

Religion and Mind Science

Old Questions, New Paradigms

“To study metaphysics as they have been studied appears to me to be like puzzling at astronomy without mechanics. We must bring some stable foundation to argue from.”

— Charles Darwin

Our earliest mind knew forever and our final mind will know it again just before death. Our early experience with the infinite may be a heavenly start to our beginnings and a preview of our endings, but what about now? Let’s close the doors on our before and afters for a moment, and reflect on what this says about the present moment. This particular present moment, if we think about it, has been going on for quite some time. Actually, it’s been going on forever. In fact, there is no time so timeless as the present moment. Despite this obvious condition, our attention is often focused forward or reverse. The past can’t repeat and nobody knows the future until it happens but we’re always thinking about them. Living in the present while visualizing both past and future is what makes human consciousness such a unique way of thinking. We may be the only ones who can do it. It requires a huge amount of memory

and the ability to sequence patterns. In doing so we incidentally create the sense of time. Over time most of us will find a religion. In much less time, we will discover it is probably because of our unique human sense of time that we have any religions at all.

Our ongoing reflections on the past and the future gives birth to some very deep questions. Unfortunately, answers are available only in times that aren't available. They are the same questions science always has trouble with. We know them by heart. "*Where did I come from? Why am I here?*" "*Where am I going?*" In the broader sense they become "*Where did it all come from?*" "*What is it all about?*" "*Where does it all go from here?*" In India, the great Saint Shankaracharya summed up the query in five terse questions: *Kastwam? Ko ham? Kutah ayatah? Ko me janani? Ko me tarah?* Who am I? Where did I come from and how? Who was my eternal mother? Who was my eternal father?"

Coming up with answers requires a comprehensive human *raison d'etre*, some definable wherefrom and whereto of life. This is what prophets and philosophers do for a living. If they ever agreed, a world religion would have appeared ages ago. It hasn't happened yet. Local answers always mirror the complexity, art, and wisdom of local culture. Each is a local response to some universal human need to come to terms with these annoying mental puzzles. Our own conclusions, if we have arrived at them, form the foundations of our personal metaphysics (Greek, "beyond science") our individual sense of our purpose and our reality. We call them our religious or personal philosophical beliefs.

All holy books, including the Christian Bible, Jewish Torah, Muslim Koran, Hindu Vedas, Sikh Grant Sahib, Taoist Tao Te Ching, and the Buddhist Sutras go to great lengths providing mutually exclusive answers to these three simple questions. Their answers serve as the basic philosophical dividers separating the Shiite Muslims from Hassidic Jews, Billy Graham from Thich Nat Hahn, and the Pope from the Dalai Lama. If we are to find some universally acceptable explanations, they will have to

harmonize some rather disparate characters. Each religion has its own answers and philosophical or theological structures to support them. Each traces its authority to a divine, or at least infallible, being and they all disagree. It would be convenient to invite Jesus Christ, Mohammed, the Buddha, Moses, Lao Tsu, Confucius, Guru Nanak and Hindu lawgiver Manu for dinner and ask if they might come up with something like United Religions. Our dinner guests would probably think it was a great idea. But as each represents a higher power, they must report back to God, Allah, *Tao* or *Dharma* for a go-ahead. Things might get stuck at their own metaphysical level. There is a good reason for this.

Western religions rely on mutually exclusive personal revelation to holy individuals such as Moses, Jesus, Mohammed, or Mormon leader Joseph Smith from one all-encompassing God. They also tend to build on each other. Christianity added Jesus to Moses. Islam added Mohammed to Moses and Jesus. In America, Mormons added Mr. Smith and some Christian Scientists in Boston lobbied for Mary Baker Eddy. Korean Sun Myung Moon says he actually *is* Jesus. Followers of late Texas ex-messiah David Koresh disagree, insisting Jesus did return but ascended again in Waco. Still, most claiming conversation with a deity these days are offered Prozac® more often than prayer. Finding agreement among Asian believers is no easier. Eastern religions replace mutually exclusive prophets of God with mutually exclusive interpretations of *Dharma* or *Tao*, the eternal universal system uniting the human physical and metaphysical experience. Hinduism is technically *Sanathan Dharma*, or the “traditional system.” Buddha preached the *Buddha Dharma*, his own understanding of the way things worked. The parts are not really interchangeable. Theory and practices differ. The universality of Brahman is not the emptiness of Nirvana, and the Tao is neither of the two. All three have several major schools and dozens of sects.

