SOCIETY OF ORDAINED SCIENTISTS

"A Pilgrimage of Perspective from theology toward natural sciences: the expanded imagination"
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January 6, 2016

In preparing to this topic, I had a vivid recall of a childhood experience from the age of 9 or 10. Right behind our home was a farm that opened up into woods, forests and mountain streams. It was my wonderland. One blue-sky day I chose to climb an evergreen tree in an open field on a hill to see the landscape below from about 20 ft. off the ground. As I arrived at the top, filled with a child's sense of the natural awe and beauty in the moment, I lost my grip on the tree's spindly top and began tumbling down backward, grabbing where I could but mostly out of control, losing momentarily all sense of up and down and finally landing somewhat miraculously stomach-down on the ground, with weight well distributed so that I had bumps and scrapes but no serious injury—now my eyes were up close in reeds of grass and rock rather than vast landscape and open sky. Boughs of the tree had softened the force of gravity, lightened the landing.

I feel in some ways that whatever my expansion on the details about the natural world through my attentiveness to natural sciences, first, it remains the perspective of a theologian, and second, it can expand on but never erase the power of this childhood wonder—oh yes, it has expanded to include large scope and small and inner detail—We expand the story of climbing a tree as we peer into the formation of space-time beyond the canopy of blue skies, the millions of years of species transition leading to a squirrel's skills dancing effortlessly on that same tree I had climbed, whose life may be snapped up any moment by a hawk scanning the landscape for its next meal. Nature is not filled with soft landings as it makes its way to the diversity, richness and complexity we know today. Somehow, we must be able to associate the whole of this with the beauty and goodness of God. To extend the illustration just a little more, like the boughs of the tree that supported my return to the ground, it is a community of relationships that supports the quest for understanding at the interface of theology and science, supporting when we feel off balance or unable to appropriate the next move in the quest to know.

So I enter this meditation somewhat self-consciously, aware that I am not a scientist but one who rides the crest of theory and evidence gleaned from labors of those like you who are. I admire the careers of scientists known and most unknown who spend decades of highly trained expertise to solve a single problem or make a discovery, and know that we lean on such efforts when we reflect on the state of scientific knowledge today and its impact on our spiritual quests. I am no doubt part of the intellectual diversity, but I must be clear about my place in the conversation.

The community of scholarship that Ted mentioned last night reminds me of the Science and Spiritual Quest project, the gathering of 60 world renowned scientists

with Bob Russell exploring with them personally the interface of theory in their science and their ultimate concerns. One key that unlocked the capacity for conversation in these groups was the mutual discovery of vulnerability among some of these great scientists who had in many cases very little language for exploring spiritual depth. It took a diversity of intellectual and experiential angles to open the door of these conversations. I recall that experience for my own sake and yours; we must cherish the diversity of insight and angles at the nexus of theology and the sciences.

My path

In the early years of coming into the skills of theology, I often saw the work primarily historically—through critical studies finding gold in the artifacts of tradition, discerning holy wisdom embedded in unfamiliar cultural forms of the past.

I would say now that I began by treating theology as a discrete language somewhat insulated from other disciplines (a version of what the late Stephen Jay Gould named 'non-overlapping magisteria'). There were critical-historical skills involved to be sure, but I had not lived into the disposition of skepticism deep in the bones of scientific method: take nothing on its face, be ready to test and perhaps falsify your best hunches, challenge rigorously as you approach best explanation of the data, and don't stop there because the process will remain forever open, unsettled and dynamic. I had learned to read theological forebears sympathetically but the constructive skepticism of sciences was lacking.

So the first move in my pilgrimage was the transition from seeing scientific method as extraneous to seeing it as liberation of theology itself. It was an invitation to sit more loosely with constructive thought and to enter more hypothetically into the theological task itself.

And of course this becomes deeply important when we enter the substance at the interface of theology and science. When theologians today speak of 'creation' they are invoking a vast physical cosmos and time scales of the natural world never imagined in natural philosophy in centuries past, changing our conception of matter/energy. I think the one thing I owe most to the Founder of this Society, Arthur Peacocke, is his thesis (here paraphrased): 'the monotheist who holds to a doctrine of creation, must be always mindful that the world the scientist explores is the same world about which the theologian makes claims as creation. These are different descriptive levels. If the world is one, the integrity of the theologian is dependent on finding coherence across these levels of description. As a scientist and priest Arthur Peacocke pursued this coherence as part of his spiritual life and discipline.

But I must quickly add that sitting loosely with theological construction in the spirit of testing, is not to sit lightly. Our ideas matter. One of the great spiritual disciplines, in my opinion, is living within the tension that: on the one hand, we hold beliefs

about ultimate things holistic enough to shape affections and orientations to action, so deep and so consequential that to change them is to change who we are; on the other hand, we are finite, fallible and could be wrong. Skeptical method in science keeps us grounded in the latter side of this.

