidation of traditional mechanical materialism. I'll just quote the following paragraph:

From the triumph of Newton's purely mathematical achievement there was curiously developed a new physics. Let us carefully observe that a purely mathematical connection between two phenomena, such as the fall of bodies and the motion of the moon, could only lead to [Newton's] great generalization [as regards gravity] in so far as there was presupposed a common and everywhere operative material cause of the phenomena. The course of history has eliminated this unknown material cause, and has placed the mathematical law itself in the rank of physical causes. The collision of the atoms shifted into an idea of unity, which as such rules the world without any material mediation. What Newton held to be so great an absurdity that no philosophic thinker could light upon it [namely, "action at a distance"], is prized by posterity as Newton's great discovery of the harmony of the universe! and, rightly understood, it is his discovery, for this harmony is one and the same, whether it is brought about by a subtle matter, penetrating everywhere and obeying the laws of

collision, or whether the particles of matter regulate their movements in accordance with the mathematical law without any material intervention. If in this later case we wish to get rid of the absurdity, we must get rid of the idea that anything acts where it is not; that is, the whole conception of the mutual influence of the atoms falls away as an anthropomorphism, and even the conception of causality must assume an abstracter shape.

He surely goes too far in rejecting the idea of the mutual influence of atoms; for they do influence each other, only not in mechanical ways. Incidentally, instantaneous action at a distance *is*, indeed, absurd and physically impossible, since Einstein showed that nothing can travel faster than the speed of light. So Newton's doubts were right, though he was wrong to think—if he did—that the mere unintelligibility of some idea to the human mind is enough to refute that idea. Anyway, my point is that action at a distance, unmediated by anything, *doesn't*, after all, exist, for electromagnetic fields and the curvature of space-time (to explain gravity) have been postulated as “mediators.” Insofar as Chomsky—and Lange—tends to imply that unmediated action at a distance is integral to modern physics, he's wrong.

After a short discussion of Locke's empiricism (“sensationalism”), Lange proceeds to the eighteenth century. Disjointed notes: David Hartley in 1749 “undertakes to refer the whole of human thought and sensation to vibrations in the brain.” Not really original, but important even so, and despite Hartley's religious timidity. He's disturbed by the contradiction between the *causal necessity* of the brain's functions—material laws, etc.—and the apparent *freedom* of thought. (Yup, it's a paradox, an unresolvable one. You have the self, choice, intentionality, and reason versus the non-self, determinism, and “mechanistic” causation.) And there's Joseph Priestley, whom Chomsky likes to reference. I'll skip over the little that Lange says about Shaftesbury, Voltaire, Diderot, and Robinet. Germany for a long time was philosophically very backward compared to England and France, remaining “the ancestral home of pedantic Scholasticism.” But near the end of the seventeenth century, Cartesianism and Spinozism became more influential there in the struggle against Scholasticism and theological orthodoxy. The English influence of Hobbes was felt around the same time as well, and so materialism slowly spread.

According to Lange, the true originator of materialism in France, and its most radical—“scandalously” radical—exponent, was La Mettrie. He influenced all the other famous *philosophes*, though they disowned him as being too radical. His main point was that man is a machine, and—contrary to Descartes—not qualitatively different from other animals. In many ways, he is actually inferior to them. Matter has the capacity for sensation. All things soulful and spiritual and noble are grounded in the operations of base matter. (Compare Nietzsche.) Man is not special in his consciousness of good and evil; other animals have this also, as shown, e.g., by the downcast behavior of a pet dog

after biting its master. An ape could probably be taught to speak. (La Mettrie goes too far there.) “The moral law is, in fact, still present even in those persons who, from a morbid impulse, steal, murder, or in fierce hunger devour their nearest relatives. These unhappy creatures, who are sufficiently punished by their remorse, should be handed over to the doctors, instead of being burned or buried alive, as has been the practice.” Wow, what scandalous, horrible opinions! La Mettrie even anticipates Rousseau by arguing that humans are created to be *happy*, not to be *learned* (sophisticated), which amounts to a kind of misuse of our talents.

