

Appendix I – The Rationality of Belief in God

“For from the greatness and beauty of created things comes a corresponding perception of their Creator” (Wisdom 13:5).

“Ever since the creation of the world [God’s] invisible nature, namely, his eternal power and deity, has been clearly perceived in the things that have been made. So [men and women] are without excuse; for although they knew God they did not honor him as God or give thanks to him, but they became futile in their thinking and their senseless minds were darkened. Claiming to be wise, they became fools”(Romans 1:20-22).

It may just be me, but I’ve always had the impression that many people in our society see faith and reason as being opposed to each other – that the most reasonable among us are not people of faith and vice versa. Now I’m not sure where that impression came from, character portrayals in movies and books or interactions I’ve had with others. I wanted to take this brief space to explain the Christian conviction, especially as it has been expressed within Catholicism, that belief in God’s existence is not opposed by modern science and is in fact eminently reasonable.²⁷⁹

Perhaps, as a preliminary to our discussion, we should dismiss the myth that “science” has somehow disproved the existence of God. Anyone who has perpetuated such a myth has done nothing more than demonstrate his/her misunderstanding of science’s parameters. Polls show that 40% of professional scientists profess religious belief.²⁸⁰

I would hope that the other 60% profess agnosticism as opposed to atheism. I say this because atheism requires a huge act of faith, and a very

²⁷⁹ The Catholic Church reaffirmed this at Vatican Council I (1870), “God, our Creator and Lord, can be known with certainty by the natural light of reason from created things.” Ott, Ludwig, *Fundamentals of Catholic Dogma* (Rockford, Illinois: Tan Books and Publishers Inc., 1960), p.13

²⁸⁰ Lovgren, Stefan, “Evolution and Religion Can Coexist Scientists Say,” Oct.18, 2004 <http://news.nationalgeographic.com/news/2004/10/1018_041018_science_religion.html>

prideful one at that: “I *know* that there is no god.” Now such a profession is a universal negative, something which will be forever impossible to prove. It requires having access to all of the knowledge in the universe (scientific, historical, philosophical, psychological, artistic, etc.) and finding that nothing in it pointed to the existence of a Supreme Being. No human being has that amount of knowledge at their disposal, and given what cosmology has told us about the size of our own galaxy, not to mention the universe, I do not see how it could ever be realized. Atheism is a statement of *faith*.

“Science,” on the other hand, or more exactly scientific method, is concerned with the process of arriving at a more precise picture of the *physical* world through observation, the posing of hypotheses, and the testing of those hypotheses through carefully controlled, unbiased, repeatable experimentation. By its very nature, science is unable to comment upon the existence of God - at least the God professed by Christians and Jews, Who has always been conceived of as “outside” of the physical universe. Just as an artist is distinct and of a different material than the paint or canvas he uses to create, so God can be present to the universe, and yet of a completely different nature or order of being.²⁸¹ Science is impotent to comment on such a Being. It cannot offer answers to the biggest questions we pose: Why? Why this instead of nothing? What is the meaning of life, of *my* life?

If science were our only source for arriving at knowledge it would seem we were at an impasse. But what of logic, human reason? Can it be of use to us in the absence of experimental data? Yes, philosophy has glimpsed a way – reasoning from humanity’s common *experiential* data.

In this vein Thomas Aquinas, the 13th century theologian and philosopher and one of the most brilliant minds to ever grace our planet, pointed to five “inferential proofs...inductions based on the facts of the sensible world and the first principles of reason.”²⁸² The validity of his five “proofs,”

²⁸¹ The great exception being Christianity’s doctrine of the Incarnation: God joined Himself to creation as a child in the womb of Mary of Nazareth.

