

# Aristotle

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Ar-is·tot·le (ăr'ī-stōt'l) , 384–322 B.C..

Greek philosopher. A pupil of Plato, the tutor of Alexander the Great, and the author of works on logic, metaphysics, ethics, natural sciences, politics, and poetics, he profoundly influenced Western thought. In his philosophical system, which led him to criticize what he saw as Plato's metaphysical excesses, theory follows empirical observation and logic, based on the syllogism, is the essential method of rational inquiry.



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Aristotle

[b. Stagira, Macedonia, Greece, 384 BCE,  
d. Chalcis, Euboea, Greece, 322 BCE]

Influenced by his father, the physician Nicomachus, Aristotle developed an early interest in science. As a student of Plato he formed a love of philosophy and logic. He then became the tutor to Alexander of Macedon (later Alexander the Great). After Alexander became king, Aristotle returned to Athens, where he founded his own school, known formally as the Lyceum and less formally as the Peripatetic ("walking around") school, because students followed their teacher as he walked in the garden. Aristotle is considered the father of biology. Alexander the Great became his patron, funding his work and arranging for Aristotle to receive samples of plants and animals from all corners of the Alexandrian empire. Ancient scholars attributed as many as 400 treatises to Aristotle, encompassing all knowledge in Antiquity about the universe. About 30 have survived and these are thought to have been compiled by his students.



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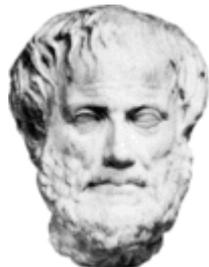
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Aristotle



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Aristotle, marble bust with a restored nose, Roman copy of a Greek original, last quarter of the ...

(credit: Courtesy of the Kunsthistorisches Museum, Vienna)

(born 384, Stagira — died 322 BC, Chalcis) Greek philosopher and scientist whose thought determined the course of Western intellectual history for two millenia. He was the son of the court physician to Amyntas III, grandfather of [Alexander the Great](#). In 367 he became a student at the Academy of [Plato](#) in Athens; he remained there for 20 years. After Plato's death in 348/347, he returned to Macedonia, where he became tutor to the young Alexander. In 335 he founded his own school in Athens, the Lyceum. His intellectual range was vast, covering most of the sciences and many of the arts. He worked in physics, chemistry, biology, zoology, and botany; in psychology, political theory, and ethics; in logic and metaphysics; and in history, literary theory, and rhetoric. He invented the study of formal logic, devising for it a finished system, known as [syllogistic](#), that was considered the sum of the discipline until the 19th century; his work in zoology, both observational and theoretical, also was not surpassed until the 19th century. His ethical and political theory, especially his conception of the ethical virtues and of human flourishing (“happiness”), continue to exert great influence in philosophical debate. He wrote prolifically; his major surviving works include the *Organon*, *De Anima* (“On the Soul”), *Physics*, *Metaphysics*, *Nicomachean Ethics*, *Eudemian Ethics*, *Magna Moralia*, *Politics*, *Rhetoric*, and *Poetics*, as well as other works on natural history and science. *See also* [teleology](#).

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Aristotle ([ăr'istōt'əl](#)), 384–322 B.C., Greek philosopher, b. Stagira. He is sometimes called the Stagirite.

## Life

Aristotle's father, Nicomachus, was a noted physician. Aristotle studied (367–347 B.C.) under Plato at the [Academy](#) and there wrote many dialogues that were praised for their eloquence. Only fragments of these dialogues are extant. He tutored (342–c.339 B.C.) [Alexander the Great](#) at the Macedonian court, left to live in Stagira, and then returned to Athens. In 335 B.C. he opened a school in the Lyceum; some distinguished members of the Academy followed him. His practice of lecturing in the Lyceum's portico, or covered walking place (*peripatos*), gave his school the name Peripatetic. During the anti-Macedonian agitation after Alexander's death, Aristotle fled in 323 B.C. to Chalcis, where he died.

## Works

Aristotle's extant writings consist largely of his written versions of his lectures; some passages appear to be interpolations of notes made by his students; the texts were edited and given their present form by Andronicus of Rhodes in the 1st cent. B.C. Chief among them are the *Organum*, consisting of six treatises on logic; *Physics*; *Metaphysics*; *De Anima* [on the soul]; *Nicomachean Ethics* and *Eudemian Ethics*; *De Poetica* [poetics]; *Rhetoric*; and a series of works on biology and physics. In the late 19th cent. his *Constitution of Athens*, an account of Athenian government, was found.

Philosophy

### **Logic and Metaphysics**

Aristotle placed great emphasis in his school on direct observation of nature, and in science he taught that theory must follow fact. He considered philosophy to be the discerning of the self-evident, changeless first principles that form the basis of all knowledge. [Logic](#) was for Aristotle the necessary tool of any inquiry, and the [syllogism](#) was the sequence that all logical thought follows. He introduced the notion of category into logic and taught that reality could be classified according to several categories—substance (the primary category), quality, quantity, relation, determination in time and space, action, passion or passivity, position, and condition.

Aristotle also taught that knowledge of a thing, beyond its classification and description, requires an explanation of [causality](#), or why it is. He posited four causes or principles of explanation: the material cause (the substance of which the thing is made); the formal cause (its design); the efficient cause (its maker or builder); and the final cause (its purpose or function). In modern thought the efficient cause is generally considered the central explanation of a thing, but for Aristotle the final cause had primacy.

He used this account of causes to examine the relation of form to matter, and in his conclusions differed sharply from those of his teacher, Plato. Aristotle believed that a form, with the exception of the [Prime Mover](#), or God, had no separate existence, but rather was immanent in matter. Thus, in the Aristotelian system, form and matter together constitute concrete individual realities; the Platonic system holds that a concrete reality partakes of a form (the ideal) but does not embody it. Aristotle believed that form caused matter to move and defined motion as the process by which the potentiality of matter (the thing itself) became the actuality of form (motion itself). He held that the Prime Mover alone was pure form and as the “unmoved mover” and final cause was the goal of all motion.

### **Ethics and Other Aspects**

Aristotle's ethical theory reflects his metaphysics. Following Plato, he argued that the goodness or virtue of a thing lay in the realization of its specific nature. The highest good for humans is the complete and habitual exercise of the specifically human function—rationality. Rationality is exercised through the practice of two kinds of virtue, moral and intellectual. Aristotle emphasized the traditional Greek notion of moral virtue as the mean between extremes. Well-being (*eudaemonia*) is the pursuit not of pleasure (hedonism) but rather of the Good, a composite ideal, consisting of contemplation (the intellectual life) and, subordinate to that, engagement in politics

(the moral life). In the *Politics*, Aristotle holds that, by nature, humans form political associations, and he explores the best forms these may take. For Aristotle's aesthetic views, which are set forth in the *Poetics*, see [tragedy](#).

## Aristotelianism

After the decline of Rome, Aristotle's work was lost in the West. However, in the 9th cent., Arab scholars introduced Aristotle to Islam, and Muslim theology, philosophy, and natural science all took on an Aristotelian cast. It was largely through Arab and Jewish scholars that Aristotelian thought was reintroduced in the West. His works became the basis of medieval [scholasticism](#); much of [Roman Catholic](#) theology shows, through St. Thomas Aquinas, Aristotelian influence. There has also been a revival of Aristotelian influence on philosophy in the 20th cent. His teleological approach has continued to be central to biology, but it was banished from physics by the scientific revolution of the 17th cent. His work in astronomy, later elaborated by Ptolemy, was controverted by the investigations of Copernicus and Galileo.

## Bibliography

See edition of his works by R. P. McKeon (1941); J. H. Randall, *Aristotle* (1960); G. E. R. Lloyd, *Aristotle* (1968); J. Barnes, *Aristotle* (1982); J. D. Evans, *Aristotle* (1987); J. Lear, *Aristotle* (1988); T. Irwin, *Aristotle's First Principles* (1989).