Getting the original sources to sit down could be even harder. Yahweh and Allah might agree to the same menu since neither enjoy pork, but Ram would have a beef with steak because Hindus don't eat cows. Getting served could be dicey protocol; God wants no other gods served before Him. Buddha would win

points for tolerance since his monks must eat anything put in the begging bowl. But only in the morning. Still, once their divine tastes were accommodated, they would soon discover how similar their messages were at the human level, the only level we humans are concerned about. Like the larger sects of a major religion, all religions of the world today seem to lead their followers in the same basic directions. They only disagree on who is to be guide and the guidebook we are to use. The more we investigate the basic dogmas of the world religions, the more depressing it becomes. Each originates in a different land, embodies local traditions, and each is, to the devout, the only one there is. Furthermore, there hasn't been a new world religion since the Sikh Dharma, Guru Nanak's alloy of Muslim and Hindu faiths. The Bahai's have tried very hard, but like Esperanto, attempts at cultural combinations this far along lack a certain spark.

In all probability, the world is about due for a major religious event of some sort. In repeated oscillations periods of human reliance on technology and power seem to alternate with periods of religious revival. The blooming Renaissance provided incentives for the stern Reformation. Later, the industrial revolution promoted a working man's Gospel and democratic sects such as the Baptists, Methodists, and the Church of Christ. Whenever it seems mankind is becoming too fascinated with material power there is a social migration back to religious faith. This often results in entirely new sects. With so many different religions around the globe and so much technology making that world go round, one can only wonder if we may be closer to new fusions than we ever imagined.

Christmas and Compassion

Since heavenly mergers remain unlikely, world affairs would be greatly improved if our earthly religious leaders came to some general agreement on not only what constitutes naughty and nice, but why, and not just because their particular scriptures say so. In a world of over six billion humans we ought to

have enough accumulated experience to derive some general guidelines for good human behavior. Ideally, real rules for humans would transcend local tradition and national politics. The real problem, in fact, has very little to do with this sort of wisdom. Nobody really disagrees about naughty and nice. The differences come up only in answers to the metaphysical questions and most people are interested in answers to more pressing religious and spiritual matters. Who's getting the Christmas tree? Why can't people live in peace? Didn't I give at the office? Most of us don't often think about metaphysics.

In fact, every religion on earth today enjoying credibility, cultural acceptance and at least a half million followers is defined by only three areas of thought and practice. We can call the first "*Cultural Ceremonies*." The second, "*Applied Social Psychology*." The third and smallest area is metaphysics, the historical theology or philosophy behind it all. Realistically speaking, most religious activity in any part of the world today is taken up by the first two categories. Calendars are dotted with regional, national, and international observances of religious rites and holidays. Christmas is celebrated in Bombay and Tokyo. Muslims air shuttle to Mecca from Morocco, Marseilles and Memphis, Tennessee. Every culture has harvest festivals, saints' days and local celebrations. If it doesn't disrupt the local social fabric, nearly any form of personal religious observance is respected. Cultural politics may clash as in Ireland or India but as individuals we have no quarrel with another's yearly cycle of faith and celebration provided they stay within the cultural expectations of our region.

The second category of religious practice, "*Applied Social Psychology*," is even less of a problem. This is because the great lawgivers gained their followings based on their insight into the universals of human behavior. They had the ability to break them down into simple rules and the charisma to convince others to observe these rules for personal and social guidance. Any savior or system too specific for broad and general acceptance ends up with a cult, not a cathedral. Mother Anne Lee's Shakers were the first "greens". Their love of simplicity left us plenty of fine old Shaker furniture but their practice of celibacy

left no fine young Shakers. There are no Essenes in Judea, nor Kadam-pas in Tibet. Twice as many gathered at Woodstock in 1969 as practiced Christian Science in 1996 and we can fit all the remaining Swedenborgian Christians in a small auditorium. Even the world's largest and wealthiest organized religion, the Roman Catholic Church, is fighting for its intellectual survival. The largest single denomination in United States is a group termed "lapsed Catholics" as millions of the once-faithful question the concept of a God the Father transmitted by celibate men wearing unusual clothing. Only theologies founded on a basic understanding of human nature, expressed in an intelligible and universal form, can last more than a generations or two.

Tolerance towards others, for example, preached by all faiths, takes on a new dimension as interfaith conferences demonstrate the basic unity of the major religions. The Pope and the Mullah, the Lama and the Swami chat cheerfully. Each is technically pagan to the others, but their meetings seem so cordial and reassuring. Imagine what must be going on in their minds as they smile and pray together. This growing openness towards another's religious beliefs becomes a social necessity when so many traditions mingle in the crossroads of our global society. We can't convert them all, and religions getting pushy about specifics simply lose out. Most at risk are those requiring a hereditary link for membership. This trend is especially pernicious to religions which avoid conversion. Orthodox Hindus and Jews alike watch their numbers shrink each generation. By 1995, more than half the Jews in America were marrying outside their faith. Orthodox Parsees, who until recently required *both* parents to be Parsees, are an endangered species. Descended from the original Zoroastrians, they represent the oldest continually practiced organized religion on earth. Less than a hundred thousand survive, and there's little any non-Parsee can do about it.

