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To Sing the Hymn of the Universe

Dear Friends,

St. Xavier's college, Kolkata, with its motto of *Nihil Ultra* (Nothing Beyond), always ventures into a new horizon. This year with initiatives from the departments of Physics and Environmental studies, an innovative theme on **Science and Religion** was chosen for a one-day seminar on " **THE UNKNOWABLE**

AND THE COUNTERINTUITIVE". We had the chief guest from our sister institute Santa Clara University, California, **Prof. Dr. Aleksandar Zecevic**. As a Professor of Electrical Engineering and Associate Dean, he devoted to the idea that "scientific knowledge can often be helpful in initiating

interreligious and intercultural conversations. He expressed that this is a topic that should be of interest to Jesuit institutions anywhere in the world, since it offers the opportunity for students to engage in a truly global exchange of ideas on questions that are at the heart of Ignatian spirituality".

Pierre Teilhard de Chardin, a Jesuit figure-head, unfolded of a new cycle in the life of mankind that moves us profoundly not only by the amazing lucidity of his scientific vision, but also by his love, his immense love of God. His scientific search enabled him to see the constant presence of the Creator and to sing a constant praise about the Creator, the Hymn of the Universe.

May we too join in singing the hymn of the Universe to the Creator, through our intellectual pursuit and scientific vision?

Dr. J. Felix Raj, SJ.
Director

Science and Religion: "Many are called, few are chosen"

Dr. S. Xavier, SJ, HOD, Dep. of Environmental Studies, SXC, Kolkata.

In the developed world, regular seminar/conference/workshops are held throughout the year on topics related to Science, Religion and Society as is evident from the activities of a number of organizations like The Metanexus Institute, the Zygon Center for Religion and Science, The Faraday Institute for Science and Religion at the University of Cambridge etc.

St. Xavier's College, Kolkata, ventured out into a noble endeavor this year, of going beyond the academics by organizing a course on "Science and Religion". **Prof. Dr. Aleksandar Zecevic**, a Professor of Electrical Engineering and Associate Dean in Santa Clara University, California, was the course instructor. A thorough foundation to this course was given to the science students on "Reason and Religion", by **Swami Atmapriyananda**, Vice Chancellor, R K Mission Vivekananda University, Belur, Howrah and "Quest and Questioning of Science and Religion" by **Rev. Dr. Xavier Savarimuthu S.J.**, Head, Dept. of Env. Studies, SXC, Kolkata. The East and the West met to synchronise the two important concepts, Science and Religion.

Although India, as a cradle of spirituality, is ushering in as a new center of superpower; be it military, economic, science and technology, it has the utmost need of a synergy of Religious & Scientific strengths. In an age of religious intolerance and extreme spread of consumerism, the country should have active

centers of interdisciplinary research centers catering to the society through the apparently diversified paths of Religion, Science and Technology. They should be dedicated to relating religions' traditions and the best scientific knowledge in order to gain insight into the origins, nature, and destiny of humans and their environment and to realize the common goal of a world in which love, justice, and responsible patterns of living prevail.

It is with this objective, around 49 students enrolled for the course on Science and Religion by **Prof. Zecevic**. 21 of them attended the 3-day on-site lectures, 12 of them completed the assignments and 6 of the articles were selected for the publications in this newsletter. These articles run through various issues on Science and Religion; "The Good, the Bad & the Ugly", "Science and Religion; For the Greater Good", "Religious Pluralism: Giving every thought a Fair Chance", "God of the Gaps", "Miracles: A bizarre reality?" and "Contact and Coexistence of Science and God". **Saswati Banerjee**, from the Dept. of Mathematics attained highest score in the class (100%) for her essay "**The Good, the Bad & the Ugly**". An abridged version is published here. Many were called and few were chosen.





Science and Religion in Jesuit Higher Education: Building a Network for the 21st Century

Prof. Aleksandar Zecevic

School of Engineering, Santa Clara University, California, USA.

In his keynote address at the international conference devoted to Jesuit higher education (which was held in Mexico City in April of 2010), Fr. Adolfo Nicolás, the Superior General of the Society of Jesus, issued the following challenge to Jesuit universities across the world:

“As secularism and fundamentalism spread globally, our universities are called to find new ways of creatively renewing this commitment to a dialogue between faith and culture that has always been a distinguishing mark of Jesuit learned ministry. This has been the mission entrusted to us by the Papacy in the name of the Church. The world today needs such a service. The unreasoning stance of fundamentalism distorts faith and promotes violence in the world, as many of you know from experience. The dismissive voice of secularism blocks the Church from offering to the world the wisdom and resources of the rich theological, historical, and cultural heritage of Catholicism. Can Jesuit universities today, with energy and creativity, continue the legacy of Jesuit learned ministry and forge intellectual bridges between Gospel and culture, faith and reason, for the sake of the world and its great questions and problems?”