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Aristotle

*The Greek philosopher and scientist Aristotle (384-322 B.C.) organized all knowledge of his time into a coherent whole which served as the basis for much of the science and philosophy of Hellenistic and Roman times and even affected medieval science and philosophy.*

Aristotle was born in the small Greek town of Stagiros (later Stagira) in the northern Greek district of Chalcidice. His father, Nicomachus, was a physician who had important social connections, and Aristotle's interest in science was surely spurred by his father's work, although Aristotle does not display a particularly keen interest in medicine as such. The events of his early life are not clear, but it is possible that his father served at the Macedonian court as physician to Amyntas II and that Aristotle spent part of his youth there.

At the age of 17 Aristotle joined Plato's circle at the Academy in Athens. There he remained for 20 years, and although his respect and admiration for Plato was always

great, differences developed which ultimately caused a breach. On Plato's death in 348/347 B.C. Aristotle left for Assos in Mysia (in Asia Minor), where he and Xenocrates joined a small circle of Platonists who had already settled there under Hermias, the ruler of Atarneus. Aristotle married Pythias, the niece of Hermias, and in a fine hymn expressed his shock and dismay over Hermias's death at the hands of the Persians some time thereafter.

After 3 years in Assos with Theophrastus and Xenocrates, Aristotle went to Mytilene for 2 years. Later, Theophrastus and Aristotle made their way to the court of Philip of Macedon, where Aristotle became tutor to Alexander, who later gained immortality by becoming master of the whole Persian Empire. Scant information remains regarding the specific contents of Alexander's education at the hands of Aristotle, but it would be interesting to know what political advice Aristotle imparted to the young Alexander. The only indication of such advice is found in the fragment of a letter in which the philosopher tells Alexander that he ought to be the leader of the Greeks but the *master* of the barbarians (foreigners).

### Peripatetic School

Aristotle returned to Athens in 335/334. Under the protection of Antipater, Alexander's representative in Athens, he established a philosophical school of his own in the gymnasium Lyceum, located near a shrine of Apollo Lyceus. The school derived its name, Peripatetic, from the colonnaded walk (*peripatos*). Members took meals in common, and certain formalities were established which members had to observe. The lectures were divided into morning and afternoon sessions, the more difficult ones given in the morning and the easier and more popular ones in the afternoon. Aristotle himself led the school until the death of Alexander in 323, at which time he felt it expedient to leave Athens, fearing for his safety because of his close association with the Macedonians. He went to Chalcis, where he died the following year of a gastric ailment. His will, preserved in the writings of Diogenes Laertius, provided for his daughter, Pythias, and his son, Nicomachus, as well as for his slaves.

### His Writings

Aristotle produced a large number of writings, but relatively few have survived. Because of the great weight of his authority it was inevitable that several spurious treatises should find their way into the corpus of his work. His earliest writings, consisting for the most part of dialogues, were produced under the influence of Plato and the Academy. Most of these are lost, although the titles are known from the writings of Diogenes Laertius and from one of several *Lives* to come down from antiquity. They include his *Rhetoric*, *Eudemus (On the Soul)*, *Protrepticus*, *On Philosophy*, *Alexander*, *On Monarchy*, *Politicus*, *Sophistes*, *Menexenus*, *Symposium*, *On Justice*, *On the Poets*, *Nerinthus*, *Eroticus*, *On Wealth*, *On Prayer*, *On Good Birth*, *On Pleasure*, and *On Education*. These were exoteric works written for the public, and they deal with popular philosophical themes. The dialogues of Plato were undoubtedly the inspiration for some of them, although the divergence in thought between Plato and his pupil - which was to become apparent later - reveals itself to a certain extent in these works too.

A second group of writings is made up of collections of scientific and historical material, among the most important of which is the surviving fragment of the *Constitution of the Athenians*. This formed part of the large collection of *Constitutions*, which Aristotle and his students collected and studied for the purpose of analyzing various political theories. The discovery of the *Constitution of the Athenians* in Egypt in 1890 shed new light not only on the nature of the Athenian democracy of the 5th century B.C., but also on the difference in quality between the historical and scientific works of Aristotle and his successors. The prejudices and errors shown in the *Constitution* reveal a mind influenced by Plato and aristocratic social prejudices, while the factual discrepancies reveal the unreliable historical sources which Aristotle used for this type of treatise. Other works in this category are the *Pythian Victors*, *Barbarian Customs*, *Didascaliai* (lists of dramatic performances at Athens), *Homeric Questions*, *Problems*, and *Olympian Victors*.

The last group of writings is made up of those that have actually survived, and they consist of both philosophical and scientific works. Among them are *Prior Analytics*, *Posterior Analytics*, *Topics*, *Sophistic Arguments*, *Physics*, *On Heaven*, *On Generation and Corruption*, *Meteorology*, *On the Soul*, *History of Animals*, *On the Origin of Animals*, *Metaphysics*, *Nicomachean Ethics*, *Eudemian Ethics*, *Politics*, *Poetics*, *On Interpretation*, *On the Movement of Animals*, *On Feeling and the Senses*, *On Memory and Recollection*, *On Dreams*, *On a Dream*, *On Divination through Dreams*, *On the Long and Short Life*, *On Life and Death*, and *On Breathing*.

Upon the death of Theophrastus, who had kept Aristotle's manuscripts after the master's death in 322, these works were hidden away in a cellar in the Troad and not brought to light again until the beginning of the 1st century B.C., when they were taken to Rome and edited by Andronicus. Our texts derive from Andronicus's recension and probably do not represent works which Aristotle himself prepared for publication. The peculiarly clipped language in which they are written indicates that they are lecture notes of some sort organized from oral discussions of the material by Aristotle. From the time of his death until the rediscovery of these writings, Aristotle was best known for the works which today are the lost writings. Ironically, modern scholars find themselves in possession of works which their ancient counterparts lacked for several centuries, while the works extant in antiquity are lost today.

### Philosophical and Scientific Systems

The extant writings, however, are sufficient to show the quality of Aristotle's achievement. The *Topics* and the *Analytics* deal with logic and dialectic and reveal Aristotle's contributions to the development of the syllogism and inductive inference. His view of nature is set forth in the *Physics* and the *Metaphysics*, and we see the premise established in these works which marks the most serious difference between Aristotelianism and Platonism: that all investigation must begin with what the senses record and must move only from that point to abstract thought. As a result of this process of intellectualizing, God, who for Plato is eternal Beauty and Goodness, is for Aristotle the Unmoved Mover, Thought contemplating Itself, the highest form of being which is completely lacking in materiality. Aristotle's God neither created nor consciously controls the universe, although the universe is affected by Him (it). Man is the only creature capable of thought even remotely resembling that of the Unmoved

Mover, so man's highest goal is to reason abstractly, and he is more truly human to the extent that he achieves that goal.

But such a conclusion does not lead Aristotle to the moralist position taken by Plato, or by the Stoics or Epicureans in later times. Aristotle views men and their affairs from a cooler and more pragmatic point of view, and in the *Nicomachean Ethics* he analyzes the human situation from the point of view of reality as his researches reveal it to him. Man cannot be happy without the usual necessities of physical life, but those necessities do not suffice for true happiness. Since only the philosopher achieves a level of intellectual activity which might be taken seriously, it is the philosopher who achieves true human happiness through the use of his acutely developed ability to think abstractly.

Aristotle's work was often misunderstood in later times. The cardinal sin which later generations committed against this most dynamic of thinkers was to ascribe to his views a rigidity and certainty which they never had. The scientific and philosophical systems set forth in his writings are not conclusions which must be taken as absolute truth, but rather tentative positions arrived at through careful observation and analysis. Modern scholarship has helped to show the vitality of Aristotle's mind, but in the stagnant intellectual climate of imperial Rome and the totally unscientific Christian Middle Ages Aristotle's views on nature and science were taken as a complete system. As a result, his prestige was enormous but not for any reason that would have pleased him.

