**Rationalism**

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*This article is about the philosophical method, position, theory, or view. For other uses, see* [*Rationalism (disambiguation)*](https://en.wikipedia.org/wiki/Rationalism_%28disambiguation%29)*.*

In [epistemology](https://en.wikipedia.org/wiki/Epistemology), **rationalism** is the view that "regards [reason](https://en.wikipedia.org/wiki/Reason) as the chief source and test of knowledge" or "any view appealing to reason as a source of knowledge or justification". More formally, rationalism is defined as a [methodology](https://en.wikipedia.org/wiki/Methodology) or a [theory](https://en.wikipedia.org/wiki/Theory) "in which the criterion of the truth is not sensory but intellectual and [deductive](https://en.wikipedia.org/wiki/Deductive)". Rationalists believe reality has an intrinsically logical structure. Because of this, rationalists argue that certain truths exist and that the intellect can directly grasp these truths. That is to say, rationalists assert that certain rational principles exist in logic, mathematics, ethics, and metaphysics that are so fundamentally true that denying them causes one to fall into contradiction. Rationalists have such a high confidence in reason that proof and physical evidence are unnecessary to ascertain truth – in other words, "there are significant ways in which our concepts and knowledge are gained independently of sense experience". Because of this belief, [empiricism](https://en.wikipedia.org/wiki/Empiricism) is one of rationalism's greatest rivals.

Different degrees of emphasis on this method or theory lead to a range of rationalist standpoints, from the moderate position "that reason has precedence over other ways of acquiring knowledge" to the more extreme position that reason is "the unique path to knowledge". Given a pre-modern understanding of reason, rationalism is identical to [philosophy](https://en.wikipedia.org/wiki/Philosophy), the [Socratic](https://en.wikipedia.org/wiki/Socrates) life of inquiry, or the zetetic ([skeptical](https://en.wikipedia.org/wiki/Skepticism)) clear interpretation of authority (open to the underlying or essential cause of things as they appear to our sense of certainty). In recent decades, [Leo Strauss](https://en.wikipedia.org/wiki/Leo_Strauss) sought to revive "Classical Political Rationalism" as a discipline that understands the task of reasoning, not as foundational, but as [maieutic](https://en.wikipedia.org/wiki/Maieutics). Rationalism should not be confused with [rationality](https://en.wikipedia.org/wiki/Rationality), nor with [rationalization](https://en.wikipedia.org/wiki/Rationalization_%28sociology%29).

In [politics](https://en.wikipedia.org/wiki/Politics), Rationalism, since the [Enlightenment](https://en.wikipedia.org/wiki/Age_of_Enlightenment), historically emphasized a "politics of reason" centered upon [rational choice](https://en.wikipedia.org/wiki/Rational_choice), [utilitarianism](https://en.wikipedia.org/wiki/Utilitarianism), [secularism](https://en.wikipedia.org/wiki/Secularism), and [irreligion](https://en.wikipedia.org/wiki/Irreligion) – the latter aspect's [antitheism](https://en.wikipedia.org/wiki/Antitheism) later ameliorated by utilitarian adoption of pluralistic rationalist methods practicable regardless of religious or irreligious ideology.

In this regard, the philosopher [John Cottingham](https://en.wikipedia.org/wiki/John_Cottingham) noted how rationalism, a [methodology](https://en.wikipedia.org/wiki/Methodology), became socially conflated with [atheism](https://en.wikipedia.org/wiki/Atheism), a [worldview](https://en.wikipedia.org/wiki/Worldview): *In the past, particularly in the 17th and 18th centuries, the term 'rationalist' was often used to refer to free thinkers of an anti-clerical and anti-religious outlook, and for a time the word acquired a distinctly pejorative force (thus in 1670 Sanderson spoke disparagingly of 'a mere rationalist, that is to say in plain English an atheist of the late edition...'). The use of the label 'rationalist' to characterize a world outlook which has no place for the supernatural is becoming less popular today; terms like '*[*humanist*](https://en.wikipedia.org/wiki/Secular_humanist)*' or '*[*materialist*](https://en.wikipedia.org/wiki/Materialism)*' seem largely to have taken its place. But the old usage still survives.*

