Evolution vs Intelligent Design in Classical Antiquity

Anthony A. Long

October 17, 2005

No one can miss the current media hype over evolution and creationism or intelligent design. The front page of last Thursday's **NYTimes** (Oct 13) displayed a colored picture of two rafting trips proceeding through the Grand Canyon, one sponsored by the National Center for Science Education, the other by something called the Canyon Ministries Group. The previous week the same paper published an essay headed "Agreeing only to disagree on God's place in science", and a few days later, an op-ed piece entitled "Evolution as Zero-sum game" with the sub-heading: "Science and religion don't have to cancel each other out". Around the same time the **Times Literary Supplement** reviewed a book by Michael Ruse, "The evolution-creation struggle", heading it Monkey Business, to remind us of the 1925 Kentucky Monkey trial.

None of these short articles gives the slightest hint that we have been anywhere like this before, I mean before Darwin and the fundamentalist backlash he continues to provoke in this country. Actually, much that divides the two sides in modern America was already a major source of debate in classical antiquity, pitting theist Platonists and Stoics against evolutionist Epicureans. This is not to say that the

modern debate is an exact rerun of ancient Greek philosophical controversy. The Epicurean evolutionists did not pit a precisely phylogenetic theory of human origins or mindless cosmology against a story of intelligent design, grounded in a sacred text. Also, far more is at stake today in terms of educational policy, scientific research, potential legislative action, and the sheer heat and mutual dislike the two sides generate. Yet notwithstanding these big differences of context, the modern and the ancient players share many common arguments and concerns.

*****

When we speak of God, we normally use this expression as the proper name of the Judaeo-Christian maker of heaven and earth. Greek philosophy did not have this strongly monotheistic conception grounded in a sacred text. Rather, it tended to operate with a weakly monotheistic conception of divinity, and so, in what follows, I shall speak of divinity rather than God. How divinity was conceived varied hugely - between transcendent or immanent, physical or non-physical, providential or non-providential, creative or non-creative. *Which of these attributes thinkers opted for depended on their non-theological presuppositions concerning the ultimate nature of things.* In the absence of a theocracy or dogmatic faith, how could it be otherwise? Yet, no ancient philosopher of the leading schools was atheist or even agnostic. All posited the existence of divinity, and all accepted the following quartet as divinity's essential properties: everlasting, blissful, supremely intelligent, and paradigmatically excellent, meaning living a life that serves as the ideal for human beings to emulate.

To recognise one striking instance of theological agreement and disagreement, we may compare the Platonic demiurge or manufacturer - the closest approximation to the Judaeo-Christian deity - with Aristotle's divine principle. Plato's demiurge is transcendent, non-physical, maker of the best of all possible worlds, motivated by providential goodness, and directly interested in human behavior. Aristotelian divinity is also transcendent and non-physical, but, in contrast with Plato's demiurge, non-creative and non-providential. Aristotle envisions a supreme being that functions as the world's prime mover, not in the sense of a creative agent, but by being the everlasting and ultimate source of the world's stable order, including especially the endless rotation of the heavenly bodies and and the changeless perpetuation of biological species.

Unlike Plato's divinity, I repeat, Aristotle's prime mover does not create or do anything except think theoretical, non-practical thoughts. The Aristotelian world has neither beginning nor end. His divinity is not an ethical god setting rules for humanity but the supremely intelligent being and the most real being on which all other beings from the simplest organisms to our own kind ultimately depend. Because scientific thought is the best life for human beings, according to Aristotle, the life of this divinity is the paradigm for human beatitude.

So far I have said nothing about evolution. Plato's world does not evolve. It is created, somewhat as in **Genesis**, as the imposition of order on a pre-existing disorderly condition. Aristotle's world does not evolve because, though subject to periodically local changes, it is everlastingly the same in essence. These two conceptions of divinity each satisfy the

formal conditions I mentioned - everlasting, blissful, supremely intelligent and paradigmatically excellent. In addition, as I said, they each make divinity non-physical and transcendent. Still, they differ radically in that Plato's divinity is providentially active, ethically concerned, and makes us in his mental image. Aristotle's divinity is non-creative, detached from our concerns, and decidedly less anthropomorphic.