Despite the tumult in the religious marketplace, at the broader levels of human behavior there seem to be no serious differences. Allah requires generosity, Jesus preaches humility, Moses and Buddha remind us not to kill and Krishna asks us to open our hearts to devotion and love. All tell us to help the weak, support

the poor, heal the sick, and above all be kind, compassionate and honest with each other. Their rationales may differ, but the results are the same. All world religions represent an inherent human wisdom universal in nature yet specific to each. The morality tales are always told from a familiar viewpoint by teachers we can identify with. We have no unbelievers here nor any reason to disagree. Despite the surface differences between a Jew and a Muslim, between a Hindu and a Catholic, we agree on most of the basic ethical questions of daily life and how we are to behave toward each other. Given the opportunity to sample, we would enjoy most of each other's feasts and ceremonies. If this is so, two-thirds of the world's faith and practice is nearly convertible from one religion to another. So what remains to quibble about? The only area religions really differ in is the third category, their metaphysics. Each religion has their unique set of answers for questions that go beyond rational or scientific inquiry.

Once more, most who practice a religious faith do not spend a lot of time worrying about such things. Heavy thinkers do. Bertrand Russell, the celebrated mathematician and agnostic, once made a list of five favorite questions he was certain science couldn't answer: "*Is there survival after death?*" "*Does mind dominate matter or vice versa?*" "*Is there a purpose to the universe?*" "*Is there validity in the assumption of natural law?*". And "*What is the importance of life in the cosmic scheme?*" Only God or Dharma, we are told by religious teachers, have the answers. Furthermore, only individuals made acceptable through rituals, rites, and specialized education are entrusted with the interpretation. Clearly it's not a dispute over the eternal questions keeping us separated. It is the variety we seem to find in the answers. That this nearly academic aspect of religious practice was the basis of so much suffering in the twentieth century will be the source of wonder in the twenty-first.

Still, most religions continue to insist their specific answers are the one and only truth, despite how unlikely they may seem to others. "Religion," as Reinhold Niebuhr, the pre-eminent American theologian of the century wrote, "is so frequently a source of confusion in political life, and so frequently dangerous in

democracy, precisely because it introduces absolutes into the realm of relative values.” If there were a path to real wisdom that didn’t require a specific religious or cultural loyalty there should be a United Nations task force on the lookout for it. It could stop a lot of the wars. In a post-modernist world, we don’t need any more grand narratives. We just need to get along with each other.

“Neurophenomenology”: More than a Pretty Name

Scoping out new answers to unanswerable questions seems beyond the range of any one person or even a group of specialists. The wreckage of countless attempts to come up with explanations and schemas already litter the shelves of the book stores. At this time, the greatest amount of interest seems to be focused on the area of the mind sciences and the recent investigations into the general phenomenon we call “consciousness”. There is a good reason for this. No matter what faith we follow, we all know by now there are billions of people who believe otherwise. Like ourselves, they survive and even prosper. The very variety of human religions leads to a simple line of reasoning. All human cultures have religions. Their cultures differ widely but the rules of their religions are nearly identical. Is it possible that the roots of human religion may extend beneath human culture, into the workings of consciousness itself?

The history of mankind demonstrates humans living in widely separated regions over time consistently develop religions with similar rules even if they disagree on the details. If this is the case, it suggest the source of religious inquiry may be internally generated. It may be a species wide “need-to-know”, expressed through a variety of remarkably similar social structures, customs and belief systems whenever human culture reaches a particular level of development. But the development of what? It would have to be the development of the ability to pose Russell’s very questions. This line of thinking leads one step further: Any conscious behavior common to all humans must be the result of something at a

neurological level. Only something based in the very way our human brain operates could affect all human thought so identical ideas would emerge nearly unchanged in every culture. The basic metaphysical questions could be hard-wired right into the system. This is a difficult stretch because it inserts the physical into the metaphysical. The classic dualism of René Descartes, a physical brain creating a non-physical mind, gives Hindus hives and Christians the creeps. It even give modern “consciousness” scholars the shudders. Seeking clues to the soul or the spirit in what looks like a mass of wires and plumbing puts off both Baptists and Buddhists. Still, it remains the most likely route to the source of religious experience as we perceive it. The brain is, after all, the only organ capable of conscious perception. We can’t do it with our toes or our tonsils.