The remarks made by Fr. Nicolás reflect his concern that the loudest voices in the public discourse about religion these days are those of fundamentalists and aggressive secularists, whose positions in this matter tend to be rather extreme and inflexible. He concludes that a more moderate and constructive approach is needed, and suggests that Jesuit universities ought to play a leading role in articulating it. When one carefully reads his entire speech, it becomes clear that what Fr. Nicolás actually has in mind is a coordinated effort by the entire Jesuit network of higher education, which extends to six continents and includes more than 150 institutions. Such a strategy clearly has potential, since all the institutions that comprise this network share certain fundamental goals and values, and are bound by a common tradition. But it is also fraught with difficulties, due to geographic distances, cultural diversity, and the many logistical problems that such an undertaking would entail. It is therefore important to examine how such an ambitious idea might be implemented in practice.

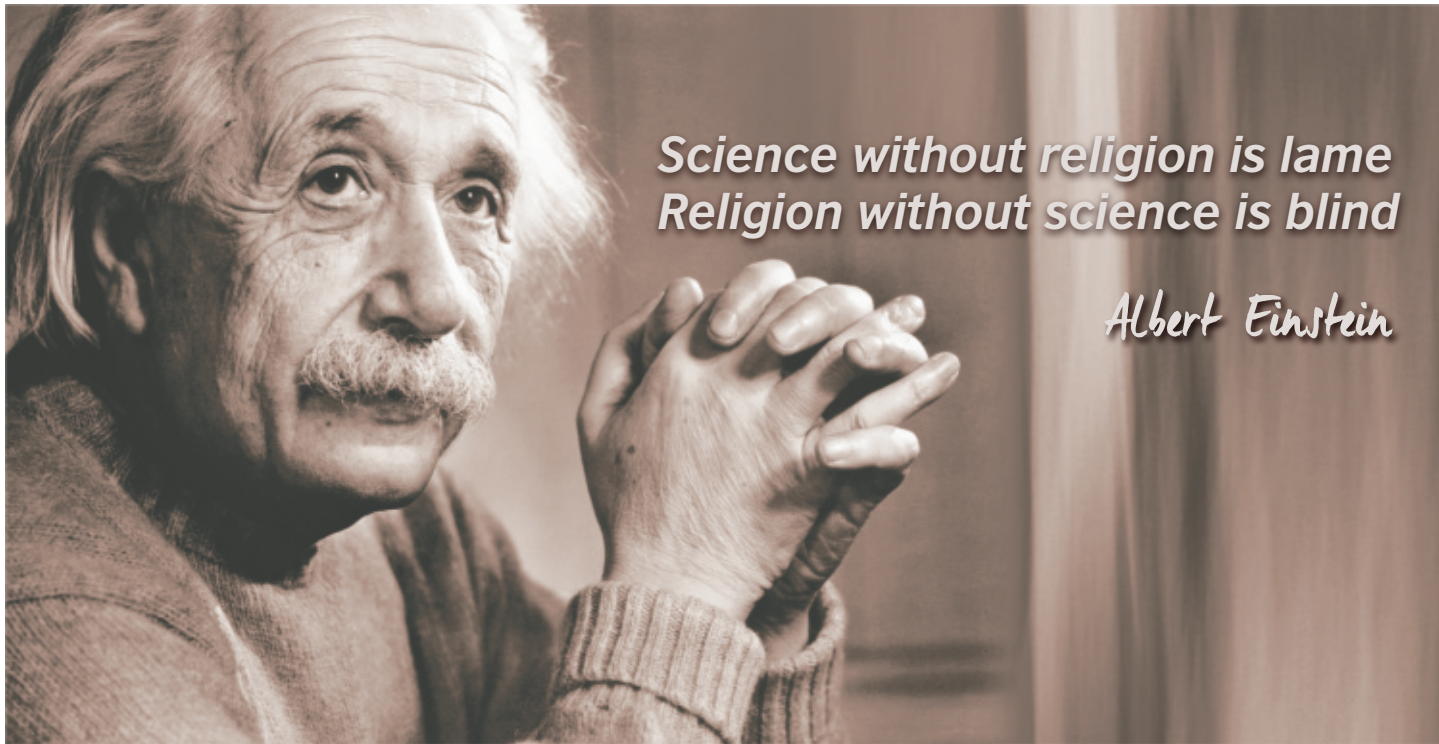
It seems to me that a logical first step in this process would be to identify topics that are of common interest to such a diverse group of institutions, and are equally relevant to society at large. The



relationship between science and religion appears to be a natural candidate, since scientific results are something that we can all agree on despite our cultural differences. This topic is of interest to the general public as well, since contemporary skeptics have repeatedly brought into question the rationality of faith, and have argued that religious beliefs are essentially incompatible with scientific knowledge. As a result, there is a widespread (and growing) belief that faith is rooted in ignorance, and that scientifically educated individuals who are religious are in some sense being “intellectually dishonest”.

