

## The Mechanics of God, Part II: Why Would a Techie Join an Organized Religion?

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It was at a science fiction convention here in Chicago a couple of years ago, I was talking to an old friend of mine — I knew him and his wife from MIT — one of those long, rambling conversations that run late into the night that finally arrived at a question I suspect had been digging at him for some time. “Could you explain to me,” he asked, “how this religion stuff in your life actually works?”

Now, he knew I was a Jesuit and an astronomer. My friend already understood that a person like me *could* exist. He knew I *did* exist. What he wanted was, how? How did I actually made it all work?

He’s interested in religion, now, in a way he never was when he and his wife were just young punk engineers who knew-it-all. They’re getting older, they’re raising a family. And he’s asking me, because along with me being a Jesuit brother (and a friend), I am also, like him, a “*techie*”. That’s what makes my answer — this talk — different. I’m looking specifically at a *techie’s* religion.

What’s a techie? I defined it this way last night: someone who makes his or her living as an engineer or a scientist, yes; but it’s broader than that. It’s someone who’s orientation towards the world is extremely pragmatic, logical, and — most of all — *functional*. Where an artist might ask “is it beautiful?” or a philosopher would ask “is it true?”, the question behind a techie’s world view is, “how does it work?”

Last night, we looked at three questions that belief in God helps a techie answer: Why is there something instead of nothing? What is the source and the object of my deepest yearnings? And how do I make sense of my life?

If you grant that any one of these questions could be a valid question, and not just a nonsense collection of words, and that an answer could possibly exist for any of these questions, you have implicitly accepted the possible existence of something bigger than our ordinary,

everyday life: a Transcendent. The name we give that Transcendent is God.

So, say we accept the hypothesis of a Transcendent, of a God. Why should I need a *religion*? Why do I need to involve anyone or anything else, in order for me to be in a relationship with the Transcendent?

A lot of reasons, it turns out. For one thing, my awareness of that Transcendent hunger is not constant. It comes and goes... often coming in an overpowering way that makes me want to run and hide myself; sometimes coming at the most inopportune times; and too often evaporating at the moment when I most want to grasp it. So how do I get a handle on that elusive hunger?

And recall, the hunger for the Transcendent can be confused with other hungers. How can I tell the real thing apart from my other, more mundane physical desires?

And ... if and when I do grasp that hunger, what in the world can I do about it? I am a material guy, living in a material world. I need a concrete way to deal with that hunger.

And so these are the functions of religion: to record and systematize our collective experience of the Transcendent; to help us recognize and make sense of it; and to give us something we can do to participate in it.

But is there any benefit in formalizing this relationship as an organized, group activity? Why do I need an *organized* religion to systematize my relationship with God?

It's not a trivial question. In most of England nowadays, the majority of the population still claim to be believers in God but they have effectively abandoned any particular denominational ties. In America, there is a long and deep tradition of "finding Jesus on your own." Indeed, the American Congregational movement and many other branches of Protestantism are based on a strong suspicion of any sort of large institutional church.

Even Thomas Aquinas taught that an individual could come to learn how to find and recognize the Transcendent, and how to respond to it, all alone on his or her own. It's possible. It's also possible that a sufficiently smart person could invent all of mathematics and physics on his or her own, from scratch. (There is, after all, the example of Ramanujan, the self-taught Indian mathematician a hundred years ago who reinvented Newton's Calculus by himself.)

But it's not likely to happen too often.

Even a person who follows the adage to "find Jesus on your own" first heard that adage — and first heard about Jesus — from somebody else. Bibles don't spontaneously print

themselves. And the whole Techie secret of human progress can be summarized by the aphorism, “don’t waste your time reinventing the wheel.” Indeed, you can see that the techie case for Organized Religion closely parallels the techie experience of Organized Science.