**Philosophical usage**

Rationalism is often contrasted with [empiricism](https://en.wikipedia.org/wiki/Empiricism). Taken very broadly these views are not mutually exclusive, since a philosopher can be both rationalist and empiricist. Taken to extremes, the empiricist view holds that all ideas come to us [*a posteriori*](https://en.wikipedia.org/wiki/A_priori_and_a_posteriori), that is to say, through experience; either through the external senses or through such inner sensations as pain and gratification. The empiricist essentially believes that knowledge is based on or derived directly from experience. The rationalist believes we come to knowledge [*a priori*](https://en.wikipedia.org/wiki/A_priori_and_a_posteriori) – through the use of logic – and is thus independent of sensory experience. In other words, as [Galen Strawson](https://en.wikipedia.org/wiki/Galen_Strawson) once wrote, "you can see that it is true just lying on your couch. You don't have to get up off your couch and go outside and examine the way things are in the physical world. You don't have to do any science." Between both philosophies, the issue at hand is the fundamental source of human knowledge and the proper techniques for verifying what we think we know. Whereas both philosophies are under the umbrella of [epistemology](https://en.wikipedia.org/wiki/Epistemology), their argument lies in the understanding of the warrant, which is under the wider epistemic umbrella of the [theory of justification](https://en.wikipedia.org/wiki/Theory_of_justification).

**Theory of justification**

Main article: [Theory of justification](https://en.wikipedia.org/wiki/Theory_of_justification)

The theory of justification is the part of [epistemology](https://en.wikipedia.org/wiki/Epistemology) that attempts to understand the justification of [propositions](https://en.wikipedia.org/wiki/Propositions) and [beliefs](https://en.wikipedia.org/wiki/Belief). Epistemologists are concerned with various epistemic features of belief, which include the ideas of [justification](https://en.wikipedia.org/wiki/Formal_proof), warrant, [rationality](https://en.wikipedia.org/wiki/Rationality), and [probability](https://en.wikipedia.org/wiki/Probability). Of these four terms, the term that has been most widely used and discussed by the early 21st century is "warrant". Loosely speaking, justification is the reason that someone (probably) holds a belief.

If "A" makes a claim, and "B" then casts doubt on it, "A"'s next move would normally be to provide justification. The precise method one uses to provide justification is where the lines are drawn between rationalism and empiricism (among other philosophical views). Much of the debate in these fields are focused on [analyzing](https://en.wikipedia.org/wiki/Philosophical_analysis) the nature of knowledge and how it relates to connected notions such as [truth](https://en.wikipedia.org/wiki/Truth), [belief](https://en.wikipedia.org/wiki/Belief), and [justification](https://en.wikipedia.org/wiki/Formal_proof).

**Theses of rationalism**

At its core, rationalism consists of three basic claims. For one to consider themselves a rationalist, they must adopt at least one of these three claims: The Intuition/Deduction Thesis, The Innate Knowledge Thesis, or The Innate Concept Thesis. In addition, rationalists can choose to adopt the claims of Indispensability of Reason and or the Superiority of Reason – although one can be a rationalist without adopting either thesis.

**The intuition/deduction thesis**

Main articles: [Intuition (philosophy)](https://en.wikipedia.org/wiki/Intuition_%28philosophy%29) and [Deductive reasoning](https://en.wikipedia.org/wiki/Deductive_reasoning)

Rationale: *"Some propositions in a particular subject area, S, are knowable by us by intuition alone; still others are knowable by being deduced from intuited propositions."*

Generally speaking, intuition is [*a priori*](https://en.wikipedia.org/wiki/A_priori_and_a_posteriori) knowledge or experiential belief characterized by its immediacy; a form of rational insight. We simply just "see" something in such a way as to give us a warranted belief. Beyond that, the nature of intuition is hotly debated.

In the same way, generally speaking, deduction is the process of [reasoning](https://en.wikipedia.org/wiki/Reasoning) from one or more general [premises](https://en.wikipedia.org/wiki/Premise) to reach a logically certain conclusion. Using valid [arguments](https://en.wikipedia.org/wiki/Argument), we can deduce from intuited premises.

For example, when we combine both concepts, we can intuit that the number three is prime and that it is greater than two. We then deduce from this knowledge that there is a prime number greater than two. Thus, it can be said that intuition and deduction combined to provide us with *a priori* knowledge – we gained this knowledge independently of sense experience.

Empiricists such as [David Hume](https://en.wikipedia.org/wiki/David_Hume) have been willing to accept this thesis for describing the relationships among our own concepts. In this sense, empiricists argue that we are allowed to intuit and deduce truths from knowledge that has been obtained [*a posteriori*](https://en.wikipedia.org/wiki/A_priori_and_a_posteriori).

