

## CHAPTER TEN

### THE HISTORY OF EPISTEMOLOGY: ANCIENT AND MEDIEVAL PHILOSOPHIES

#### 10.1 Ancient Philosophy

The central focus of ancient Greek philosophy was the problem of motion. Many pre-Socratic philosophers thought that no logically coherent account of motion and change could be given. Although the problem was primarily a concern of metaphysics, not epistemology, it had the consequence that all major Greek philosophers held that knowledge must not itself change or be changeable in any respect. That requirement motivated Parmenides (flourished 5th century BCE), for example, to hold that thinking is identical with “being” (i.e., all objects of thought exist and are unchanging) and that it is impossible to think of “nonbeing” or “becoming” in any way.

##### 10.1.1 Plato

Plato accepted the Parmenidean constraint that knowledge must be unchanging. One consequence of that view, as Plato pointed out in the *Theaetetus*, is that sense experience cannot be a source of knowledge, because the objects apprehended through it are subject to change.<sup>148</sup> To the extent that humans have knowledge, they attain it by transcending sense experience in order to discover unchanging objects through the exercise of reason.

The Platonic theory of knowledge thus contains two parts: first, an investigation into the nature of unchanging objects and, second, a discussion of how those objects can be known through reason. Of the many literary devices Plato used to illustrate his theory, the best known is the allegory of the cave, which appears in Book VII of the *Republic*. The allegory depicts people living in a cave, which represents the world of sense-experience. In the cave, people see only unreal objects, shadows, or images. Through a painful intellectual process, which involves the rejection and overcoming of the familiar sensible world, they begin an ascent out of the cave into reality. That process is the analogue of the exercise of reason, which allows one to apprehend unchanging objects and thus to acquire knowledge. The upward journey, which few people are able to complete, culminates in the direct vision of the Sun, which represents the source of knowledge.

Plato’s investigation of unchanging objects begins with the observation that every faculty of the mind apprehends a unique set of objects: hearing apprehends sounds, sight apprehends visual images, and smell apprehends odours, and so on. Knowing also is a mental faculty, according to Plato, and therefore there must be a unique set of objects that it apprehends. Roughly speaking, those objects are the entities denoted by terms that can be used as predicates—e.g., “good,”

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<sup>148</sup> J.M. Cooper & D.S. Hutchinson, *Plato’s Complete Works* (London: Routledge, 1997).

“white,” and “triangle.”<sup>149</sup> To say “This is a triangle,” for example, is to attribute a certain property, that of being a triangle, to a certain spatiotemporal object, such as a figure drawn in the sand. Plato is here distinguishing between specific triangles that are drawn, sketched, or painted and the common property they share, that of being triangular. Objects of the former kind, which he calls “particulars,” are always located somewhere in space and time—i.e., in the world of appearance. The property they share is a “form” or “idea” (though the latter term is not used in any psychological sense). Unlike particulars, forms do not exist in space and time; moreover, they do not change. They are thus the objects that one apprehends when one has knowledge.

Reason is used to discover unchanging forms through the method of dialectic, which Plato inherited from his teacher Socrates. The method involves a process of question and answer designed to elicit a “real definition.” By a real definition Plato means a set of necessary and sufficient conditions that exactly determine the entities to which a given concept applies. The entities to which the concept “being a brother” applies, for example, are determined by the concepts “being male” and “being a sibling”: it is both necessary and sufficient for a person to be a brother that he be male and a sibling. Anyone who grasps these conditions understands precisely what being a brother is.

In the *Republic*, Plato applies the dialectical method to the concept of justice. In response to a proposal by Cephalus that “justice” means the same as “honesty in word and deed,” Socrates points out that, under some conditions, it is just not to tell the truth or to repay debts.<sup>150</sup> Suppose one borrows a weapon from a person who later loses his sanity. If the person then demands his weapon back in order to kill someone who is innocent, it would be just to lie to him, stating that one no longer had the weapon. Therefore, “justice” cannot mean the same as “honesty in word and deed.” By the technique of proposing one definition after another and subjecting each to possible counterexamples, Socrates attempts to discover a definition that cannot be refuted. In doing so he apprehends the form of justice, the common feature that all just things share.

