Philosophy of Metaphysics and Ontology

Metaphysics is the branch of philosophy investigating principles of reality transcending those of any particular science. Cosmology and ontology are traditional branches of metaphysics. It is concerned with explaining the ultimate nature of being and the world. "Metaphysician" is, counterintuitively, the name of someone that studies metaphysics, not metaphysicist.

The word derives from the Greek words (metá) (meaning "beyond" or "after") and (physiká) (meaning "physical"), "physical" referring to those works on matter by Aristotle in antiquity. The prefix meta- ("beyond") was attached to the chapters in Aristotle's work that physically followed after the chapters on "physics", in posthumously edited collections. Aristotle called some of the subjects treated there "first philosophy."

A central branch of metaphysics is ontology, the investigation into what types of things there are in the world and what relations these things bear to one another. The metaphysician also attempts to clarify the notions by which people understand the world, including existence, objecthood, property, space, time, causality, and possibility.

Before the development of modern science, scientific questions were addressed as a part of metaphysics known as "natural philosophy"; the term "science" itself meant "knowledge".

History of metaphysics

One of the first metaphysicians is Parmenides of Elea. He held that the multiplicity of existing things, their changing forms and motion, are but an appearance of a single eternal reality ("Being"), thus giving rise to the Parmenidean principle that "all is one." From this concept of Being, he went on to say that all claims of change or of non-Being are illogical. Because he introduced the method of basing claims about appearances on a logical concept of Being, he is considered one of the founders of metaphysics.

Metaphysics is called the "first philosophy" by Aristotle. The editor of his works, Andronicus of Rhodes, is thought to have placed the books on first philosophy right after another work, Physics, and called them (ta meta ta physika biblia) or, "the books that come after the [books on] physics." This was misread by Latin scholiasts, who thought it meant "the science of what is beyond the physical."

Aristotle's Metaphysics was divided into three parts, in addition to some smaller sections related to a philosophical lexicon and some reprinted extracts from the Physics, which are now regarded as the proper branches of traditional Western metaphysics:

Ontology - The study of Being and existence; includes the definition and classification of entities, physical or mental, the nature of their properties, and the nature of change.

Natural Theology - The study of God; involves many topics, including among others the nature of religion and the world, existence of the divine, questions about Creation, and the numerous religious or spiritual issues that concern humankind in general.

Universal science - The study of first principles, which Aristotle believed to be the foundation of all other inquiries. An example of such a principle is the law of noncontradiction and the status it holds in non-paraconsistent logics.

Universal science or first philosophy treats of "being qua being" — that is, what is basic to all science before one adds the particular details of any one science. Essentially "being qua being" may be translated as "being insofar as being goes", or as, "being in terms of being". This includes topics such as causality, substance, species and elements, as well as the notions of relation, interaction, and finitude.

Metaphysics as a discipline was a central part of academic inquiry and scholarly education even before the age of Aristotle. Long considered "the Queen of Sciences", its issues were
considered no less important than the other main formal subjects of physical science, medicine, mathematics, poetics and music. Since the beginning of modern philosophy during the seventeenth century, problems that were not originally considered within the bounds of metaphysics have been added to its purview, while other problems considered metaphysical for centuries are now typically relegated to their own separate regions in philosophy, such as philosophy of religion, philosophy of mind, philosophy of perception, philosophy of language, and philosophy of science.

Ontology

In philosophy, ontology is the study of the nature of being, existence or reality in general, as well as of the basic categories of being and their relations. Traditionally listed as a part of the major branch of philosophy known as metaphysics, ontology deals with questions concerning what entities exist or can be said to exist, and how such entities can be grouped, related within a hierarchy, and subdivided according to similarities and differences.

Parmenides was amongst the first to propose an ontological characterisation of the fundamental nature of reality, in his Poem. This asserts that existence is what exists, and that there is nothing which does not exist. Hence, there can be neither void nor vacuum; and true reality can neither come into nor leave existence, but is limitless, eternal, uniform, and unchanging. Parmenides thus holds that change, as experienced in everyday sensation, is illusory; and, arguably, that everything is one (Monism).

Plato developed this distinction between true reality and illusion, in arguing that what is real are eternal and unchanging Forms or Ideas (a precursor to universals), of which things experienced in sensation are at best merely copies, and real only in so far as they copy (‘participate in’) such Forms. In general, Plato presumes that all nouns (e.g., ‘Beauty’) refer to real entities, whether sensible bodies or insensible Forms. Hence, in The Sophist Plato argues that Being is a Form in which all existent things participate and which they have in common (though it is unclear whether ‘Being’ is intended in the sense of existence, copula, or identity); and argues, against Parmenides, that Forms must exist not only of Being, but also of Negation and of non-Being (or Difference).

