

Faith and Science

Augustus N. Lopes interviews Karl H. Kienitz

On Sept 13, 2012, the original text of this interview in Portuguese was posted on [O tempora! O mores!](#), an Internet blog maintained by Dr. Augustus Nicodemus Lopes, Chancellor of *Universidade Presbiteriana Mackenzie*, São Paulo, Brazil. A version of the interview was aired by TV Mackenzie (São Paulo) and is available from [YouTube](#).

Augustus - You are a professor in one of the most respected technology schools of the country, where scientific methods certainly are followed rigorously. At the same time, you are a Christian who professes to believe in the reports of the Bible. Is there anything in science that would force you to disbelieve the Bible?

Karl - It's almost the opposite: there are things in the Bible that help me to trust in the scientific method as a useful tool. Among other things, the Bible reveals that God is consistent in his government of creation, and not full of whims (e.g. in Romans 1:20, "For since the creation of the world God's invisible qualities - his eternal power and divine nature - have been clearly seen, being understood from what has been made, so that people are without excuse.") So, beforehand I expect to find regular patterns in the study of nature, and that is what the scientific method exists for.

Augustus - Why do some people insist that there is a radical incompatibility between Christian faith and modern science?

Karl - Because such people lack consistent concepts of science and faith (e.g. they confuse faith with religion or theology, or confuse science with plausibility), or have ideological reasons to dogmatize an incompatibility between science and Christian faith, which does not really exist.

Augustus - Could you give a definition of science? And say why it does not conflict with the Christian faith in a God who created all things?

Karl - Science is knowledge or a system of knowledge covering general truths or the operation of general laws identified and tested through the scientific method. The scientific method is a set of rules that make use of reason to gather observable, empirical and measurable evidence.

Although procedures vary from one area of science to another, you can determine certain elements that distinguish the scientific method from other methods. Initially the scientist proposes hypotheses to explain a certain phenomenon or observation of interest. Based on these hypotheses, the scientist makes predictions and then performs experiments and verifications to test those predictions. Unconfirmed predictions lead to rejection of the hypotheses. Assumptions that were not rejected eventually are consolidated into theories. Every hypothesis or theory must necessarily allow making predictions, remains constantly subject to further tests and may be refuted in the light of new experimental information. The whole process must be objective, so that the scientist is impartial in interpreting the results.

Another basic expectation of the scientific method is that the whole process must be documented, both data and procedures, so that other scientists can analyze and verify them. Scientists are manufacturers of maps of the physical world. No map tells us everything that could be said about a particular field, but at a certain scale it represents the existing structure with good fidelity. In the sense of growing likelihood, of increasingly better approximations about matters at hand, science gives us an increasing and firmer grasp of material reality.

I return to the reasons for a "no conflict" between science and Christian faith, citing one reason only. As previously mentioned, the Bible tells us that the Creator is consistent in his government of creation. Thus, beforehand I expect to find regular patterns in the study of nature, which is the purpose of the scientific method.

Augustus - Is there scientific proof of God's existence?

Karl - No. But there is scientific evidence pointing to the existence of a Creator. Part of such evidence motivated Intelligent Design Theory. Additionally, historical evidence, philosophical and theological arguments indicate that it is more reasonable to admit the existence of God than to deny it.

Augustus - Statistics tells us that over 90 percent of the [Brazilian] population believes in God and that only a minority is atheist. But when the research is done within academy, the situation changes - most scientists claim to be atheist or agnostic. Why is this?

Karl - To a great extent, the current skepticism, atheism and agnosticism in academy is due to the space we give to impulsive intellectuals, who - on many occasions - should research more and talk less. As academics, we need to be pragmatic and critical in order to not accept ideological discourse. Let me cite an example. In 1888, Nietzsche wrote the following sentence: "The closer one is to science, the greater is the crime of being a Christian." This is part of a text entitled *Das Gesetz wider das Christenthum*. All his conduct and teaching exuded such notion. His phrase is particularly sordid because he wrote it a few years after the Christians Joule, Maxwell and Pasteur made their monumental contributions to science.

Today, in academy, many find it appropriate to simultaneously adopt Nietzsche's anti-Christian ideology and the science of the Christians Joule, Maxwell and Pasteur, whom Nietzsche - by the generality of his phrase - considered "criminals." Such option is essentially cultural and, in my opinion, deserves critical reevaluation.

Augustus - Among the founders of modern science, there are many researchers who were committed Christians, creationists - why is this fact omitted when their work is mentioned in the classroom?

