# McGill Chaplaincy's Radix

February/March 2005

# Faith in Science

IN GOOGLE WETRUST

### From the Editor's Desk . .

Sometimes I find myself caught between religion and science—or, more accurately, between religious and scientific *people*. In our contemporary western context, it's taken as a given that these two worlds collide and should generally try to avoid one another in order to maintain their integrity.

But in fact, this is not historically how science and religion have interacted. Western science owes a lot to religion. It was the Muslim devotion to the work of Allah that kept science alive in the early Middle Ages. Later, Christian monastics adopted the task of science. The result was that most of our early western scientists—Bacon and Copernicus, for example—were not only religious, but also held high positions within the church. The relationship isn't one-sided, though. Religion, I would make the case, also owes a debt to science. Roman Catholic natural law theory, for one, is based on Aquinas's empirical (though now outdated) understanding of the world around him. Religious persons continue to look for things like "proof" and "evidence" in daily life, and are not immune to penultimate, material concerns.

The point, though a very controversial one, is that one need not be either scientific or religious. When I converse with people of faith, I find myself encouraging them toward respecting the task and findings of science. We should do our best to appreciate, as Aquinas did, how our theology or religious philosophy concurs with our understanding of the physical world around us. When I am in discussion with a scientifically-oriented person, I am inclined to communicate the importance of being engaged in an understanding of things beyond the material. We need not neglect the fact that we tend to live as though there is more to human intelligence than simply the firing of neurons, and more to love than pheromonal interaction.

For most of us, the reality is that we like to know about the material reality of which we are a part, and we sense, however vaguely, a reality beyond the material. There are even some points at which our scientific investigation and our religious senses interact. Following the recent tsunami, two questions occupied media space. One was, "What caused this?"—i.e. "What were the scientifically observable mechanisms that led to the huge waves?" The answer: "An underwater seismic disturbance." The second was, "What caused this?"—i.e. "Was it an act of God?" The answer. . . well, different religions offer different answers, though from my perspective the tone of the question is off-putting. The point is, though, at such times we look for scientific explanations, and we also look for *meaning*.

So in the end, while the disciplines retain their respective roles, it is *people* who have the potential to integrate scientific and religious ways of knowing.

Enjoy the science and technology issue of *Radix*.

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We welcome student articles, art, reviews, responses, photos, comics, poetry, and anything else you might think of. Submissions from all faith perspectives are encouraged. Artwork must be accessible in black-and-white or grayscale. Article length is about 500 words. Submissions are subject to editing for length, content, and style. Contributors retain copyright, but *Radix* retains the right to reprint submissions in our online archives. Submissions may be made to the editor at **radix@yours.com**.

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#### Aimee Patterson Read

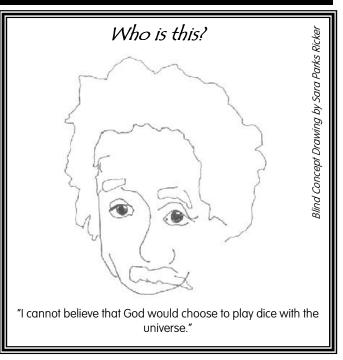
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**About the cover designer:** Indi Samarajiva is a McGill Cognitive Science graduate. He now lives in Colombo, Sri Lanka—but grew up in Columbus, Ohio. He's currently doing websites for LIRNEasia (asia.lirne.net), the Montreal band *The Lovely Feathers* (www.thelovelyfeathers.com), and is developing one for the *Leisure Times*. He maintains a blog at www.indi.ca.

In our next issue we're taking on a rather serious theme. The April edition of *Radix* will discuss issues surrounding **Death and Dying** Keep your eyes wide open. . .

You might be interested in composing a poem or article, or submitting graphic art. Here are some topics to get your creative juices flowing: funeral rites, afterlife beliefs, reincarnation beliefs, eschatology, suicide, euthanasia/assisted suicide

Any submissions should be sent to **radix@yours.com** no later than March 15.