By injecting different subjects into the Intuition/Deduction thesis, we are able to generate different arguments. Most rationalists agree [mathematics](https://en.wikipedia.org/wiki/Mathematics) is knowable by applying the intuition and deduction. Some go further to include [ethical truths](https://en.wikipedia.org/wiki/Ethics) into the category of things knowable by intuition and deduction. Furthermore, some rationalists also claim [metaphysics](https://en.wikipedia.org/wiki/Metaphysics) is knowable in this thesis.

In addition to different subjects, rationalists sometimes vary the strength of their claims by adjusting their understanding of the warrant. Some rationalists understand warranted beliefs to be beyond even the slightest doubt; others are more conservative and understand the warrant to be belief beyond a reasonable doubt.

Rationalists also have different understanding and claims involving the connection between intuition and truth. Some rationalists claim that intuition is infallible and that anything we intuit to be true is as such. More contemporary rationalists accept that intuition is not always a source of certain knowledge – thus allowing for the possibility of a deceiver who might cause the rationalist to intuit a false proposition in the same way a third party could cause the rationalist to have perceptions of nonexistent objects.

Naturally, the more subjects the rationalists claim to be knowable by the Intuition/Deduction thesis, the more certain they are of their warranted beliefs, and the more strictly they adhere to the infallibility of intuition, the more controversial their truths or claims and the more radical their rationalism.

To argue in favor of this thesis, [Gottfried Wilhelm Leibniz](https://en.wikipedia.org/wiki/Gottfried_Wilhelm_Leibniz), a prominent German philosopher, says, "The senses, although they are necessary for all our actual knowledge, are not sufficient to give us the whole of it, since the senses never give anything but instances, that is to say particular or individual truths. Now all the instances which confirm a general truth, however numerous they may be, are not sufficient to establish the universal necessity of this same truth, for it does not follow that what happened before will happen in the same way again. … From which it appears that necessary truths, such as we find in pure mathematics, and particularly in arithmetic and geometry, must have principles whose proof does not depend on instances, nor consequently on the testimony of the senses, although without the senses it would never have occurred to us to think of them…"

**The innate knowledge thesis**

Rationale: *"We have knowledge of some truths in a particular subject area, S, as part of our rational nature."*

The Innate Knowledge thesis is similar to the Intuition/Deduction thesis in the regard that both theses claim [knowledge](https://en.wikipedia.org/wiki/Knowledge) is gained [*a priori*](https://en.wikipedia.org/wiki/A_priori_and_a_posteriori). The two theses go their separate ways when describing how that knowledge is gained. As the name, and the rationale, suggests, the Innate Knowledge thesis claims knowledge is simply part of our rational nature. Experiences can trigger a process that allows this knowledge to come into our consciousness, but the experiences don't provide us with the knowledge itself. The knowledge has been with us since the beginning and the experience simply brought into focus, in the same way a photographer can bring the background of a picture into focus by changing the aperture of the lens. The background was always there, just not in focus.

This thesis targets a problem with the nature of inquiry originally postulated by [Plato](https://en.wikipedia.org/wiki/Plato) in [*Meno*](https://en.wikipedia.org/wiki/Meno). Here, Plato asks about inquiry; how do we gain knowledge of a theorem in geometry? We inquire into the matter. Yet, knowledge by inquiry seems impossible. In other words, "If we already have the knowledge, there is no place for inquiry. If we lack the knowledge, we don't know what we are seeking and cannot recognize it when we find it. Either way we cannot gain knowledge of the theorem by inquiry. Yet, we do know some theorems." The Innate Knowledge thesis offers a solution to this [paradox](https://en.wikipedia.org/wiki/Paradox). By claiming that knowledge is already with us, either [consciously](https://en.wikipedia.org/wiki/Consciousness) or [unconsciously](https://en.wikipedia.org/wiki/Unconscious_mind), a rationalist claims we don't really "learn" things in the traditional usage of the word, but rather that we simply bring to light what we already know.

**The innate concept thesis**

Rationale: *"We have some of the concepts we employ in a particular subject area, S, as part of our rational nature."*

Similar to the Innate Knowledge thesis, the Innate Concept thesis suggests that some concepts are simply part of our rational nature. These concepts are [*a priori*](https://en.wikipedia.org/wiki/A_priori_and_a_posteriori) in nature and sense experience is irrelevant to determining the nature of these concepts (though, sense experience can help bring the concepts to our [conscious mind](https://en.wikipedia.org/wiki/Consciousness)).