Karl - Let me propose a slight rephrasing of the first part of your question: there were not "many" committed Christians among the founders of modern science; all of them were committed Christians, with a few possible exceptions, of which I do not remember even one...

In the classroom, mentioning the faith of Christians who worked as scientists is omitted for one of two reasons: (a) the teacher/professor has not the slightest idea that those scientists were Christians, or (b) the teacher/professor holds the opinion that the Christian faith of those scientists had no relation whatsoever to the science they practiced, which in many cases - perhaps in most cases - is completely at odds with the understanding of the scientists themselves. In the case of Kepler, Joule and Maxwell, to give you only three names, the motivation for doing science was closely linked to their Christian faith. But the Christian faith has impact not only on the motivation for doing science: the respect for human life, for physical and emotional integrity of individuals involved in research, concern for animals and the environment, etc. are natural concerns for a scientist who is also a committed Christian.

A scientist well known in Europe, who strongly emphasized the importance of the Christian faith to practice a science that serves humanity and does not harm nature, was Max Thürkau, a chemist who received the Ruzicka Award for Chemistry in 1963.

Augustus - Many young Christians end up losing faith and abandoning Christianity when they enter the higher education environment. What are the causes, in your opinion?

Karl - The young Christian often is not prepared to have his/her faith questioned. Moreover, often he/she succumbs to the "herd effect" (do, say and believe what everyone around you believes) and/or to the "demigod admiration syndrome" (accept without critical reflection what teachers/professors tell you). In churches young people should be taught how to share, discuss, question and defend their opinions.

Augustus - Currently there is a growing movement within academia, led by Christian as well as non-Christian researchers, who question the assertion of naturalist Darwinism that life in all its complexity is due to mutations and genetic adaptations that happened purely by chance and that the purpose that we can see in nature is only apparent. Can a Christian scientist who believes in the God of the Bible agree that chance is behind reality?

Karl - I see no possibility to use chance to explain the diversity of life. But this does not follow from my faith in the God of the Bible. Calculations involving probabilities, presented by several renowned scientists, clearly entail that at some point an (alleged) evolutionary process would need something like "useful guidance," which would make the process "non-Darwinian." As a Christian, I am sure that God created everything. Such certainty is "by faith," exactly as explained by the writer of the letter to the Hebrews, in the Bible. As an engineer, I am concerned with using nature and caring for it. I see major limitations to researching and articulating a comprehensive understanding of the origins of what we (including our explanatory ability) are an integral part. Systems theory does not support expectations

that such a venture succeeds. This is the main reason why I do not engage in conjectures about origins.

Augustus - What advice would you give to a young Christian who enters higher education and especially in the hard sciences?

Karl - I find it relevant that young Christians know and read their Bible, practice their faith, stay in touch with other Christian students, read good books and learn about the history of great scientists, including those with faith in the God of the Bible. (To all Christian students I recommend reading the book "A Mind for God," by James Emery White; this recommendation applies to students of all areas.)

Augustus - Is science at war with religion today?

Karl - Natural science is not at war with the Christian faith; the latter favored the emergence of the former. As Max Planck said, the most immediate proof of compatibility between Christian faith and natural science, even under detailed analysis and critique, is the historical fact that precisely the greatest scientists of all time, men like Kepler, Newton, Leibniz, were Christians. But some scientists and some theologians have been in conflict on several occasions throughout history for reasons that need to be studied and understood, so that the relevant lessons can be learned.

Augustus - Does science eliminate or confirm faith in God?

Karl - Theologians of Alexandria (4th and 5th centuries) emphasized: (a) the rational unity of the universe and its creation by God from nothing, (b) the intelligibility of the universe to the human mind, (c) the freedom of the contingent universe. This Alexandrian conception favored both the understanding and enjoyment of the work of Christ, as well as the development and use of the scientific method. Grosseteste and Roger Bacon, which I consider the first scientists (in the sense of using the experimental method), had this understanding of the Alexandrians. The theologian T. F. Torrance argues that the same holds for other scientists, for example for Maxwell. In this context, I understand that science, as a good result of the dedication and intellectual engagement of these Christians, ends up confirming their faith.

Augustus - How can the tension between scientific and religious accounts of the origin of the universe and life be eliminated?

Karl - I understand that there is tension between theological interpretations of Scripture and specific interpretations and extrapolations from observations by scientists. Theologians and scientists must continue their hard work, always seeking an understanding consistent with reality.

Augustus - To do science, it is necessary to assume that the universe and nature are intelligible to the human mind. What are the metaphysical and epistemological assumptions that justify the scientific activity?