Claims of this sort are often substantiated by numerous inconsistencies and fallacies that are associated with fundamentalist views and literal interpretations of religious texts. When seen from that perspective, religion might indeed seem to be no more than a delusion, with potentially dangerous consequences. What secular critics fail to realize, however, is that these conclusions apply only to very crude and simplistic interpretations of religion. Some of the arguments put forth by modern theologians are actually far more sophisticated, and happen to be entirely compatible with established scientific knowledge. This is something that the general public ought to be informed about, and Jesuit institutions worldwide are perfectly positioned to do so.

My own class on science and religion, which I have taught at Santa Clara University since 2006 (and am now offering in “hybrid” form at St. Xavier's College, Kolkata, as well), represents an effort to



*Science without religion is lame
Religion without science is blind*

Albert Einstein

convey this outlook to a global, technically educated audience. I usually begin by telling my students (who are mostly future scientists and engineers) that my primary objective is to “undermine” what they have learned in classical physics, and challenge their habitual perceptions of reality. I refer to this approach as my “Shock and Awe Strategy”, in reference to Niels Bohr's famous insight that “anyone who has not been shocked by quantum physics has not understood it”.

This is not to say, of course, that quantum mechanics is the only scientific discipline that leaves us “shocked and awed”. Einstein's realization that spacetime is “curved” and “interacts” with matter has a similar effect, as do theories which suggest that all forms of matter and energy are actually composed of tiny nine dimensional “strings”. The mere possibility that nature could be organized in such an unusual manner inspires a sense of genuine wonder, which is precisely the kind of experience that theologians see as conducive to religious belief. Unfortunately, most non-experts are unaware of these results, and continue to think of nature in terms of the traditional Newtonian paradigm, which maintains that physical processes are generally “well behaved” and predictable. As a result, they tend to believe that science can (and eventually will) answer all the fundamental questions that have perplexed humanity since the dawn of history.

Those who have a better understanding of modern science are well aware, however, that this is not the case. What we have learned in recent decades paints a very different picture of physical reality, and opens a window into a complicated, dynamic and unpredictable world that is quite unlike the world of our everyday experiences. Although new facts about nature are being discovered at an ever increasing pace, its fundamental structure remains elusive, and we lack the appropriate language to describe it. Indeed,

one of the most profound insights of modern science is that *we now know what we can never know*, which is a conclusion that theologians would readily appreciate.

These realizations are something that I try to systematically convey to the students who take my class. In doing so, I make a concerted effort to demonstrate that scientific knowledge is *not* the enemy of religion – it is the enemy of *superstition*, which is a very different thing. Such a view finds support in the fact that mystics of all traditions have always seen knowledge as fundamentally good, while stressing at the same time that certain truths *cannot be known by reason alone*. Modern science actually says something surprisingly similar, and acknowledges the existence of unknowable truths in the domain of physical reality.

It would appear, then, that scientists and theologians are not that far apart when it comes to fundamental questions about reality – they both agree that a profound mystery lies at the heart of the cosmic order, and this can be seen as the starting point for a constructive conversation.

There may, perhaps, be disagreements regarding the *character* of this mystery, but that is a very different (and far more moderate) discrepancy, which most certainly doesn't imply that the scientific and religious views are mutually exclusive. ■



The Good, the Bad & the Ugly

Saswati Banerjee

Dept. of Mathematics, 2nd Year

"I believe in God, but not as one thing, not as an old man in the sky. I believe that what people call God is something in all of us. I believe that what Jesus and Mohammed and Buddha and all the rest said was right. It's just that the translations have gone wrong." John Lennon

There has been a transformation of my views and ideas on the existence of 'God' and popularly debated relationship of Science and Religion from day 1 till now. An open mind is a free mind. It is always good to walk into a room confused, believing in speculations and hearsays and having a doubt on your faith and believes. However, to me, it is also necessary to have willingness to

strive for a greater truth so as to widen your perspective and outlook towards life. This is precisely how I would attempt to describe my experience through this course in a nutshell. It was a transformation from just being and accepting, to actually believing in the existence of a greater truth. It is always great to remove the clouds of illusion and look at things from a clear perspective thereby allowing flexibility and tolerance towards varying thoughts and beliefs.

