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Preliminary Chapter Outline

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## *Science and Religion: Never the Twain Shall Meet?*

### *I. Introductory Ideas*

In both mainstream US media accounts and academic scholarship, science and religion are often portrayed as competing ideologies. These accounts portray science and religion as constituting mutually exclusive knowledge systems, and scientists and believers at odds with one another over claims to truth.

In public education in the United States an understanding of the relationship between science and education is usually further reduced to the debate between evolution and creationism and couched within a vague historical understanding of the Scopes trial and more recent events in Kansas and Pennsylvania.

Given this pervasive conceptualization of the relationship between science and religion, we approached our ethnographic examination of curriculum in undergraduate science education with the assumption, theoretically naive as it may have been, that the disciplining of novices into the traditions of research science would throw personal religious beliefs into question and make them untenable.

Thus, we were intrigued to discover that religious lives are alive and well within the student communities that we are studying, suggesting that science and religion are not necessarily experienced or practiced as mutually exclusive knowledge systems in the lives of our informants. To help us make sense of what we are observing empirically in our field research, we returned to social theory in hopes of building a theoretical understanding of religion, science, and their relationship to one another that will ultimately give us interpretive insight into: (a) how individuals learn to manage and negotiate the dilemmas presented to them by the seeming opposition between science and religion; and (b) to what extent and in what manner this learning takes place within the formal curricular structures of undergraduate science education, and to what extent and in what manner this learning takes place outside of these undergraduate programs?

In what follows we will first introduce you to the educational and ethnographic research that provoked us to take a careful theoretical look at the relationship between religion and science. We will then turn to our central concern in this chapter and explore the social theories that have helped us make better sense of the way that people experience both science and their religion as they study to become scientists.

## *II. Ethnographic Case*

A) Research Project- Full explanation of the grant project, research questions, methodology and research design.

B) Absence of Religion in the Formal Curriculum- If we are to accept the theoretical proposition that science and religion offer two different and mutually exclusive interpretations of the world, then it would not be difficult to understand why we have found the formal curriculum in the focal program and related educational programs to be nearly silent on religious matters as they relate to becoming a scientist and practicing science.

[FLESH OUT WITH PATTERNS IN THE DATA]

Yet such a theoretical interpretation sheds little light on why we have found religion to matter to students in our focal program and related educational programs.

C) Presence of Religion in Informal Structures -

[HERE WE WILL GIVE NARRATIVE ANALYSIS OF A GROUP INTERVIEW WITH STUDENTS RE: DARWIN AND AFTERMATH].

All of this left us intrigued. We had been playing with the idea of dilemmas in schooling (e.g., Lampert, 2000) and applying it as a means of interpreting various social processes in our data. We wondered if it would be a helpful way to interpret the presence of religious beliefs and practices in our group of novice scientists. With this in mind, we shared our findings about science education and religion with the program director at Comprehensive University. Her response only strengthened our curiosity. She was in a word nonplused. She offered no diatribe against the need to expunge religious knowledge from the lives of science students learning to be research scientists. She mused that she would expect students to attempt to embark on a personal reconciliation of religious and scientific world views. She shared her personal experiences with scientists who held deep religious convictions. Our findings were not new, not surprising and seemingly not troubling to this scientist and science educator. Why not?

C) Rethinking Science and Religion-

We did not and still do not have a completely satisfactory answer to the questions that have emerged in our study, but the first step to developing answers was to more closely consider religion and science. Once we began to think ethnographically about religion, science and the relationship between the two, we began to perceive possible echoes of religious practice in the everyday taken-for-granted practices of the scientist.

[HERE WE WILL FLESH OUT WITH POSSIBLE PARALLELS BETWEEN RELIGIOUS AND SCIENTIFIC PRACTICES// COLLECTIVE EFFERVESCENCE.]

It became clear that the next step was to return to social theory in order to better interpret our ethnographic findings.

### *III. Theoretical Project*

The aim of the theoretical project is to bring a set of relevant scholars and social theories into conversation with one another in order to derive a possible framework that could facilitate interpretation of how individuals, in everyday practice, learn to manage and negotiate the dilemmas presented to them by the seeming opposition between science and religion.

A) We will produce the conversation through consideration and comparison of the following scholars and related social theories:

1. Religion as the Subject of Science in Classic Social Theory:  
+Durkheim
2. An Understanding of Durkheim in the Context of Contemporary Social Theory:  
+Goffman  
+Bourdieu
3. Science as the Subject of Social Science- the Sociology of Science:  
+Bloor  
+LaTour
4. Religion as the Subject of Social Science- the Sociology of Religion:  
+ Evans & Evans  
+ Epstein
5. Science, Social Science and Religion in the Postmodern World:  
+Foucault

B) The theoretical understanding that we derive from our examination of social theory will be considered from the perspective of:

1. Scientists who Explore the Relationship between Science, Social Science and Religion
  - +Gould
  - +Dawkins
  - +E.O.Wilson
  
2. Religious Leaders who Explore the Relationship between Social Science and Religion
  
- C) Theoretical Lessons Learned- Summary and Conclusions
  - + Multiple Ways of Knowing

Examining the relationship between religion and science through social scientific theory is illuminating in ways that could help us make sense of the experiences of our science students. Through application of social scientific thinking we learn that:

1a. Religion is incompletely understood when we perceive it merely as a cosmology that orients us to the natural world and to understanding natural laws of cause and effect. There is something essentially social about religious beliefs and practices (Durkheim 1912; 1995). As such, one would expect to see religion and science being practiced simultaneously.

2a. Science can only be conceived of and practiced through historical, social and cultural structures (Gould, 2000). By extension, we assert that science can only be taught and learned through sociocultural processes.

3a. The content of religious and scientific knowledge systems renders them as distinct, even mutually exclusive, ways of producing knowledge about the mechanics of the natural, social and supernatural worlds. The derivation of these systems from and in the service of human social processes renders them as overlapping even inherently similar ways of producing knowledge about how to navigate our social world (Gopnik, 2006).

Yet we contend that to end here would leave incomplete any understanding of religion, science and/or social science.

1b. Religion cannot be understood merely as either a cosmology or a social process. Supernatural elements that form core beliefs and inform core practices in many religions escape social scientific and scientific understandings.

2b. Science cannot and should not be characterized as only a social construction. Advances in biomedical research belie any claims that science is unable to accurately discern the processes of the world that surrounds us. Rather they suggest that science has

been able to work with the limitations and confusions of the human mind in ways that allow us to predict and even control our surroundings for better or for worse, as it may be.

#### *IV. Implications for Education and Science Education*

+ Dewey

Exploring religion and science through social scientific theory suggests the need to reintroduce the social back into our understanding of both the supernatural and the scientific.

Science educators and scientists can learn things about education if they see it as a sociocultural process which they cannot 'see' if they conceptualize it as a neutral, technical, or merely evidenced-based process.

As such, closer attention to these processes, including those that are religious in nature, might facilitate student orientation toward science and even cognition of scientific knowledge.

#### *Sources Cited:*

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