This detail has been obvious for a long time. The primary importance of the brain in the perception of consciousness in all its forms has been well known since the ancients. On the other hand, most of the methods the brain uses to accomplish this task have only recently been revealed to us through computerized medical technology. The rapidly growing interface between brain science and computer science has created a powerful alliance; as a result, the architecture of the brain is finally being defined. We are beginning to read the operating manual of the mind. If this continues it is likely philosophers or theologians of the twenty-first century will be required to show fluency in mind science just as modern medical doctors must know their biochemistry. Things have changed that much.

As a natural result, we are drawing closer to new philosophical insights capable of finally harmonizing scientific method and religious belief. The absolutely correct term for this is the cumbersome “*neuropsychology*,” literally “using neurological science to define the nature of reality.” For this is, in fact, what seems to be emerging. “*Neurotheology*” has two syllables less, says basically the same thing, and links it specifically to religious philosophy. Thomas Aquinas developed his systematic philosophical system, Thomism, using Aristotelian logic to order and anchor Christian theology. Likewise, modern

philosopher and religious thinkers are starting to use the structures of mind science to provide intellectually universal, generally agreeable points to underscore their conclusions.

The reason to use mind science as the foundation for a modern metaphysics is a simple argument. Since we experience only what we perceive, we should first study the structure and function of our major organ of perception, the brain itself. By learning more about the unique way we perceive reality, we may discover simple clues to believable explanations of otherwise traditionally unexplainable mysteries. There are limits to our understanding, true, but this may be because of the way the brain arranges consciousness rather than any lack of enlightenment, devotion, or grace on our part.

High-Tech Hybrids: If Ever the Time Were Ripe

If our metaphysical questions are specific to humans at large rather than any particular culture, they must be byproducts of human consciousness itself. How else would these queries appear consistently in the minds of human beings everywhere? Perhaps our elegant answers, unique to each culture, are just echoes to built-in queries, a necessary response of the human mind to something even more basic. We seem susceptible to some common mental itch, a series of questions that make the same mischief in every human mind. Looking at it logically, supposing simple generic answers were available. Would they be universally accepted? If it is the nature of human consciousness to pose these questions, any explanations would have to fit within both the cultural and personal reality of each person. Strictly individual answers to the questions could become a religion of one, pretty well eliminating both the ceremonies and the good deeds. Nobody's going to shut down the banks for "Bob's Day". It makes sense, then, even in a global society most religions are not personally specific but culturally specific. However, the merger of science into the general belief systems of nearly all world cultures is finally providing us with a common language that goes

beyond culture. As a result, boundaries between physics and metaphysics are shifting faster than ever before.

The concept of human consciousness as the result of a biochemical process is an example of a *systematic* viewpoint. In many areas, systematic ways of thinking seem to be overtaking the original hierarchical philosophies of the West. Top-down religions accept that an intelligent God is in charge, providing purpose and motivation for the entirety of creation. According to a systematic perspective, there is no need for divine motivation for things to happen if there is a natural system explaining it. The most powerful systematic philosophy in the world today is rarely recognized for what it is, and yet it pervades and supports every aspect of our lives. We call it “the laws of science.” From the ecology of the earth to world economic forecasts; from modern medical technology to computer, languages, systematic perspectives are emerging as basic tools in nearly every area of our understanding.

This is a very good time for efficient systems. World consciousness is finally moving from local to global concerns typified by lower trade barriers, “green” movements and international refugee organizations. Continuing advances in global communication urge us daily toward some reasonable religious accommodation based on global issues and human compassion rather than local history and politics. This time around, however, “reasonable religious” may no longer be an oxymoron like “jumbo shrimp”. It seems inevitable any new directions will embrace modern technology as a tool for discovery and compassion rather than a cutting edge for business or war. So far, at least in this century, the major role of technology in the service of religion has been to increase the reach of already established world faiths. The closest contender for a new sect with a high-tech terminology would be L. Ron Hubbard’s neo-rationalist Scientology. Despite the utility of some of its simpler practices, Hubbard, an excellent writer of science fiction, never came up with a believable philosophical or ethical structure. It can never, therefore, attract broad social support. Even more interesting science/religion mutants have arisen due to the recent

popularity of techno-jargon in books and seminars based on pseudo “mind-science” philosophies. From Deepak Chopra to Neuro-Linguistic Programming, each has claimed a “scientific” basis and language. It is in precisely the same manner medieval mountebanks adapted the phrase “hocus pocus” from the priest’s “*hoc est corpus Christi*”, Latin for “this is the body of Christ.” It created a Latin-sounding magic charm to fool village oafs into thinking they were listening to real authority. Most of these new scientific sounding philosophies are convincing only to seekers uneducated in the very science they quote to support their beliefs.

