

**Mere Maths:
A Look at the Role of Mathematics
In the Apologetic Writings of C. S. Lewis**

Pew Research Grant Proposal - Fall 2008

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"Pure mathematics is the type of successful thought."- C. S. Lewis, *Myth Became Fact, God in the Dock.*

I. Description of the project and its major goals.

1 Peter 3:15 exhorts each of us to “Always be prepared to give an answer to everyone who asks you to give the reason for the hope that you have.” Clive Staples Lewis wrote extensively in defense of the Christian faith and, maybe surprising to many, used mathematics in various ways to make his writings lucid. This summer research project proposes to thoroughly examine a collection of Lewis most acclaimed apologetic works and to effectively communicate the ways in which he offered mathematics to his readers as part of his defense of the Christian faith.

Lewis was not a mathematician by his own admission and even claimed in his autobiography that computational mathematics always presented him with great challenges. However, he grasped the logical side of the discipline, especially in its axiomatic structure and deductive reasoning, and knew well the elementary subjects of arithmetic and geometry. His attraction to mathematics may be in part due to the fact

that Lewis' mom, Flora, studied mathematics at Queen's College, Belfast. She died, however, before Lewis' turned 10 years old.

Three of Lewis' works will be dominant in this project: Mere Christianity, God in the Dock, and Miracles. These three are highly apologetic in nature and demonstrate several key ways in which mathematics appears in Lewis' writing. Other works that will be examined include The Abolition of Man, Surprised by Joy, The Problem of Pain, The Weight of Glory, and The Great Divorce.

In Miracles, Lewis uses mathematics in his arguments for the existence of the Supernatural by introducing the concept of Reason, which leads to the laws of thought, logic, and the idea of proof. In regards to Nature, mathematics is seen as the language by which the knowledge of Nature is communicated (pure mathematics) and also the means by which humans alter that Nature (applied mathematics). Finally, when considering the impact of new knowledge, Lewis suggests that the fundamental tenets of the Christian Faith are like the simple rules of mathematics – both are static.

Also in Miracles, Lewis uses mathematics to create models for the purpose of illustration. Drawing upon the concepts of linear, plane, and solid geometry, Lewis suggests that the distinct perceptions of “beings” that live in different dimensions might help us with the complex concept of the Trinity. He uses the term “Flatlanders” for beings who live in a two dimensional world – this being an obvious reference to Edwin A. Abbott's famous work Flatland. In other places, Lewis speaks of spatial images, probability based upon statistics, a theoretical point at infinity, and even the asymmetrical relation between Nature and Reason.

The goal of this project is to answer this question: What role does mathematics play in the apologetic writings of C. S. Lewis? In answering this question, the researcher will construct a framework for the purpose of categorizing and illuminating the ways that the non-mathematician Lewis used mathematics (e.g. its substance, its applications, its relationship to Nature and knowledge, its models, etc.) to advance his defense of the Christian faith. As a result of this inquiry, the researcher will speculate on the philosophy of mathematics held by Lewis, and furthermore, will suggest how the constructed framework might enhance the pedagogy of undergraduate mathematics at a Christ-centered institution of higher education. The project will produce a cross disciplinary paper that will be presented at an appropriate venue.

II. Review of Scholarly Literature

David L. Neuhouser, Professor Emeritus of Mathematics at Taylor University, began this conversation with two papers, *Higher Dimensions in the Writings of C. S. Lewis*, which appeared in the Winter 1995 issue of Faculty Dialogue, and *C. S. Lewis and Mathematics*, given at the C. S. Lewis Faculty Forum Academic Conference in July 2005. In the first paper, Neuhouser connects the writings of Lewis to Abbott's work Flatland. Thomas F. Banchoff, Professor of Mathematics at Brown University and Union University's Visiting Pew Scholar in 2007 discusses Flatland as well as its implications for theology in his paper The Fourth Dimension and the Theology of Edwin Abbott Abbott, published in the online *Journal of the Association of Christians in the Mathematical Sciences* (2004). Banchoff used these same ideas to frame his remarks at the Pew

Scholar's Luncheon at Union University last fall. In the second paper of Neuhouser, the author argues that Lewis' reputation of hating both mathematics and science is undeserved.

Apart from these contributions, I know of no other scholarship from the mathematical community addressing Lewis' use of mathematics in his apologetic works. This, needless to say, leaves much more to be said on this particular topic.

III. Time Frame for Completion and Dissemination of the Project

Spring 2009

- Collect all resources and materials for the project.

June-July 2009

- Read and study the apologetic writings of Lewis.

August 2009

- Write draft of article. Search for an appropriate venue to disseminate article.

Fall & Winter 2009-10

- Finish article and submit for review, presentation and/or publication.

Spring 2010

- Report to Pew Selection Committee.

IV. Budget

Salary (= pay for two summer courses)	\$4200
Misc expenses (Books, articles, supplies, etc.)	<u>300</u>
Total	\$4500

V. Essay on the integration of faith and discipline

On more than one occasion, I have been asked how exactly does a mathematician integrate the Christian faith with his discipline. The answer is not trivial. I usually begin my response with the four approaches given by former Wheaton professor Arthur Holmes: the foundational, the ethical, the attitudinal, and the worldview-ish. I, then, describe how a mathematician can use these four approaches to bring faith to bear on the discipline of mathematics. Today, I am ready to try something new.

It has been implied that the farther the subject matter of a discipline falls from the fine arts and humanities, the harder it is to discover that particular discipline's connection to the Christian faith. In fact, sometimes the mathematical idea of a continuum is used to illustrate this claim. Along this continuum, one might find the fine arts, the humanities, and the social sciences placed on the end in which key integrative questions are most accessible. The professional areas and the life sciences might be found somewhere in the middle of the continuum, and finally, the natural sciences, computer science, and last of all mathematics might form the opposite end. One of the most exciting aspects of this project is that it does not fit the proposed continuum model. Lewis found that an effective way to share his beliefs with the skeptic was to think his way through the skeptic's potential objections and then to incorporate mathematics as needed into his arguments.

Lewis noted in an essay in God in the Dock that the opposite ordering of the continuum appears to apply to academicians who hold to some kind of faith: "It is as their subject matter comes nearer to man himself that their anti-religious bias hardens."

While I can't speak to what happens in other disciplines, I can state that often the study of mathematics strengthens my faith.

I don't have to stop thinking about mathematics when I am pondering the Christian faith and I don't have to stop thinking about the Christian faith when I am pondering mathematics. There is no Christian form of the Pythagorean theorem and there should not be. The Pythagorean theorem, and the deductive logic that is its foundation, is just as true for the pagan or the atheist as the Christian. Therefore, I can apply the same logic and reasoning that brought this theorem to light for all of humanity to the Christian faith – and that is truly amazing.