The organized community is the first place that an individual goes to begin to learn about science or religion. Both science and religion are taught to us at an early age — too early, some might argue. As a result, we’re forced to memorize Bible passages or the names of organic chemicals, and the experience can stunt our appreciation (of either) for the rest of our lives. Most teenagers have had enough of both to last a lifetime, and often never give either a second chance.

Those who do endure the “intro” courses long enough to get to the good stuff know better, of course. Just as science is much more than working out physics problems to get the answers in the back of the book, so religion is more than parroting set phrases and performing obscure rituals. Yet I don’t know of any other way of teaching physics than by starting with those awful first-year physics problems; and likewise, the rules and rituals are generally where you have to begin, in order to live a religion and thus learn where and how to experience what that religion can offer. Painful as it may be, following the well-worn paths of a community’s accumulated wisdom is still the fastest, easiest, and most reliable way of getting up to speed.

Once we have gotten up to speed, we still depend on the organized community to develop and extend our knowledge. The classic Hollywood religious “visionary,” like the classic Hollywood mad scientist, is always a slightly crazed loner with wild hair and a fanatical gleam, whom nobody understands. The actual experience of people in both science and religion is completely different. Indeed, the more typical practitioner (of science or religion) is far more conservative, far more careful; a team player, a member of a community, who is all too aware of their own fallibility and shortcomings.

In both science and theology, progress is made in tiny incremental stages based on slow, unglamorous work, building on a large body of fellow workers, past and present, whose ideas have already passed the test of time; or who can be available now to check your work and keep you honest. Both science and religion depend on continuity, on community. Progress in both fields is dependent on tricky judgments constantly subjected to the criticism and revision of one’s peers. An organized structure in science or religion helps us slowly develop our understanding, to digest our knowledge and turn it into wisdom.

And the community does something even more important in the long run: it allows us to preserve and transmit that hard-won wisdom to future generations. Both science and religion depend on the accurate communication of difficult and subtle ideas. And yet in spite of the inherent difficulties in expressing these subtle thoughts, the urge to communicate, to propagate, to hand on what we have learned to a new generation is a common thread in both science and religion. (The opposite urge, to keep our knowledge “secret” and held apart for only an elite priesthood, is a sure sign of a science or a religion gone bad — the gnosticism of the crank.)

Precisely because they are so hard to communicate, one needs to take special care to make sure they are communicated well. It’s that urge, and that need, which led the Church to invent the University. And a university needs an entire culture to prepare new professors, new administrators, new researchers; to maintain the path where one can progress in an open, understandable, and universally accepted route from apprentice to master to doctor. That’s structure; that’s organization.

So what does that organized structure do for us? The first thing organized religion does is to collect and preserve the combined religious or religious-seeming experiences of an entire people’s history, to remind us that powerful moments do happen, when God does apparently intervene into our lives, into our universe.

Most religions have some sort of sacred writings to preserve this history; they may also depend on traditions, handed down orally from generation to generation. It’s worth noting that the sacred scriptures of most ancient religions are based on collections of stories and histories, often clearly very literary in style, rather than detailed theological treatises. There’s a practical reason for this — stories are easier, and more fun, to remember than dry theology. But it speaks to a deeper significance. The point of these sorts of sacred writings is to record, not evaluate. Christian churches refer to this as the “repository of faith,” a phrase that reminds me of the repositories of spacecraft images that NASA maintains... and with reason, as they have a similar function. Some day I may understand the religious experience of my ancestors in a new light, in just the same way that some new understanding of planetary processes may make me go back and look at those 1965 Mariner 4 images of Mars and see things I never noticed before.

This collection of historical stories also provides a template against which I can compare my own personal experiences of the Transcendent. And that’s important, because not every

“outside” urge that might seem like an urge from the Transcendent, is actually an urge from God. Not every event that occurs in a people’s history is necessarily the specific result of divine intervention. What if there are *evil* spirits? Certainly, human free will, and perhaps even blind chance, does also play a role. So how can we have any confidence in the significance of some seemingly transcendent experience?