I first encountered this in writing a dissertation in theological anthropology, centered in Austin Farrer's philosophy of mind, and discovering his own encounter with the 'seismic shift' in the understanding of 'mind' that followed from his reading of Gilbert Ryle, *The Concept of Mind* (1949). If mind is no longer to be regarded as a primitive term alongside material bodies (the Cartesian model) but as a name for capacities that belong to particular kinds of creatures, then analysis of mind apart from material substrates that introduce these capacities (long term memory, intentionality, biology of language) might be of little consequence. What would the theological implications of this be? It felt wide open and risky to me, and it became my starting point as a theologian grappling with the impact of the sciences on theology.

The second lesson from science is close to this, and also has to do with the methodological background to the substance of this interface. And here I owe so much to Bob Russell and Ted Peters, and also another member of the SOSc, the late Bill Stoeger. The thesis is this: there is never an unmediated relationship between theology and the natural sciences. The natural sciences come to theology through interpretative lenses, mediated through social sciences, great literature, philosophical worldview, metaphysics, and more. This seems obvious, but it is a key insight that affects everything we do in this interdisciplinary work, and it is the insight that shaped the ten-year Center for Natural Theology (CTNS) project on divine action, a brilliant model of the insight.

Consider just one instance of this important point about the interpretative medium. Under the Cartesian philosophy and worldview wherein all life except the human being was animate machinery, Francis Bacon could describe the experimental process as "placing nature on the rack and exacting the truth from her." Nothing wrong with this image if nature has no feeling, no prototype to our own consciousness, but is merely a stage prop for the drama of the human spirit. As Nancey Murphy once stated, under this model "the rational soul in modernism is an actor on the stage of nature, but not fruit on nature's tree." But we simply can't think that way anymore, and the difference is a consequence of the subtle interface of theology, interpretative worldview, and the sciences. If we are bio-chemically connected to millions of years of life that has gone before us (knowledge from science) and the natural world represents the continuous creativity of God, the Spirit dwelling within, such that the natural world and not just the human soul represents many angles on the grandeur of God (worldview and theological commitments) then we simply can't say what Francis Bacon said under the influence of his own worldview. Our faith must be that the creator loves the rich diversity of the tree of life for its own sake, and not simply as the stage setting of the human species and its struggles. This conclusion if one shares it, is not science as

such but interpretation and mediation through worldview toward theological insight.

As dean of a seminary, I believe something of this attitude of inquiry must be instilled into the new generation of church leaders, whose sense of mission inescapably involves faith at the intersection of public life.

Markers of pilgrimage

I want to turn next to issues of theological substance, not just method, where attention to the sciences has changed me.

After my study of Austin Farrer, my inquiry into the relationship between theology and natural science reached back to the late 19th century response to Darwin by Anglican theologians. The figures I chose to explore cannot be understood apart from the way evolutionary theory was mediated to theology through worldview (emergence theory), and metaphysics (panentheism). Again a tribute to what I learned on the team at CTNS. I'm thinking of Hastings Rashdall, Bethune-Baker, Charles Raven, the early Wm Temple, Lionel Thornton with respect to emergence, and Bethune-Baker and Raven with respect to panentheism.

Themes

The obvious impact hit me in the reckoning with evolution—enormous shift in time scale; the selective mechanism leading to richness, complexity, and novelty. This deepened my gratitude and awe in the story of creation, enlarged the experience of beauty reminiscent of childhood story, and introduced terror at the enormity of suffering, death and extinction requisite for the process to unfold, and made me and other feel vulnerable as we face up to the way it changes our own storytelling as Christians about human origins.

Cosmology and evolutionary science opened the idea that nature has a history, and that God is the author of novelty in and through the creature, breaking out from within. But this cannot be overly romanticized; it is a dangerous idea requiring revision of the meaning of divine goodness. Holmes Rolston makes the point: the outcomes of the laws of evolution are beautiful, bristling with diversity and robust possibility of new kinds of complexity; the outcomes are also brutal, ugly, predatory, violent and death-dealing. Rolston has invoked not just the biology but also the divine agency that sharpens our focus on this point, making us contemplate the chilling ritual of selection as the mode of divine creativity. This mechanism lingers in the blood our our species as we await for higher moral and spiritual realization in the Spirit's movement in us.

As Elizabeth Johnson states, "We should not be surprised to find the Spirit of God very close to turbulence," in the vulnerable, catastrophic, creative moments of nature and history, and not just the easy-to-behold beauty of the world.

There are many implications of this, but I will limit my comments to two ways this has impacted my own theology: first, a revision of my earlier ideas about theological anthropology; second, in my understanding of the Christ.