Aristotle shares with his master, Plato, the role of synthesizer and catalyst. Each of these two giants showed how the probings of the Pre-Socratics fell short of their goals, and each constructed philosophical systems on premises which they considered sound. Plato had a more direct influence on the development of that great mystical movement in late antiquity, Neoplatonism, and Aristotle had a more profound effect on science. Antiquity produced no greater minds than those of Plato and Aristotle, and the intellectual history of the West would be radically different without them.

#### Further Reading

Translations of the individual works of Aristotle are too numerous to mention, but a useful starting point is *Works*, translated under the editorship of W.D. Ross (12 vols., 1908-1952). A one-volume *Basic Works* was edited by Richard McKeon (1941). One of the best short introductions to Aristotle's writings is Geoffrey R.G. Mure, *Aristotle* (1964), highly readable but more limited in depth than the useful works of W.D. Ross, *Aristotle* (1923; 5th ed. rev. 1953) and *The Development of Aristotle's Thought* (1957). Other useful general works include D.J. Allan, *The Philosophy of Aristotle* (1952), and John Herman Randall, *Aristotle* (1960). For historical background see M.L.W. Laistner, *A History of the Greek World, from 479 to 323 B.C.* (1957).

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Ar-is·tot·le (ă'r'ī-stōt'l), 384–322 B.C..

Greek philosopher. A pupil of Plato, the tutor of Alexander the Great, and the author of works on logic, metaphysics, ethics, natural sciences, politics, and poetics, he profoundly influenced Western intellectual and scientific thought. In his works on science he emphasized the direct observation of nature and the philosophy that theory follows empirical observation.

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Aristotle (AR-uh-stot-l)

One of the greatest ancient Greek [philosophers](#), with a large influence on subsequent Western thought. Aristotle was a student of [Plato](#) and tutor to [Alexander the Great](#). He disagreed with Plato over the existence of ideal Forms and believed that form and matter are always joined. Aristotle's many books include *Rhetoric*, the *Poetics*, the *Metaphysics*, and the *Politics*.

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Aristotle

Aristotle was born in 384 b.c., in Stagira, Greece. He achieved prominence as an eminent philosopher who greatly influenced the basic principles of philosophy and whose ideologies are still practiced today.

Aristotle was a student of the renowned philosopher Plato and tutored Alexander the Great, who became King of Macedonia in 336 b.c.

Aristotle established his own school in the Lyceum, near Athens, in 335 b.c. He often lectured his students in the portico, or walking place, of the Lyceum. The school was subsequently called Peripatetic, after the Greek word *peripatos* for "walking place."

In 323 b.c. the reign of Alexander ended with his death, and Aristotle sought refuge at Chalcis.

Aristotle formulated numerous beliefs about the reasoning power of humans and the essence of being. He stressed the importance of nature and instructed his pupils to closely study natural phenomena. When teaching science, he believed that all ideas must be supported by explanations based upon facts.

Concerning the realm of politics, Aristotle propounded that humans are inherently political and demonstrate an essential part of their humanity when participating in civic affairs.

Philosophy was a subject of great interest to Aristotle, and he theorized that philosophy was the foundation of the ability to understand the basic axioms that comprise knowledge. In order to study and question completely, Aristotle viewed logic as the basic means of reasoning. To think logically, one had to apply the syllogism, which was a form of thought comprised of two premises that led to a conclusion; Aristotle taught that this form can be applied to all logical reasoning.

To understand reality, Aristotle theorized that it must be categorized as substance, quality, quantity, relation, determination in time and space, action, passion or passivity, position, and condition. To know and understand the reality of an object required an explanation of its material cause, which is why it exists or its composition; its formal cause, or its design; its efficient cause, or its creator; and its final cause, or its reason for being.

Aristotle agreed with his mentor, Plato, concerning the field of ethics. The goodness of a being depended upon the extent to which that being achieved its highest potential. For humans, the ultimate good is the continual use and development of their reasoning powers to fullest capacity. To effect fulfillment and contentment, humans must follow a life of contemplation, rather than pleasure.

The fundamental source of Aristotle's theories were his lectures to his students, which were compiled into several volumes. They include *Organum*, which discusses logic; *Physics*; *Metaphysics*; *De Anima*, concerning the soul; *Rhetoric*; *Politics*; *Nichomachean Ethics and Eudemian Ethics*, involving principles of conduct; and *De Poetica*, or poetics.

He also wrote *Constitution of Athens*, a description of the foundations of the government of Athens. The work was discovered in the late nineteenth century.

Aristotle died in 322 b.c., in Chalcis, Greece.

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The *noun* Aristotle has one meaning:

**Meaning #1:** one of the greatest of the ancient Athenian philosophers; pupil of Plato; teacher of Alexander the Great (384-322 BC)

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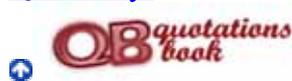
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Aristotle

Quotes:

“Well begun is half done.”

“For what is the best choice, for each individual is the highest it is possible for him to achieve.”

“Men acquire a particular quality by constantly acting a particular way. We become just by performing just actions, temperate by performing temperate actions, brave by performing brave actions.”

“For the things we have to learn before we can do them, we learn by doing them.”

“We become just by performing just action, temperate by performing temperate actions, brave by performing brave action.”

“The two qualities which chiefly inspire regard and affection [Are] that a thing is your own and that it is your only one.”

“All human actions have one or more of these seven causes: chance, nature, compulsions, habit, reason, passion, desire.”

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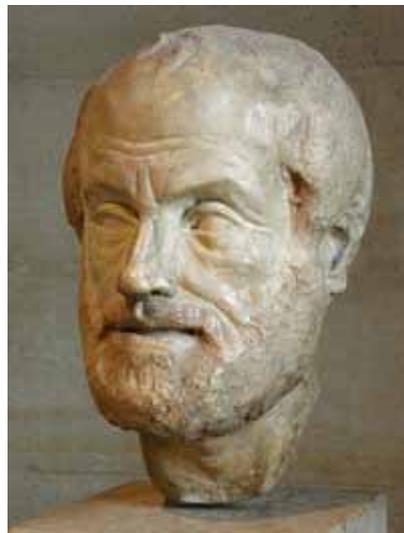
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Aristotle

## Western philosophy [Ancient philosophy](#)



**Name:** Ἀριστοτέλης *Aristotélēs*

**Birth:** [384 BCE](#)

**Death:** [March 7 322 BCE](#)

**School/tradition:** Inspired the [Peripatetic](#) school and tradition of [Aristotelianism](#)

**Main interests:** [Politics](#), [Metaphysics](#), [Science](#), [Logic](#)

**Notable ideas:** [The Golden mean](#), Reason, Passion

**Influences:** [Plato](#)

**Influenced:** Almost all of [western philosophy](#) and [science](#) afterward

**Aristotle** ([Greek](#): Ἀριστοτέλης *Aristotélēs*) (384 BCE – [March 7, 322 BCE](#)) was an [ancient Greek philosopher](#), a student of [Plato](#) and teacher of [Alexander the Great](#). He wrote on diverse subjects, including [physics](#), [poetry](#), [biology](#) and [zoology](#), [logic](#), [rhetoric](#), [politics](#) and [government](#), and [ethics](#). Along with [Socrates](#) and [Plato](#), Aristotle was one of the most influential of [ancient Greek philosophers](#). They transformed [Presocratic Greek philosophy](#) into the foundations of [Western philosophy](#) as we know it. Some consider Plato and Aristotle to have founded two of the most important schools of [Ancient philosophy](#); others consider [Aristotelianism](#) as a development and concretization of Plato's insights.