Plato’s search for definitions and, thereby, forms is a search for knowledge. But how should knowledge in general be defined? In the *Theaetetus* Plato argues that, at a minimum, knowledge involves true belief. No one can know what is false. People may believe that they know something that is in fact false. But in that case they do not really know; they only think they know. Knowledge is more than simply true belief. Suppose that someone has a dream in April that there will be an earthquake in September and, on the basis of that dream, forms the belief that there will be an earthquake in September. Suppose also that in fact there is an earthquake in September. The person has a true belief about the earthquake but not knowledge of it. What the person lacks is a good reason to support that true belief. In a word, the person lacks justification. Using such arguments, Plato contends that knowledge is justified true belief.

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<sup>149</sup> Ibid.

<sup>150</sup> Ibid.

Although there has been much disagreement about the nature of justification, the Platonic definition of knowledge was widely accepted until the mid-20th century, when the American philosopher Edmund L. Gettier produced a startling counterexample.<sup>151</sup> Suppose that Kathy knows Oscar very well. Kathy is walking across the mall, and Oscar is walking behind her, out of sight. In front of her, Kathy sees someone walking toward her who looks exactly like Oscar. Unbeknownst to her, however, it is Oscar's twin brother. Kathy forms the belief that Oscar is walking across the mall. Her belief is true, because Oscar is in fact walking across the mall (though she does not see him doing it). And her true belief seems to be justified, because the evidence she has for it is the same as the evidence she would have had if the person she had seen were really Oscar and not Oscar's twin. In other words, if her belief that Oscar is walking across the mall is justified when the person she sees is Oscar, then it also must be justified when the person she sees is Oscar's twin, because in both cases the evidence—the sight of an Oscar-like figure walking across the mall—is the same. Nonetheless, Kathy does not know that Oscar is walking across the mall. According to Gettier, the problem is that Kathy's belief is not causally connected to its object (Oscar) in the right way.

### 10.1.2 Aristotle

In the *Posterior Analytics*, Aristotle (384–322 BCE) claims that each science consists of a set of first principles, which are necessarily true and knowable directly, and a set of truths, which are both logically derivable from and causally explained by the first principles.<sup>152</sup> The demonstration of a scientific truth is accomplished by means of a series of syllogisms—a form of argument invented by Aristotle—in which the premises of each syllogism in the series are justified as the conclusions of earlier syllogisms. In each syllogism, the premises not only logically necessitate the conclusion (that is., the truth of the premises makes it logically impossible for the conclusion to be false) but causally explain it as well. Thus, in the syllogism: All stars are distant objects. All distant objects twinkle; Therefore, all stars twinkle, the fact that stars twinkle is explained by the fact that all distant objects twinkle and the fact that stars are distant objects. The premises of the first syllogism in the series are first principles, which do not require demonstration, and the conclusion of the final syllogism is the scientific truth in question.

In an enigmatic passage, Aristotle claims that “actual knowledge is identical with its object.”<sup>153</sup> By that he seems to mean something like the following. When people learn something, they “acquire” it in some sense. What they acquire must be either different from the thing they know or identical with it. If it is different, then there is a discrepancy between what they have in mind and the object of their knowledge. But such a discrepancy seems to be incompatible with the

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<sup>151</sup>Edmund Gettier, “Is Justified True Belief Knowledge?” *Analysis*, 23(6), 1963.

<sup>152</sup> <https://www.britannica.com/topic/posterior-analytics>

<sup>153</sup> Ibid.

existence of knowledge, for knowledge, which must be true and accurate, cannot deviate from its object in any way. One cannot know that blue is a colour, for example, if the object of that knowledge is something other than that blue is a colour. That idea, that knowledge is identical with its object, is dimly reflected in the modern formula for expressing one of the necessary conditions of knowledge: S knows that *p* only if it is true that *p*.