The real problem has been the lack of a metaphysical structure based on legitimate scientific insight. It would have to use real science accepted by real scientists if we want to tie together reality as we experience it into some believable and meaningful pattern. The Roman Catholic catechism asks “What is the purpose of man?” and provides an answer. Until recently when it came to questions such as these, science drew a blank and religion stepped in. Most of us assume, like Russell, they are simply not answerable through science. We were happy enough to get believable answers, even if they always dodged some fairly obvious questions. For example, there is the time problem. Most answers provided by religion appear to operate within an eternal system at odds with the laws of time and space. Science is here to help us define and manipulate the laws of nature in discrete time frames. Our holy books discuss eternal truths and concepts such as the life, or the lives, everlasting. If science located an everlasting anything it would be difficult to describe or prove. Any definitive studies could not be published until after the end of forever, basically summing up the situation. When compared against each other, both science and religion tend to make the other seem trivial in the most fundamental enterprises of human life.

Virtual Heresy?

If consciousness is the result of a biochemical system, the underlying rules of this consciousness must be flexible under extreme circumstances. Given the proper conditions, might we then perceive a

timeless eternity or a transcendental experience? The implications of research along this line of thought, taken far enough, suggest we may be about to answer most of Russell's questions. In the process of normal brain death, for instance, we will all experience states of consciousness where the perception of both time and space are greatly altered. The real problem is if we use brain science to really answer the question "What really happens when we die?" and such a theory become generally accepted, just like Darwinian evolution every religion on earth would have to deny it or demonstrate how their holy scriptures could include it by a modern interpretation of ancient dogma.

In fact, as this book itself was being written there was a serious concern that any genuine breakthrough in this delicate area could incite hostile, perhaps even violent, reactions among devout followers of one religion or another. Copernicus waited nearly until his death to publish his treatise placing the sun at the center of the solar system. Author Salman Rushdie spent years in hiding for offending the Muslim clergy. People get very emotional about their religious beliefs. Going to heaven without believing in Jesus is impossible for a devout Christian and any suggestion to the contrary is heretical. In a 1997 Gallup poll, 96% of the population of the United States believed in God and 74% in an afterlife. If heaven is in the simple mind of pre-birth and infancy, reappearing at brain death, any sinner could deny God, Christ or Prophet and theoretically if not theologically make it home free. Belief is belief after all. If an answer appears valid enough for wide acceptance, the believer is as assured of heaven by that means as by any other. Would neurological answers be inherent heresy, repugnant to the sincerely religious of every faith?

There are, it turns out, few scriptural bars to contemporary explanations. So long as it doesn't deny the religious event itself. Finding the bones of Jesus Christ, for instance, is off limits. Such a discovery would certainly prove His existence, but deny His bodily ascension, a basic item of Christian doctrine. It would forever be contested and the discoverer marked for life as the source of a basic schism in the faith. One cannot deny such basic dogma and hope to escape censure. Fortunately, finding a scientific

explanation for the experience of an eternal afterlife does not deny the event. It should, after all, be within the power of God or the Dharma to transcend us properly to our heavens and afterlives without smoke or mirrors. In the Indian holy city of Varanasi (Benares), for instance, devout Hindus believe Bhairab, the lord of the dead, allows those fortunate enough to die within the sacred acreage to avoid the tedious rounds of rebirth. He simply collapses their future lives into one amazing instant so that they can “see Shiva” immediately. This endless lifetimes express has never been scientifically investigated but any solid insights into how Bhairab accomplished his feat wouldn’t invalidate the event.

Describing the method never has to reject the miraculous. It can even reinforce and revitalize the faithful to realize the divine beauty they see in a gorgeous sunset cannot in any way be diminished by an understanding of the biochemistry of visual perception. Does it require more of a stretch to suggest that if consciousness generalizes enough during brain death we will all wind up in identical mental simplicity just before we die? Could this be what the 19th century American Evangelical theologian Karl Barth had in mind when he wrote “All shall be reconciled”? Or would such speculation simply become the source of more misunderstanding and conflict?