### Science, the New Religion

There's a new religion taking the world by storm. The idiom "new religion" generally makes people weary, conjuring up images of Raelians cloning babies. Interestingly, had I said "new science," I fear not so many heads would turn. It has long been understood that science and religion are generally opposing fields, doomed to disagree perpetually on all matters of life. Until recently I may have thought so as well, but as I inform myself on the stuff of science, I am left questioning just where the supposed "dividing lines" are. People have more faith in science than ever before, and helplessly throw money into research to ease their pains, cure their ills, and give them hope for brighter days to come.

Transhumanism is one of biotechnology's latest obsessions. Transhuman is short for *transitional human*, a stage along the way to becoming posthuman. Transhumanists' basic belief system is this: human nature is a phase that we will outgrow. According to Transhumanists, we are fast approaching an apocalypse-type event called "The Singularity," during which technological developments will occur so rapidly and dramatically that the world will be transformed beyond recognition. Through science, we will become self-enhanced super intelligent beings, full fledged posthumans with unimaginable physical and intellectual powers. Transhumanists even have their sacred texts, namely, *The Engines of Creation* by Eric Drexler, who argues that once we have complete control over matter itself, we can conquer disease, poverty, pollution, and most importantly, death.

Sound like a cheesy sci-fi movie? Unfortunately not. This amazing technology, which we may or may not be on the brink of discovering, has very real and very ambitious adherents—3000 and counting belong to the World Transhumanist Association (WTA). As scientifically nerdy as this project seems, its unwavering belief system and lofty goals for the future have quasi-religious

### "Everybody's all right, everything is automatic, Everyone is all right, everything is skin deep." --"Everything is Automatic," Matthew Good

overtones. Transhumanists possess an idealistic faith in the power of technology to transcend the human condition, a goal not unlike the transcendence talked about in some major world religions. The longing for that indescribable "other" that many argue is an innate feature of the human condition is not just a thing of religion. In fact, biotechnology just might be on the verge of perfecting the secular religious impulse.

Perhaps science is offering much of the same as religion: faith in the supernatural, hope for the future, and ultimately, salvation from the plight of human nature. Transhumanism is just one example. Although it is a grossly secular version of religion, its ideals are similar. At a time when so many people are struggling to reconcile science with religion, it is interesting to question whether they might be overlapping.

Laura Gallo

Laura is in her last year of her Religious Studies undergrad work. She is afraid of technology, even though she maintains a blog at http://www.livejournal.com/users/loras\_blog.

### Science and Technology: Affirming Religion

Religion, Science, and Technology. . . it is only fitting to use the word "and" between them. For a Muslim, science and technology are only visible manifestations of the power of the Creator. So how could either of them clash with religion? It is only logical that they coexist. The first revelation given by the angel Gabriel to Prophet Muhammad was "Read," stressing the importance of pursuing knowledge.

One of the greatest misconceptions held by many intellectuals today is the notion that religion is ancient and whatever we come across today can only act as proof against it. In Islam, this view is dismissed. In chapter 35, verse 28 of the Holy Quran, God says "Those truly fear Allah, among His Servants, who have knowledge."

We are obliged to seek knowledge, for as we become more knowledgeable, we become more aware of God's existence, more aware of the magnificence of His creation, more aware of His endless bounty on us, and in turn aspire to fulfill what we were intended to do on earth. In chapter 3 of the Quran, God says: "Verily in the creation of the heavens and the earth, and the alternation of night and day—there are indeed signs for men of understanding." Furthermore, Muslims are obliged to use the knowledge they gain to further human progress.

The description of embryological development in chapter 23 of the Quran is but one proof that science bears witness to religion. God says, "He makes you in the wombs of your mothers in stages, one after another, in three veils of darkness." This description most likely refers to the development first within the anterior abdominal wall, followed by the uterine wall, and finally within the amniochorionic membrane. The chapter continues: "Then We placed him as a drop in a place of rest," which refers to the implantation within the uterus. In the following verse God states: "Then We made the drop into a leech-like structure." This is consistent with the embryo's development between days 7 and 24, when it clings to the uterus in a manner similar to the clinging of a leech to the skin. The reference to the leech is quite fitting, since the embryo draws blood from the pregnant endometrium, much like a leech draws blood from the skin. The chapter continues to describe the remaining stages.