To assert that knowledge and its object must be identical raises a question: In what way is knowledge “in” a person? Suppose that Smith knows what dogs are, that is, he knows what it is to be a dog. Then, in some sense, dogs, or being a dog, must be in the mind of Smith. But how can that be? Aristotle derives his answer from his general theory of reality.<sup>154</sup> According to him, all (terrestrial) substances are composed of two principles: form and matter. All dogs, for example, consist of a form—the form of being a dog—and matter, which is the stuff out of which they are made. The form of an object makes it the kind of thing it is. Matter, on the other hand, is literally unintelligible. Consequently, what is in the knower when he knows what dogs are is just the form of being a dog.

In his sketchy account of the process of thinking in *De anima (On the Soul)*, Aristotle says that the intellect, like everything else, must have two parts: something analogous to matter and something analogous to form.<sup>155</sup> The first is the passive intellect, the second the active intellect, of which Aristotle speaks tersely. “Intellect in this sense is separable, impassible, unmixed, since it is in its essential nature activity. When intellect is set free from its present conditions, it appears as just what it is and nothing more: it alone is immortal and eternal, and without it nothing thinks.”<sup>156</sup>

The foregoing part of Aristotle’s views about knowledge is an extension of what he says about sensation. According to him, sensation occurs when the sense organ is stimulated by the sense object, typically through some medium, such as light for vision and air for hearing. That stimulation causes a “sensible species” to be generated in the sense organ itself. The “species” is some sort of representation of the object sensed. As Aristotle describes the process, the sense organ receives “the form of sensible objects without the matter, just as the wax receives the impression of the signet-ring without the iron or the gold.”<sup>157</sup> After the death of Aristotle, the next major thing in the history of epistemology was the rise of skepticism, of which we have already devoted a chapter.

### 10.1.3 St. Augustine

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<sup>154</sup> Ibid.

<sup>155</sup> <https://www.britannica.com/topic/on-the-soul-by-aristotle/>

<sup>156</sup> Ibid.

<sup>157</sup> Ibid.

St. Augustine of Hippo (354–430) claimed that human knowledge would be impossible if God did not “illumine” the human mind and thereby allow it to see, grasp, or understand ideas.<sup>158</sup> Ideas as Augustine construed them are—like Plato’s—timeless, immutable, and accessible only to the mind. They are indeed in some mysterious way a part of God and seen in God. Illumination, the other element of the theory, was for Augustine and his many followers, at least through the 14th century, a technical notion, built upon a visual metaphor. According to that view, the human mind is like an eye that can see when and only when God, the source of light, illumines it. Varying his metaphor, Augustine sometimes says that the human mind “participates” in God and even, that Christ illumines the mind by dwelling in it.<sup>159</sup> It is important to emphasize that Augustine’s theory of illumination concerns all knowledge, not specifically mystical or spiritual knowledge.

Before he articulated the theory in his mature years, soon after his conversion to Christianity, Augustine was concerned to refute the Skepticism of the Academy. In *Against the Academicians* (386) he claimed that, if nothing else, humans know disjunctive tautologies such as “Either there is one world or there is not one world” and “Either the world is finite or it is infinite.” Humans also know many propositions that begin with the phrase “It appears to me that,” such as “It appears to me that what I perceive is made up of earth and sky, or what appears to be earth and sky.” Furthermore, humans know logical (or what Augustine calls “dialectical”) propositions—for example, “If there are four elements in the world, there are not five,” “If there is one sun, there are not two,” “One and the same soul cannot die and still be immortal,” and “Man cannot at the same time be happy and unhappy.”<sup>160</sup>

Many other refutations of Skepticism occur in Augustine’s later works, notably *On the Free Choice of the Will* (389–395), *On the Trinity* (399/400–416/421), and *The City of God* (413–426/427). In the last, Augustine proposes other examples of things about which people can be absolutely certain. Again in explicit refutation of the Skeptics of the Academy, he argues that if a person is deceived, then it is certain that he exists. Expressing the point in the first person, as René Descartes (1596–1650) did some 1,200 years later, Augustine says, “If I am deceived, then I exist” (*Si fallor, sum*).<sup>161</sup> A variation on that line of reasoning appears in *On the Trinity*, in which he argues that if he is deceived, he is at least certain that he is alive.