²⁸² Farrell, Walter, *Companion to the Summa*, Volume 1 (New York: Sheed & Ward, 1938) © Dominicans, Province of St. Albert the Great. Work available at: <<http://www.domcentral.org/farrell/companion/comp102.htm>>

or ways, (motion, causality, contingency, participation, and finality) remains even today. Allow me to comment on two of them:

Aquinas' second proof is that from causality. In our experience, nothing is responsible for its own existence. *Right now*, as you read this, your earthly existence is dependent upon a multitude of other things – your body, water, air, our planet's atmosphere, etc., etc. Our existence is "caused" by these things. Now each of these things is being caused by other things: the interaction of different elements, themselves caused by atomic forces, which were caused by subatomic forces, and so on. Existence is borrowed at each step in the chain. At some point though, the chain has to have a foundation, a ground of Existence from which everything else has borrowed - a Cause that is itself uncaused. If we deny this we are left with but one alternative: at the beginning of the chain there is nothing. But logically, if there is nothing at the beginning, then there should be nothing at the end (or at any point in between). We would have to jettison "cause" altogether – and then what *can* we humans claim to know? Cause and effect are the foundational principles of human knowledge. As Aquinas demonstrated, logically there must be a Cause, Itself uncaused, holding all things in existence.

Aquinas's fifth proof, from finality, draws our attention to "the fact of a constant *order* of cause to effect."²⁸³ Aquinas does not ask us to know the reason for every occurrence in the universe. No, it is sufficient to look at the world of nature and observe that "the eye is constructed for the purpose of seeing, the ear for hearing, that a mosquito bites for purposes of nourishment, that the snakes fangs are weapons of defense, and so on."²⁸⁴ A mosquito or snake does not make a conscious decision to reach that end, and yet there is a purpose for its action – nourishment, defense. Where did the *purpose* come from, the direction to *this end*? Not from the insect or reptile; it is simply there, part of its existence. Could it have come from outside of them? Isn't that the only alternative left to us? And purposeful direction is the work of intelligence, an Intelligence outside of them! Note, this is not a denial of evolutionary theory – simply the observation that there is a pur-

²⁸³ Ibid, italics added.

²⁸⁴ Ibid.

pose to these occurrences in nature and that purpose is the product of intellect.

Suppose you were stranded on a deserted island. You are out walking one day and discovered a personal computer (pretend you had never seen or heard of one before). It came complete with a keyboard, mouse, 17-inch color monitor, sound and graphics card, and an 800 MHz processor. After a few hours of investigation you discover some of its capabilities - sound production, memory, graphics, mathematical calculations, word processing. Would you conclude that such an object was the product of a cosmic accident, or would you recognize it as having a purpose, the product of intelligence? What is the logical conclusion as you look at the galaxy, solar system, the intricate web of life on Earth, your body, and the function of your brain? Can such *order* be the result of chaos, of a myriad of accidental forces? In our experience chaos breeds more chaos, not order. What is the most logical conclusion?

Aquinas' developed his proofs believing that one was unable to show that the universe had a beginning. (He himself believed that it did, but he held this as a tenet of faith as opposed to philosophy.) The Kalam Argument, on the other hand, reasons to God's existence from the conviction that the universe did have a beginning. The argument is quite straightforward: If something begins to exist, then it had a cause. Because the universe began to exist, it had to have a cause. This cause, outside the universe and thus outside of space-time, is what we refer to as God. (I told you it was straightforward!)

One can find him/herself at odds with Aquinas or the Kalam Argument. But as I have said, to do so requires a denial of cause and effect. Philosophy demonstrates the reasonableness of recognizing an Uncaused Cause, a Necessary Existence, an Intelligence which orders things toward an end. Some have called this the "God of the Philosophers." Belief in such a Being isn't illogical, doesn't stand in contradiction to science. Quite the opposite, reason and logic are the pillars of scientific method, as they are philosophical method. In fact, the knowledge of the universe that has resulted from scientific investigation, while admitting that it remains subject to revision, coincides quite nicely with the philosophical thought we have glimpsed.