Quranic revelations extend beyond embryological development to many modern scientific concepts, including the water cycle in chapters 24 and 30, and even the theory of an expanding universe. God states in chapter 51: "The heaven, We have built it with power. Verily. We are expanding it." Scientifically, the concept was first suggested by the general theory of relativity. Today, the concept of the expansion of the universe is established; opinions only vary on how it takes place.

Muslims find solace in the pursuit of science. In fact, if one's intentions are right and set toward the Creator, the pursuit of knowledge becomes an act of worship. And thus science, and the technology that enables us to discover and utilize it, are part of Islam.

#### Mohamed Shaheen

Mohamed is a Masters student at the Microelectronics & Computer Systems Lab and a member of the MSA.

# Messianic Science: Just Simplify

Ever wonder what is supposed to happen the day *after* the end of days? Once the Messiah has arrived, the world is unified, no more war, a big party, and then. . . what? Maimonides (12<sup>th</sup> century Jewish philosopher and Sage) writes that the ultimate goal of humanity is to progress in ever greater strides of knowledge and perception in knowing G-d. He writes that the main reason why there is such a great longing for the Messianic times is that it is then that we will finally be able to focus on our true and greatest occupation as human beings—getting to know G-d in ever deeper and more awesome ways. Rabbi Moshe Chaim Luzatto (18<sup>th</sup> century Italian Jewish philosopher) writes that getting to know G-d is actually the most pleasurable experience possible for human beings.

What about our basic needs—farming, building shelter, etc? Well, as the past century seems to indicate, these time-consuming activities are slowly being eliminated in the quest for "efficiency." Ever wonder why we need this efficiency? It seems that today efficiency provides more time for "leisure." But this is only because the real and wonderful truth of our ability to know G-d ever greater is still something which is hidden behind the clouds of human consciousness. Every once in a while a beam of light will poke through, a spiritual experience here and there will fill us with longing, or joy, or, when its really real, both. We are witnessing how the world is readying itself for a golden age of really being who we are, unfettered by a need to worry about our basic needs.

Surely, at this time there are major problems around the world which need our caring and love, which need the Messiah himself to talk some sense into humanity. But the next time we look at a computer, a high-speed train, a dishwasher, a washing machine, we should see the hand of G-d gently pushing us forward.

Another aspect which I feel is important to mention is the environment. Environmental consciousness is vital to this vision of times to come. One need only open the Tanach and read from the Prophets with their beautiful and natural descriptions of the Messianic age to see clearly that environmental friendliness is the only true way to go.

The communications revolution is also a vital part of all this. As Maimonides ends his description of the Messianic times quoting from Isaiah (11:9), that "the world will be full of knowledge of G-d as water fills the sea," each computer we see should fill us with joy, in seeing how information can literally be shared, across the globe. How else could the world have imagined the Messiah simultaneouously addressing all of humanity?

Daniel Leibish Hundert.

Daniel is a Religious Studies student at McGill and the rabbi for the Ghetto Shul.

### The Light That Man Made

The bang that ripped the night asunder Streaked of fire, roared of thunder Created by ethereal breath Beyond time beyond death.

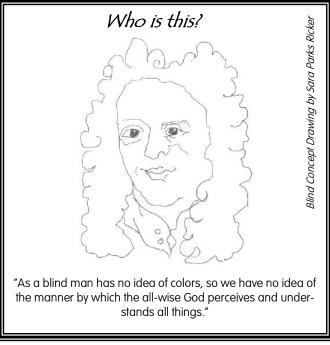
The light that sprung from darkness, then Gave hope in murky times to men When lost they're found by heavenly flies When blind they see with heavenly eyes.

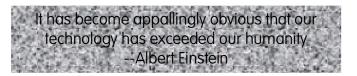
But day fell short and night too long For those who rush their mortal song. They slowly turned the night to day Till, finally, heaven faded away.