Some philosophers, such as [John Locke](https://en.wikipedia.org/wiki/John_Locke) (who is considered one of the most influential thinkers of the [Enlightenment](https://en.wikipedia.org/wiki/Age_of_Enlightenment) and an [empiricist](https://en.wikipedia.org/wiki/Empiricism)) argue that the Innate Knowledge thesis and the Innate Concept thesis are the same. Other philosophers, such as [Peter Carruthers](https://en.wikipedia.org/wiki/Peter_Carruthers_%28philosopher%29), argue that the two theses are distinct from one another. As with the other theses covered under rationalisms' umbrella, the types and number of concepts a philosopher claims to be innate, the more controversial and radical their position; "the more a concept seems removed from experience and the mental operations we can perform on experience the more plausibly it may be claimed to be innate. Since we do not experience perfect triangles but do experience pains, our concept of the former is a more promising candidate for being innate than our concept of the latter.

In his book, [*Meditations on First Philosophy*](https://en.wikipedia.org/wiki/Meditations_on_First_Philosophy), [René Descartes](https://en.wikipedia.org/wiki/Ren%C3%A9_Descartes) postulates three classifications for our [ideas](https://en.wikipedia.org/wiki/Idea) when he says, "Among my ideas, some appear to be innate, some to be adventitious, and others to have been invented by me. My understanding of what a thing is, what truth is, and what thought is, seems to derive simply from my own nature. But my hearing a noise, as I do now, or seeing the sun, or feeling the fire, comes from things which are located outside me, or so I have hitherto judged. Lastly, [siren](https://en.wikipedia.org/wiki/Siren_%28mythology%29)s, [hippogriffs](https://en.wikipedia.org/wiki/Hippogriff) and the like are my own invention."

Adventitious ideas are those concepts that we gain through sense experiences, ideas such as the sensation of heat, because they originate from outside sources; transmitting their own likeness rather than something else and something you simply cannot [will](https://en.wikipedia.org/wiki/Will_%28philosophy%29) away. Ideas invented by us, such as those found in [mythology](https://en.wikipedia.org/wiki/Mythology), [legends](https://en.wikipedia.org/wiki/Legend), and [fairy tales](https://en.wikipedia.org/wiki/Fairy_tale) are created by us from other ideas we possess. Lastly, innate ideas, such as our ideas of [perfection](https://en.wikipedia.org/wiki/Perfection), are those ideas we have as a result of mental processes that are beyond what experience can directly or indirectly provide.

[Gottfried Wilhelm Leibniz](https://en.wikipedia.org/wiki/Gottfried_Wilhelm_Leibniz) defends the idea of innate concepts by suggesting the mind plays a role in determining the nature of concepts, to explain this, he likens the mind to a block of marble in the [*New Essays on Human Understanding*](https://en.wikipedia.org/wiki/New_Essays_on_Human_Understanding), "This is why I have taken as an illustration a block of veined marble, rather than a wholly uniform block or blank tablets, that is to say what is called tabula rasa in the language of the philosophers. For if the soul were like those blank tablets, truths would be in us in the same way as the figure of Hercules is in a block of marble, when the marble is completely indifferent whether it receives this or some other figure. But if there were veins in the stone which marked out the figure of Hercules rather than other figures, this stone would be more determined thereto, and Hercules would be as it were in some manner innate in it, although labor would be needed to uncover the veins, and to clear them by polishing, and by cutting away what prevents them from appearing. It is in this way that ideas and truths are innate in us, like natural inclinations and dispositions, natural habits or potentialities, and not like activities, although these potentialities are always accompanied by some activities which correspond to them, though they are often imperceptible."

**The other two theses**

The three aforementioned theses of Intuition/Deduction, Innate Knowledge, and Innate Concept are the cornerstones of rationalism. To be considered a rationalist, one must adopt at least one of those three claims. The following two theses are traditionally adopted by rationalists, but they aren't essential to the rationalist's position.

**The Indispensability of Reason Thesis** has the following rationale, "The knowledge we gain in subject area, *S*, by intuition and deduction, as well as the ideas and instances of knowledge in *S* that are innate to us, could not have been gained by us through sense experience." In short, this thesis claims that experience cannot provide what we gain from reason.