Observations Yielded From Science

In 1927, astronomer Edwin Hubble discovered that other galaxies were rapidly rushing away from our own – evidence that the universe was in a state of constant expansion. A popular theory at the time, the Steady State Theory, had held that the universe was eternal. Given Hubble’s observation however, a new theory arose in its place, one postulating that the universe burst forth from a singularity, a point of infinite density that physics is unable to comment upon. Prior to that there literally was nothing – no space, time, or matter. From that “explosion” the universe spread out in all directions and gradually formed galaxies, stars, planets, etc. It became known as the “Big Bang Theory,” and in 1964, it received a very large confirmation.

Arno Penzia and Robert Wilson, two scientists working on communication satellites for Bell Laboratories, discovered low-level “noise” emanating from every direction in the sky.²⁸⁵ Physicists immediately recognized it as the echo of the original explosion, the big bang, that set our universe in motion. They calculated it as occurring 15 billions years ago. As a result, by the 1970’s the Big Bang Theory was accepted by the vast majority of scientists.

In 1992, the Big Bang Theory moved into the “beyond a reasonable doubt” category when NASA’s COBE (Cosmic Background Explorer) satellite observatory registered “feeble remnants of light that originated early in the history of the universe...measurements also revealed tiny ripples in the light’s intensity, representing “lumps” no more than 0.001 percent richer in matter than the space around them.”²⁸⁶ This was exactly what the Big Bang Theory had predicted.²⁸⁷ Given what was said above regarding the Kalam Argument, one can see the philosophical implications of recognizing a beginning to the universe.

With the Big Bang as their start, physicists began looking at how manipulation of different variables would have affected the formation of the universe. “Sometimes you ended up with the wrong kind of stars. In other cases, you ended up with no stars at all...No matter what alternative sce-

²⁸⁵ Penzia and Wilson won the 1978 Nobel Prize in physics as a result.

²⁸⁶ Crenson, Matt. Oct.3,2006, “Americans Win Nobel for Big-Bang Study.”

<<http://www.msnbc.msn.com/id/15113168/>>

²⁸⁷ This finding won COBE’s architects, George Smoot and John Mather, the 2006 Nobel Prize in physics.

nario you tried to cook up, the most miniscule changes in the fundamental constants completely eliminated the possibility of life.”²⁸⁸

This led to an historic paper and presentation in 1973, entitled “Large Number Coincidences and the Anthropic Principle in Cosmology,” by Brandon Carter, an astrophysicist and cosmologist from Cambridge University.

The Anthropic Principle stated that “all the seemingly arbitrary and unrelated constants in physics have one strange thing in common – these are *precisely* the values you need if you want to have a universe capable of producing *life*.”²⁸⁹ Cosmologist Hugh Ross assembled a list of twenty-five of these variables. I want to cite just four of them to flesh out in a bit more detail:

Ratio of Protons to Electrons

“...the precise number of electrons must exist. Unless the number of electrons is equivalent to the number of protons to an accuracy of one part in 10^{37} , or better, electromagnetic forces in the universe would have so overcome gravitational forces that galaxies, stars, and planets never would have formed...The following analogy might help: Cover the entire North American continent in dimes all the way up to the moon, a height of 239,000 miles...Next, pile dimes from here to the moon on a billion other continents the same size as North America. Paint one dime red and mix it into the billion piles of dimes...The odds that [you] will pick the red dime are one in 10^{37} . And this is only *one* of the parameters that is so delicately balanced to allow life to form.”²⁹⁰

²⁸⁸ Glynn, Patrick, *God: The Evidence : The Reconciliation of Faith and Reason in a Postsecular World*, (Rocklin, CA: Prima Publishing, 1997), p.28

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²⁸⁹ Ibid, p.22

²⁹⁰ Ross, Hugh, *The Creator And The Cosmos: How The Greatest Scientific Discoveries Of The Century Reveal God*, (Colorado Springs, Colorado: Navpress, 1994)., p.109.