The light that man made far too bright Hid the dark, thus hid the night; Like circus fleas they cannot see Beyond the lid to eternity.

A whimper comes at the end, and a feast Will shine for those prepared deceased And dim the light that once had been So once again the dark will be seen.

Dany Horovitz Dany is a third year English literature student and writer of sorts.

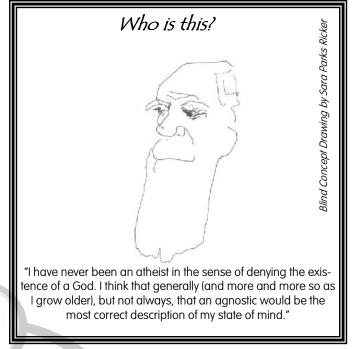






For years, I was naïve enough to believe that the garish dichotomy between religion and science was a simplistic caricature cherished only among the hopelessly uneducated and wilfully ignorant. I thought it was obvious to anyone with a minimum of interest and insight that religious fervour pervaded science classrooms and the tools of science were employed by religion scholars. I had an abrupt awakening at a recent conference on religion and the academy. I won't name the institution, but the event was attended by leaders in many disciplines. Wide-eved, I learned from their comments that not just students, but *deans* actually operated

Just the

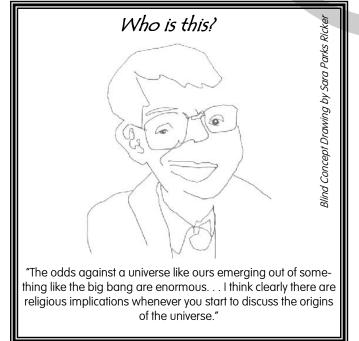


under the assumption that what went on in religious studies was tantamount to counselling and pastoral care! Many of the people at this event, at the heads of their faculties, maintained a stricter dualism between "fact-based" science and "faith-based" religion than I would have thought possible in a comic book, let alone a university.

As a religious studies student, I want to clear up this misunderstanding. I'll use McGill as an example. Our R. S. program is "nonconfessional." This means that the professor's or student's faith should not affect his/her research results (other than, perhaps, dictating which areas of research are more interesting). We don't say things like "God told the Israelites to leave Egypt." We might say, "This text, dated at approximately this time, depicts God telling the Israelites to leave Egypt." The latter is a fact, not a statement of faith. As in other disciplines, those of us in R. S. have biases. In the classroom (although as in other disciplines it is difficult), we attempt to suspend or acknowledge these biases. We often employ "scientific" tools like carbon dating, philology, archaeology, and palaeography, as well as socioscientific criteria for analyzing texts or communities. We are no more "emotional" than other humanities and social sciences like anthropology or history.

Furthermore, just how "fact-based" is science? Are there not verifiable and scientific reasons not to make guesses about humans based on experimental data from rats? Is it not a belief, rather than a fact, that "animal pain does not matter in the interest of experimentation"? Many similar value judgements take place in the "bias-free" labs of McGill.

Wasn't it the world's most famous atheist (more precisely, agnostic), Stephen Hawking, mocker of organized religion, who used his advanced knowledge of astrophysics and mathematics to determine that the possibility of the universe not having intelligent design was exactly 0% (based on the odds of the universe happening to expand at the right speed for matter to congeal)?



Or what about the assumption that you are *either* an evolutionist or religious? Many of my Christian and Jewish friends are staunch evolutionists, while many other agnostic or atheistic friends find macro-evolution to be scientifically ludicrous, and the fossil evidence to have been classified with huge assumptions. Yet evolution is rarely taught as a theory anymore, and is defended with religious zeal.

Or take the science of archaeology. The notion that it entails simple recording of factual data is, frankly, Martian. Much of the last century was wasted by Christian and Jewish archaeologists finding "proof" for biblical events by dating artefacts incredibly early, while equally biased "minimalist" archaeologists were dating the same items ludicrously late ("according to us, this paleo-Hebrew papyrus can be dated to last Wednesday"), by deliberately ignoring part of the data.