Augustine also points out that since he knows, he knows that he knows, and he notes that this can be reiterated an infinite number of times: if I know that I know that I am alive, then I know that I know that I know that I am alive. In 20th-century epistemic logic, that thesis was codified as the

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<sup>158</sup> <https://www.britannica.com/topic/biography/saint-augustine/>

<sup>159</sup> *Ibid.*

<sup>160</sup> Augustine, *Against the Academicians*, Denis J. Kavanachi (tran.), (New York: Image Books, 1943), bk.1, c.20, no.43.

<sup>161</sup> St. Augustine, *D Civitat Dei*, bk.xi.

axiom “If A knows that *p*, then A knows that A knows that *p*.” In *The City of God*, Augustine claims that he knows that he loves: “For neither am I deceived in this, that I love, since in those things which I love I am not deceived.”<sup>162</sup> With Skepticism thus refuted, Augustine simply denies that he has ever been able to doubt what he has learned through his sensations or even through the testimony of most people.

One thousand years passed before Skepticism recovered from Augustine’s criticisms, but then it arose like the phoenix of Egyptian mythology. Meanwhile, Augustine’s Platonic epistemology dominated the Middle Ages until the mid-13th century, when St. Albertus Magnus (1200–80) and his student St. Thomas Aquinas (1224/25–1274) developed an alternative to Augustinian illuminationism.

## 10.2 Medieval philosophy

### 10.2.1 St. Anselm of Canterbury

The phrase that St. Anselm of Canterbury (c. 1033–1109) used to describe his philosophy—namely, “faith seeking reason” (*fides quaerens intellectum*)—well characterizes medieval philosophy as a whole. All the great medieval philosophers—Christian, Jewish, and Islamic alike—were also theologians. Virtually every object of interest was related to their belief in God, and virtually every solution to every problem, including the problem of knowledge, contained God as an essential part. Indeed, Anselm himself equated truth and intelligibility with God. As he noted at the beginning of his *Proslogion* (1077–78), however, there is a tension between the view that God is truth and intelligibility and the fact that humans have no perception of God. How can there be knowledge of God, he asks, when all knowledge comes through the senses and God, being immaterial, cannot be sensed? His answer is to distinguish between knowing something by being acquainted with it through sensation and knowing something through a description. Knowledge by description is possible using concepts formed on the basis of sensation. Thus, all knowledge of God depends upon the description that he is “the thing than which a greater cannot be conceived.”<sup>163</sup> From that premise Anselm infers, in his ontological argument for the existence of God, that humans can know that there exists a God that is all-powerful, all-knowing, all-just, all-merciful, and immaterial. Eight hundred years later the British philosopher Bertrand Russell would develop an epistemological theory based on a similar distinction between knowledge by acquaintance and knowledge by description,<sup>164</sup> though he would have vigorously denied that the distinction could be used to show that God exists.

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<sup>162</sup> *Ibid.*, bk.xiii.

<sup>163</sup> *Ibid.*

<sup>164</sup> <https://www.britannica.com/biography/bertrand-russell/>

### 10.2.2 St. Thomas Aquinas

With the translation into Latin of Aristotle's *On the Soul* in the early 13th century, the Platonic and Augustinian epistemology that dominated the early Middle Ages was gradually displaced. Following Aristotle, Aquinas recognized different kinds of knowledge. Sensory knowledge arises from sensing particular things. Because it has individual things as its object and is shared with brute animals, however, sensory knowledge is a lower form of awareness than scientific knowledge, which is characterized by generality.<sup>165</sup> To say that scientific knowledge is characteristically general is not to diminish the importance of specificity: scientific knowledge also should be rich in detail, and God's knowledge is the most detailed of all. The detail, however, must be essential to the kind of thing being studied and not peculiar to certain instances of it. Aquinas thought that, though the highest knowledge humans can possess is knowledge of God, knowledge of physical objects is better suited to human capabilities.<sup>166</sup> Only that kind of knowledge will be considered here.

Aquinas's discussion of knowledge in the *Summa theologiae* is an elaboration on the thought of Aristotle. Aquinas claims that knowledge is obtained when the active intellect abstracts a concept from an image received from the senses. In one account of that process, abstraction is the act of isolating from an image of a particular object the elements that are essential to its being an object of that kind. From the image of a dog, for example, the intellect abstracts the ideas of being alive, being capable of reproduction and movement, and whatever else might be essential to being a dog. Those ideas are distinguished from ideas of properties that are peculiar to particular dogs, such as the property of being owned by Smith or the property of weighing 20 pounds.