Ontology as an explicit discipline was inaugurated by Aristotle, in his Metaphysics, as the study of that which is common to all things which exist, and of the categorisation of the diverse senses in which things can and do exist. What exists, in so far as Aristotle concludes, are a plurality of independently existing substances – roughly, physical objects – on which the existence of other things, such as qualities or relations, may depend; and of which substances consist both of a form (e.g. a shape, pattern, or organisation), and of a matter formed. Against Plato, whilst Aristotle holds that universals exist, these do not have an existence over and above the particular things which instantiate them.

Also influential is the materialist atomism proposed and developed by Leucippus, Democritus, and Epicurus, which conceives of reality as composed of an infinity of indivisible, inchangeable corpuscles or atoms (atomon, lit. ‘uncuttable’), the motion and formations of which dissolve and reform in the void of space to produce the diverse flux of experience. A similar materialist ontology was also proposed by the Stoics.

Being in continental philosophy and existentialism

Some philosophers deny that the concept of "being" has any meaning at all, since we only define an object's existence by its relation to other objects, and actions it undertakes. The term "I am" has no meaning by itself; it must have an action or relation appended to it. This in turn has led to the thought that "being" and nothingness are closely related, developed in existential philosophy.

Existentialist philosophers such as Sartre, as well as continental philosophers such as Hegel and Heidegger have also written extensively on the concept of being. Hegel distinguishes between
the being of objects (being in itself) and the being of people (Geist). Hegel, however, did not think there was much hope for delineating a "meaning" of being, because being stripped of all predicates is simply nothing.

Heidegger, in his quest to re-pose the original pre-Socratic questions of Being (of why is there something rather than nothing), wondered at how to meaningfully ask the question of the meaning of being, since it is both the greatest, as it includes everything that is, and the least, since no particular thing can be said of it. He distinguishes between different modes of beings: a privative mode is present-at-hand, whereas beings in a fuller sense are described as ready-to-hand. The one who asks the question of Being is described as Da-sein ("there/here-being") or being-in-the-world. Sartre, popularly understood as misreading Heidegger (an understanding supported by Heidegger's essay 'Letter on Humanism' which responds to Sartre's famous address, 'Existentialism is a Humanism'), employs modes of being in an attempt to ground his concept of freedom ontologically by distinguishing between being-in-itself and being-for-itself.

Dialectic (also called dialectics or the dialectical method) is a method of argument which has been central to both Eastern and Western philosophy since ancient times. It is rooted in the ordinary practice of a dialogue between two persons, each of whom holds a different view and wishes to persuade the other of his view. The presupposition of a dialectical argument is that the participants share at least some meanings and principles of inference in common, even if they do not agree. Different forms of dialectical reason have emerged in the East and in the West, as well as during different epochs of history (see below).

Among the major forms of dialectical reason are Hindu, Buddhist, Socratic, medieval, Hegelian, and Marxist.

Theoretical principles
Dialectics is based around three (or four) basic metaphysical concepts:

1: Everything is transient and finite, existing in the medium of time (this idea is not accepted by all dialecticians).
2: Everything is made out of opposing forces/opposing sides (contradictions).
3: Gradual changes lead to turning points, where one force overcomes the other (quantitative change leads to qualitative change).
4: Change moves in spirals not circles. (Sometimes referred to as "negation of the negation")

Within this broad qualification, dialectics have a rich and varied history. It has been stated that the history of dialectic is identical to the extensive history of philosophy. The basic idea perhaps is already present in Heraclitus of Ephesus, who held that all is in constant change, as a result of inner strife and opposition. Only fragments of his works and commentary remain, however.

The aim of the dialectical method is to try to resolve the disagreement through rational discussion, and ultimately, the search for truth. One way to proceed — the Socratic method — is to show that a given hypothesis (with other admissions) leads to a contradiction; thus, forcing the withdrawal of the hypothesis as a candidate for truth (see also reductio ad absurdum). Another way of trying to resolve a disagreement is by denying some presupposition of both the contending thesis and antithesis; thereby moving to a third (syn)thesis or "sublation". However, the rejection of the participant's presuppositions can be resisted, which might generate a second order controversy.