My point is: recognizing one's own assumptions is one of the most important aspects in academics-whatever the field. This is stressed in the Faculty of Religious Studies. I'm not sure I see it stressed enough in our science departments!

Now, if you'll excuse me, I'm going to don my lab coat, grab my microscope, and get back to my biblical studies homework!

#### Sara Parks Ricker

Sara is a McGill graduate student. When not dissecting ancient texts, she can be found reading James Bond novels or playing Super Mario 3.



### The Human Soul is Not a Discrete Function

Technology does great things. I get a real pleasure out of typing on the once state-of-the-art Toshiba laptop that a friend of mine gave to me after she moved on to newer, faster models. (You probably would not be reading this—tragic as that might sound—if that pleasure were not real.) Email keeps me in touch with friends, and not-so friends, all around the world. My enjoyment of winter weather is largely arbitrated by whether or not I am wearing a high-tech, keeps-you-warm-to-minus-30 coat. One of the most thrilling things in life—to my mind—is to ride down a steep snow covered slope at 60, 70, 80 kilometers per hour making wide, smooth turns on new, high-tech downhill skis. And that's just me in my hedonistic search for pleasure and personal fulfillment. Think of all those people who are literally kept alive by technology: people with pace makers, artificial heart valves, etc. Think of people who would not have been born without the assistance of high-tech reproductive methods. The mind

boggles. What did people do for communication, for comfort, for fun, for health, for life before the advent of computers and highly refined engineering and manufacturing techniques?

But all is not roses in the garden of technological paradise. I just finished reading an article which my brother wrote for a recent edition of the New York Times Magazine about a man convicted of sexual misconduct with his twelve year old stepdaughter. It would be hard to pin this man's entire rap on the personal computer, but computers do play a shockingly large role in the story of this man's offense. There is not space to go into details here, but I can easily imagine that, without the communication-distorting effects of email and text messaging, without the man's ready access to pornographic images on the internet, certain norms of sexual behaviour would never have been transgressed. Or, how about the US invasion of Iraq? Would even G. W. and company have been sufficiently hubristic to undertake a "Shock and Awe" invasion of a distant desert nation if they had not counted on half of their work being done "casualty free" by guided missile and stealth jet? And, once on the ground with real-live troops and real-live ammunition, high-tech kevlar personal armour helps keep the killed-in-combat numbers in the only mildly horrifying range. (In fact, nine to ten US soldiers are wounded for every one killed—that's over ten thousand by now. US soldiers may lose face, but they don't lose their lives.) As for those barbaric Iraq natives, is it G. W.'s fault that G-d has denied them the technology required to mount a proper defense in the modern military theater? Technology rules! Well, it rules, that is, unless your opponent shows an annoying disregard for his/her own life and the life of his/her neighbour. Low-tech still does a great job of blowing up cars, don't you think?

This is to say, it seems to me that there is more to life than technology can shake a virtual stick at. I have not seen any evidence that humankind's potential for spiritual growth has changed in, say, the last 50 000 years, let alone the last 50. Much as technology facilitates many aspects of life, the whiz and whirl of computer high jinks can easily distract a person from the more essential elements of human existence. Did any of the great avatars, the great teachers of human spirituality, have a personal computer or internet access? Jesus of Nazareth? Buddha? Lao-Tzu? I am reminded of William Wordsworth's poem "The World Is Too Much With Us." Just replace "getting and spending" with "downloading and file sharing:"

"The world is too much with us; late and soon, Getting and spending, we lay waste our powers; Little we see in Nature that is ours; We have given our hearts away, a sordid boon!"

Bob Bergner Bob is a B.Th./M.Div. candidate studying at Montreal Diocesan College.

