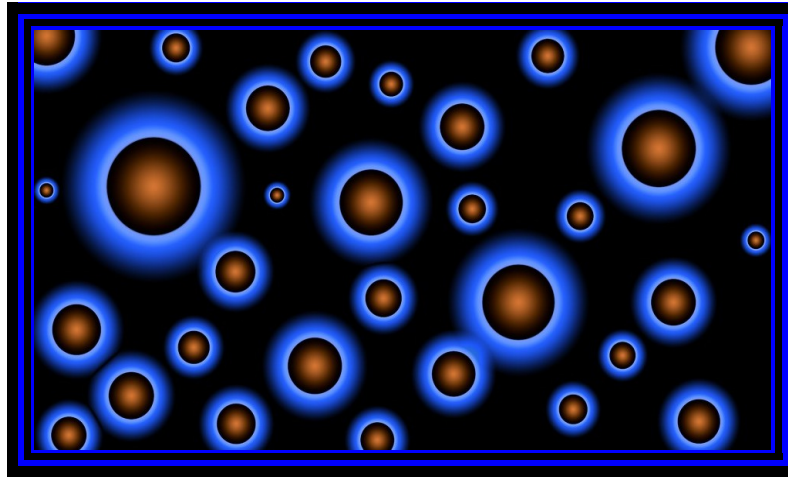


*Facilis descensus Averni.*<sup>1</sup>  
Classical Thought<sup>2</sup>  
The Pluralists 3:  
Atomists: Democritus (b.460 BC)



Democritus (Dem-OC-rit-us) sounds more sensible to us, though we disagree with him, because the concepts he discusses are more familiar to us. Democritus was a secularist who thought there was no spiritual reality: only this present world exists. Many people claim to take this view today. Democritus considered that reality is composed of an infinite number of imperceptible, qualitatively identical atoms. He believed there was an infinite number of the smallest things (like Anaxagoras) but (unlike Anaxagoras) he thought they were all the same. For him there were no frog seeds, cow seeds, tree seeds and so on but everything was made up of the same kind of thing called atoms. Of these there were an infinite number. He thought they were self propelling – although this is rather arbitrary and we might well ask, “how did they do this?”

Democritus' atoms have shape (like the Pythagorean geometric forms), size and velocity. These he called primary qualities. His atoms have no secondary qualities such as colour, smell or taste. This is because the secondary qualities can vary. For instance a change in the lighting will change the colour we perceive something to be. The secondary qualities are the result of the interaction of the object with the sense organ of the individual who is perceiving the object. One food may taste sour to one person and sweet to another so although the secondary qualities of an object may vary the primary qualities do not.

Why are there qualitative differences between objects if they are all made of identical atoms? Democritus thought the difference lay in the mechanical arrangement of the atoms. Frog and trees are made up of the same atoms but the number and arrangement of the atoms is different. This idea sounds very modern and anticipates the modern scientific mentality. However, modern scientists discovered atomic structure through scientific research. Democritus was not in favour of empirical methods such as these. He thought the evidence of the senses was not uniform or reliable. He came to his conclusions instead through reason and intellect.

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1 It is easy to go down to Hell. Virgil.

2 These lessons come from material in *The History of Western Philosophy* 3 Courses Taught at Christ College by Dr. Greg L. Bahnsen. These are available from Covenant Media Foundation <https://www.cmfnw.com/>. As far as I am aware they are the best (if not the only) rigorous treatment of the whole of the history of philosophy from a Christian perspective. Please note that I do not endorse the Theonomist perspective of CMF and the late Dr Bahnsen. This perspective does not, however, mar the usefulness of these lectures.

Using his unaided human reason like Heraclitus (“everything is changing”) and Parmenides (“there is no change”) Democritus came to a third *different* conclusion: there is an infinite number of imperceptible, identical atoms!

What did Democritus consider was happening when the intellect is working? Since he did not believe in any spiritual dimension did he consider it to be just brain tissue reacting in some way? No, Democritus' idea was different and here he was inconsistent – as is every unbelieving materialist. In order to account for reason and to distinguish it from mere brain activity while insisting on denying any spiritual reality he said there were also atoms that were refined called “fire atoms.” This is a fudge and does not sit well with the idea that atoms are qualitatively identical.