**The Superiority of Reason Thesis** has the following rationale, '"The knowledge we gain in subject area *S* by intuition and deduction or have innately is superior to any knowledge gained by sense experience". In other words, this thesis claims reason is superior to experience as a source for knowledge.

In addition to the following claims, rationalists often adopt similar stances on other aspects of philosophy. Most rationalists reject skepticism for the areas of knowledge they claim are knowable [*a priori*](https://en.wikipedia.org/wiki/A_priori_and_a_posteriori). Naturally, when you claim some truths are innately known to us, one must reject skepticism in relation to those truths. Especially for rationalists who adopt the Intuition/Deduction thesis, the idea of epistemic foundationalism tends to crop up. This is the view that we know some truths without basing our belief in them on any others and that we then use this foundational knowledge to know more truths.

**Background**

Rationalism - as an appeal to human reason as a way of obtaining knowledge - has a philosophical history dating from antiquity. The [analytical](https://en.wikipedia.org/wiki/Analytical) nature of much of philosophical enquiry, the awareness of apparently [a priori](https://en.wikipedia.org/wiki/A_priori) domains of knowledge such as mathematics, combined with the emphasis of obtaining knowledge through the use of rational faculties (commonly rejecting, for example, direct [revelation](https://en.wikipedia.org/wiki/Revelation)) have made rationalist themes very prevalent in the history of philosophy.

Since the Enlightenment, rationalism is usually associated with the introduction of mathematical methods into philosophy as seen in the works of [Descartes](https://en.wikipedia.org/wiki/Descartes), [Leibniz](https://en.wikipedia.org/wiki/Gottfried_Wilhelm_Leibniz), and [Spinoza](https://en.wikipedia.org/wiki/Spinoza). This is commonly called **continental rationalism**, because it was predominant in the continental schools of Europe, whereas in Britain [empiricism](https://en.wikipedia.org/wiki/Empiricism) dominated.

Even then, the distinction between rationalists and empiricists was drawn at a later period and would not have been recognized by the philosophers involved. Also, the distinction between the two philosophies is not as clear-cut as is sometimes suggested; for example, Descartes and Locke have similar views about the nature of human ideas.

Proponents of some varieties of rationalism argue that, starting with foundational basic principles, like the axioms of [geometry](https://en.wikipedia.org/wiki/Geometry), one could [deductively](https://en.wikipedia.org/wiki/Deductive_reasoning) derive the rest of all possible knowledge. The philosophers who held this view most clearly were [Baruch Spinoza](https://en.wikipedia.org/wiki/Baruch_Spinoza) and [Gottfried Leibniz](https://en.wikipedia.org/wiki/Gottfried_Leibniz), whose attempts to grapple with the epistemological and metaphysical problems raised by Descartes led to a development of the fundamental approach of rationalism. Both Spinoza and Leibniz asserted that, *in principle*, all knowledge, including scientific knowledge, could be gained through the use of reason alone, though they both observed that this was not possible *in practice* for human beings except in specific areas such as [mathematics](https://en.wikipedia.org/wiki/Mathematics). On the other hand, Leibniz admitted in his book [*Monadology*](https://en.wikipedia.org/wiki/Monadology) that "we are all mere [Empirics](https://en.wikipedia.org/wiki/Empirics) in three fourths of our actions."

**History**

**Rationalist philosophy from antiquity**

Because of the complicated nature of rationalist thinking, the nature of philosophy, and the understanding that humans are aware of knowledge available only through the use of rational thought, many of the great philosophers from antiquity laid down the foundation for rationalism though they themselves weren't rationalists as we understand the concept today.

**Pythagoras (570–495 BCE)**

Main article: [Pythagoras](https://en.wikipedia.org/wiki/Pythagoras)

Pythagoras was one of the first Western philosophers to stress rationalist insight. He is often revered as a great [mathematician](https://en.wikipedia.org/wiki/Mathematician), [mystic](https://en.wikipedia.org/wiki/Mysticism) and [scientist](https://en.wikipedia.org/wiki/Scientist), but he is best known for the [Pythagorean theorem](https://en.wikipedia.org/wiki/Pythagorean_theorem), which bears his name, and for discovering the mathematical relationship between the length of strings on lute bear and the pitches of the notes. Pythagoras "believed these harmonies reflected the ultimate nature of reality. He summed up the implied metaphysical rationalism in the words "All is number". It is probable that he had caught the rationalist's vision, later seen by [Galileo](https://en.wikipedia.org/wiki/Galileo_Galilei) (1564–1642), of a world governed throughout by mathematically formulable laws". It has been said that he was the first man to call himself a philosopher, or lover of wisdom,