# Interested

in more information about integrating science/technology and religion? Check out the following websites:

**Science & Spirit** online magazine: http://www.science-spirit.org Metanexus Institute:

http://www.metanexus.net/metanexus\_online/index.asp Science and the Spiritual Quest: http://www.ssq.net Zygon: Journal of Religion & Science: http://www.blackwellpublishers.co.uk/journal.asp?ref=0591-

2385&site=1

(journal available in McLennan library)

about killing than we know about living. We have grasped the mystery of the atom and rejected the Sermon on the Mount. --Omar N. Bradley 🛠 Science tells us how the heavens go. Religion tells us how to go to heaven. --

# Religion and Culture Science and Religion: Students' Perspectives

This month, we're discussing the relationship between science and religion, the conflicts and the contradictions, the ethical and social issues. I decided to look beyond the debates about Darwinism, stem cell research, and other controversial topics that have long created a barrier between science and spirituality. I think that we shouldn't only look at science and technology as forces that try to explain and improve. Beyond every discovery and every invention there are people, people who may consider themselves spiritual or even religious, and people who don't necessarily see the conflict that their doings may entail.

I met up with some students from the Faculties of Science and Engineering at McGill. I decided to find out whether people who consciously devote their life to the learning of science and want to contribute to humanity's progress through their knowledge feel the need for spirituality. I was curious to know whether they related to the religious perspective they were born into, whether they saw conflicts between their science and their religion, and, if they could not relate to a particular faith, where they got their spirituality from.

The following are excerpts from the interviews I conducted. I asked everyone the same auestions: Why did you choose to study science? Do you relate to any religious belief? If not, where do you find spirituality?

### Adam, Software Engineering, born Protestant:

"I chose to study science because it interested and challenged me. I enjoy explaining things. I wasn't brought up as a religious person. More emphasis was put on tradition and family. I consider myself a very spiritual person. Science can provide us only with a model to explain things, not the facts. Science isn't all there is even if it could explain everything. I make my own definition of spirituality and I don't see any conflicts between religion and science. In fact, I think that scientists help religion. As for the Bible, it's got a lot of great stories there to teach us lessons. It's not literal."

### Jennifer, Atmospheric Science, half Catholic/half Protestant, used to alternative churches:

"I chose to study science because it's concrete. I used to go to church often because it was a loving place that gave me a sense of community. I stopped going because it doesn't fulfill me in that way anymore. There is a conflict between science and religion because science tries to be absolute. That's why, in any conflict, science wins. Religion is based on love, so I don't see a reason not to believe in it. Do I believe in God? Maybe. Now I find spirituality in my friends since they fulfill the role of the community that the church used to fulfill." Jesse, Physics, born Jewish:

"I don't believe in God. I had my Bar Mitzvah to make my grandparents happy. I like physics for its abstractness; I like 'what if' games. I don't consider myself a spiritual person. Science doesn't explain everything, but potentially it will. Part of being human is looking for answers. Religion in general makes me uncomfortable."

### Ralph, Electrical Engineering, born Jewish:

"I like science because it's hard. Science is the only real truth in the world. Judaism is based on a scholarly tradition, the logical analysis of sources that is both philosophical and scientific. I was shaped by Judaism, but I don't believe in it. I abandoned religion because it cannot be proven. I find that we should look for absolutes. Religious scientists are hypocrites, you should believe in all or none. I don't believe in the Bible because it has a lot of contradictions. You can't question parts of it without questioning all of it. I don't believe in anything I can't prove and I don't consider myself spiritual at all."

### Lay, Electrical Engineering, born Buddhist:

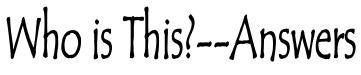
"My parents are very religious. I don't believe you should perform rituals to be spiritual. I believe in God, but I don't think religion should be an institution. The Bible is a great book, but it's just a book. I don't see any conflict between my understanding of religion/spirituality and science."

### Caitlin, Physics and International Development Studies, born half Catholic/half agnostic, now atheist:

"I like science because it's challenging. I see spirituality in science. Understanding how the universe works is a spiritual experience. Astrology is detaching. I think the existence of conflicts between science and religion depends on what science is used for. Part of being human is having things we can't explain."

### Natalva Dembera

"Science without reliaion is lame, reliaion without science is blind, -Albert Einstein



p.2: Albert Einstein; p.4: Isaac Newton; p.5: Charles Darwin and Stephen Hawking; p.6: Jane



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