Now notice something else which is critical in my opinion for understanding the modern debate. Plato's human world is going somewhere, in the sense that he supposes we have further lives after our present ones, the quality of which, as in Christianity, is divinely determined by how we have lived here and now. If such a prospect makes your life more meaningful, you will be attracted to a corresponding conception of divinity and hence to a science that can accommodate it. Aristotle's world is going nowhere beyond the present life cycle of each species member and the perpetual replication of every species. His non-personal divinity and everlasting cosmology suit this "here and now" conception.

I jump forward to the Epicurean and Stoic schools of philosophy, which were the dominant ancient systems from 300 BCE to CE 200, a period as long as that separating us from the Italian renaissance. Here too, as with Plato and Aristotle, we shall find that their conceptions of divinity vary radically, though remaining within the same formal limits I have already emphasized. And, as with Plato and Aristotle again, we shall find that these differences depend crucially on the kind of divinity these later schools deem appropriate to the world according to their non-theological findings and ultimate values.

The Epicureans even today are the unsung heroes of ancient science if you are looking for significant anticipations of a modern scientific outlook - unsung, mainly I think, because our culture has largely preferred the theistic outlook of Plato with its Biblical affinity. The Epicureans were not in some fundamentals modern scientists. Their basic postulates were neither precisely mathematical nor founded on experiment or controlled observation. They knew nothing of chemistry. What aligns them with modern science is the following set of methodologies and assumptions:

1 The starting point for understanding the world is rigorous empiricism.

2 We have no reason to think that anything we experience is not ultimately explicable by reference to physical facts and causes.

3 The building blocks of the world are atomic particles incessantly in motion.

4 Science has no use for inherent purposiveness or mind in matter.

5 Apparent evidence for design in nature (e.g. the complexity of organisms and organs) is not due to an invisible guiding hand but to the determinate ways matter organizes itself according to strict causal laws.

6 Life and mind are not basic to the world, but emergent properties of particular types of atomic conglomerates.

If points 5 and 6 were unsupported, they would be a mere act of faith, quite inadequate to refute a theory such as Platonic creationism and its reliance on the argument for a designing and benevolent divinity. In fact the Epicureans were at great pains both to support points 5 and 6

positively and to rebut the evidence Platonists advanced in favor of intelligent design.

The positive arguments for an undesigned universe depend primarily on taking space, time and the number of atomic particles to be literally infinite, though limiting the range of particle shapes and sizes. There is not one world but an infinite number of worlds, each of them with its own limited life-span. Given such infinity, though any particular world is an outcome of accident (the composition of mindless particles), it is not accidental but mathematically inevitable that a world like ours with inhabitants like ours will arise, however rarely, from time to time; and there is always enough time and material for that contingency to occur. We should not be impressed by the fact that we happen to be such inhabitants. That is a predictable but unpurposed outcome of the way things are.

As for evolution, evidence suggests that our earth was very different in its early history from what it is today, and, in particular, more fertile. At that time it spontaneously generated life forms some of which were able to propagate and others not, some of which were able to survive as viable species and others not. The theory is vague about how human beings happened to first emerge, but it recognises that the original ones were pre-cultural hunter gatherers with different body types than people of today. Civilization has developed by trial and error, as human beings pit their wits against the environment in the effort to survive and improve their material conditions.

Now the negative arguments against intelligent design. If you say that our world is just too well structured to be explained in this non-purposive way, you are selecting the evidence that favors your case and ignoring the rest. You are guilty, in other words, of naive anthropocentricity, given the infinite scale of the universe. We can conceive of a much more orderly world than this one, a world more obviously conducive to our happiness. We earthlings are subject to relatively early deaths, diseases and natural disasters. Such necessary facts provide counter evidence to a benevolently guiding hand.

Does this science exclude divinity? Certainly not. It allows the universe to contain beings that satisfy the formal requirements I have specified - everlasting, blissful, supremely intelligent, and paradigmatic for human happiness. What it excludes is the notion that these superior beings (supposedly constructed out of especially fine atomic particles) have any interest in running the world or attending to our lives. An intelligent, designing divinity is not needed in order to supplement the science. Yet the blissful Epicurean divinity, in its non-interference, provides the model for a humanly ideal life of pleasurable tranquillity and peace.