I believed and will always believe that Science and Religion are two sides of the same coin. Their claims and methodologies adopted for practice might be different or even contradictory; however there is



no denying the fact that there does exist a common ground for unification of such entities. My fundamental belief remains the same, but my approach towards the relationship between science and religion has definitely changed. To me, it was more like an amendment as it brought clarity to my thoughts and very well justified the saying that Doubt strengthens faith! I have always been a believer of god; much because of my upbringing in a family devoted to religious preaching's and also because my mind suggests that it is true, that there exists a being, above all other beings. I've always been on the razors edge, when it comes to talking about whether science is equipped to overpower and outcast religion and provide a scientific approach to anything and everything happening around us. I'm a bit hesitant to accept the simplicity of such a statement. It is undoubted that science can explain, using the language of mathematics, the bizarre and astonishing results of quantum mechanics to the simple, quite noticeable changes in the climate. However what I've learned to question is how much does it know and how much can it know? Every person and every thing has a functioning domain, in which it is most effective. Science, analogically, can help reason with the existence of God but cannot prove his absence.

Through this course, I've realized that science and religion needn't be pitted against each other. It isn't important whether a person is skeptic or a believer of god. It isn't about debating if the scientific approach to things is more rational than the approach of the theologians. It is necessary to understand that both are active and profound in their respective domains and if there is one thing that both agree upon, it is the existence of 'Mysteries'. Science in fact doesn't fail to justify that if it can have mysteries, not just unknown but unknowable, then so can religion. "The possession of knowledge does not kill the sense of wonder and mystery. There is always more mystery" It was rather enlightening to realize and understand that there is after all more to life than the quantifiable and measureable entities. One's aim must not be to limit knowledge, but to widen it. It isn't about proving the existence of

God, but in having faith that there lies a greater divine truth, maybe a greater being, supreme and above all.

Over the 10 weeks, I've understood that science and religion are not mutually exclusive. There are strong grounds of unification like that of aesthetics and ethics, or the presence of mysteries and unknowable truths and there also exists controversial yet logical perspectives of both scientists and theologians.

"You are right in speaking of the moral foundations of science, but you cannot turn around and speak of the scientific foundations of morality." Albert Einstein

When people conclude that science is advanced enough to explain the 'once bizarre' claims of religion, they talk about the humanly established myths which human's later disproved logically or scientifically. Religion, however, did not make such claims or give any lead to superstitious beliefs. Religion is a much higher entity. While there are things like miracles and mystical experiences, there are also affirmative truths and values laid down by every religion. If miracles are just a matter of luck, then what is luck? Who defines luck? Is it another uncertain phenomenon? ■



Humours in Science and Religion

Dr. Xavier Savarimuthu, SJ.

I am sure after going through the pages on the issues of science and religion, you are feeling quiet heavy. I thought of refreshing your mind before you move on to the next set of articles; there fore I have named this article as " Humours in Science and Religion". They correspond to various dimensions of our lives and so I am presenting them here for your humorous reading.

Unique Confession and Amazing Reply



A girl wants to check whether her pastor is IT-saavy and so makes this unique confession and she got an amazing reply from the priest -

Girl: Father, I'm madly in love with a boy who is far away from me. I'm in India and he lives in UK.

We met on marriage **website** (matrimony.com), Became friends on **facebook**, Had long chats on **whatsapp**, Proposed each other on **skype**, and now 2 months of relationship through **viber**,

I need your blessings and good wishes father...

... am I on the right path father ?

Priest replied to her:

Good my child..

Now get married on **twitter**, Have fun on **tango**, Buy your kids from **ebay**, Send them through **gmail**, And if you are fed up with your husband or kids, toh unko OLX pe bech de (send them by OLX)

• Girl shocked • Priest rocked

Electricity and Homework

Teacher: Why did you not do your homework?

Student: There was no electricity.

Teacher: There could have been a candle/lamp arrangement.

Student: The Match-box was in the Deity's room.

Teacher: Why didn't you enter and take it to light the candle?

Student: I had not taken a bath.

Teacher: Why didn't you take a bath?

Student: I gave you the answer in the first question; there was no electricity.

Getting angry with God and Doctor

A spiritual Guru was warning his followers that one should not get angry or show one's bad temper to God and Doctor? The devotees asked him, why?

The Guru Explained; if you get angry and show your temper to God, He will give you diseases and send you to doctor.

If you get angry and show your temper to a doctor, he may give you a wrong treatment and send you back to God.



I have not failed.
I've just found 10,000 ways
that won't work.



Thomas A. Edison

Farmer's Honesty and God's Generosity

"One day, while a woodcutter was cutting a branch of a tree above a river, his axe fell into the river.

When he cried out, the Lord appeared and asked, "**Why are you crying?**"

The woodcutter replied that his axe has fallen into water, and he needed the axe to make his living.

The Lord went down into the water and reappeared with a **golden axe**. "Is this your axe?" the Lord asked.

The woodcutter replied, "No."

The Lord again went down and came up with a **silver axe**. "Is this your axe?" the Lord asked.

Again, the woodcutter replied, "No."

The Lord went down again and came up with an **iron axe**. "Is this your axe?" the Lord asked.

The woodcutter replied, "Yes."

The Lord was pleased with the man's honesty and gave him all three axes to keep, and the woodcutter went home happy.