Although Aristotle wrote dialogues, only fragments of these have survived. The works that have survived are in [treatise](#) form and were, for the most part, unpublished texts. These are generally thought to be lecture notes or texts used by his students. Among the most important are [Physics](#), [Metaphysics](#) (or [Ontology](#)), [Nicomachean Ethics](#), [Politics](#), [De Anima](#) (*On the Soul*) and [Poetics](#). These works, although connected in many fundamental ways, differ significantly in both style and substance.

Aristotle was a [polymath](#). He not only studied almost every subject possible at the time, but made significant contributions to most of them. In science, Aristotle studied [anatomy](#), [astronomy](#), [economics](#), [embryology](#), [geography](#), [geology](#), [meteorology](#), [physics](#), and [zoology](#). In philosophy, Aristotle wrote on [aesthetics](#), [ethics](#), [government](#), [metaphysics](#), [politics](#), [psychology](#), [rhetoric](#) and [theology](#). He also dealt with [education](#), foreign customs, [literature](#) and [poetry](#). His combined works practically constitute an [encyclopedia](#) of Greek knowledge.

## Biography

### Early life and studies at the Academy



A [bust](#) of Aristotle is a nearly ubiquitous ornament in places of high culture in the [West](#)<sup>[*citation needed*]</sup>.

Aristotle was born in [Stagira](#), on the peninsula of [Chalcidice](#) in 384 BC. His father, Nicomachus, was court physician to King [Amyntas III of Macedon](#). It is believed that

Aristotle's ancestors held this position under various kings of the Macedon. He did not go to school, instead he was taught by his father. His father's medical knowledge was perhaps the inspiration for Aristotle's later interest in natural phenomena.

Little is known about his mother, Phaestis, who died early in Aristotle's life. His father Nicomachus died when Aristotle was ten, making him an [orphan](#). Then he was placed under the guardianship of his uncle, Proxenus of Atarneus, who also took over his education. He gave Aristotle significant instruction in [Greek, rhetoric](#), and [poetry](#) (O'Connor *et al.*, 2004). Aristotle went to [Athens](#) at the age of 18, and attended Plato's school for young Greek aristocracy (the [Academy](#)). Aristotle quickly became Plato's favorite student.

From the age of 18 to 37 Aristotle remained at the Academy. The relationship between Plato and Aristotle has formed the subject of various legends, many of which depict Aristotle unfavourably. No doubt there were divergences of opinion between Plato, who took his stand on sublime, idealistic principles, and Aristotle, who even at that time showed a preference for the investigation of the facts and laws of the physical world. It is also probable that Plato suggested that Aristotle needed restraining rather than encouragement, but not that there was an open breach of friendship. In fact, Aristotle's conduct after the death of Plato, his continued associations with [Xenocrates](#) and other [Platonists](#), and his allusions in his writings to Plato's doctrines prove that while there were conflicts of opinions between Plato and Aristotle, there was no lack of cordial appreciation or mutual forbearance. Legends that reflect Aristotle unfavourably are allegedly traceable to the [Epicureans](#), although some doubt remains of this charge. If such legends were circulated widely by [patristic](#) writers such as [Justin Martyr](#) and [Gregory Nazianzen](#), the reason may rest in the exaggerated esteem which early [Christian heretics](#) had for Aristotle.

It is not exactly clear when in his life, but according to [Clearchus of Soli](#) in his work "De Somno" (apud: Josephus, Contra Apionem, I, 176-183:), Aristotle met a [Jew](#) in [Asia Minor](#) and regarded him very favorably, noting that there is something to learn from him. Clearchus of Soli quotes Aristoteles as: "'Well', said Aristotle, [...] 'the man was a Jew of Coele-Syria. These people are descended from the Indian philosophers. The philosophers, they say, are in India called Calani, in Syria by the territorial name of Jews; for the district which they inhabit is known as Judea. Their city has a remarkably odd name: they call it Hierusaleme. (180) Now this man, who entertained by a large circle of friends and was on his way from the interior to the coast, not only spoke Greek but had the soul of a Greek. (181) During my stay in Asia, he visited the same places as I did, and came to converse with me and some other scholars, to test our learning. But as one who had been intimate with many cultivated persons, it was rather he who imparted to us something of his own.'" [Flavius Josephus](#) writes: "...he [Aristoteles] went on to speak of the great and astonishing endurance and sobriety displayed by this Jew in his manner of life." (trans. H. St. J. Tackery, The Loeb Classical Library, Cambridge (Mass.)-London)

### **Aristotle as philosopher and tutor**

After the death of Plato (347 BC), Aristotle was considered for the position of head of the Academy, but this was eventually awarded to Plato's nephew. Aristotle then went with Xenocrates to the court of Hermias, ruler of Atarneus in [Asia Minor](#). He married

Pythias, the niece of Hermias, and they had a daughter. They called her Pythias after her mother. In 344 BC, Hermias was murdered in a rebellion, and Aristotle went with his family to [Mytilene](#). It is also reported that he stopped on [Lesbos](#) and briefly conducted biological research. Then, one or two years later, he was summoned to Pella, the Macedonian capital, by King [Philip II of Macedon](#) to become the tutor of [Alexander the Great](#), who was then 12.

[Plutarch](#) wrote that Aristotle not only imparted to Alexander a knowledge of ethics and politics, but also of the most profound secrets of philosophy. We have much proof that Alexander profited by contact with the philosopher, and that Aristotle made prudent and beneficial use of his influence over the young prince (although [Bertrand Russell](#) disputes this). Due to this influence, Alexander provided Aristotle with ample means for the acquisition of books and the pursuit of his scientific investigation.

It is possible that Aristotle also participated in the education of Alexander's boyhood friends, which may have included for example [Hephaestion](#) and [Harpalus](#). Aristotle maintained a long correspondence with Hephaestion, eventually collected into a book, unfortunately now lost.

According to sources such as [Plutarch](#) and [Diogenes](#), Philip burned down Aristotle's hometown of Stageira during the [340s BC](#); Aristotle successfully requested that Alexander rebuild it. During his tutorship of Alexander, Aristotle was reportedly considered a second time for leadership of the Academy; his companion Xenocrates was selected instead.

## **Founder and master of the Lyceum**

In about 336 BC, Alexander departed on his Asiatic campaign, and Aristotle, who had served as an informal adviser (more or less) since Alexander ascended the Macedonian throne, returned to Athens and opened his own school of philosophy. He may, as [Aulus Gellius](#) says, have conducted a school of [rhetoric](#) during his former residence in Athens; but now, following Plato's example, he gave regular instruction in philosophy in a [gymnasium](#) dedicated to [Apollo Lyceios](#), from which his school has come to be known as the [Lyceum](#). (It was also called the [Peripatetic](#) School because Aristotle preferred to discuss problems of philosophy with his pupils while walking around — *peripateo* — the shaded walks — *peripatoi* — surrounding the gymnasium).

During the thirteen years (335 BC–322 BC) which he spent as head of the Lyceum, Aristotle composed most of his writings. Imitating Plato, he wrote [Dialogues](#) in which his doctrines were expounded in popular language. He also composed the surviving treatises, in which the exposition is more [didactic](#) and the language more technical than in the *Dialogues*. These writings succeeded in bringing together the works of his predecessors in Greek philosophy, and how he pursued, either personally or through others, his investigations in the realm of natural phenomena. [Pliny the Elder](#) claimed that Alexander placed under Aristotle's orders all the hunters, fishermen, and fowlers of the royal kingdom and all the overseers of the royal forests, lakes, ponds and cattle-ranges; Aristotle's zoological works make this claim believable. Aristotle was fully informed about the doctrines of his predecessors, and [Strabo](#) asserted that he was the first to accumulate a great library.