Historically, in fact, religion is usually accommodating. Although a number of preachers had problems with Charles Darwin’s theories, another Victorian clergyman, Charles Kingsley, read the recently published *Origin of Species* and wrote to the author, “I have gradually learnt to see that it is just as noble a conception of Deity, to believe He created primal forms capable of self development into all forms needful *pro tempore* (for the time) and *pro loco* (for the place), as to believe that He required a fresh act of intervention to supply the *lacunae* (spaces, literally “lakes”) which He Himself had made. I question whether the former be not the loftier thought.” Evolution was an idea whose time had come. Major scientific advances, as dramatic as they seem, are inevitable. Philosopher Daniel Dennett has pointed out they are not like the works of Shakespeare. If Rembrandt hadn’t painted, there would be no Rembrandts,

but if Darwin hadn't figured it out, someone else would have within a few years. When breakthroughs so basic occur, everyone trades up to better science. Religious sects that don't get with the program generally die out or end up, like the Pennsylvania Amish, with horse and buggy lifestyles in a world that has passed them by.

Paradigms and Progress

The most convincing aspect of Darwin's theory of evolution shares a basic similarity to the Copernican system. Both provided simple and connected explanations of complex and previously disconnected observations of the world around us. In the process both triggered a basic restructuring of western scientific and philosophical thought. Such radical changes in perspective were identified and described by philosopher Thomas Kuhn as "*paradigm shifts*." In a paradigm shift, a new explanation forces a fundamental restructuring of a popular viewpoint. This is exemplified by the worldwide switch to the Copernican solar system. Within a single generation the entire scientific establishment abandoned theories taught as fact for centuries.

The "Copernican Revolution" was a fundamental philosophical event as well. Once man was no longer the center of the universe all sorts of other assumptions began to cave in. As it happens, religion has always maintained a connection with natural science and by the sixteenth century Christian theologians had long embraced Ptolemaic astronomy. The nested crystal spheres of the Ptolemaic universe seemed a bit lonely so medieval Christian writers proceeded to populate them with all manner of heavenly winged creatures. Having deeded the holy real estate to cherubim, seraphim, archangels and so on, it was embarrassing to evict them all. For a time it seemed easier to evict the Copernicans, but too many telescopes confirmed their observations. No spheres., no angels. But they revealed a universe so vast and grand that it humbled human imagination while making us forever a part of it all.

Paradigm shifts are not improvements in an old system but the unexpected introduction of a new system. As such they always face opposition from institutions and individuals who represent the current popular culture. There were plenty of good universities at the time of Copernicus, but Ptolemaic astronomers were naturally the only ones available. Once they got their hands on the new treatise most switched over easily. Others were dragged kicking and fussing into the new era. Great minds of one age sometimes simply can't manage the mental stretch to get to the next. The great Victorian scientist Louis Agassiz discovered the ice age, explained the origin of glaciers, and collected fossils from ancient sea beds. Still, he never accepted Darwin. In any event, if scientific observation continues to support the new view a radical viewpoint becomes natural law through sheer attrition. Everyone knows the continental masses, or plates, making up the earth's surface drifted over millions of years to become the shapes we recognize today. The man who figured it out couldn't determine exactly what made them move and died in obscurity. Still, the logic made such sense a mechanism was soon found. Sea beds were spreading due to lava upwelling from the earth's interior. The opposition shifted and plate tectonics, a wild idea from an unknown scientist, is as respected today as the law of gravity.

Paradigm shifts are usually characterized by two qualities. First, they result from new yet surprisingly simple changes in perspective. Second, the new idea seems basic enough, once explained, but it is always grounded in the most recent science of the time. When the actual breakthrough occurs it often happens so dramatically it's a shock to the discoverer. In fact, all "sudden" discoveries are nearly always the result of years of tedious effort. "At first I was deeply alarmed," wrote the German physicist Werner Heisenberg, describing his initial insight into quantum theory. "I had the feeling that, through the surface of atomic phenomena, I was looking at a strangely beautiful interior and felt almost giddy at the thought that now I had to probe this wealth of mathematical structures nature had so generously spread before me. I was far too excited to sleep." Others report the same experience, the alarming discovery of a new and better

way to understand some basic phenomena. The concept is always profound in implication and yet so elegantly simple in description it simply must be right. Real paradigm shifts often spread so fast it can take years for solid proof to catch up. The Copernican system, as originally published, was faulty. It required the combined work of Johannes Kepler, Tycho Brahe and Isaac Newton to both prove and improve a system so obvious it had already become widely accepted. First comes the vision, later come the details. The ideas lead to the formulas, not the other way around. “I am a physicist” grumped Einstein, “I haven’t the mathematics to prove my theories.” Still, it never stopped him from rearranging the physical universe to fit the theories he could never prove mathematically.