Some time later the woodcutter was walking with his wife along the riverbank, and his wife fell into the river. When he cried out, the Lord again appeared and asked him, "Why are you crying?"

"Oh Lord, my wife has fallen into the water!"

The Lord went down into the water and came up with Priyanka Chopra."

Is this your wife?" the Lord asked..

"Yes," cried the woodcutter.

The Lord was furious. "You lied! That is an untruth!"

The woodcutter replied, "Oh, forgive me, my Lord. It is a misunderstanding.

You see, if I had said 'no' to , Priyanka Chopra You would have come up with Kareena Kapoor .

Then if I said 'no' to her, you would have come up with my wife. Had I then said 'yes,' you would

have given me all three. Lord, I am a poor man, and am not able to take care of all three wives, so

THAT'S why I said yes to Priyanka Chopra."



A Logic Teacher and a Clever Student

A Logic teacher teaches the basics of logic by the following example;

A=B

B=C

Therefore A=C.

He asks the students whether they had all understood this example.

Since all of them knodded in unision that they had understood, he asks a boy to explain with an example;

The boy answers by following example

Sir, we love you

You love your daughter

Therefore, we love your daughter.

Doctors' ICU Mystery Solved

In a hospital ICU, patients died in the same bed on every Sunday between 10 to 11 am

Doctors thought it is something super natural

Worldwide Expert team was formed

to investigate the cause

Next sunday, at 10 AM, all doctors & nurses stood around that bed & waiting to see what it was...???

Then suddenly Gangubai (Part time Sunday sweeper) entered the ICU, unplugged the Life Support system of that bed & then plugged her Mobile Charger!!

God Qualifies the Called

According to the Bible;

Jacob was a cheater,

Peter had a temper,

David had an affair,

Noah got drunk,

Jonah ran from God,

Paul was a murderer,

Gideon was insecure,

Miriam was a gossiper,

Martha was a worrier,

Thomas was a doubter,

Sara was impatient,

Elijah was moody,

Moses stuttered,

Zaccheus was short,

Abraham was old, and Lazarus was dead....

God doesn't call the qualified,

He qualifies theCALLED!



Science and Religion; 'For the Greater Good'

Sanyam Dugar

Dept. of Economics, 2nd year



"A knowledge of the existence of something we cannot penetrate, of the manifestations of the profoundest reason and the most radiant beauty, which are only accessible to our reason in their most elementary forms - it is this knowledge and this emotion that constitute the truly religious attitude; in this sense, and in this alone, I am a deeply religious man." Albert Einstein

I believe that Science and Religion are two systems of knowledge. Science and religion both aim at describing reality and reality is one. It is not possible for something to be scientifically false and religiously true. Together, both have acted as the real progenitors of civilization.



Abdu'l-Baha expressed this idea forcefully in the following passage: "If religious beliefs and opinions are found contrary to the standards of science, they are mere superstitions and imaginations; for the antithesis of knowledge is ignorance, and the child of ignorance is superstition. Unquestionably there must be agreement between true religion and science. If a question be found contrary to reason, faith and belief in it are impossible, and there is no outcome but wavering and vacillation."

If science is the motion, religion surely is the direction. There's one point that Science has yet to explain: if we have laws that can explain just about everything, how does one then explain the existence of these laws themselves? Sir Isaac Newton thought that Science teaches us something about the way God thinks. If one believes that God was the creator, then Science could teach him or her a great deal about the nature of the mind of God. It is a really powerful idea!

The need of the hour therefore is for continuing and encouraging the fundamentally important debate in relation to Science, Religion and what each truly represents. It is important to accept that all dimensions of humanity and the crucial role of value systems cannot be derived from Science alone and that Religion can progress in achieving its aims of spreading humanity in its purest forms throughout mankind by accepting that Science complements Religion and even seeks to achieve knowledge in ways that are as profound and beautiful than ever. ■

Religious Pluralism:

Giving every thought a Fair Chance

Nivedita Todi

Dept. of Economics, 2nd Year

The Hindu chronology of the four *Yugas* comes across to me as nothing but four different cosmic calendars. Each with a beginning and an end, giving rise to another beginning and an end. To elaborate on the above concept, let us take a look at what Dr. Devdutt Pattanaik has to say:

"There is my world and there is your world, and my world is always better than your world, because my world, you see, is rational and yours is superstition. Yours is faith. Yours is illogical. This is the root of the clash of civilizations. It took place, once, in 326 B.C.

Alexander, a young Macedonian, met there what he called a "gymnosophist," which means "the naked, wise man." We don't know who he was. Perhaps he was a Jain monk, like Bahubali over here, the Gomateshwara Bahubali whose image is not far from Mysore. Or perhaps he was just a yogi who was sitting on a rock, staring at the sky and the sun and the moon.