On religion: “The existence of a Supreme Being La Mettrie will not doubt [or so he says, in his book *L’Homme Machine*, published in 1748]; all probability speaks for it; but this Existence no more proves the necessity of worship than any other existence: it is a theoretical truth without any use in practice; and as it has been shown by innumerable examples that religion does not bring morality with it, so we may conclude that even Atheism does not exclude it.

“For our peace of mind it is indifferent to know whether there is a God or not, whether he created matter, or whether it is eternal. What folly to trouble ourselves about things the knowledge of which is impossible, and which, even if we knew them, would not make us a bit happier!” He rejects the argument-from-design for God’s existence, because, after all, we know so little about nature that it’s silly to make dogmatic claims like that only God could create such a beautiful world. He thinks an atheistic world would be much happier than the current religious world, because there would be no theological wars, no soldiers of religion, and humans would be pure and innocent again. “Men would follow their own individual impulses, and these impulses alone can lead them to happiness along the pleasant path of virtue.” Again, Rousseau. As for immortality, La Mettrie says it may be possible, given our ignorance of nature.

So, the whole thrust of his philosophy is that we should always rely on experience and observation, not religious authority or metaphysical speculation. *A posteriori*, not *a priori*. We should follow the practice of physicians, not philosophers. (Again, Nietzsche.) “One can and one even ought to admire all these fine geniuses in their most useless works, such men as Descartes, Malebranche, Leibniz, Wolff and the rest, but what profit, I ask, has any one gained from their profound meditations, and from all their works?” *Body* is the key to life, bodily processes, bodily desires and appetites; all things intellectual and spiritual originate in things bodily. The soul is nothing but imagination, or “material consciousness,” as Lange paraphrases. Or, to quote La Mettrie in another place, “The soul is nothing but an empty word, of which no one has any idea, and which an enlightened man should use only to signify the part in us that thinks. Given the least principle of motion, animated bodies will have all that is necessary for moving, feeling, thinking, repenting, or in a word for conducting themselves in the physical realm, and in the moral realm which depends upon it.” *L’Homme Machine*, which I just read on the internet, is an incredibly modern work, and incredibly

Nietzschean in many respects. Truly brilliant and revolutionary, even epoch-making.

Not surprisingly, it was read all over Europe. And it was reviled. Its author was even more reviled after, in another work, he praised sensuous pleasure. As Lange paraphrases, "Reflection may heighten pleasure, but cannot afford it. He who is happy through it has a higher happiness, but more frequently it destroys happiness. [True.] ...The intoxication of opium produces by physical means a happier frame of mind than any philosophical treatise. How happy a man would be who all through his life could enjoy a frame of mind as this intoxication transiently procures him! ...Intellect, knowledge, and reason...are a superfluous adornment with which the soul can dispense, and the great mass of mankind, who actually do dispense with them, are not thereby shut out from happiness." Actually, "reason is not in itself hostile to happiness, but only through the prejudices that attach themselves to thought." Again, true. In its proper and healthy activity, reason augments happiness. La Mettrie also praises education as a contributor to happiness. From this eudaemonistic foundation he erects a notion of virtue: "He agrees with Hobbes in holding that there is no such thing as virtue in an absolute sense, that anything can be called good or bad only relatively—in relation, in fact, to society. Instead of the absolute command by the will of 'Leviathan,' however, we have the free judgment of the individual as to the good and evil of society..." It seems that he arrives at a sort of early utilitarianism, which was later worked out by Helvetius. And then reproduced by Bentham in his dull way. "The whole distinction between the good and the bad," as Lange says, "consists in this, that with the former, public outweigh private interests, while the contrary is the case with the latter." La Mettrie also mentions the principle of *sympathy*, "the most important principle upon which [a materialist ethic] can depend." At the same time, he is akin to La Rochefoucauld (and other later writers) in recognizing the importance and value of self-love. At times he even goes out of his way to exalt sexual pleasure, apparently in order to scandalize society. –I love this guy! I'll have to read some of his other works too.