In their simplicity, the insights behind paradigm shifts all support the example of “Ockham’s Razor,” a philosophical observation made by the fourteenth century English cleric, William of Ockham. His cutting-edge comment, “It is vain to attempt with more what may be accomplished with fewer,” has been proven again and again throughout the history of science. It was itself shaved down to the three words “nature abhors complexity.” Given two possible explanations for a phenomena, the simpler is invariably correct. The theories of Nicholas Copernicus, Isaac Newton, Charles Darwin, Albert Einstein, and Werner Heisenberg all explain a wider range of physical events with a simpler overall system than previously available. Each of these new perspectives allowed new and unexpected observations to fit with accepted science by introducing a radically different, but inherently simpler, overall structure.

The second aspect common to paradigm shifts is not obvious to a purely philosophical investigation. Nearly all the insights that changed the way we view the world were catalyzed by specific advances in technology. Copernicus, a gifted amateur astronomer, was using the best tools late Renaissance technology could provide. They provided observations accurate enough to suggest a theory more daring than the technology itself. Likewise, it wasn’t until the twentieth century we learned that Isaac Newton fudged some experiments described in the proofs of his *Principia*. The structure was so elegant he refused to let the

limitations of his own instruments, far too crude to yield such accuracy, get in the way of his discovery. It simply made too much sense to be wrong. So he ran with it even when he knew he might never be able to prove it if anyone challenged him. Fortunately, nobody did.

Still, without the improved mechanics of the Renaissance, the fine lenses ground by Anton van Leuwenhoek would not have been there for Galileo or Newton. Without the improvements of Newtonian physics, the nineteenth century Michaelson-Morely speed of light experiment could not have posed new questions for Einstein to answer. Like relay runners passing the baton, finer science creates finer theory, in turn creating even finer science. It was only a matter of time before the tools of brain science provided the necessary perspective for another major shift. Copernicus's telescope used lenses originally made for eyeglasses. He may have been the first to show how the tools of modern medical technology, borrowed to go exploring, revealed more than new sights. They made stunning insights possible. Using the newest instruments of brain science to probe for meaning and purpose in the mind, what we find is just as clear and just as stunning. As expected, these new perspectives on the nature of consciousness are surprising but simple, as radically different from traditional viewpoints as Copernicus, the high tech

monk, was from Ptolemy, the classic philosopher. As expected, unexpected new observations continue to shift our perspective with proofs which are simple, obvious, and ultimately reassuring.

Get Real, But Where?

Most people would agree reality is what is really happening in the “real world”. We are taught this “real world” is in fact real. It has an absolute existence which we each interpret a little differently. Likewise at any moment the universe occupies a fixed location in time and space and we are located in a fixed time and space within that universe. This is the way current philosophy works. Based on recent observations, this is as unlikely as Ptolemy’s spheres full of angels. We all know nerve impulses don’t travel at the speed of light. Not only that, none of the senses are directly linked to our brain, the only organ which can provide our perception of that impulse. Every sound we hear, every scent we smell, every object we see travels through dozens of slow-me-down nerve connections and crossovers before it reaches our consciousness. Any “real world” we are experiencing actually happened at some other time. It’s nearby, yes, but always a few microseconds removed from what we perceive. All we can ever know is a momentary mental image, an imperfect echo of a recently past event. “Real time” has moved the “real world” forward while its previous image still lingers in our mind.

Like the Copernican professors, it’s not easy to reverse gears in midstream but we have to accept the obvious. Before we were born, our consciousness was nearly all internally generated. From that point on, we get our information in a series of steps from sources further and further away. It’s almost funny when we think about the supposed eternal stability of the starry cosmos. What do we know? They’re thousands of light years away. The images we’re picking up are so old those stars could have all turned bright pink years ago and nobody will know for centuries. Our sun could blow up right now and we won’t know for eight minutes. You can make it to the end of the chapter. We are all so used to hand-me-down, passed-

along information we never think about it. Talk about jury rigged scenarios hashed together from second hand images collected all over the time spectrum! Real? We can't get real from out there into here without throwing real time into a tizzy, and even then we mess it up so badly in so many ways we're lucky to perceive it at all. It's usually more static than sensible information.