Alexander asked, "What are you doing?" and the gymnosophist answered, "I'm experiencing nothingness." Then the gymnosophist asked, "What are you doing?" and Alexander said, "I am conquering the world." And they both laughed. Each one thought that the other was a fool. The gymnosophist said, "Why is he conquering the world? It's pointless." And Alexander thought, "Why is he sitting around, doing nothing? What a waste of a life."

To understand this difference in viewpoints, we have to understand the subjective truth of Alexander - his myth, and the mythology that constructed it. Alexander's mother, his parents, his teacher Aristotle told him the story of Homer's "Iliad." ... But these are not the stories that the gymnosophist heard. He heard a very different story. He heard of a man called Bharat, after whom India is called *Bhārata*. Bharat also conquered the world. And then he went to the top-most peak of the greatest mountain of the center of the world called Meru. And he wanted to hoist his flag to say, "I was here first." But when he reached the mountain peak, he found the

peak covered with countless flags of world-conquerors before him, each one claiming "I was here first ... that's what I thought until I came here." And suddenly, in this canvas of infinity, Bharat felt insignificant. This was the mythology of the gymnosophist. Two different mythologies. Which is right? Two different mythologies, two different ways of looking at the world. One linear, one cyclical. One believes this is the one and only life. The other believes this is one of many lives. And so, the denominator of Alexander's life was one. So, the value of his life was the sum total of his achievements.

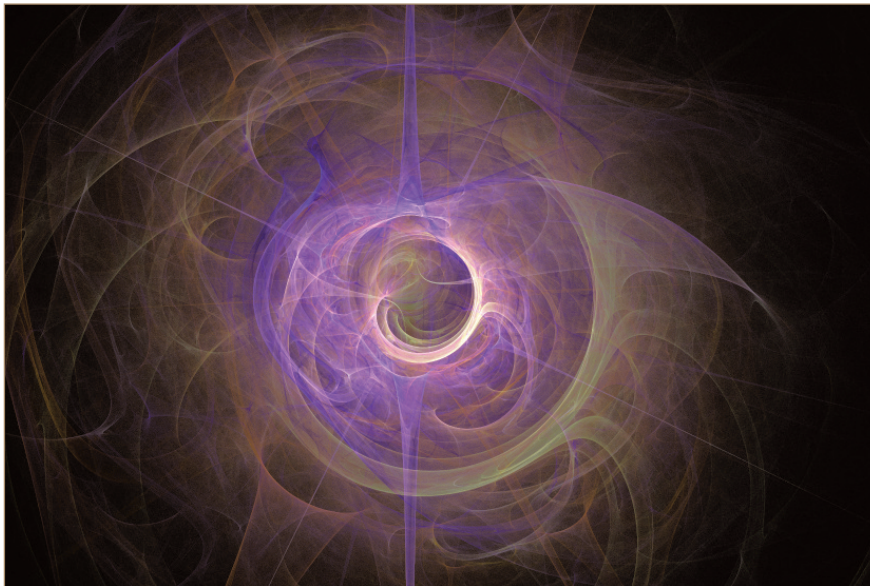
The denominator of the gymnosophist's life was infinity. So, no matter what he did, it was always zero. And I believe it is this mythological paradigm that inspired Indian mathematicians to discover the number zero. Who knows?