During the last years of Aristotle's life his relations with Alexander became very strained, owing to the disgrace and punishment of [Callisthenes](#), whom Aristotle had recommended to Alexander. Nevertheless, Aristotle continued to be regarded in Athens as a friend of Alexander and a representative of Macedonia. Consequently, when Alexander's death became known in Athens, and the outbreak occurred which led to the [Lamian war](#), Aristotle shared in the general unpopularity of the Macedonians. The charge of [impiety](#), which had been brought against [Anaxagoras](#) and [Socrates](#), was now brought against Aristotle. He left the city, saying, "I will not allow the Athenians to sin twice against philosophy" (*Vita Marciana* 41). He took up residence at his country house at [Chalcis](#), in [Euboea](#), and there he died the following year (322 BC). His death was due to a disease, reportedly 'of the stomach', from which he had long suffered. The story that his death was due to [hemlock](#) poisoning, as well as the legend that he threw himself into the sea "because he could not explain the [tides](#)," are without historical foundation.

Aristotle's legacy, besides its impact on Western thought, also had a profound influence on Islamic thought and philosophy during the [Middle Ages](#). Muslim thinkers such as [Avicenna](#), [Al-Farabi](#), and Yaqub ibn Ishaq al-Kindi<sup>[1]</sup> were a few of the major proponents of the [Aristotelian school](#) of thought during the [Golden Age of Islam](#).

## Methodology

*For more details on this topic, see [Aristotle's theory of universals](#).*

Aristotle defines his philosophy in terms of [essence](#), saying that philosophy is "the science of the universal essence of that which is actual". Plato had defined it as the "science of the [idea](#)", meaning by idea what we should call the unconditional basis of [phenomena](#). Both pupil and master regard philosophy as concerned with the [universal](#); Aristotle, however, finds the universal in [particular](#) things, and called it the essence of things, while Plato finds that the universal exists apart from particular things, and is related to them as their [prototype](#) or [exemplar](#). For Aristotle, therefore, philosophic method implies the ascent from the study of particular phenomena to the knowledge of essences, while for Plato philosophic method means the descent from a knowledge of universal ideas to a contemplation of particular imitations of those ideas. In a certain sense, Aristotle's method is both [inductive](#) and [deductive](#), while Plato's is essentially deductive from *a priori* principles.

In Aristotle's terminology, the term *natural philosophy* corresponds to the phenomena of the natural world, which include: [motion](#), [light](#), and the [laws of physics](#). Many centuries later these subjects would become the basis of modern science, as studied through the [scientific method](#). In modern times the term *philosophy* has come to be more narrowly understood as metaphysics, distinct from empirical study of the natural world via the physical sciences. In contrast, in Aristotle's time and use, [philosophy](#) was taken to encompass all facets of intellectual inquiry.

In the larger sense of the word, Aristotle makes philosophy coextensive with [reasoning](#), which he also called "science". Note, however, that his use of the term

*science* carries a different meaning than that covered by the term [scientific method](#). "All science (*dianoia*) is either practical, poetical or theoretical". By practical science he means ethics and politics; by poetical science, he means the study of poetry and the other fine arts; while by theoretical science he means physics, [mathematics](#), and metaphysics.

Metaphysics, philosophy in the strictest sense, he defines as "the knowledge of [immaterial](#) being", and calls it "first philosophy", "the theologic science" or of "being in the highest degree of abstraction". If logic, or, as Aristotle calls it, [Analytic](#), be regarded as a study preliminary to philosophy, we have as divisions of Aristotelian philosophy (1) [Logic](#); (2) Theoretical Philosophy, including [Metaphysics](#), [Physics](#), [Mathematics](#), (3) Practical Philosophy; and (4) Poetical Philosophy.

## Aristotle's epistemology

### Logic

*Main article:* [Aristotelian logic](#)

*For more details on this topic, see* [Non-Aristotelian logic](#).

Aristotle's conception of logic was the dominant form of logic up until the advances in [mathematical logic](#) in the 19th century. Kant states in the *Critique of Pure Reason* that Aristotle's theory of logic had arrived at a complete account of the core of deductive inference.

### History

Aristotle "says that 'on the subject of reasoning' he 'had nothing else on an earlier date to speak of'" (Bocheński, 1951). However, Plato reports that [syntax](#) was thought of before him, by Prodikos of Keos, who was concerned by the right use of words. Logic seems to have emerged from [dialectics](#); the earlier philosophers used concepts like [\*reductio ad absurdum\*](#) as a rule when discussing, but never understood its logical implications. Even Plato had difficulties with logic. Although he had the idea of constructing a system for [deduction](#), he was never able to construct one. Instead, he relied on his [dialectic](#), which was a confusion between different sciences and methods (Bocheński, 1951). Plato thought that deduction would simply follow from [premises](#), so he focused on having good premises so that the [conclusion](#) would follow. Later on, Plato realized that a method for obtaining the conclusion would be beneficial. Plato never obtained such a method, but his best attempt was published in his book *Sophist*, where he introduced his division method (Rose, 1968).

### Analytics and the *Organon*

*Main article:* [Organon](#)

What we today call *Aristotelian logic*, Aristotle himself would have labelled "analytics". The term "logic" he reserved to mean *dialectics*. Most of Aristotle's work is probably not in its original form, since it was most likely edited by students and

later lecturers. The logical works of Aristotle were compiled into six books in about the early 1st century AD:

1. *Categories*
2. *On Interpretation*
3. *Prior Analytics*
4. *Posterior Analytics*
5. *Topics*
6. *On Sophistical Refutations*

The order of the books (or the teachings from which they are composed) is not certain, but this list was derived from analysis of Aristotle's writings. It goes from the basics, the analysis of simple terms in the *Categories*, to the study of more complex forms, namely, syllogisms (in the *Analytics*) and dialectics (in the *Topics* and *Sophistical Refutations*). There is one volume of Aristotle's concerning logic not found in the *Organon*, namely the fourth book of *Metaphysics*. (Bocheński, 1951).

### Modal logic

Aristotle is also the creator of [syllogisms](#) with modalities ([modal logic](#)). The word modal refers to the word 'modes', explaining the fact that modal logic deals with the modes of [truth](#). Aristotle introduced the qualification of 'necessary' and 'possible' premises. He constructed a logic which helped in the evaluation of truth but which was difficult to interpret. (Rose, 1968).

### Science



Aristotle, by Francesco Hayez

In the period between his two stints in Athens, between his times at the Academy and the Lyceum, Aristotle conducted most of the scientific thinking and research for which he is now most renowned. In fact, most of Aristotle's life was devoted to the study of the objects of natural science. Aristotle's *Metaphysics* contains observations on the nature of numbers but he made no original contributions to Mathematics. He did, however, perform original research in the natural sciences, including: botany,

zoology, physics, astronomy, chemistry, meteorology, geometry and several other sciences.

Aristotle's writings on science are largely qualitative, not quantitative. Beginning in the sixteenth century, scientists began applying mathematics to the physical sciences, and Aristotle's work in this area was found to be hopelessly inadequate. His failings were largely down to lacking concepts like mass, velocity, force, and temperature. He had a notion of what speed and temperature was, but no quantitative understanding of them. This was partly due to not having basic experimental apparatus, like a clock or thermometer.

His writings provide an account of many scientific observations, but there are some curious errors. For example, in his [\*History of Animals\*](#) he claimed that human males have more teeth than females. In a similar vein, Galileo showed by simple experiments that Aristotle's theory that the heavier object falls faster than a lighter object is incorrect.

Some have alleged that Aristotle regularly started from theory and twisted facts to fit it. For instance he observed living things on earth, in the oceans, and in the air. From this he concluded there must be fire beings living on the moon. This is obviously absurd. In his defence, there are very few passages like this. In many passages Aristotle suggest that facts must be collected before an axiomatized deductive science can be built. But Aristotle never had all the facts, and thought he had facts when he had only falsehoods.

In places, Aristotle goes too far in deriving 'laws of the universe' from simple observation and over-stretched [reason](#). Today's [scientific method](#) assumes that thinking without sufficient facts often leads people astray, and one must be much stricter than Aristotle was in comparing one's ideas to the actual world through experimentation; only then can one discern if one's hypothesis corresponds to reality.