That’s where the second function of an Organized Religion comes into play. Our collective religious wisdom should give us some tools to allow us to recognize each event in its context, to see the general trends and the reasons for the exceptions, and to provide some criterion for throwing out the “data points” that look suspiciously far from the norm.

We know it’s bad theology, like it is bad science, to hang your whole Theory of Everything on one possibly questionable point of datum. (That leads to Fundamentalism, both in religion and in science.) And we know from experience that religion, like science, can progress most securely when it is seen and understood from many points of view. As they say in the Open Software community, given enough eyeballs, all bugs are shallow.

Judging the real from the false is a vital function of an organized religion. This might come as a surprise if you think that religious people are overly credulous, but in practice it’s those who have the strongest sense of what they do and don’t believe who are the ones best equipped to resist some spurious philosophical sales pitch. (That’s the plot gimmick of every Father Brown mystery story, after all.)

Perhaps the most reliable way of recognizing the true voice of God is to judge by results. This sort of judgment operates on the presumption — you might find this startling — that God actually wants us to be happy. Religion, as the recorder of a people’s history, is in a position to have observed the kinds of behaviors that lead to contentment, and those that don’t. The logic then runs like this: a Transcendental experience that inspires us to lives that are ultimately happy, fulfilled, and content, is more likely than not coming from the Transcendent who wants those things for us. The experience that inspires unhappiness in us, and misery for everybody else, probably doesn’t. The trick is to realize that what the world judges to be the sources of happiness isn’t necessarily so... just look at the number of “successful” people in analysis, who suffer from the woes of excess.

Organized religion works because the common religious experience of a lot of people over

a long period of time is more likely to have a real content than the intense experience, however profound, of a singular mad prophet on his own. (Especially if that mad prophet is *me*.) For if our experience of the universe tells us anything, it's to be skeptical of the guy whose "distant drummer" has him marching alone off the edge of a cliff.

Finally, having recorded and evaluated moments of contact with the Transcendent, a religion provides us with something to do about them.

The parallel with science works here, too. Like science, religion is fundamentally the work of an individual, guided by a community. I spend most of my working hours at my computer; I am alone, yes, but I am responding to e-mail from colleagues around the world. When I go into some deserted church to pray, I face God alone; but I am surrounded by an edifice that's been built up (figuratively and literally) by countless people gone before me. Even when I am alone, I am part of a community. It is as a community that we meet in scientific congresses, to talk about the work we've done; and it is as a community that we meet to be reminded of, and respond to, those messages from the Transcendent. But how should we respond? Indeed, how can we?

The fact is, as anyone who has had a strong religious experience can testify, the most common impulse when faced with the Transcendent is to run away. "Fear of the Lord" is not just an empty phrase. The experience of realizing that This Stuff Could Be Real is enough to unsettle even the most devout believer. It forcibly shakes us out of our complacent day-to-day world, makes us see things with an instant of clarity that we normally associate with moments of terror. One of the reasons we may find it easier to meet God as a community is merely the feeling of strength in numbers. Ritualizing the encounter takes some of the fear out of it.

It also introduces an element of repeatability. Even if a mediocre religious service is no better than a fast-food burger, at least it provides a certain minimum of spiritual nourishment. Through a history of trial and error, or perhaps even more remarkably through the instructions of The God itself, we can collectively find rites and rituals that allow us to deal with this intrusive Transcendent. It's important that these rituals appeal to our physical natures to express our spiritual longings. We are creatures with bodies, we experience life with our senses. A baby encountering a new shiny toy wants to see it, hold it, listen to it rattle, smell it, put it in its mouth until it has experienced it with every possible sense. It's one thing to observe the beauty of nature; but we also want to participate, get in on the act, and make a picture; or make a garden. When a

lover sees the object of his love, his desire is to become a part of her by dedicating himself to her, living with her, becoming intimate with her; certainly not only in a physical sense, but certainly including the physical sense.

We human beings can't just stand there; we have to *do* something. (Wisdom, of course, is knowing when it is time to do, and when it is time to refrain from doing.) The point is, we want a physical outlet for our Transcendent urges.