In France, the chief home of philosophical materialism in the second half of the eighteenth century, all these materialist currents culminated in d'Holbach's great *Système de la Nature*, published in 1770. "In the *System of Nature*," says Lange, "we feel already the cutting blast of the [French] Revolution." No wonder it so stirred up French society. It was atheistic, materialistic, deterministic, empiricist(ic), and radical in every respect. All is matter and motion. Religion is the chief source of human corruption. Etc. All or most of its ideas are basically implicit in La Mettrie.

A German reaction against materialism occurred with Leibniz and his successors, such as Wolff. The conception of the monads—which I've never understood, and which seems utterly bizarre—obviously bears the imprint of atomism, but its "atoms" are immaterial in some way or other. Each of them has consciousness to a greater or lesser degree, so that we no longer have to ask, with the materialists, "How are sensations and

consciousness possible if material atoms are the basic stuff of the universe?" Leibniz's monads are not material, or they're somehow a fusion of material and immaterial (I don't know), and they have consciousness. So, okay, no more mind-body problem! We've solved it; simple as that! Anyway, Leibniz's system didn't seem to have the radical consequences of materialism—especially since it was "optimistic," implying that this world is the best of all possible worlds—so it became popular with conservatives and the like. Later, many Germans shared in the European reaction against La Mettrie and other militant materialists;—State and Church, of course, were no friends of materialism. In fact, despite empiricism and the progress of science and materialism, the eighteenth century was full of an idealist impulse—idealist in a broad sense. For example, interpretations of politics and social oppression were typically idealistic, focused on intellectual error and ignorance, religion, the conspiracies of priests, etc. A pronounced naiveté suffused the Enlightenment, which in addition was enamored of the ideals of beauty and justice. And in Germany, an idealistic, nationalistic, ultimately romantic movement—*Sturm und Drang*, etc.—rose up in (partial) reaction against materialistic dogmas and aridness.

And then, of course, appeared Kant and decades of German idealism. England and France had left the field of philosophy open to Germany, while they embarked on adventures in the economic and political spheres. So philosophical idealism reigned—as did romantic idealism in politics (together with conservatism, and eventually liberalism, among the rulers), especially on the continent, until 1848—even as economic and scientific materialism were advancing in England and France. It was a time of paradoxes, collisions between old and new, real and ideal, revolution and reaction, and very divided ideologies. Confusion and ferment. Lange doesn't discuss all this; instead he spends a lot of time on Kant, whom he considers exceptionally important for the history of materialism. Kant was neither a materialist nor an idealist with respect to the thing-in-itself; he thought that none of our conceptions or categories can apply to it. So, Lange says, insofar as materialistic science is supposed to describe the thing-in-itself, it's thrown out the window by Kant's system (which Lange substantially agrees with). — This is silliness. Maybe our ordinary notions/intuitions of matter, space, time, and, possibly, even causality don't apply to the most elemental level of the thing-in-itself (or so you'd think from quantum mechanics and modern physics in general), but we can still postulate intelligible theories about it and invoke strange, unconceptualizable entities like electrons and quarks and photons to explain it. Besides, the old question remains: how can you explain the success of science except from the perspective of scientific realism? It's just stupid to deny that the world-in-itself is at least partly captured by modern science. Nor, in fact, does modern science contradict a sort of neo-Kantian viewpoint, as I've always insisted. It actually *confirms* a neo-Kantian rationalism—so much so that you have only to "naturalize" or "biologize" Kant (and other rationalists) in order to get modern science. (The nervous system constructs

experience, etc.)