Aristotle also had some scientific blind spots, the largest being his inability to see the application of mathematics to physics. Aristotle held that physics was about changing objects with a reality of their own, whereas mathematics was about unchanging objects without a reality of their own. In this philosophy, he could not imagine that there was a relationship between them. He also posited a flawed cosmology that we may discern in selections of the *Metaphysics*. His cosmology would gain much acceptance up until the 1500s. From the 3rd century to the 1500s, the dominant view held that the Earth was the centre of the universe; of course, we now know that the Earth is not even the centre of our own solar system.

Aristotle's scientific shortcomings should not mislead you into forgetting the immense advances that he made in the many fields of science. For instance, he founded logic as a formal science and created foundations to biology that were not superseded for two millennia. Also, he introduced the fundamental notion that nature is composed of things that change and that studying such changes can provide useful knowledge. This made the study of physics, and all other sciences, respectable. This observation, though, goes beyond physics and is really the subject matter of metaphysics.

# Aristotle's metaphysics

## Causality

The [Material Cause](#) is that from which a thing comes into existence as from its parts, constituents, substratum or materials. This reduces the explanation of causes to the parts (factors, elements, constituents, ingredients) forming the whole (system, structure, compound, complex, composite, or combination) (the part-whole causation).

The [Formal Cause](#) tells us what a thing is, that any thing is determined by the definition, form, pattern, essence, whole, synthesis, or archetype. It embraces the account of causes in terms of fundamental principles or general laws, as the whole (macrostructure) is the cause of its parts (the whole-part causation).

The [Efficient Cause](#) is that from which the change or the ending of the change first starts. It identifies 'what makes of what is made and what causes change of what is changed' and so suggests all sorts of agents, nonliving or living, acting as the sources of change or movement or rest. Representing the current understanding of causality as the relation of cause and effect, this covers the modern definitions of "cause" as either the agent or agency or particular events or states of affairs.

The [Final Cause](#) is that for the sake of which a thing exists or is done, including both purposeful and instrumental actions and activities. The final cause or telos is the purpose or end that something is supposed to serve, or it is that from which and that to which the change is. This also covers modern ideas of mental causation involving such psychological causes as volition, need, motivation, or motives, rational, irrational, ethical, all that gives purpose to behavior.

Additionally, things can be causes of one another, causing each other reciprocally, as hard work causes fitness and vice versa, although not in the same way or function, the one is as the beginning of change, the other as the goal. [Thus Aristotle first suggested a reciprocal or circular causality as a relation of mutual dependence or action or influence of cause and effect.] Also, Aristotle indicated that the same thing can be the cause of contrary effects, its presence and absence may result in different outcomes.

Aristotle marked two modes of causation: proper (prior) causation and accidental (chance) causation. All causes, proper and incidental, can be spoken as potential or as actual, particular or generic. The same language refers to the effects of causes, so that generic effects assigned to generic causes, particular effects to particular causes, operating causes to actual effects. Essentially, causality does not suggest a temporal relation between the cause and the effect.

All further investigations of causality will consist of imposing the favorite hierarchies on the order causes, such as final > efficient > material > formal ([Thomas Aquinas](#)), or of restricting all causality to the material and efficient causes or to the efficient causality (deterministic or chance) or just to regular sequences and correlations of natural phenomena (the natural sciences describing how things happen instead of explaining the whys and wherefores).

## Chance and spontaneity

Spontaneity and chance are causes of effects. Chance as an incidental cause lies in the realm of accidental things. It is "from what is spontaneous" (but note that what is spontaneous does not come from chance). For a better understanding of Aristotle's conception of "chance" it might be better to think of "coincidence": Something takes place by chance if a person sets out with the intent of having one thing take place, but with the result of another thing (not intended) taking place. For example: A person seeks donations. That person may find another person willing to donate a substantial sum. However, if the person seeking the donations met the person donating, not for the purpose of collecting donations, but for some other purpose, Aristotle would call the collecting of the donation by that particular donator a result of chance. It must be unusual that something happens by chance. In other words, if something happens all or most of the time, we cannot say that it is by chance.

However, chance can only apply to human beings, it is in the sphere of moral actions. According to Aristotle, chance must involve choice (and thus deliberation), and only humans are capable of deliberation and choice. "What is not capable of action cannot do anything by chance" (*Physics*, 2.6).

## Substance, potentiality and actuality

Aristotle examines the concept of [substance](#) (*ousia*) in his [Metaphysics](#), Book VII and he concludes that a particular **substance** is a combination of both **matter** and **form**. As he proceeds to the book VIII, he concludes that the matter of the substance is the [substratum](#) or the stuff of which is composed e.g. the matter of the house are the bricks, stones, timbers etc., or whatever constitutes the *potential* house. While the form of the substance, is the *actual* house, namely 'covering for bodies and chattels' or any other differentia. The formula that gives the components is the account of the matter, and the formula that gives the differentia is the account of the form (Metaphysics VIII, 1043a 10-30).

With regard to the change (*kinesis*) and its causes now, as he defines in his [Physics](#) and [On Generation and Corruption](#) 319b-320a, he distinguishes the coming to be from 1. growth and diminution, which is change in quantity 2. locomotion, which change in space and 3. alteration, which is change in quality. The coming to be is a change where nothing persists of which the resultant is property. In that particular change he introduces the concept of potentiality (*dynamis*) and [actuality](#) (*entelecheia*) in association with the matter and the form.

Referring to potentiality, is what a thing is capable of doing, or being acted upon, if it is not prevented from something else. For example, a seed of a plant in the soil is potentially (*dynamis*) plant, and if is not prevented by something, it will become a plant. Potentially beings can either 'act' (*poiein*) or 'be acted upon' (*paschein*), as well as can be either innate or come by practice or learning. For example, the eyes possess the potentiality of sight (innate - being acted upon), while the capability of playing the flute can be possessed by learning (exercise - acting).

Referring now to [actuality](#), this is the fulfillment of the **end** of the potentiality. Because the **end** (*telos*) is the principle of every change, and for the sake of the end

exists potentiality, therefore actuality is the end. Referring then to our previous example, we could say that actuality is when the seed of the plant becomes a plant.

“ For that for the sake of which a thing is, is its principle, and the becoming is for the sake of the end; and the actuality is the end, and it is for the sake of this that the potentiality is acquired. For animals do not see in order that they may have sight, but they have sight that they may see.” (Aristotle, *Metaphysics* IX 1050a 5-10).

In conclusion, the **matter** of the house is its **potentiality** and the **form** is its **actuality**. The [Formal Cause](#) (*aitia*) then of that change from potential to actual house, is the [reason](#) (*logos*) of the house builder and the [Final Cause](#) is the end, namely the house itself. Then Aristotle proceeds and concludes that the actuality is prior to potentiality in formula, in time and in substantiality.

With this [definition](#) of the [particular](#) substance (**matter and form**) Aristotle tries to solve the problem of the unity of the beings; *e.g.*, what is that makes the man one? Since, according to [Plato](#) there are two Ideas: animal and biped, how then is man a unity? However, according to Aristotle, the potential being (matter) and the actual one (form) are one and the same thing. (Aristotle, *Metaphysics* VIII 1045a-b).

## The five elements

*Main article:* [Five Elements](#)

- [Fire](#), which is hot and dry.
- [Earth](#), which is cold and dry.
- [Air](#), which is hot and wet.
- [Water](#), which is cold and wet.
- [Aether](#), which is the divine substance that makes up the heavenly spheres and heavenly bodies (stars and planets).

Each of the four earthly elements has its natural place; the earth at the centre of the universe, then water, then air, then fire. When they are out of their natural place they have natural motion, requiring no external cause, which is towards that place; so bodies sink in water, air bubbles up, rain falls, flame rises in air. The heavenly element has perpetual circular motion.