Sacraments, both in the general sense that you'd find in any religion — more technically called *sacramentals* — and in the sense of specific rites defined by certain Christian churches, are concrete “things,” services, *functions*, that only a Church can provide. Sacraments provide the touchstones with the Transcendent at life's critical moments (birth, coming of age, marriage, death). They provide the function of institutionalizing acceptance, forgiveness, and communion with community and with God.

Sacraments involve things for us to do... kneeling or dancing, lighting candles or incense, singing or keeping silent, pouring water, daubing with oils, eating bread and wine. In other times and other cultures, religions have gone for more extreme activities — drinking poisons and handling serpents, sacrificing animals (or people), visiting the temple prostitute. Not every way of ritually trying to encounter God is necessarily a good idea. Sometimes the acts turn into superstitions; sometimes they become so obscure they lose all meaning. Sometimes they're just esthetically... questionable. But, messy or uptight, every culture has *something*. Even atheists want poetry and flowers at a wake.

Notice what is missing from this list, things that we tend to assume would be part of any religion. For instance, there's nothing here about a moral code. We are used to getting our “Ten Commandments” in Sunday School, but there's nothing inherent in the concept of a religion that demands that it act as a moral guidepost or judge. And indeed, if you read the Jewish scriptures where we get the Ten Commandments, you realize that the ancient Jews were quite proud of their moral code (and justifiably so) on the grounds that no other god was as good as their God, because no other god had given anything like this law to other peoples. They recognized it as unique. We now take it for granted.

Likewise, there is nothing here about a cosmology. We used believing in God as a way of answering why there's something instead of nothing, but you don't necessarily have to tie that

God to any specific answer: as the mathematicians point out, sometimes it's enough just to recognize that a solution exists. In that regard, we note that there is nothing inherent in a religion that demands some sort of belief in an afterlife, or a judgment.

My point isn't to argue that there is anything wrong with the idea of judgment, or afterlife, or cosmology, or ethical rules. Rather, it's to point out that a religion which does include these things has provided extra "features" beyond the minimum set one might expect to receive. And that's a brave thing for a religion to do. As any software author will tell you, the more features you add to your program, the more opportunities you have to introduce "bugs" and screw things up. Not surprisingly, in the history of religions one will constantly find a tension between these two tendencies, to have a "bare-bones" religion that features simplicity of use but with a limited utility versus a "full-featured" religion that provides many services but carrying a high overhead.

There are dangers in either approach. But then, there are dangers in accepting any sort of organized religion. The better something is, the worse it becomes when it gets corrupted. What we recognize as the greatest evils, are great goods that have turned bad. If religion is a great good, as I believe, then it carries with it the possibilities of great evil.

The alternative to accepting the risks of religion is to reject both the good with the bad. The world of John Lennon's *Imagine* is one without hell, but also without heaven; a world without war, yes, but also one without anything worth fighting for. Imagine there's no Beatles? Sorry, John, you guys were worth it — even worth putting up with Yoko.

One big danger, ironically, is to make religion *too* important in our life. It's one thing to be in love with God; it's another, to act towards God like a hopelessly unrequited lover. A person obsessed with the object of love winds up having no life. He makes all sorts of sacrifices for what he thinks is love. But all he's in love with is an image of his own imagination's creation. And in the process, he's given that loved one nothing, not even someone to love in return; he has made himself into an utter bore who's not in the least bit appealing or lovable.

This sort of behavior is an especially strong temptation to the Techie, and not just in our romantic misadventures! What could be more important than God? And if Religion is my route to God, doesn't it make sense to subserve everything else to it?

Well, no; it doesn't. God may be the reason the universe exists; but the universe is not God. We may think our religion is our best, surest, route to God; but our religion is not God.

Religion has its due; but we are reminded (in the Bible!) that Caesar has his due, too. The clearest evidence that this route is wrong, is seen in watching how the lives — and religions — of those who follow such a path become constricted and shallow, until they wither and die.