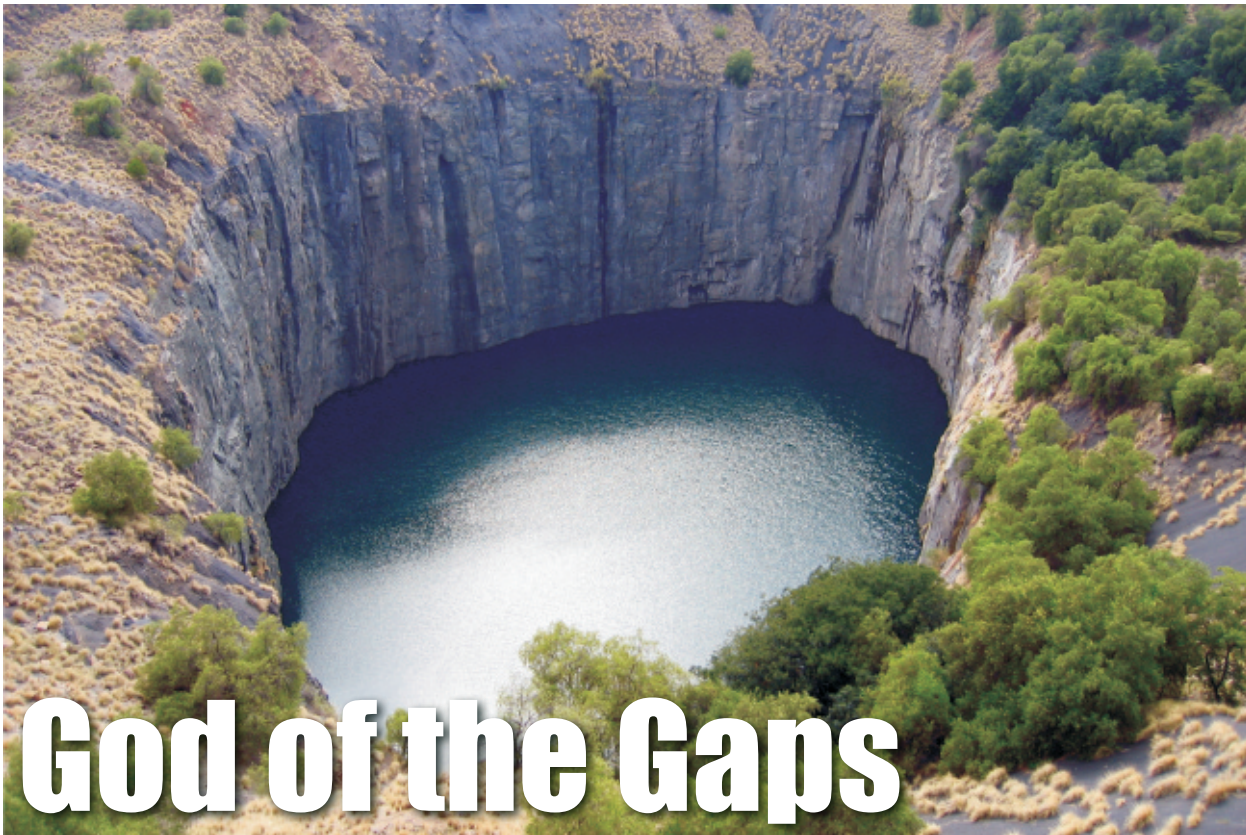
Having attended Professor Zecevic's seminar, and after having deliberated on the synergy between science and religion, currently I am of the belief that, science and religion are

two sides of the same coin. While science is needed to serve the logical needs of the human brain, religion is needed to serve the emotional bit. None on its own can wholly suffice. While science elaborates on what our brains can conceive, religion tells us that there is a lot still left to be conceived, and a hope that the impossible too may one day be conceived.

As the world moves towards randomness and chaos, as explained by the concept of Entropy, I believe that the sole aim of every human should be to lead a pure life, such that we are spared from a rebirth, the chance given to correct our wrongs. Such a life would be meant for others. A life dedicated to the needy. A life given to the cause of purging our mother earth. Only when we live a selfless life, will we truly attain 'moksha' or salvation, and escape the cycle of life and death.

Every Religion is a different path to reach the same God; the God that lies within us. And the supreme science of meditation can take us there. Nothing else matters. ■





God of the Gaps

Sudarshana Laha

Dept. of Physics, 2nd Year

There are many questions that simply are not amenable to purely scientific analysis. A very lucid discussion of this issue can be found in the book *The Limits of Science* by Nobel Prize winner (and atheist) Sir Peter Medawar, who wrote that:

"There is indeed a limit upon science made very likely by the existence of questions that science cannot answer and that no conceivable advance of science would empower it to answer... It is not to science, therefore but to metaphysics, imaginative literature or religion that we must turn for answers to questions having to do with first and last things." & "Science is a great and glorious enterprise - the most successful, I argue, that human beings have ever engaged in. To reproach it for its inability to answer all the questions we should like to put to it is no more sensible than to reproach a railway locomotive for not flying or, in general, not performing any other operation for which it was not designed."

Science's great power derives from its self-imposed limits. It is wrong to ask it to pronounce on issues outside its jurisdiction. In fact, the most important decisions in life cannot be addressed solely by the scientific method, nor do people really live as if they can. In the words of Sir John Polkinghorne, former professor of Mathematical Physics at Cambridge and Anglican priest:

"We are entitled to require a consistency between what people write in their studies and the way in which they live their lives. I submit that no-one lives as if science were enough. Our account of the world must be rich enough - have a thick enough texture and a sufficiently generous rationality - to contain the total spectrum of human meeting with reality."

As Christian thinkers throughout the Middle Ages wrestled with the questions of miracles and God's action in the world, the

following ideas emerged: if the regularities of nature are a manifestation of the sustenance of God then one would expect them to be trustworthy and consistent, rather than capricious. The regular behavior of nature could be viewed as the "customs of the Creator" as it were. Christians glorify God by studying these "laws of nature." A strong case can be made that such theological realizations helped pave the way for the rise of modern science.

A similar sentiment lies behind a famous exchange between those old adversaries, Gottfried Wilhelm Leibniz and Sir Isaac Newton. The latter noticed that the orbits of the planets did not appear to be stable when calculated over long periods, and postulated that the solar system needed occasional "reformation" by God. Leibniz objected that, "if God had to remedy the defects of His creation, this was surely to demean his craftsmanship." In other words, the regular sustaining activity of God, as evidenced by natural laws, should be sufficient to explain the regular behaviour of the solar system, without the need for additional ad-hoc interventions. Making it right the first time is more glorious than having to fix it later. ■



Miracles: A bizarre reality?