**Plato (427–347 BCE)**

Main article: [Plato](https://en.wikipedia.org/wiki/Plato)

Plato also held rational insight to a very high standard, as is seen in his works such as [Meno](https://en.wikipedia.org/wiki/Meno) and [The Republic](https://en.wikipedia.org/wiki/The_Republic_%28Plato%29). Plato taught on the [Theory of Forms](https://en.wikipedia.org/wiki/Theory_of_Forms) (or the Theory of Ideas) which asserts that non-material abstract (but [substantial](https://en.wikipedia.org/wiki/Ousia)) forms (or ideas), and not the material world of change [known to us through sensation](https://en.wikipedia.org/wiki/Allegory_of_the_cave), possess the highest and most fundamental kind of reality. Plato's forms are accessible only to reason and not to sense. In fact, it is said that Plato admired reason, especially in [geometry](https://en.wikipedia.org/wiki/Geometry), so highly that he had the phrase "Let no one ignorant of geometry enter" inscribed over the door to his academy.

**Aristotle (384–322 BCE)**

Main article: [Aristotle](https://en.wikipedia.org/wiki/Aristotle)

[Aristotle](https://en.wikipedia.org/wiki/Aristotle) has a process of reasoning similar to that of Plato's, though he ultimately disagreed with the specifics of Plato's forms. Aristotle's great contribution to rationalist thinking comes from his use of [syllogistic](https://en.wikipedia.org/wiki/Syllogism) logic. Aristotle defines syllogism as "a discourse in which certain (specific) things having been supposed, something different from the things supposed results of necessity because these things are so." Despite this very general definition, Aristotle limits himself to categorical syllogisms which consist of three [categorical propositions](https://en.wikipedia.org/wiki/Categorical_proposition) in his work [*Prior Analytics*](https://en.wikipedia.org/wiki/Prior_Analytics). These included categorical [modal](https://en.wikipedia.org/wiki/Modal_logic) syllogisms.

**Post-Aristotle**

Though the three great Greek philosophers disagreed with one another on specific points, they all agreed that rational thought could bring to light knowledge that was self-evident – information that humans otherwise couldn't know without the use of reason. After Aristotle's death, Western rationalistic thought was generally characterized by its application to theology, such as in the works of the Islamic philosopher [Avicenna](https://en.wikipedia.org/wiki/Avicenna) and Jewish philosopher and theologian [Maimonides](https://en.wikipedia.org/wiki/Maimonides). One notable event in the Western timeline was the philosophy of St. [Thomas Aquinas](https://en.wikipedia.org/wiki/Thomas_Aquinas) who attempted to merge Greek rationalism and Christian revelation in the thirteenth-century.

**Modern rationalism**

**René Descartes (1596–1650)**

Main article: [René Descartes](https://en.wikipedia.org/wiki/Ren%C3%A9_Descartes)

Descartes was the first of the modern rationalists and has been dubbed the 'Father of Modern Philosophy.' Much subsequent [Western philosophy](https://en.wikipedia.org/wiki/Western_philosophy) is a response to his writings, which are studied closely to this day.

Descartes thought that only knowledge of eternal truths – including the truths of mathematics, and the epistemological and metaphysical foundations of the sciences – could be attained by reason alone; other knowledge, the knowledge of physics, required experience of the world, aided by the [scientific method](https://en.wikipedia.org/wiki/Scientific_method). He also argued that although [dreams](https://en.wikipedia.org/wiki/Dream) appear as real as [sense experience](https://en.wikipedia.org/wiki/Empirical_evidence), these dreams cannot provide persons with knowledge. Also, since conscious sense experience can be the cause of illusions, then sense experience itself can be doubtable. As a result, Descartes deduced that a rational pursuit of truth should doubt every belief about reality. He elaborated these beliefs in such works as [*Discourse on Method*](https://en.wikipedia.org/wiki/Discourse_on_Method), [*Meditations on First Philosophy*](https://en.wikipedia.org/wiki/Meditations_on_First_Philosophy), and [*Principles of Philosophy*](https://en.wikipedia.org/wiki/Principles_of_Philosophy). Descartes developed a method to attain truths according to which nothing that cannot be recognized by the intellect (or [reason](https://en.wikipedia.org/wiki/Reason)) can be classified as knowledge. These truths are gained "without any sensory experience," according to Descartes. Truths that are attained by reason are broken down into elements that intuition can grasp, which, through a purely deductive process, will result in clear truths about reality.