Karl - In the following I list examples of philosophical beliefs that encourage scientific research:

- Events in the natural world typically have (immediate) causes in the natural world.
- Time is "linear."
- Causes and effects in the natural world have some regularity in space and time.
- Causes and effects can be - at least partly - rationally understood.
- The fundamental constituent of natural behaviors can not be deduced by logic from fundamental principles. We use observations and experiments to extend our logic and intuition.
- Studying nature by the means just described is a worthwhile investment of time and talent.

Augustus - Are the universe and life self-existent, self-sufficient, self-organized, or are they grounded in a reality that transcends the nexus of space-time-matter-energy?

Karl - History shows that the breakdown (by Alexandrian theologians) of the Aristotelian notion of the eternity of the world was seminal to the development of the scientific method. Physics today reports evidence pointing to a beginning to the universe. I decided to adhere to the Christian understanding that everything which exists is grounded in a reality that transcends the space-time-matter-energy nexus; I see difficulties for those who choose the other option.

Augustus - Are there limits to what science can tell us to explain the origin and reality of the universe and of life?

Karl - There are limits. I have already indicated my “suspicion” about the use of the scientific method to find a comprehensive explanation about origins. Louis Neel, who 1970 was awarded the Nobel Prize in Physics, said that a scientist's search for a comprehensive explanation of his/her origin is tantamount to one of the pistons of an automotive engine reconstructing the history of cars.

Augustus - As theories and scientific models are merely human constructs, with heuristic limits, and being subject to revision and even disposal in the context of theoretical justification, shouldn't scientific claims about the origin and evolution of the universe and life be less assertive?

Karl - Yes, definitely. Look at this statement from Prof. Franz M. Wuketits (Professor at the Universities of Vienna and Graz): “We assume the correctness of the principle of the theory of biological evolution, we assume that the theory of evolution has universal validity.” Assumptions of this kind are incompatible with science.

Augustus - Today science is founded on reductionistic materialism. Are living beings, especially humans, and the rest of nature, the result of matter and energy only?

Karl - The assertion before the question is not true. Science is founded on the scientific method and not on reductionistic materialism. Many may hold the opinion that the human being is the result of matter and energy only, but this is an opinion that runs into all sorts of difficulties when discussing ethics, aesthetics, emotions, consciousness, etc.

Augustus - Does this reductionistic materialism help or hinder the advancement of good science?

Karl - Reductionistic materialism hinders good science, among other things because of the ethical problems it causes. Prof. Max Thürkauf, whom I have already mentioned, made it clear that materialism is to be blamed for many nuclear and ecological disasters that we have witnessed in the twentieth century. Thürkauf stated that, if we want a science that serves man, the scientist must “pray and work.”

Augustus - Ideas, even scientific ideas, have consequences. How can the religious view of the human being's distinctive place in nature be reconciled with the Darwinian view that reduces him to the level of other animals?

Karl - I see no possibility of reconciliation.

Augustus - If there is no God, everything is possible (Dostoyevsky). If science in its heuristic limitation can not talk about values, why do scientists reject morality derived from the Holy Scriptures, and devalue human beings - *imago Dei* supposedly based on science?

Karl - The rejection mentioned in the question occurs for convenience. The phenomenon was already explained by Pascal: “The will, which prefers one aspect to another, turns away the mind from considering the qualities of all that it does not like to see.” “The heart has its reasons of which reason knows nothing.”

Augustus - Current advances in several areas of science are increasingly strengthening the reports about creation found in monotheistic religions, but the scientific community does not address these issues. Would this be out of fear of failure of scientific materialism and of a return of God to universities as a philosophically and scientifically plausible idea?

Karl - Yes, I see that this fear exists in part of the academy. However, monotheistic faith can not result from scientific interpretation. This is not the way to follow. In particular, the Christian faith has an *a priori* nature in that it presupposes a notion of God. In such context, something like natural theology can help a little. I think Romans 1:20 legitimizes such perception.

Personally I also value philosophical arguments about the existence of God. But what is really important (regardless of whether or not you believe in God), is giving proper attention to Jesus Christ, whose work and ministry are reliably described in the New Testament. Its reports and stories compel us to either define our position or deliberately ignore the issue, the second option being quite inconsistent with any claim to seriousness. It is occupation with history... Furthermore, Christian faith results in observable

reality in our own lives. From there, a dynamic knowledge of God can be established, with dynamics similar to that of scientific knowledge.

I think that the explanation of T. F. Torrance on the stratification of the knowledge of God might improve our understanding of the similarity that exists between scientific knowledge and Christian theological knowledge.