## Aristotle's ethics

*Main article:* [Aristotelian ethics](#)

Although Aristotle wrote several works on [ethics](#), the major one was the [Nicomachean Ethics](#), which is considered one of Aristotle's greatest works; it discusses [virtues](#). The ten books which comprise it are based on notes from his lectures at the [Lyceum](#) and were either edited by or dedicated to Aristotle's son, [Nicomachus](#).

Aristotle believed that ethical knowledge is not *precise* knowledge, like [logic](#) and [mathematics](#), but *general knowledge* like knowledge of nutrition and exercise. Also,

as it is a practical discipline rather than a [theoretical](#) one; he thought that in order to become "good", one could not simply study what virtue *is*; one must actually be virtuous. Analogously, in order to become good at a sport like football, one does not simply study but also practices. Aristotle first establishes what was virtuous. He began by determining that everything was done with some goal in mind and that goal is 'good.' The ultimate goal he called the *Highest Good*.

Aristotle contended that happiness could not be found only in pleasure or only in fame and honor. He finally finds happiness "by ascertaining the specific function of man". But what is this function that will bring happiness? To determine this, Aristotle analyzed the soul and found it to have three parts: the Nutritive Soul (plants, animals and humans), the Perceptive Soul (animals and humans) and the Rational Soul (humans only). Thus, a human's function is to do what makes it human, to be good at what sets it apart from everything else: the ability to reason or *Nous*. A person that does this is the happiest because they are fulfilling their purpose or nature as found in the rational soul. Depending on how well they did this, Aristotle said people belonged to one of four categories: the Virtuous, the Continent, the Incontinent and the Vicious.

Aristotle believed that every ethical virtue is an intermediate condition between [excess](#) and [deficiency](#). This does not mean Aristotle believed in moral relativism, however. He set certain emotions (e.g., hate, envy, jealousy, spite, etc.) and certain actions (e.g., adultery, theft, murder, etc.) as always wrong, regardless of the situation or the circumstances.

In the *Nicomachean Ethics* Aristotle often focused on finding the mean between two extremes of any particular subject; whether it be justice, courage, wealth and so forth. For example, courage is a mean between two feelings (fear and confidence) and an action (the courageous act). Too much fear or too little confidence leads to cowardice, and too little fear or too much confidence can lead to rash, foolish choices. Aristotle says that finding this middle ground is essential to reaching *eudemonia*, the ultimate form of godlike consciousness. This middle ground is often referred to as The Golden Mean.

Aristotle also wrote about his thoughts on the concept of justice in the *Nicomachean Ethics*. In these chapters, Aristotle defined justice in two parts, general justice and particular justice. General justice is Aristotle's form of universal justice that can only exist in a perfect society. Particular justice is where punishment is given out for a particular crime or act of injustice. This is where Aristotle says an educated judge is needed to apply just decisions regarding any particular case. This is where we get the concept of the scales of justice, the blindfolded judge symbolizing blind justice, balancing the scales, weighing all the evidence and deliberating each particular case individually. Homonymy is an important theme in Aristotle's justice because one form of justice can apply to one, while another would be best suited for a different person/case. Aristotle says that developing good habits can make a good human being and that practicing the use of The golden mean when applicable to virtues will allow a human being to live a healthy, happy life.

## **Aristotle's critics**



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[Plato](#) (left) and Aristotle (right), a detail of *The School of Athens*, a fresco by [Raphael](#). Aristotle gestures to the earth, representing his belief in knowledge through empirical observation and experience, whilst Plato gestures to the heavens, representing his belief in [The Forms](#).

Aristotle has been criticized on several grounds.

- His analysis of procreation is frequently criticized on the grounds that it presupposes an active, ensouling masculine element bringing life to an inert, passive, lumpen female element; it is on these grounds that some feminist critics refer to Aristotle as a misogynist<sup>[*citation needed*]</sup>.
- At times, the objections that Aristotle raises against the arguments of his own teacher, [Plato](#), appear to rely on faulty interpretations of those arguments<sup>[*citation needed*]</sup>.
- Although Aristotle advised, against Plato, that knowledge of the world could only be obtained through experience, he frequently failed to take his own advice<sup>[*citation needed*]</sup>. Aristotle conducted projects of careful [empirical](#) investigation, but often drifted into [abstract](#) logical reasoning, with the result that his work was littered with conclusions that were not supported by empirical evidence: for example, his assertion that objects of different [mass](#) fall at different speeds under [gravity](#), which was later refuted by [John Philoponus](#) (credit is often given to [Galileo](#), even though Philoponus lived centuries earlier)<sup>[*citation needed*]</sup>.
- Some academics have suggested that Aristotle was unaware of much of the current science of his own time<sup>[*citation needed*]</sup>.

Aristotle was called not a great philosopher, but "The Philosopher" by [Scholastic](#) thinkers<sup>[*citation needed*]</sup>. These thinkers blended [Aristotelian philosophy](#) with Christianity, bringing the thought of Ancient Greece into the Middle Ages. It required a repudiation of some Aristotelian principles for the sciences and the arts to free themselves for the discovery of modern scientific laws and empirical methods. More recently, Aristotelian ethical and political principles have been revised and reasserted by such philosophers as [Alasdair MacIntyre](#).

## The loss of his works

Though we know that Aristotle wrote many elegant treatises ([Cicero](#) described his literary style as "a river of gold"), the originals have been lost in time. All that we

have now are the literary notes of his pupils, which are often difficult to read (the [Nicomachean Ethics](#) is a good example). It is now believed that we have about one fifth of his original works.

Aristotle underestimated the importance of his written work for humanity. He thus never published his books, only his dialogues. The story of the original manuscripts of his treatises is described by [Strabo](#) in his Geography and [Plutarch](#) in his "[Parallel Lives](#), Sulla": The manuscripts were left from Aristotle to [Theophrastus](#), from Theophrastus to Neleus of Scepsis, from Neleus to his heirs. Their descendants sold them to [Apellicon of Teos](#). When [Lucius Cornelius Sulla](#) occupied Athens in 86 BC, he carried off the library of Appellicon to [Rome](#), where they were first published in 60 BC from the grammarian Tyrranion of Amisus and then by philosopher [Andronicus of Rhodes](#).

## Bibliography

*Note: [Bekker numbers](#) are often used to uniquely identify passages of Aristotle. They are identified below where available.*

### Major works

The extant works of Aristotle are broken down according to the five categories in the [Corpus Aristotelicum](#). Not all of these works are considered genuine, but differ with respect to their connection to Aristotle, his associates and his views. Some, such as the *Athenaion Politeia* or the fragments of other *politeia* are regarded by most scholars as products of Aristotle's "school" and compiled under his direction or supervision. Other works, such *On Colours* may have been products of Aristotle's successors at the Lyceum, e.g., [Theophrastus](#) and [Straton](#). Still others acquired Aristotle's name through similarities in doctrine or content, such as the *De Plantis*, possibly by [Nicolaus of Damascus](#). A final category, omitted here, includes medieval palmistries, [astrological](#) and [magical](#) texts whose connection to Aristotle is purely fanciful and self-promotional. Those that are seriously disputed are marked with an asterisk.