A modern who is committed to religion and intelligent design will likely break in at this point, and say that the Epicurean world is not only godless in effect but also ethically impoverished and incapable of satisfying people's needs for meaning, belief, and a moral compass. The Epicurean reply to this charge is complex. In essence it trades on the values of liberation, enlightenment, friendship and mutually beneficial

judicial and political systems. The Epicureans find it supremely liberating to be free from any divine intervention. They also think that everyone's natural desires for pleasure and freedom from pain can provide all that one needs to live well if those desires are shaped by intelligence.

The Epicureans are antiquity's principal evolutionists and opponents of intelligent design. They were not atheists, but by confining their idyllic divinity to the periphery, as it were, they were also antiquity's closest equivalent to what we used to call humanists, and they were the most actively philanthropic of all the ancient schools of philosophy. We would know much more about their writings if they had found favor - but how could they? - with the early Church and the monks who copied down the ancient texts that survive.

My final instance of the ancient debate brings me to the Stoics. No area of ancient philosophy has developed more significantly than this school, during my lifetime. As their name tells you, the ancient Stoics stood for mental toughness and control of emotion. But underlying that attitude was a philosophy that is a fascinating blend of earlier, especially Platonic ideas, and original science.

The Epicurean world is one of matter in motion. So too is the Stoic world. But whereas Epicurean matter is mindless with atomic particles owing their direction of motion to purely mechanistic principles or spontaneous swerves, Stoic matter is in motion owing to its constant conjunction with a physical force that they called divinity. Hence mind - the mind of divinity - is ever-present throughout the matter of the

universe. There is no problem, then, about explaining how mind can emerge from mindless matter.

This divinity is immanent, not transcendent. Lacking anything like a modern concept of physical force or physical field, the Stoics none the less proposed that divinity acts in and through matter by energizing it with what they called a motion that is simultaneously inward and outward, likening that motion to muscular tension. They developed the first consistent and elaborate continuum theory of matter, as a counterpart to the discrete corpuscular theory of the Epicureans. Unlike the Epicurean universe, that of the Stoics is finite and contains no empty space. Their divine physical force permeates everywhere and gives each substance and the world as a whole coherence.

You may think of Stoic theology as pantheist, provided you recognise that its pantheism is physically conceived. Divinity is in the stone, the plant, the animal world, and quintessentially in the human intellect. In all these different domains of the world divinity disposes itself, generating their properties and life spans by its "tensional motion".

Here at one level we have a radically different idea of divinity from any that the other Greek philosophers hypothesized. The difference may seem still more marked from the Judaeo-Christian tradition with its transcendent and non-physical creator. The Stoic conception excellently illustrates the fluidity of divinity in ancient Greek thought, and its adaptability to scientific theory. Far from there being any clash here

between science and divinity, divinity is invoked as a fundamentally scientific concept, operating at one level in physically intelligible ways.

But there is, as I have said, an equally fundamental mental aspect to the Stoic divinity. Here we encounter profound differences from the Epicureans. Their atoms are blind and purposeless, while Stoic matter is always being purposefully organized from within. According to the Stoics the world is no unplanned accident of matter in motion. It is the outcome of a providential plan, premised on a commitment to rationality (that's where we humans benefit) that divinity thinks up and then fulfils by energizing and organizing matter in the ways I have described. As in Genesis and as in Plato, our universe had a beginning; and it will eventually end in a mighty conflagration. But that is not the end of everything. Divinity sees to it that the universe will begin again and repeat itself in every tiniest detail down to the next conflagration; so it was in the past and so it will be again in everlasting recurrence.

In one respect the Stoic divinity closely resembles the seventeeth century conception of a clock-maker, whose world clock ticks away according to the strict causal laws it has laid down. In another respect their divinity models the world on a rudimentary notion of genetics; for the world is said to proceed according to the "seminal principles" divinity lays down, "seeding" the world at the beginning and then making it "grow" by serving as the world's DNA so to speak. Or, as we hear from the Stoic Seneca: "Divinity orders once and obeys always". No room is provided for miracles or indeterminate occurrences in the Stoic world.

How does all this bear on our current debates? In my view, we need a conception (which is not the same as a belief) of a supreme being who is exponentially superior to ourselves, to check our own arrogance and serve as an ideal that we can at best remotely approximate. I have no idea whether such a being exists, but if it does the Stoic and Epicurean views I have surveyed offer interestingly different ways of trying to accommodate it within a scientific framework.