Like Heraclitus, Democritus despised the masses as ignorant people who were the dupes of their senses. They were not the only philosophers to have an arrogant attitude: this is common among philosophers. It is also common for philosophers to like to bamboozle people with grand sounding terms such as “fire atoms” to disguise internal weaknesses in their philosophy! The internal tension in his philosophy is also not unusual – all unbelieving philosophies have such tensions. Democritus wanted to say that everything is physical and there is no spiritual reality. If so then there should not be a spiritual entity such as intellect. He had to invent fire atoms to explain this.

How should we live our lives according to Democritus? What was his ethic? Democritus said that every one strives for happiness: therefore our goal should be happiness. This is somewhat tautological. Just because this is what people do does not indicate that is what they *ought* to do. Democritus also said that true joy is not found through sense experience. When we live for our senses we are really depending upon coarse atomic activity. True joy is knowledge of the truth – the refined fire atoms. This, he said, gives tranquillity or moderation.

We can summarise Democritus' philosophy:

Metaphysics:

Democritus thought everything is matter but he allowed for “refined fire atoms” giving *two* different levels of reality – the coarse and the refined. He is therefore a dualist<sup>3</sup> in Metaphysics.

Epistemology:

Democritus thought that we could learn about the secondary nature of things through our senses although this knowledge is not uniform and reliable it is only relative. He was a Rationalist in that he thought he had found nature of reality through rational use of his mind. He is therefore a dualist in epistemology. We could learn through our senses *and* through the use of our mind.

Ethics:

Democritus said that although we can experience happiness through coarse atomic activity – through our senses we should strive for joy through intellectual activities – the “fire atoms” – which lead to tranquillity not excess. The two routes, coarse and intellectual, to joy that he distinguished make him a dualist also in this area.

## Overview of Philosophers so far

The Milesian problem (what is the stuff of which the world consists?) was unresolved. The Pythagoreans also had no adequate answer. They saw that the world displayed simple mathematical relationships: the world was measurable and calculations to do with maths and geometry are predictable and universal. The problem of change and identity<sup>4</sup> could not be resolved by Heraclitus and Parmenides. These problems remained unresolved until philosophers attempted to give a

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<sup>3</sup> Dualism is the general perspective that reality or man's experience is properly interpreted by two different kinds of explanation.

<sup>4</sup> How is it that an apple rots and is still an apple though it looks different? How is it that although you look totally different to what you looked like when you were a baby you are still the same person?

systematic account of how we know what we know (epistemology), what the nature of reality is (metaphysics) and how we should live our lives (ethics). The philosophers who did this were Plato (c.428-c.348BC) and Aristotle (384-322BC), who tried to bring these branches of philosophy together into a more coherent whole.<sup>5</sup>

The pluralists had seen the world as a many rather than a one. According to Democritus it is a many that is in motion and all the atoms are self propelling. What would happen if the insights of the Pluralists and the Pythagoreans was combined? For the Pluralists everything comes down to identical atoms and their relationships with each other in time and space. If we combine this with the Pythagorean insight that their relationships are measurable we get an anticipation of modern physical theory! Sub atomic particles are measurable and have measurable relationships and that is what makes the diversity in the world. The ancient philosophers anticipated elements of modern physics through pure philosophical reflection.

#### Exercise

What was the main difference between Democritus' atoms and Anaxagoras seeds?

What three primary qualities did Democritus consider atoms to have?

What were his "secondary qualities" and why did he consider the atoms did not have them?

How did he account for intellect while maintaining that there was no spiritual realm?

What is wrong with his deduction that our goal should be happiness?

In what ways did the Pluralists and the Pythagoreans anticipate modern atomic physics?

Answers on the next page.

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<sup>5</sup> Plato and Aristotle will come later in the course.

Answers:

The main difference between Democritus' atoms and Anaxagoras seeds is that the atoms are all qualitatively the same where as the seeds are all different.

Democritus considered atoms to have the primary qualities of shape, size and velocity.

His "secondary qualities" were colour, smell, taste etc. He considered the atoms did not have them because they could change depending on circumstances affecting the perceiver.

He accounted for intellect while maintaining that there was no spiritual realm by postulating the existence of "fire atoms" which were a refined kind of atom.

He deduced that we should strive for happiness from the fact that people do strive for what makes them happy. But just because we do something does not mean that it is what we ought to do.

If the pluralists ideas of identical atoms are combined with the Pythagorean ideas of measurability we get an anticipation of modern physical theory. Sub atomic particles are measurable and have measurable relationships and that is what makes the diversity in the world.