Theological Anthropology revisited

We have, of course, come to understand that life preceding our species is the biochemistry of our bio-chemistry, and neither our identity nor our destiny can be understood apart from this slow process of building up the complexity of life. It seems to me that in our theology we are prone to underestimate the impact of this on our species, and to overestimate moral freedom, which is a late entry into this complexity.

If human moral capacity builds on the shoulders of millions of years of life of other species, then the moral and spiritual capacity of the last 35,000 years would begin very fragile and easily slip from self interest as a natural good, according to William Temple, to self as the center of value. The impact of evolution on my vision of the human being is to see the moral and spiritual striving as far more constrained at our origin than I once did, a more modest degree of freedom, and to see the conditions of our origins as more in an entangled jungle of life than a garden, fraught with the deadly consequences of trial and error as we make the slow journey toward discovery of value outside the self and in the environment. Moral freedom is so fragile.

The effect this has on me is a change in spiritual tone—tilting away from judgment and a little more toward compassion. Think of our origin for a moment not in terms of a 'who done it' around biting an apple, where judgment and sentence is handed down on rebellious finite creatures, who knew better but simply failed out of pride. This has been one the hinges in western theology, presuming a very high origin of the human species and turning Christology into God's plan B to fix what we have done. Change the scene to consider a 3-year-old child who escapes her mother's watch for a moment and goes to the living room right to the fish bowl. She wants to know how fish live outside the water so she reaches in for the fish and accidently knocks over the bowl. The child is not rebelling; she is exploring. But there are consequences to exploring because the fish most likely dies, and there are deadly consequences to our moral reach as human beings. Failed efforts lead to despair, discouragement, maybe loss or meaning. Returning to the garden narrative, we might read it as the rabbinic tradition does, not as a fall, but as the joys and sorrows of coming into moral consciousness and relationships.

My point is that the moral capacity of this first moral species—us—seems much more constrained than our primary story has allowed. Not just our origins but even today, I suspect we are far less aware of the internal and external conditions weighing on our action than we would like to believe. It must strike God as at times humorous, at others bewildering and desperate, to behold the frailty and limits of God's moral creatures, who may not wake up in time to spare the planet from the

effects of its own ways. God has taken millions of year slowly and lovingly to arrive at a creature with our moral and spiritual aptitude—will it take millions more?

What strikes me in the revised scientific story of our origins is the need for a theology governed less by judgment and more by compassion, not that these are opposites. But the weight must be distributed differently. We have placed such a heavy theological burden on our species over the centuries not recognizing clearly enough the finitude of moral capacity in the way we deliver theology.

Yet this is a very tricky and puzzling point for me—even paradoxical. We cannot ignore moral and spiritual response to life once this self-understanding is out of the bag. We cannot let go of moral capacity and imagination as it plays so richly in our relationship to God. In our limited ways we desire and anticipate the good, we are stirred by virtue that draws us closer to the presence of God, we imagine in our finite loves an ever more robust love of God, and this stirs and inspires the highest possibilities in our relationships with other persons and the natural world. But is this moral and spiritual stirring enough, soon enough? Where do we turn to understand the yawning gap between this deep and noble longing of the first moral species, and the perennial failures of justice, the constancy of war, the consumption and will to power that may desecrate and pollute the Earth and take us to the other side of the tipping point? Are we as a species seeing more clearly, loving more dearly and following more nearly fast enough in evolutionary time to turn back from some of the greatest crises of our species history? We trust that God is in us to make-us-make-ourselves, so to speak, indwelling to make us more ourselves than we would otherwise be. But there is no clarity about frustration of our moral and spiritual condition. Is the human being only a defiant rebel in a holy drama, or are we finite in capacity, and in our stress, fearful and prone to loss of meaning, and therefore unable to see the entanglements of our moral condition. The recurring image in Elizabeth Johnson's work, Ask the Beast, is the 'entangled bank' to describe nature in the wild, its elaboration of local ecosystems, its dynamic and unpredictable transitions, the deep connectedness and interdependence of all life. In faith we must assume that if God is in the entangled bank of local ecosystems, then God must also dwell in the entangled bank of moral awakening of the human species?

Christology

This leads me to the effects of this revised story on my understanding of the Christ. If we can for the time being rest our metaphysical conjuring about the two natures of Christ and settle on a very simple turn of phrase by the British modernists of the early 20^{th} century to speak of Jesus' relationship to God—in Jesus, we see God—then we have enough to see this figure and his community as revelation of the nature and will of God. And just as evolution is continuous and has no artificial divisions of before and after, so also the primary revelation of Jesus is, in William Temple's phrase, a most poignant deep and decisive revelation of what is always the case about God's self-giving disposition toward the world. Through this moment of Jesus Christ in history we can read backward and forward into the character of God's presence in the processes of continuous creation. Christopher Southgate invokes the

voice of Barth in volume 2, when he states that the passion of Christ reveals God's beauty as it embraces death and life, fear and joy, beauty and ugliness. And Southgate continues that every natural phenomenon can be read through the *via cruces* as a sign of God's inner nature. It will take me more time to settle with this revised understanding of Jesus, but somehow we must face into this vision.