Religion is supposed to serve as a guide, a pointer, a help. When it becomes the entire universe, it usurps the role of God. It fails to resolve the questions of the universe's existence, because it has become a universe unto itself. From there, it's a short step from religion usurping my reason to believe, and making itself my "meaning of life."

The major religions themselves recognize this danger. An old Jewish folk tale warns against loving the Torah more than God, and Jesus reminded his followers that the Sabbath was made for Man, not Man for the Sabbath. But we can get so wrapped up in beautiful liturgies and eloquent prayers, and following the rubrics exactly, that somehow we lose sight of God.

This sort of behavior is an especially strong temptation to the techie. Given the "how-does-it-work" functional mind set, what a religion *is* becomes equated with what a religion *does*; and often the only thing we see religion doing is presenting a rigid set of rules and regulations. (We never get past the intro course.) A techie might think that the sum total of belonging to a religion is learning the rules, and then following them.

Someone with this way of thinking may then assume that salvation can be "earned" just by strictly following the cookbook. It appeals to the deterministic streak in the techie mindset; it gives you a pleasant sense of control over your own destiny. By wrapping yourself up in the minutiae of religious practices, you can close your eyes to the real, scary God of the Transcendent urges. You've substituted for it, a tame trained seal who applauds when you ring the right bells. This in turn can lead to a terrible intolerance... not only in the faults of others but, to a worse extent, an intolerance of your own faults. From there, it is a short path to either denial or despair.

This is not to deny the existence and importance of rules. A techie understands this. Any attempting to reduce religion to a set of "feel-good" emotions, besides being dishonest, would imply to a techie that the religion is without content, and thus without worth. But a techie also knows that following rules is not enough. Depending on a cookbook is a sign that you don't understand the chemistry of cooking. And that's OK, the cookbook will work — as long as you understand that it's a crutch, not the sum total of religion.

There are other dangers. Recall from last night that, for a Techie, one of the most appealing

reasons to search for God is that this God could be the foundation of the elaborate physical world, whose laws are our delight and provide the structure of our work and our lives. But if we are not careful, we can let our religions define and limit our universe, and eclipse the God it is supposed to be leading us towards.

A Jewish friend once described perfectly the sort of thing I'm thinking of; there are some Jews, he complained, who lived so entirely inside a mental Jewish ghetto that they would attend lectures with titles like "Thermonuclear Warfare: Bad For Jews?" This same narrow mindset drives born-again Christians to only shop at stores run by other born-again, or have Catholics root for sports teams based only on whether or not the school is nominally Catholic. In many parts of the world, Northern Ireland or the Balkans or the Middle East, this sense of total or exclusive identification with one's religion carries a much more serious cost.

We find the same sort of provincialism in science, of course; you're much more likely to cite the work of your colleague down the hall than the fellow across the continent who may actually have done the work first. But when it arises from a religious world-view, it can be harder to identify and harder to resist.

This sense of viewing the world entirely through the filter of one's religion can arise when the faithful are an embattled minority in a culture perceived to be essentially hostile. If people view their religion as making them "a people set apart" then that will color how they view everything they think they are set apart from. But the opposite condition, when the religion is part of the dominant majority culture, can produce the same bad effect. In that case, God-and-country become one indivisible concept, and to question one is seen as rebellion against both. In either situation, religion can become so choked by its tight intertwining with one's culture and history that eventually it is no longer free to live or grow or function.

This narrow-mindedness has another odd effect. People outside of a church sometimes think of churchgoers as snobs or hypocrites who think they're better than anyone else; and in fact, this accusation all too often is true. But it doesn't manifest itself the way you might suspect. It's not the person outside my church whom I scorn; it's the guy in the pew in front of me. I have almost never heard a fellow Catholic speak ill of Hindus or Jews (or even Protestants.) But all the time I hear conservative Catholics bashing liberal Catholics in the most apocalyptic terms, while liberal Catholics show an embarrassing lack of tolerance for their more conservative co-

religionists. In such cases our universe has become limited to our own religion; the outside doesn't even rate a second thought. And in that lack of context, we forget the important things while fighting over issues of emphasis or style.