As stated earlier, Aristotle typically spoke of the form of an object as being in the mind or intellect of the knower and the matter as being outside it. Although it was necessary for Aristotle to say something like that in order to escape the absurdity of holding that material objects exist in the mind exactly as they do in the physical world, there is something unsatisfying about it. Physical things contain matter as an essential element, and, if their matter is no part of what is known, then it seems that human knowledge is incomplete. In order to counter that worry, Aquinas revised Aristotle's theory to say that not only the form but also the "species" of an object is in the intellect.<sup>167</sup> A species is a combination of form and something like a general idea of matter, which Aquinas called "common matter." Common matter is contrasted with "individuated matter," which is the stuff that constitutes the physical bulk of an object.

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<sup>165</sup> <https://www.britannica.com/biography/saint-thomas-aquinas/>

<sup>166</sup> *Ibid.*

<sup>167</sup> *Ibid.*

One objection to the theory is that it seems to follow from it that the objects of human knowledge are ideas rather than things. That is, if knowing a thing consists of having its form and species in one's intellect, then it appears that the form and species, not the thing, is what is known. It might seem, then, that Aquinas's view is a type of idealism.

Aquinas anticipated that kind of criticism in a number of ways. Because it includes the idea of matter, the species of an object seems more like the object itself than does an immaterial Aristotelian form. Moreover, for Aquinas science does not aim at knowing any particular object but rather at knowing what is common to all objects of a certain kind.<sup>168</sup> In that respect, Aquinas's views are similar to those of modern scientists. For example, the particular billiard ball that Smith drops from his window is of no direct concern to physics. What physicists are interested in are the laws that govern the behaviour of any falling object.

As assuaging as such considerations might be, they do not blunt the main force of the objection. In order to meet it, Aquinas introduced a distinction between what is known and that by which what is known is known. To specify what is known—say, an individual dog—is to specify the object of knowledge. To specify that by which what is known is known—say, the image or the species of a dog—is to specify the apparatus of knowledge. Thus, the species of a thing that is known is not itself an object of knowledge, though it can become an object of knowledge by being reflected upon.

### 10.2.3 John Duns Scotus

Although he accepted some aspects of Aristotelian abstractionism, John Duns Scotus (c. 1266–1308) did not base his account of human knowledge on that alone. According to him, there are four classes of things that can be known with certainty.<sup>169</sup> First, there are things that are knowable *simpliciter*, including true identity statements such as “Cicero is Tully” and propositions, later called analytic, such as “Man is rational.” Duns Scotus claimed that such truths “coincide” with that which makes them true. One consequence of his view is that the negation of a simple truth is always inconsistent, even if it is not explicitly contradictory. The negation of “The whole is greater than any proper part,” for example, is not explicitly contradictory, as is “Snow is white and snow is not white.” Nevertheless, it is inconsistent, because there is no possible situation in which it is true.

The second class consists of things that are known through experience, where “experience” is understood in an Aristotelian sense that implies numerous encounters. The knowledge afforded by experience is inductive, grounded in the principle that “whatever occurs in a great many

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<sup>168</sup> Ibid.

<sup>169</sup> <https://www.britannica.com/biography/blessed-john-duns-scotus/>



instances by a cause that is not free is the natural effect of that cause.” It is important to note that Duns Scotus’s confidence in induction did not survive the Middle Ages. Nicholas of Autrecourt (1300–50), whose views anticipated the radical skepticism of the Scottish Enlightenment philosopher David Hume, argued at length that no amount of observed correlation between two types of events is sufficient to establish a necessary causal connection between them and, thus, that inferences based on causal assumptions are never rationally justified.

The third class consists of things that directly concern one’s own actions. Humans who are awake, for example, know immediately and with certainty—and not through any inference—that they are awake. Similarly, they know with certainty that they think and that they see and hear and have other sense experiences. Even if a sense experience is caused by a defective sense organ, it remains true that one is directly aware of the content of the sensation. When one has the sensation of seeing a round object, for example, one is directly aware of the roundness even if the thing one is seeing is not really round.