The freshest, fastest information we can get is what we generate internally. Not only that, unless something rearranges our brain it's going to be consistent over time as well. Try to get consistency from the "real world out there" and see what it gets us. Internal information is naturally more believable than information from places where things change radically over time or even disappear. Everything "out there" does that sooner or later. This leads to the conclusion that not only is "reality" a world we lace together ourselves, but the realest and most stable part of it is strictly personal. This may be reassuring but it also means that as we are the only witness to our world we are also the only judge. It's nearly impossible to separate truth from opinion in our own mind. We can agree with others about a lot of things, most of the laws of science among them, but "real"? "Reality" for any creature is based on an internal state of awareness. To this, we add a potpourri of third hand passed-along perceptions from "out there" and they combine to form an all-encompassing interface, the self-created virtual reality we call consciousness. This consciousness is constantly synthesized from both external and internal senses. It is perceived and understood to the extent of what's available in any given brain at any given moment. "Reality" cannot be decreed because it can only be as it is perceived and each conscious creature perceives it a little differently. There can be average perceptions, agreements, or a consensus among people, but there can't be an absolute reality because no two brains are ever going to put it all together precisely the same way.

They can't. Our DNA is unique, each of us is unique, and our brains are likewise unique. No human can ever know any ultimate reality. We only know what appears to our mind, our personal consciousness and nobody else will see anything the way we see it. Everyone has a different view "For what is a beautiful

woman?” said the philosopher Nagarjuna. ”To a man? An attraction! To a monk? A distraction! To a tiger? A good meal!” Even worse, depending on what else is happening in our individual lives, our minds are easily deceived or distorted in a number of ways we can learn to understand and predict. One thing for certain, if anything can be certain, the only “reality” we will ever know is personal, biased and slightly behind the times as well. It would be nice to perceive the “real world”, but we can’t. Only *our* world. As the world we experience is a virtual reality, it is the product of a process. As this process undergoes predictable distortions, such as in extreme stress or the generalization of brain death, we will certainly know other realities. They will be just as real to us and just as believable as the one we are experiencing now. So this is what happens? Skip to Chapter 10 if you’re curious. This is only one example of new horizons which appear as new discoveries in mind science lead us into an entirely new perspective. It is already changing the way we view ourselves and the world we live in.

Since we all perceive a slightly different world it’s important to learn some basics of how we perceive. To do this, we turn to the brain itself. There is a good reason for this. Most people believe in a non-material mind, spirit or soul. Still, for us to be aware of that soul it must be held in our consciousness for examination and reflection. Our consciousness alone is making the entire universe known to us; and our consciousness itself is made known to us moment to moment only by the healthy functions of our living brain. It is here where the paradox of a physical brain and a non-physical mind, spirit, or soul may be resolved. Whether consciousness itself, which we use to perceive everything, is created by the brain or is simply perceived by the brain, it can only be as we perceive it. And we perceive it all through the structure and the function of the most complexly and intricately arranged form of matter we can ever know or imagine.

Within the space of roughly fourteen hundred cubic centimeters moves the exquisite organic instrument which determines our awareness of everything else at all. Damage or stress it and we are no

longer aware of anything in the same manner. Our universe will change around us. We may have a change of heart, we can change our minds. The brain will accommodate our shifting realities without missing a beat. But tamper with any basic function of the brain and we can distort or destroy the perception, realization and projection of our entire universe for some time. Possibly for all time. Our world as we know it is in our own hands. More precisely it's in our heads. Our brain functions at a level beyond our perception as it monitors anything we can imagine while running everything else at the same time. It is as close to the infinite as we will ever get close to but it is not out there. It is in us. It is the part of us that is making us who we are and what we are and it is alive and well or you could not be reading this.

With those fourteen hundred cubic centimeters, the brain arranges the only world we know and perceive. This constant physical activity allows us to know our days, our nights, our dreams, our faith, our beliefs and any other thing we can know at all. We shape our world with the very lens we use to perceive it. Whenever we search for meaning we always find it where we look longest. It will always be based on whatever we believe in most. Why do we sense the universe is not really locked in time and space but moves in a constant state of creation and change? Simple answer. Because we perceive it with a human consciousness perceived through a living brain, itself in a constant state of creation and change.

Nothing is static in there. Every thought has its minute effect, every moment is a little different. Jesus, Mohammed, Moses, Gautama; Shankaracharya; all experienced the world through this same organic miracle, the same basic structures we each call our own. Nobody ever suggested our greatest teachers were another species or their wisdom arose from their elbows or their eyebrows. If there is a link between humanity and divinity, the interface is located here. We probably all have within us the inherent ability to experience their spiritual insights and share in their assurance. That might convince deists of their touch of divinity. At the least it provides us all a more enlightened understanding of our common humanity. Once the earth was no longer the center of the universe, people searched everywhere to find a new center of it all.

The answers were right behind our eyes, right between our ears. Now we know. We are each the center and the creator of our own virtual worlds and if these simple arguments make a little sense, William of Ockham is smiling and your paradigm just started to shift.