Finally, recall that one of the utilities of a believe in God is that He serves as an external measure against which you can measure yourself, for good or bad, to see where you are succeeding and where you are failing. A false image of God will give you a false reading of where you stand. But there's a more subtle problem: as quantum physics reminds us, any attempt to make a measurement invariably alters the thing being measured. If, by presenting yourself to be judged by the standards of your religion, you try to twist yourself into a shape that perhaps is easier to measure, but which is no longer you, then you've defeated the reason to have a religion.

People who have undergone a religious conversion and join a church often refer to the experience as a "new beginning." The symbolism of the rite of baptism is heavy with the notion that this is a new birth. True and powerful as these images can be, they can carry a certain false side as well. While it's a *new* you being symbolized, it's still *you*. Or at least, it ought to be.

The idea of changing one's life is not to replace an "old" you with a "new" one; it's to take away that which isn't "you" but some sort of affectation, and build up what's right in you, what makes you special and specially good. What religions have traditionally called "sin" can be thought of as all the bits in your life, your deeds and actions and opinions and prejudices, that get in the way of you being the authentic you. They're the bad habits that distract you from what you really wanted to be doing, the posturing that smudges over whatever it is that makes you different from anyone else, the actions that erode your skills or your wisdom or your patience, or your unique blend of all the above.

To enhance those traits that make you special should be your goal; when you've done that, you will be even more different and special. The opposite tack, to squeeze yourself into some prefab shape, destroys your individuality and thereby ruins whatever it is that makes you special. On the coordinate system of life, you've stuck yourself at zero in every direction. It's an easy spot to find, but not particularly interesting.

But in order to be the authentic you, you have to have an idea of what it is you really ought to be. That should be one of the functions of a religion: to hold up examples of people who got it right, so that you can see what "getting it right" looks like. The trick is, of course, that those saints

were all unique individuals, too. You can't just take someone else's example and slavishly copy it. The best you can do is take a look at those examples and try to figure out how to generalize and apply those lessons to your own situation. (Sounds like the classic problem-solving technique from freshman physics.)

One problem is that in our culture, Techies don't have a whole lot of worked-out examples to follow. Over the past hundred years or so, there has been built up the myth of an eternal war between science and religion (a popular theme of books in the late 1800's, back when both Science and Religion were equally arrogant in thinking they had a unique lock on the truth). So the very thing we are striving for, is too often held up to us as being an impossible self-contradiction.

The popular picture most of us have for what an engineer or scientist ought to look like might include a lot of things we would aspire to ourselves: self-reliance, cleverness, fearlessness in the face of challenge. And it might include a lot of things we know to try to avoid: ill-fitting clothes, geeky haircuts. But it doesn't say anything about getting up for church on Sunday. Meanwhile, modern-day saints (we're told) are only people like Mother Theresa or Albert Schweitzer; if you aren't interested in feeding the poor on the other side of the world or lead mass movements against poverty and injustice, you're likely to lack a role model.

We've already discussed one of the classic traps that can befall a Techie joining a religion: an excessive legalism in attempting to conform to some rigid ideal. Above, we noted that this kind of behavior contains the fallacy that you can somehow buy salvation by the way your behave. What I point out here is that, almost certainly the kind of life envisioned by the rule-makers is not the way real people can live in the real world; and almost certainly, it misses all the wrinkles and complications in our lives and our personal situations that make us the very people we are. By forcing ourselves to fit into this cookie-cutter mold, we cease being ourselves.

If engineering were just following rules, it'd be the most boring life imaginable. If life were that simple, saints would be the most boring people in the universe. That may be the way you were taught in Sunday school; but it sure isn't reality. Saints are never made of plaster, formed from a mold. And a faith that forces such a mold on top of you probably going to squash something essential.