Nadish Jaiswal

Dept. of Physics, 2nd Year

Science rejects miracles for exactly the same reasons that accountants do when conducting audits, the police do when conducting forensics, and mechanics do when trouble-shooting cars.

The idea that we always seek natural explanations for phenomena is called *methodological* naturalism. It must be sharply distinguished from *philosophical* naturalism, which is the *a priori* assumption that only natural phenomena exist. It is perfectly possible to be a religious believer and still practice methodological naturalism.

From the discussion above we can draw two important conclusions about accepting miracles as explanations.

1. All theologies that accept miracles admit they are exceptional events. That's what "miracle" means. So if there's a possible natural explanation of a phenomenon, we go with the natural explanation.
2. If you stand to gain from explaining something away as a miracle, *you don't get to play.*
 - If you're from Enron, you don't get to claim your documents disappeared miraculously. It only happened if the FBI and the SEC said it did.
 - If you're a defendant, you don't get to claim your fingerprints miraculously appeared at a crime scene. Only the DNA is allowed to say that.

- If you're a bookkeeper, you don't get to say money miraculously disappeared from your company. If the auditors conclude that's what happened, all right, but not you.
- If your religion needs to postulate a miracle to keep some doctrine from going south, guess what? You don't get to do that. Only someone with nothing to gain from claiming a miracle can say that.

If a "miracle" is said to be utterly beyond the realm of natural law as discoverable via the process of empirical investigation, then science, properly speaking, cannot comment one way or the other on such phenomena. But there are serious theological difficulties with the miracle-as-transgression-of-law viewpoint. As Anglican theologian Keith Ward explains, "Why should God make a set of beautiful and elegant laws, only to break them when the Divine Being felt like it? Does this not make God some sort of mathematical criminal?"

Most present-day theologians do not regard miracles as utterly beyond the realm of natural processes. For example, contemporary scientist and Anglican priest John Polkinghorne argues that miracles, particularly as presented in the New Testament, are "not divine tours de force in which God shows off divine power, but windows into a deeper view of reality than would otherwise be visible." And 20th century LDS theologian James Talmage wrote, "Miracles are commonly regarded as occurrences in opposition to the laws of nature. Such a conception is plainly erroneous, for the laws of nature are inviolable."

Thus, whether we examine contemporary writings or more traditional sources, the consensus view is that the notion of a "miracle" in Judeo-Christian religion is much more subtle and nuanced than merely a contravention of the laws of nature. ■





Contact and Coexistence of Science and God

Amrita Benoy

Dept. of Bio-Technology, 4th Year

Why do we feel what we feel? Why do we love? Why is it important to be a good person? ... Science cannot answer these questions. And this is a major limitation of science. It is emotional behavior that brings quality to our lives. Imagine a world with highly competent human machines that don't have emotions? What would be the purpose of living in such a world? And God, in every sane religion, professes this principle of love more than anything else.

But the question is whether such freedom can be given to the interpretation of theology and God. Consider string theory, for example, which brings together quantum mechanics and general relativity. Standard quantum mechanics treats particles as points. The main idea of string theory is that all fundamental particles, both material and virtual, are composed of microscopic strings, like one-dimensional rubber bands. These strings can vibrate with an unlimited number of resonant patterns. The vibrational patterns of these microscopic strings correspond to different particles, matter and virtual. When two strings interact, there is no precise point of contact as strings are extended objects and this eliminates the mathematical problem of infinite probabilities. String theory proposed six additional spatial dimensions to the three-dimensional world. But why are only three of the nine dimensions, if string theory is correct, large enough to be experienced? There has not been any consensus

regarding the answer. This is a classic example of the speculative nature of scientific theories. Even if string theory is proved to be correct, there is no chance we would be able to detect the six additional spatial dimensions due to their extremely small size. There are many other scientific claims, like string theory, which would require extraordinarily high levels of energy, for validation. But science still takes these claims seriously, although they are not exactly provable.

So doesn't theology also deserve the same freedom of interpretation?

God had envisioned us to love one another. That is too simple a proposition, the rational man would say. Probably the answer to that is implicit in the question. It is the simplest things in life that are the most difficult to attain. We are always looking for complex solutions that the simple solutions escape our notice. ... Even if there could be a unified theory of everything and a set of mathematical principles that could describe the present, the past and future of the universe and its inhabitants, one can never extend a set of mathematical equations to dictate feelings such as love.

"Senses cannot grasp this marvel. Faith must serve to compensate."
(Borrowed from the hymn sung in my church during the Eucharistic adoration) ■