Western forms of dialectic
Socratic dialectic

In Plato's dialogues and other Socratic dialogues, Socrates attempts to examine someone's beliefs, at times even first principles or premises by which we all reason and argue. Socrates typically argues by cross-examining his interlocutor's claims and premises in order to draw out a contradiction or inconsistency among them. According to Plato, the rational detection of error amounts to finding the proof of the antithesis. However, important as this objective is, the principal aim of Socratic activity seems to be to improve the soul of his interlocutors, by freeing them from unrecognized errors.

Medieval philosophy

In Medieval Europe, dialectics (also called logic) was one of the three original liberal arts collectively known as the trivium (the others were rhetoric and grammar). In ancient and medieval times both rhetoric and dialectic were understood to aim at being persuasive (through dialogue).

Modern philosophy

The concept of dialectics was given new life by Hegel, whose dialectically dynamic model of nature and of history made it, as it were, a fundamental aspect of the nature of reality (instead of regarding the contradictions into which dialectics leads as a sign of the sterility of the dialectical method, as Kant tended to do in his Critique of Pure Reason). In the mid-19th century, the concept of "dialectic" was appropriated by Marx (see, for example, Das Kapital, published in 1867) and Engels and retooled in a non-idealist manner, becoming a crucial notion in their philosophy of dialectical materialism. Thus this concept has played a prominent role on the world stage and in world history. In contemporary polemics, "dialectics" may also refer to an understanding of how we can or should perceive the world (epistemology); an assertion that the nature of the world outside one's perception is interconnected, contradictory, and dynamic (ontology); or it can refer to a method of presentation of ideas and/or conclusions (discourse). According to Hegel, "Dialectic" is the method by which human history unfolds; that is to say, history progresses as a dialectical process.

Materialism in dialectical materialism

Marx's thesis concerned Epicurus and Democritus' atomism, considered as the founder, along with stoicism, of materialist philosophy. He was thus familiar with Lucretius' theory of clinamen, etc. Materialism asserts the primacy of the material world; in short, matter precedes thought. Additionally, materialism holds that the world is material; that all phenomena in the universe consist of "matter in motion", wherein all things are interdependent and interconnected and develop in accordance with natural law; that the world exists outside us and independently of our perception of it; that thought is a reflection of the material world in the brain, and that the world is in principle knowable.

"The ideal is nothing else than the material world reflected by the human mind, and translated into forms of thought." --Karl Marx, Das Kapital, Vol. 1.

Marx thus endorsed a materialist philosophy against Hegel's idealism; he "turned Hegel's dialectics upside down". However, Marx's materialist position is not to be confused with simple materialism: in fact, he criticized classic materialism as another idealist philosophy. According to the famous Theses on Feuerbach (1845), philosophy had to stop "interpreting" the world in endless metaphysical debates in order to start "changing" the world, which the rising workers' movement, observed by Engels in England (Chartist movement) and by Marx in France and Germany, was precisely doing. Historical materialism is therefore the primacy accorded to class struggle. The ultimate sense of Marx's materialism philosophy is that philosophy itself must take position in the class struggle, if it is not to be reduced to spiritualist Idealism (such as Kant or Hegel's philosophies) which are, in fact, only ideologies, that is the material product of social
existence. Marx's materialism thus later opened up the way for Frankfurt School's critical theory, which combined philosophy with the social sciences in an attempt to diagnose the ailments of society.

**Dialectics in dialectical materialism**

Dialectics is the science of the general and abstract laws of the development of nature, society, and thought. Its principal features are:

- The universe is not a disconnected mix of things isolated from each other, but an integral whole, with the result that things are interdependent.
- Nature - the natural world or cosmos - is in a state of constant motion:
  "All nature, from the smallest thing to the biggest, from a grain of sand to the sun, from the protista to man, is in a constant state of coming into being and going out of being, in a constant flux, in a ceaseless state of movement and change." --Friedrich Engels, *Dialectics of Nature*.
- Development is a process whereby insignificant and imperceptible quantitative changes lead to fundamental, qualitative changes. The latter occur not gradually, but rapidly and abruptly, in the form of a leap from one state to another. A simple example from the physical world might be the heating of water: a one degree increase in temperature is a quantitative change, but between 99 and 100 degrees there is a qualitative change - water to steam.
- All things contain within themselves internal dialectical contradictions, which are the primary cause of motion, change, and development in the world. It is important to note that 'dialectical contradiction' is not about simple 'opposites' or 'negation'. For formal approaches, the core message of 'dialectical opposition / contradiction' must be understood as 'some sense' opposition between the objects involved in a directly associated context.