Finally, the fourth class contains things that are knowable through the human senses. Apparently unconcerned by the threat of skepticism, Duns Scotus maintained that sensation affords knowledge of the heavens, the earth, the sea, and all the things that are in them.

Duns Scotus’s most important contribution to epistemology is his distinction between “intuitive” and “abstractive” cognition.<sup>170</sup> Intuitive cognition is the immediate and indubitable awareness of the existence of a thing. It is knowledge “precisely of a present object [known] as being present and of an existent object [known] as being existent.” If a person sees Socrates before him, then, according to Duns Scotus, he has intuitive knowledge of the proposition that Socrates exists and of the proposition that Socrates is the cause of that knowledge. Abstractive cognition, in contrast, is knowledge about a thing that is abstracted from, or logically independent of, that thing’s actual existence or nonexistence.

#### **10.2.4 William of Ockham**

Several parts of Duns Scotus’s account are vulnerable to skeptical challenges, for instance, his endorsement of the certainty of knowledge based on sensation and his claim that intuitive knowledge of an object guarantees its existence. William of Ockham (c. 1285–1349?) radically revised Duns Scotus’s theory of intuitive knowledge. Unlike Duns Scotus, Ockham did not require the object of intuitive knowledge to exist; nor did he hold that intuitive knowledge must be caused by its object. To the question “What is the distinction between intuitive and abstractive knowledge?,” Ockham answered that they are simply different.<sup>171</sup> His answer notwithstanding, it is characteristic of intuitive knowledge, according to Ockham, that it is unmediated. There is no gap between the knower and the known that might undermine certainty: “I say that the thing

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<sup>170</sup> Ibid.

<sup>171</sup>A.H. Armsstrong. *An Introduction to Ancient Philosophy* (Methuen: London University, 1965), 33.

itself is known immediately without any medium between itself and the act by which it is seen or apprehended.”<sup>172</sup>

According to Ockham, there are two kinds of intuitive knowledge: natural and supernatural.<sup>173</sup> In cases of natural intuitive knowledge, the object exists, the knower judges that the object exists, and the object causes the knowledge. In cases of supernatural intuitive knowledge, the object does not exist, the knower judges that the object does not exist, and God is the cause of the knowledge.

Ockham recognized that God might cause one to think that one has intuitive knowledge of an existent object when in fact there is no such object, but this would be a case of false belief, he contends, not intuitive knowledge. Unfortunately, by acknowledging that there is no way to distinguish between genuine intuitive knowledge and divine counterfeits, Ockham effectively conceded the issue to the skeptics.<sup>174</sup>

Later medieval philosophy followed a fairly straight path toward skepticism. John of Mirecourt (flourished 14th century) was censured by the University of Paris in 1347 for maintaining, among other things, that external reality cannot be known with certainty because God can cause illusions to seem real.<sup>175</sup> A year earlier Nicholas of Autrecourt was condemned by Pope Clement VI for holding that one can have certain knowledge only of the logical principles of identity and contradiction and the immediate reports of sensation.<sup>176</sup> As noted above, he denied that causal relations exist; he also denied the reality of substance. He credited those errors, along with many others, to Aristotle, about whom he said, “In all his natural philosophy and metaphysics, Aristotle had hardly reached two evidently certain conclusions, perhaps not even a single one.”<sup>177</sup> By that time the link between skepticism and criticism of Aristotle had become fairly strong. In *On My Ignorance and That of Many Others* (1367), for example, the Italian poet Petrarch (1304–74) cited Aristotle as “the most famous” of those who do not have knowledge.<sup>178</sup>

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<sup>172</sup> Ibid.

<sup>173</sup> Ibid, 34.

<sup>174</sup> Ibid.51-56.

<sup>175</sup> <https://www.britannica.com/biography/john-of-mirecourt/>

<sup>176</sup>A.H. Armstrong. *An Introduction to Ancient Philosophy*, op.cit.

<sup>177</sup> Ibid.

<sup>178</sup> <https://www.britannica.com/biography/petrarch/>