Descartes therefore argued, as a result of his method, that reason alone determined knowledge, and that this could be done independently of the senses. For instance, his famous dictum, [*cogito ergo sum*](https://en.wikipedia.org/wiki/Cogito_ergo_sum) or "I think, therefore I am", is a conclusion reached [*a priori*](https://en.wikipedia.org/wiki/A_priori_and_a_posteriori) i.e., prior to any kind of experience on the matter. The simple meaning is that doubting one's existence, in and of itself, proves that an "I" exists to do the thinking. In other words, doubting one's own doubting is absurd. This was, for Descartes, an irrefutable principle upon which to ground all forms of other knowledge. Descartes posited a metaphysical [dualism](https://en.wikipedia.org/wiki/Cartesian_dualism), distinguishing between the substances of the human body ("*res extensa*") and the [mind](https://en.wikipedia.org/wiki/Mind) or soul ("*res cogitans*"). This crucial distinction would be left unresolved and lead to what is known as the [mind-body problem](https://en.wikipedia.org/wiki/Mind-body_problem), since the two substances in the Cartesian system are independent of each other and irreducible.

**Baruch Spinoza (1632–1677)**

Main article: [Philosophy of Spinoza](https://en.wikipedia.org/wiki/Philosophy_of_Spinoza)

The philosophy of [Baruch Spinoza](https://en.wikipedia.org/wiki/Baruch_Spinoza) is a systematic, logical, rational philosophy developed in seventeenth-century [Europe](https://en.wikipedia.org/wiki/Europe). Spinoza's philosophy is a system of ideas constructed upon basic building blocks with an internal consistency with which he tried to answer life's major questions and in which he proposed that "God exists only philosophically." He was heavily influenced by [Descartes](https://en.wikipedia.org/wiki/Descartes), [Euclid](https://en.wikipedia.org/wiki/Euclid) and [Thomas Hobbes](https://en.wikipedia.org/wiki/Thomas_Hobbes), as well as theologians in the Jewish philosophical tradition such as [Maimonides](https://en.wikipedia.org/wiki/Maimonides). But his work was in many respects a departure from the [Judeo-Christian](https://en.wikipedia.org/wiki/Judeo-Christian) tradition. Many of Spinoza's ideas continue to vex thinkers today and many of his principles, particularly regarding the [emotions](https://en.wikipedia.org/wiki/Emotions), have implications for modern approaches to [psychology](https://en.wikipedia.org/wiki/Psychology). To this day, many important thinkers have found Spinoza's "geometrical method" difficult to comprehend: [Goethe](https://en.wikipedia.org/wiki/Goethe) admitted that he found this concept confusing. His [*magnum opus*](https://en.wikipedia.org/wiki/Masterpiece), [*Ethics*](https://en.wikipedia.org/wiki/Ethics_%28Spinoza%29), contains unresolved obscurities and has a forbidding mathematical structure modeled on Euclid's geometry. Spinoza's philosophy attracted believers such as [Albert Einstein](https://en.wikipedia.org/wiki/Albert_Einstein) and much intellectual attention.

**Gottfried Leibniz (1646–1716)**

Main article: [Gottfried Leibniz](https://en.wikipedia.org/wiki/Gottfried_Leibniz)

Leibniz was the last of the great Rationalists who contributed heavily to other fields such as [metaphysics](https://en.wikipedia.org/wiki/Metaphysics), [epistemology](https://en.wikipedia.org/wiki/Epistemology), [logic](https://en.wikipedia.org/wiki/Logic), [mathematics](https://en.wikipedia.org/wiki/Mathematics), [physics](https://en.wikipedia.org/wiki/Physics), [jurisprudence](https://en.wikipedia.org/wiki/Jurisprudence), and the [philosophy of religion](https://en.wikipedia.org/wiki/Philosophy_of_religion); he is also considered to be one of the last "universal geniuses". He did not develop his system, however, independently of these advances. Leibniz rejected Cartesian dualism and denied the existence of a material world. In Leibniz's view there are infinitely many simple substances, which he called "[monads](https://en.wikipedia.org/wiki/Monadology)" (possibly taking the term from the work of [Anne Conway](https://en.wikipedia.org/wiki/Anne_Conway%2C_Viscountess_Conway)).