The functions of religion, we said above, are to record and systematize our collective experience of the Transcendent; to help us recognize and make sense of it; and to give us

something we can do to participate in it. And any religion needs to be organized at least enough to carry out those functions.

From these considerations, one can deduce a few common trends that can make a religion more or less successful.

In general, it looks to me like the old established firms have certain unshakable advantages over new startups. (Of course, as I am a representative of one of the major brand names, you may take this opinion with the grain of salt it deserves.) For one thing, ancient religions have the advantage of a longer history on which to draw; this gives them more examples of times when God has appeared to have interacted with people, more “raw data” on which to do theology. Likewise, they have more experience coming up with rules for living and dealing with the Transcendent that are likely to fit the way that human beings are actually put together (rather than the way we would like to believe we are). And any religion that has succeeded at surviving for a thousand years or more, is likely to know well how to play the delicate game of dancing with changing times without surrendering to the fads of the moment.

Indeed, one advantage of a big religion is that it affords the opportunity for many different, coexisting, ways to worship. The varieties of ways in which one can establish and nurture a relationship with the Transcendent are as varied as humanity itself. Thus it is useful for a religion to offer different varieties of “spirituality”.

As an example, the contrast between the stereotypical “feel-good” tree-hugging Franciscan friar and the ultra-rational, worldly Jesuit priest has become the basis of a whole class of jokes among Catholics. (A Jesuit and a Franciscan on retreat are both engaged in deep prayer, when the Jesuit suddenly lights up a big cigar. The Franciscan whispers, “My spiritual director says one should not smoke while one prays.” The Jesuit replies, “Mine said it’s all right if I pray while I smoke.”) Of course the Franciscans can field some topnotch theologians, and the Jesuits provide plenty of empathetic spiritual directors. But the point is, they do each have distinctive styles to the way they approach God, and they come from very different traditions; but both are very Catholic. (And we do greatly appreciate each others’ gifts.)

Are all religions “just as good”? I sure don’t think so. And no doubt practitioners of those other churches would agree with me, for their own reasons! Even speaking only of the major “mainstream” churches that I seem to be favoring, are they all equally successful at doing what

they set out to do? Even there, I would judge not. And again I suspect the Presbyterians, Moslems or Jews would have their own reasons for judging why their churches best satisfy them.

All of us would agree that some now-extinct religions probably deserved to fail. One of the experiences of history is that popular heresies generally spend themselves within a generation or so. For instance, even with the implicit support of the Roman Emperors and very crafty politicians among the churchmen, the oversimplifications of Arianism in the 4th century are now just a footnote in Church history. Though the same dumb ideas do keep coming back in new guises — Gnosticism and its temptations to “secret knowledge” crop up in every generation — it’s a trait that every New Age philosophy must call itself “New”. By contrast, a mainstream 21st century believer can still read, and get a lot out of, the books of a 5th century forebear. The basics of our religions do survive and endure, even as new understanding is added to them. It’s enough to make you suspect that Someone is keeping an eye on things.

But by that same criterion, I have to admit that, a thousand years after the Christian Church split into east and west, and five hundred years after the Reformation, the fact that all three parties are still flourishing may well be a sign that God wants each of us to learn something from the others. (It’s interesting to see how similar our various theologies have become over time.) A similar judgment, I suspect, might be made among the divisions in Judaism and Islam.

I do think we’re all trying to end up at the same place. But I also recognize that we’re not all starting out from the same position. And if I am in a position to judge anything, it’s only that I am myself in no position to judge how anyone gets from there to here. Anyone who works in a parish will confirm that often the best parishioners are those whose route to the church has been “nontraditional.” They’re the ones who have had to think things through, and so they’re the ones who know why they believe what they believe. If you’ve wandered far from the straight and narrow, your route back will no doubt take you over terrain every bit as strange (and dangerous) as where your wanderings away took you in the first place.