For the time being I return to the simplicity of what Hasting Rashdall saw as the agreed upon center of Jesus throughout Christian history: his ministry converts the heart, inspires a new way for our humanity, and pioneers this way as its exemplar. And in doing so he reveals God's relationship not only to us but to the rest of the physical cosmos from which we come. In view of this spiritual tone, it is far less likely in my view now that *God needs the self-giving sacrifice of Jesus to turn God's face back toward humanity (Charles Gore) than God needs the self-giving of Jesus to turn humanity's face toward God (William Temple)*.

Moral transformation and challenge as the goal of science-theology explanation

These next and final remarks are stirred by two experiences in my recent past: a careful reading of Pope Francis' Encyclical *Laudato Si*, and preparation and presence at the climate change conference in Paris in December as a delegate from the Episcopal Church. Here was the impact from applied sciences converging on a strong thesis: human activity has probably already set in motion climate and ecological conditions we cannot reverse in tens of thousands of years. Pope Francis has offered a brilliant theological inspiration for the human moral and spiritual response to this condition. If the earth is a sacrament a sign of grace, and the location of God's dwelling presence, if its bio-diversity represents many faces on the grandeur of God, then our direct harm of Earth's bio-diversity achieved over millions of years (more than 1/3 of living species millions of year in the making are threatened with extinction in the next 100 years due to human activity) cannot be treated simply pragmatically as a technical slip up; it is anti-sacrament, deep alienation, a moral and spiritual failure of the first order. The deserts of the earth are a mirror of the deserts in our hearts, says the Pope. The threat to humanity and other species due to climate change created by human activity, is not a failure of scientific knowledge and reason; it is a moral and spiritual failure and it hints at freedom's constraint, and cultural despair and loss of meaning.

So at present I am held in the tension or paradox that, on the one hand, we have overestimated the power of our human moral and spiritual capacities, but on the other hand, it is urgent that we claim these capacities.

All said and done, theology cannot end in explanation; it is about transformation and the pathway toward conversion of the heart and mind by deeper devotion to God and a more informed understanding of our world. We should not write theology without the powerful and expansive light of science on our task. But we must also pass the test of moral plausibility established in the mounting cases of mass violence in this century and the last, wherein the brutality running through the veins of our

species, the mine fields of power, loss of meaning, gaping holes in social fabric, are demonstrable.

In a novel *All the Light We Cannot See*, a principal character who is a botanist at Jardin des Plantes in a time of Nazi German occupation of Paris, states: "It strikes me as wondrously futile to build splendid buildings, to make music, to print huge books full of colorful birds, in the face of the seismic indifference of the world—what pretensions humans have!" This is the test of our theology, the spiritual urgency of our task as people of faith. And we might ask: Why create explanations at the interface of theology and science unless, with it, follows the urgency of our own moral action, placing ourselves in the way of evidence, facing this dark condition with the power of moral and spiritual goodness?

If we *are* the partners with the Spirit, and transformation is our religious goal, then in the world of science and religion the analytic posture must have an urgent moral motivation. Bruno Guiderdoni, physicist and Muslim scholar, stated that in Islamic tradition, God commands us to seek knowledge, but only for the sake of goodness, and never for the sake of idle curiosity. Good theological explanation, fully informed by science must inspire alertness and passion toward what William James named the *Moral Equivalent of War*, doing everything in our power to run toward the faith we hold, which is that God is healing/transforming loss, *and* God has made us participants in the work of healing and transformation of the world under conditions of massive counter-evidence and soul destroying events. We may not be called to be successful at all times, but are called to be faithful at all times, and sometimes at a cost.

Again from *All the Light We Cannot See*, a genius soldier in war is working for his commander in electronics: informational algorithms to capture and interpret enemy signals. He knows he is operating under nearly impossible deadlines to contribute to the next informational move. It will require every waking hour and every ounce of his focus to meet his goals and to make the breakthrough. My question is: what is the moral equivalent of this focus and expenditure when we are today a planet at war, and a species at war against our planet? There came a point in World War II when commanders had to step out of their headquarters, pick up equipment and go to the war's front. What is our moral frontline, and where is the sweet spot, so to speak, between strategic thinking in science and theology, knowledge for goodness' sake, and moral imperative streaming from the fruits of this labor?