For the application of the dialectic to history see **Historical materialism**.

**Engels' laws of dialectics**

As mentioned above, Engels determined three laws of dialectics from his reading of Hegel's Science of Logic. They are:

- The law of the unity and conflict of opposites;
- The law of the passage of quantitative changes into qualitative changes;
- The law of the negation of the negation

The first of Engels' laws or expressions was seen by both Hegel and Lenin as the central feature of a dialectical understanding of things and originates with the ancient Ionian philosopher Heraclitus.

The second is taken by Hegel from Aristotle, and is equated with what scientists call "phase transitions". It may be traced to the ancient Ionian philosophers (particularly Anaximenes), from whom Aristotle inherited the concept, as well as by Hegel and Engels, and in each case the phase transitions of water is one of the main expositions of quantity into quality and vice versa.

The third, the negation of the negation, is Hegel's distinct expression. It was the expression through which (amongst other things) Hegel's dialectic became fashionable during his life-time.

Engels presupposes, in drawing up these laws, a holistic approach outlined above and in Lenin's three elements of dialectic below, and emphasizes elsewhere that all things are in motion.

**Three laws of dialectical materialism**

**Law of Opposites**

Marx and Engels started with the observation that everything in existence is a unity of opposites. For example, electricity is characterized by a positive and negative charge and atoms consist of protons and electrons which are unified but are ultimately contradictory forces. Even
humans through introspection find that they are a unity of opposite qualities. Masculinity and femininity, selfishness and altruism, humbleness and pride, and so forth. The Marxist conclusion being that everything "contains two mutually incompatible and exclusive but nevertheless equally essential and indispensable parts or aspects." The basic concept being that this unity of opposites in nature is the thing that makes each entity auto-dynamic and provides this constant motivation for movement and change. This idea was borrowed from Georg Wilhelm Hegel who said: 'Contradiction in nature is the root of all motion and of all life.'

This dichotomy is often found in nature. A star is held together by gravity trying to push all the molecules to the center, and heat trying to send them as far from the center as possible. If either force is completely successful the star ceases to be, if heat is victorious it explodes into a supernova, if gravity is victorious it implodes into a neutron star or a black hole. Furthermore, living things strive to balance internal and external forces to maintain homeostasis, which is nothing more than a balance of opposing forces such as acidity and alkalinity.

Some opposites are antagonistic, as in the competition between capitalists and laborers. Factory owners offer the lowest wages possible, while workers seek to maximize wages. Sometimes this antagonism sparks strikes or lockouts.

**Law of Negation**

The law of negation was created to account for the tendency in nature to constantly increase the numerical quantity of all things. Marx and Engels demonstrated that entities tend to negate themselves in order to advance or reproduce a higher quantity. This means that the nature of opposition which produces conflict in each element and gives them motion also tends to negate the thing itself. This dynamic process of birth and destruction is what causes entities to advance. This law is commonly simplified as the cycle of thesis, antithesis, and synthesis.

In nature, Engels often cited the case of the barley seed which, in its natural state, germinates and out of its own death or negation produces a plant; the plant in turn grows to maturity, and is itself negated after bearing many barley seeds. Thus, all nature is constantly expanding through cycles.

In society, we have the case of class. For example, the aristocracy was negated by the bourgeoisie; and the bourgeoisie then created the proletariat that will one day negate them. This illustrates that the cycle of negation is eternal, as each class creates its "grave-digger", its successor, as soon as it finishes burying its creator.

**Law of Transformation**

This law states that continuous quantitative development results in qualitative "leaps" in nature whereby a completely new form or entity is produced. This is how "quantitative development becomes qualitative change". Transformation allows for the reverse with quality affecting quantity.

This theory draws many parallels to the theory of Evolution. Marxist philosophers concluded that entities, through quantitative accumulations, are also inherently capable of "leaps" to new forms and levels of reality. The law illustrates that during a long period of time, through a process of small, almost irrelevant accumulations, nature develops noticeable changes in direction. This can be illustrated by the eruption of a volcano which is caused by years of pressure building up. The volcano may no longer be a mountain but when its lava cools it will become fertile land where previously there was none. A revolution which is caused by years of tensions between opposing factions in society acts as a social illustration. The law occurs in reverse. An example would be, that by introducing better (changing quality) tools to farm, the tools will aid the increase in the amount (change the quantity) of what is produced.