



Readings II in Faith & Science

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Is A Secular Education Adequate For The Pursuit Of Truth In Science?

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Thesis

It is my firm belief that a secular education CAN be adequate for the pursuit of truth in science. It is not so much what these (and Catholic universities) might be missing that might cause a student to stray from the path of “truth and beauty,” but rather what is missing from the student that allows him/her to allow personal feelings to dictate the “truth.”

A Scenario

There is tremendous pressure on the brighter students to excel in their studies in undergraduate courses. The old dictum: “do your best” just does not cut it in these highly competitive times. One must “do better” than the others. This attitude can lead to some extracurricular activities that might be better termed plagiarism, theft, cheating and lying. Those who fall prey to these techniques will soon find themselves reliant upon them for the rest of their professional and possibly personal lives.

Then when these “bright” individuals are allowed to enter scientific curricula in graduate school, the pressure is intensified as the competition for research funding is now added to the student’s backpack. Once the course work is successfully completed and the graduate student’s research is funded by a professor, the need to get the “right answers” quickly is felt not only by the researcher but also by his mentor. Accidental spills or losses of notes, incomplete documentation of results and laying claim to other’s research occur.

After receiving their tainted degrees, the corrupted then go on with their research, either in an academic, government or industrial setting. For these people the old mystery story cliché of “following the money trail” may be joined by “following the ego trail.” Prestige and the money (research funding) it brings, soon becomes the goal of the scientific research and personal opinions dictate replies to scientific inquiries (viz., Lifespan by T.J. Moore). [In my own case, my world famous research advisor only had to write one short paragraph to obtain sufficient funding to support my research for three years. Fortunately, although probably an agnostic, he was a highly moral man when it came to scientific ethics.]

The Beginnings

As a parent I know that young people between fourteen and twenty-two are generally impervious to the attempted teachings of the parents. Thus the parent’s job of molding a moral foundation that might last for a lifetime is a concentrated task. If the parents “do their best,” with a little luck, much of what they have implanted may actually surface during their student’s times of decision. Then all the pressures from peers, finances and supervisors can be tolerated without causing the young scientist to waver from the rightful path. In other words, you must have the courage of your conviction, aka GUTS.

Other role models appear throughout the young scientist’s career. These generally are high school teachers, college teaching assistants and eventually professors. At these levels there is usually a campus “book” on these various individuals and it should be consulted before committing oneself to riding on their coattails.

The Catholic University

I do believe that there still are “Catholic” Catholic high schools but there are probably only a handful of “Catholic” Catholic universities. In order to keep their doors open, the latter found themselves bending to the dictates of the students who went through the moral revolution of the 1960’s and, of course, those who came later that reaped the “benefits” from this upheaval.

At the undergraduate level there is probably little difference in the quality of education between Catholic and secular schools and even among the secular schools. (Sorry, those of you who have Ivy growing about your heads.) There are so many qualified young science instructors available today that even the smallest of schools can acquire a credible science faculty. Besides, the incoming student often has the scientific acumen of a rock and is grateful for any new knowledge.

At the graduate level in science, the funding and the quality research professors go to the big guys -- the Ivy’s, the Big Ten and the University of California octopus. Yes, there are exceptions in specific areas of science but not enough to be more than a blip on the curve. If you want to learn how to pursue the truth in science under the most advantageous circumstances AND you qualify for admission to their program (see, there is that pressure again) you have to go with the big ones! Otherwise, you will get to visit one of them for two to four years to be anointed by a post-doctoral appointment.

The scientific quality of the Catholic University graduate programs is usually contained in their medical schools (where the competition for acceptance is even more severe) and their pharmaceutical house funded research is usually aimed at discovering the cure (Americans are not very good at preventive medicine) rather than the truth. And even here, just as with their athletic teams, the number of Catholic students is spotty as best and they are too busy to be bothered by formal, moral mentoring.

Coming In The Back Door

After leaving school, there is a subtle way that you, as a moral, truth-seeking individual can very definitely influence your peers or students without causing an uproar. This can be accomplished in any academic research setting by quiet example. The way you live your public life -- your respect for the rights and property of others; your willingness to help others overcome their technical obstacles by use of your own experiences; your obvious respect for the truth (it is really scary to read an obviously falsified technical paper) - can be the Catholic influence that slowly and quietly steers others down the moral technical path.

Today this quiet mentoring may be more important than ever. Research conditions have changed drastically. Because of reduced numbers and an entrepreneurial approach to science, those that are left in industrial and government research laboratories are being asked (required?) to do even more with fewer resources. Twelve and fourteen hour work days are common; first experiments are expected to work properly; answers are required in half the time. Again, the external pressures may lead some to assume the experimental results -- with potentially dire consequences in the future.

Summary

The pursuit of truth starts in the crib. Here a Catholic influence can exert a profound effect. The push toward a pursuit of truth in science may also come in the home, but most probably in high school. Here again, a moral, Catholic influence may reap dividends in preparing for future, honest interpretations of scientific results. However, in undergraduate and graduate schools the specific need for a formal Catholic influence that leads one to a pursuit of truth in science may have some small value in the former but is too late (and usually non-existent) at the latter level of education. After graduation, influencing your peers or students by example may be an effective approach but this does not require a Catholic University setting -- only the courage of your convictions.

Questions

Does the author assume that Catholics are more moral than other people? Or does he assume that Catholics should be more moral than others? Is either of these assumptions valid? Why?

Are the ethical and moral concerns of the author as significant as he implies? What will motivate science students, professors, researchers and administrators in science to place truth ahead of prestige, wealth and influence?

How can we grow in love of both the creation and the Creator through our work in science?

How can we help people see the broader issues of integrating science and faith into their lives? Our own lives?

Is truth the most important “value” in the life of a scientist? But we read in St. Paul that “it is love that makes the building grow.” Do we have to go beyond truth to a love and appreciation for the “physical systems” we are working with?

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