### Logical writings

- [Organon](#) (collected works on logic):
  - (1a) [Categories](#) (or *Categoriae*)
  - (16a) [On Interpretation](#) (or *De Interpretatione*)
  - (24a) [Prior Analytics](#) (or *Analytica Priora*)
  - (71a) [Posterior Analytics](#) (or *Analytica Posteriora*)
  - (100b) [Topics](#) (or *Topica*)
  - (164a) [On Sophistical Refutations](#) (or *De Sophisticis Elenchis*)

### Physical and scientific writings

- (184a) [Physics](#) (or *Physica*)
- (268a) [On the Heavens](#) (or *De Caelo*)
- (314a) [On Generation and Corruption](#) (or *De Generatione et Corruptione*)

- (338a) [Meteorology](#) (or *Meteorologica*)
- (391a) [On the Cosmos](#) (or *De Mundo*, or *On the Universe*) \*
- (402a) [On the Soul](#) (or *De Anima*)
- (436a) Little Physical Treatises (or *Parva Naturalia*):
  - [On Sense and the Sensible](#) (or *De Sensu et Sensibilibus*)
  - [On Memory and Reminiscence](#) (or *De Memoria et Reminiscentia*)
  - [On Sleep and Sleeplessness](#) (or *De Somno et Vigilia*)
  - [On Dreams](#) (or *De Insomniis*) \*
  - [On Propheying by Dreams](#) (or *De Divinatione per Somnum*)
  - [On Longevity and Shortness of Life](#) (or *De Longitudine et Breuitate Vitae*)
  - On Youth and Old Age (On Life and Death) (or *De Juventute et Senectute, De Vita et Morte*)
  - On Breathing (or *De Respiratione*)
- (481a) On Breath (or *De Spiritu*) \*
- (486a) [History of Animals](#) (or *Historia Animalium*, or *On the History of Animals*, or *Description of Animals*)
- (639a) [On the Parts of Animals](#) (or *De Partibus Animalium*)
- (698a) [On the Gait of Animals](#) (or *De Motu Animalium*, or *On the Movement of Animals*)
- (704a) On the Progression of Animals (or *De Incessu Animalium*)
- (715a) [On the Generation of Animals](#) (or *De Generatione Animalium*)
- (791a) On Colours (or *De Coloribus*) \*
- (800a) *De audibilibus*
- (805a) [Physiognomics](#) (or *Physiognomonica*) \*
- On Plants (or *De Plantis*) \*
- (830a) On Marvellous Things Heard (or *Mirabilibus Auscultationibus*, or *On Things Heard*) \*
- (847a) [Mechanical Problems](#) (or *Mechanica*) \*
- (859a) Problems (or *Problemata*) \*
- (968a) On Indivisible Lines (or *De Lineis Insecabilibus*) \*
- (973a) Situations and Names of Winds (or *Ventorum Situs*) \*
- (974a) On Melissus, Xenophanes and Gorgias (or *MXG*) \* The section On Xenophanes starts at 977a13, the section On Gorgias starts at 979a11.

### Metaphysical writings

- (980a) [Metaphysics](#) (or *Metaphysica*)

### Ethical writings

- (1094a) [Nicomachean Ethics](#) (or *Ethica Nicomachea*, or *The Ethics*)
- (1181a) [Great Ethics](#) (or *Magna Moralia*) \*
- (1214a) [Eudemian Ethics](#) (or *Ethica Eudemia*)
- (1249a) Virtues and Vices (or *De Virtutibus et Vitiis Libellus, Libellus de virtutibus*) \*
- (1252a) [Politics](#) (or *Politica*)
- (1343a) Economics (or *Oeconomica*)

### Aesthetic writings

- (1354a) [Rhetoric](#) (or *Ars Rhetorica*, or *The Art of Rhetoric* or *Treatise on Rhetoric*)
- Rhetoric to Alexander (or *Rhetorica ad Alexandrum*) \*
- (1447a) [Poetics](#) (or *Ars Poetica*)

### A work outside the *Corpus Aristotelicum*

- The [Constitution of the Athenians](#) (or *Athenaion Politeia*, or *The Athenian Constitution*)

### Specific editions

- [Princeton University](#) Press: *The Complete Works of Aristotle: The Revised Oxford Translation* (2 Volume Set; Bollingen Series, Vol. LXXI, No. 2), edited by [Jonathan Barnes](#) ISBN 0-691-09950-2 (The most complete recent translation of Aristotle's extant works)
- [Oxford University Press](#): *Clarendon Aristotle Series*. [Scholarly edition](#)
- [Harvard University](#) Press: *Loeb Classical Library* (hardbound; publishes in Greek, with English translations on facing pages)
- [Oxford Classical Texts](#) (hardbound; Greek only)

### Named after Aristotle

- [Aristoteles](#), a crater on the [Moon](#).
- The [Aristotle University of Thessaloniki](#)
- [Aristotelous Square](#)
- Aristotle Lane in Oxford, England
- Aristotle Bar and Grill in Springfield, Illinois

#### Academic Genealogy

Notable teachers	Notable students
	<a href="#">Alexander the Great</a>
	<a href="#">Harpalus</a>
	<a href="#">Hephaestion</a>
	<a href="#">Nicomachus</a>
	<a href="#">Theophrastus</a>
<a href="#">Plato</a>	

### Notes

1. [^ http://www.ummah.net/history/scholars/KINDI.html](http://www.ummah.net/history/scholars/KINDI.html)

### Further reading

The secondary literature on Aristotle is vast. The following references are only a small selection.

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- Melchert, Norman (2002). *The Great Conversation: A Historical Introduction to Philosophy*. [McGraw Hill](#). ISBN 0-19-517510-7.
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- Pangle, Lorraine Smith (2003). *Aristotle and the Philosophy of Friendship*. Cambridge: Cambridge University Press. Aristotle's conception of the deepest human relationship viewed in the light of the history of philosophic thought on friendship.
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- Rose, Lynn E. (1968). *Aristotle's Syllogistic*. Springfield: Charles C Thomas Publisher.
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- Scaltsas, T. 1994. *Substances and Universals in Aristotle's Metaphysics*. Ithaca: Cornell University Press.
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- [Veatch, Henry B.](#) (1974). *Aristotle: A Contemporary Appreciation*. Bloomington: Indiana U. Press. For the general reader.
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## See also

- [Aristotelianism](#)
- [Aristotelian view of God](#)
- [Aristotelian theory of gravity](#)
- [Philia](#)
- [Phronesis](#)
- [Potentiality and actuality \(Aristotle\)](#)

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- "[Psychology](#)" — by Christopher Shields.
- "[Rhetoric](#)" — by Cristof Rapp.
- [Aristotle OnLine Resources & Anthology of his works](#)
- [Catholic Encyclopedia: "Aristotle"](#) — by William Turner.
- Internet Encyclopedia of Philosophy: "[Aristotle](#)".
- [Aristotle section at EpistemeLinks](#)
- [A brief biography and e-texts presented one chapter at a time](#)
- [Aristotle and Indian logic](#)
- [Large collection of Aristotle's texts, presented page by page](#)
- [Source of most of the Biography and Methodology sections, as well as more overview](#)
- O'Connor, John J., and Edmund F. Robertson. "[Aristotle](#)". *MacTutor History of Mathematics archive*.
- [Test : Are you Aristotelian? \(cf. Poetics\)](#)
- [Short Biography of Aristotle](#)

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### **Persondata**

NAME	Aristotle
ALTERNATIVE NAMES	Ἀριστοτέλης (Greek)
SHORT DESCRIPTION	<a href="#">Greek philosopher</a>
DATE OF BIRTH	<a href="#">384 BC</a>
PLACE OF BIRTH	<a href="#">Stageira</a>
DATE OF DEATH	<a href="#">March 7, 322 BC</a>
PLACE OF DEATH	<a href="#">Chalcis</a>

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“Well begun is half done.”

“For what is the best choice, for each individual is the highest it is possible for him to achieve.”

“Men acquire a particular quality by constantly acting a particular way. We become just by performing just actions, temperate by performing temperate actions, brave by performing brave actions.”

“For the things we have to learn before we can do them, we learn by doing them.”

“We become just by performing just action, temperate by performing temperate actions, brave by performing brave action.”

“The two qualities which chiefly inspire regard and affection [Are] that a thing is your own and that it is your only one.”

“All human actions have one or more of these seven causes: chance, nature, compulsions, habit, reason, passion, desire.”

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