Leibniz developed his theory of monads in response to both Descartes and [Spinoza](https://en.wikipedia.org/wiki/Spinoza), because the rejection of their visions forced him to arrive at his own solution. Monads are the fundamental unit of reality, according to Leibniz, constituting both inanimate and animate objects. These units of reality represent the universe, though they are not subject to the laws of causality or space (which he called "[well-founded phenomena](https://en.wikipedia.org/wiki/Well-founded_phenomenon)"). Leibniz, therefore, introduced his principle of [pre-established harmony](https://en.wikipedia.org/wiki/Pre-established_harmony) to account for apparent causality in the world.

**Immanuel Kant (1724–1804)**

Main article: [Immanuel Kant](https://en.wikipedia.org/wiki/Immanuel_Kant)

Kant is one of the central figures of modern [philosophy](https://en.wikipedia.org/wiki/Philosophy), and set the terms by which all subsequent thinkers have had to grapple. He argued that human perception structures natural laws, and that reason is the source of morality. His thought continues to hold a major influence in contemporary thought, especially in fields such as metaphysics, epistemology, ethics, political philosophy, and aesthetics.

Kant named his branch of epistemology [Transcendental Idealism](https://en.wikipedia.org/wiki/Transcendental_Idealism), and he first laid out these views in his famous work [*The Critique of Pure Reason*](https://en.wikipedia.org/wiki/Critique_of_Pure_Reason). In it he argued that there were fundamental problems with both rationalist and empiricist dogma. To the rationalists he argued, broadly, that pure reason is flawed when it goes beyond its limits and claims to know those things that are necessarily beyond the realm of all possible experience: the [existence of God](https://en.wikipedia.org/wiki/Existence_of_God), free will, and the immortality of the human soul. Kant referred to these objects as "The Thing in Itself" and goes on to argue that their status as objects beyond all possible experience by definition means we cannot know them. To the empiricist he argued that while it is correct that experience is fundamentally necessary for human knowledge, reason is necessary for processing that experience into coherent thought. He therefore concludes that both reason and experience are necessary for human knowledge. In the same way, Kant also argued that it was wrong to regard thought as mere analysis. In Kant's views, [a priori](https://en.wikipedia.org/wiki/A_priori_and_a_posteriori) concepts do exist, but if they are to lead to the amplification of knowledge, they must be brought into relation with empirical data".

**See also**

* [17th-century philosophy](https://en.wikipedia.org/wiki/17th-century_philosophy)
* [Cartesianism](https://en.wikipedia.org/wiki/Cartesianism)
* [Cartesian linguistics](https://en.wikipedia.org/wiki/Cartesian_linguistics)
* [Cult of reason](https://en.wikipedia.org/wiki/Cult_of_reason)
* [Critical rationalism](https://en.wikipedia.org/wiki/Critical_rationalism)
* [Cynicism](https://en.wikipedia.org/wiki/Cynicism_%28philosophy%29)
* [Empiricism](https://en.wikipedia.org/wiki/Empiricism)
* [Foundationalism](https://en.wikipedia.org/wiki/Foundationalism)
* [Higher criticism](https://en.wikipedia.org/wiki/Higher_criticism)
* [Humanism](https://en.wikipedia.org/wiki/Humanism)
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* [Nominalism](https://en.wikipedia.org/wiki/Nominalism)
* [Objectivity (philosophy)](https://en.wikipedia.org/wiki/Objectivity_%28philosophy%29)
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* [Panrationalism](https://en.wikipedia.org/wiki/Panrationalism)
* [Philosophical realism](https://en.wikipedia.org/wiki/Philosophical_realism)
* [Philosophy of Spinoza](https://en.wikipedia.org/wiki/Philosophy_of_Spinoza)
* [Poverty of the stimulus](https://en.wikipedia.org/wiki/Poverty_of_the_stimulus)
* [Platonic realism](https://en.wikipedia.org/wiki/Platonic_realism)
* [Pluralistic Rationalism](https://en.wikipedia.org/wiki/Pluralistic_Rationalism)
* [Psychological nativism](https://en.wikipedia.org/wiki/Psychological_nativism)
* [Rationalist International](https://en.wikipedia.org/wiki/Rationalist_International)
* [Rational mysticism](https://en.wikipedia.org/wiki/Rational_mysticism)
* [Rationality and power](https://en.wikipedia.org/wiki/Rationality_and_power)
* [Tabula rasa](https://en.wikipedia.org/wiki/Tabula_rasa)

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