Lange spends a long time defending the idea of the synthetic *a priori*, but I won't get into that. It's obvious. Insofar as mathematics, for example, is not deducible from the principle of contradiction, it's "synthetic." In fact, we constantly rely on *intuition* in geometry and arithmetic, the intuition of spatial forms and so on. And a mental act of synthesis occurs when we construct a new number out of several other ones. On a deeper level, the brain "synthesizes" everything we experience, which causes us to unconsciously apply to experience—or rather, structure experience according to—a huge array of "*a priori*" categories, computations, constructions, fundamental spatial, temporal, logical, linguistic, emotional, aesthetic, etc. principles. I've never understood the *point* of the controversy, which is to say the point of empiricist objections to this confirmed-by-modern-science rationalism.

As for Kant's convoluted speculations on sense and the understanding, on the derivation of the categories (the "transcendental deduction"), and so on: while interesting, they can surely be discarded. They're superseded by cognitive psychology and other fields of science. Metaphysics itself has been substantially taken over by science. All the old metaphysical and even psychological speculations of the philosophers might be worth reading and periodically might be suggestive and useful, but on the whole they're of little value compared to science and modern empirical methods. (The psychological speculations are usually of greater value than the metaphysical, i.e., pseudo-scientific, speculations.)

If you know Marx, you know that it was with Feuerbach, in the 1830s and 1840s, that philosophical materialism was reborn after the era of German idealism. And yet even Feuerbach, despite his anti-religion and his anti-Hegelianism, could not escape idealism completely, for he tends to place man at the center of things. There is also a sort of romanticism in him, with his elevation of love and recognition, the I-Thou relation, and his sometimes rhapsodic prose. "Isolation is finiteness and limitation, community is freedom and infinity. Man by himself is but man; man with man, the unity of I and Thou, is God." And so forth. In fact, as you know, Hegel still continued to influence the youth in the early 1840s, particularly the Young Hegelians. But the temper of the time, even among some of the Young Hegelians, was moving towards materialism. Lange doesn't mention this, but it's most obvious with Marx. The beginnings of industry were coming to Germany, and chemistry, and physiology. Religion was criticized and attacked, as with David Strauss's *Life of Jesus*. Then the explosion of 1848 happened—but here, still, idealism and romanticism were prominent. The *Communist Manifesto* was ahead of its time. Industry and science continued progressing in the 1850s and later, and a few forgotten German thinkers (like Karl Vogt, whom Marxists know of only because of Marx's bitter contempt for him) defended materialism in philosophy, and the old idealistic romanticism finally died—although a new sort of reactionary-idealistic German nationalism was born. And we know what

that ultimately led to: world wars and Nazism. It's interesting how—all over Europe—an extreme practical and scientific materialism could, under the influence of imperialism, ally with a sort of ultra-idealistic, albeit horrendously reactionary, nationalism, of course in the service of industrial capitalism and each nation's ruling class. Materialism (of various kinds) had at last attained total confidence and power, but it needed to subsidize and spread a type of fascist idealism in order to continue accumulating power and suppressing working-class dissent.

Anyway, my patience with Lange's verbosity and repetitiveness is wearing thin, especially since for the rest of the book—hundreds of pages—he discusses dated nineteenth-century science and philosophical speculations, adding a good many of his own. I don't feel like digesting and regurgitating all this verbiage. The book is too long anyway, especially as Lange now delves into "Darwinism and Teleology," "Brain and Soul," "Scientific Psychology," "The Senses and the World," "Political Economy and Egoism," "Christianity and Enlightenment," etc. Throughout much of this runs his unconvincing polemic against materialism. So, we're done.

Except for one last thought. In the social and political sense, it's true that modern society is more "materialistic" than earlier societies. But we shouldn't forget the lesson of Marxism, that ultimately all societies are structured according to economic power dynamics, classes, methods of production and the unequal distribution of material resources, a distribution that largely determines what sorts of ideas will predominate in a given society (because one needs resources in order to propagate ideas—and so "the ideas of the ruling class [which has the most resources] will in every epoch be the ruling ideas"). One can understand history only on materialist premises. In this respect, the social sciences are indeed somewhat parallel to the natural sciences. Whether in philosophy, science, or social science, idealism is wrong.