And yet, I do believe that in among all our different approaches there is ultimately only one truth, and one path that is closer to that truth than any other. I would differentiate between spirituality and Theology in much the same way that I would differentiate between engineering and science. And engineer trying to make a widget that solves a problem might come up with any number of different possible approaches. Some might be more elegant than others; some might

bankrupt his company, or frustrate the end users, no end; but it is possible for more than one approach to work. In the same way I can accept a multiplicity of approaches to God, a multiplicity of spiritualities. Not everyone could stand to be a Jesuit; or a Franciscan.

But a theologian, like a scientist, has a different task: to describe the truth. And there is only one truth. I might come up with many different sets of equations to get at that truth, emphasizing one or another aspect depending on what side of the truth I'm interested in; but just as the Principle of Equivalence says all Quantum Mechanics formulations should reduce down to simple Newtonian mechanics in the limit of ordinary room-sized scales, if the different theological approaches can't all eventually be reduced to equivalent descriptions, they are not describing the same Universe, the same God. And there is only one Universe, one God.

I sometimes wonder what the world would be like if our science was as fragmented as our religion, with Aristoteleans in one culture threatening jihads against the Newtonians of another; and the New Age anything-is-real-if-you're-sincere types condescendingly patting them both on the head. It's one thing for different schools within a field to argue with each other at scientific meetings; so long as each side listens to the other, both can come closer to the truth. But that would be impossible if the groups didn't have a common understanding of what constitutes science.

We're very fortunate, as scientists, that we are not so fragmented. The reason we've resisted that, I believe, is that for most researchers science is not their religion: science is not their unshakable axiom at the beginning of the reasoning process. Thus we're able to concede that our scientific ideas could be wrong. But that also means the scientist who does not have any religion except their science, is in danger of walking down that path. A scientist needs a religion, if only to prevent science from becoming their religion.

Notice what I have done in all these arguments. Continuously throughout this talk, I have made an analogy between the way science works in practice, and the way religion works. Now, it shouldn't be surprising that the role of organized religion in the life of a techie so closely follows the role of organized science. Both science and religion developed from the same roots, from the same desire to understand the inexplicable, the desire to preserve and develop that understanding through the generations, the desire to use that understanding to make our own lives more settled, more content, more at peace... and more human.

If all these reasons make participating in an organized religion sound quite reasonable, for

solid, pragmatic reasons, you may rightly suspect that this explanation is probably a bit too pat. You're right. The experiences of a real techie in a real Church are likely to be far messier than what I've described here. As I stated in the beginning of the lecture last night, choosing to believe, or not to believe, is wrapped up in so many things. Family background. What the "religious people" we grew up around were like. Our preconceptions and prejudices about one religion or another. The sort of self-image we want to project to the world. Within every individual the good motives and bad motives are so intimately mixed together that it's impossible to separate them out. That's what it means to be human.

But even if you're the most skeptical of atheists, I hope that I have convinced you that good motives for believing do exist; that belief in at least some sort of God is a possible, reasonable choice; that some reasonable people can and do practice a religion without being wholly illogical.

Furthermore, I hope you can see that there is a logic to what is accepted and what is denied in organized religion. And in fact this logic is rarely the cynical self-interest that detractors of religion would have one believe. Indeed, rather the opposite. Preaching peace in the face of hatred, or fortitude in the face of weakness, or forgiveness when the world demands revenge, or morality under any circumstances, is not likely to win you many popularity contests. But the fact is, religions that cynically alter their beliefs to suit the fashions of the day rarely survive more than one change of fashion.

Like the quantum, like the motions of the planets, the workings of belief do follow a pattern, a system, as logical as Newton's mechanics. In that sense, I have tried to outline a sort of intro to the "mechanics" of God. But religion is ultimately much more than its theology; it is its people. It's with us fallible people where the problems enter, but also that's where you find the glory of the enterprise. And among those people, some of us are techies. I guess that makes us, the Mechanics of God.