

Christian Nurture and the New Cosmology
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Christian Religious Education recognizes the crisis in perception caused by eroding cosmologies and engages persons in the reformulating of Christian stories that negate a limiting materialism perpetuating consumerism destructive to life. A course is developed that embodies the implications of current cosmology.

As reports increase about the world getting "...hotter, stormier, more unequal, crowded, violent, and less biodiverse..." (Hessel and Ruether, xxxiii), what role will Christian Religious Education play? As a field what will Christian Religious Education propose to do about a crisis of such proportions?

In seminaries and theological schools of the United States and Canada some attention is being given to environmentalism and ecology through course offerings. For the most part, these courses have been offered from the perspectives of theology and spirituality and in connection with globalization issues. Some attention has been given to this issue from the perspective of practical theology. But seminaries have done little in generating courses that develop expertise for teaching and learning that engages the imagination in discovering a vision that includes an adequate metaphysics for our time. Very little has been offered by the field of Christian Religious Education and the perspective of the particular needs for teaching and learning in the context of local faith communities.

The curriculum and practice of local churches and congregations often include outdoor ministries in many forms, such as camping programs, that are either taken for granted or perceived as peripheral to ministry. Units of curriculum that focus on creation or stewardship of the natural world have been developed by both denominational and independent publishers. But even when churches make strong public statements and take action related to these environmental issues, initial practices in life style and interest related to environmental concerns tend to wane, experiencing difficulty in sustaining enthusiasm or commitment. The issue is still viewed as one among many justice issues that compete for person's time and energy. Little has been done to create a vision other than what has been frequently trivialized, romanticized, or left to ecological enthusiasts. (Moore, 2-3)

The Problem

Natural science has changed the way we live and the way we see ourselves in the world. However, as older cosmologies have eroded, consciousness is left with a limiting materialism that perpetuates consumerism destructive to life. There are persons of faith who are reformulating traditional ideas of God, the world, human nature, and taking the findings of science into account while trying to be faithful to the central message of their

religious heritage. Christian religious educators and those who lead faith communities need to know the relationship between central discoveries that make up the scientific world view and the life-affirming story of Christianity in order to participate in the process of transformation that moves from the destructive nature of our time to a new era of well-being for every form of life.

At first glance, it may appear that if religious communities could be more informed and sensitized to the state of our planet and projections about its fate, positive action would occur. Historically, Christians have focused more on the human relationship to the divine with little attention to a human relationship to the Earth. It is of tremendous importance that a literate people of faith know the context of their lives. Descriptions and studies about the state of the environment abound and have been highly publicized in scholarship and the public media. It is common knowledge that global warming is affecting weather patterns that affect persons in many concrete ways such as flooding, drought, famine, and various extremes.

It is no secret that what is happening to the beautiful blue planet on which we live is a threat to life itself. We have been living in an age of the earth's history in which the earth itself brought forth its greatest flowering of life. Geologists call this era the Cenozoic Age characterized by the fullest flowering of all species ever known. At one time humans were one species among millions, competing for food and the opportunity to reproduce on a par with all the other forms of life; humans were at the mercy of the same evolutionary drivers and ecological checks as all other creatures and an integral part of the balance of the web of life. (Berry, *The Great Work*, 29-30) However, humanity with the development of complex technologies has now for the first time taken extensive control over the basic functioning of the life systems of the planet having little sensitivities to the more integral dynamic of an evolutionary universe, and having little sensitivity that the earth is subject to irreversible damage in the major patterns of its functioning. "It is the wreckage of the planet by an exuberantly plentiful and ingenious humanity. The race is now on between the technoscientific forces that are destroying the living environment and those that can be harnessed to save it." (E. O. Wilson)

Acclaimed documentaries about the state of the planet have been produced and aired to large audiences. One such recent program was a documentary produced by Bill Moyers entitled *Earth on the Edge*. Public media have published reports about and followed the development of the Earth Charter and the decisions reached by particular nations in the Kyoto Protocol and the Johannesburg Summit. Information is abundant about the changes occurring that are altering life on our globe: the effect of technology, the rapid extinction of numerous species, genetically modified organisms, deforestation, desertification, destruction of the ozone layer, the depletion of oxygen, and increased global warming. There is some awareness of the debate about what response can be made to these conditions with a heightened interest in how the economy is being affected. There is less interest in information regarding experiments in life-style change. There is a recognition that continued present action will have devastating affects on the planet, a looming crisis should present trends remain unchecked. Crisis regarding the fate of the Earth is of grave concern to many secular and religious world leaders.

The problem has been diagnosed in many ways but in ways often casting blame and responsibility on particular groups and developments in society. Some say it has to do with the western ethical system based on individualism and profit-seeking, some on a lack of land ethic, some on the complex interplay of forces including the use and abuse of technologies from the Industrial and the Post-industrial age, some on spiritual deficiency, or the failure of human beings to attune to the Creator of life and failure to attune to Earth. (Moore, 12) Denial is linked to the perceived high personal and commercial cost required to reverse the ecological decay.

What is to blame? What is the root cause of this dilemma? Simple analysis, at first glance, may point to technology, or to a moral failure. It is not difficult to point to evidence of moral and ethical decline. Is humanity inherently destructive? All of these initial inclinations at prognosis deserve serious attention and play a part to some degree. There is need for confession and repentance for past decisions and present action. We have not paid attention to information available or had a sustained will to act on it. We have neglected responsibility to restrict technologies that threaten the limits of the Earth, to absorb pollution of the atmosphere, water, and land; to curb population, to live simply and frugally preserving resources for future generations, and to protect species by preserving the habitats of wild plants and animals. (McDaniel, 20)

The Crisis

However, even blame and repentance will not be enough to change what is happening. For it still does not take us to the bottom line of the crisis.

The Crisis at hand is a ***Crisis of Cosmology***. (MacGillis, Berry, McFague) In this sense Cosmology is defined as having to do with the nature and origin of the whole cosmos. It involves one's understanding of how the world and life came to be and of one's place in it. It holds some image of the relationship of all things and constructs concepts about the nature of relationships among beings and reality. A crisis of Cosmology is a crisis of perception and of conception. It is a crisis of Story.

All cultures have Origin stories, stories that give understanding and explanation of how the universe was made. Thomas Berry believes that we live in a time in which we find ourselves in between stories.

It's all a question of story. We are in trouble just now because we do not have a good story. We are in between stories. The old story, the account of how the world came to be and how we fit into it, is no longer effective. Yet we have not learned the new story. (Berry, *Dream of the Earth*, 123)

We have more than one story that calls for our allegiance and impacts our consciousness: our creation story from our religious traditions **and** the scientific story of the universe. The Hebrews understood the sacredness of the universe; but they did so out of an

understanding of the cosmologies of their day. Natural science has changed the way we live and see ourselves in the world. As older cosmologies have eroded, consciousness is left with a limiting materialism that perpetuates consumerism. This consumerism, a story from the industrial age, exerts power as if it were a religion.

For Berry, Western people are caught between the older stories of classical civilizations and the confident mechanistic scientism of modernity, both of which are under challenge today, and a new spirituality, rooted in the new universe story, that is waiting to be born. We need to create a new socioeconomic incarnation of the human species within its earth matrix. Although the technological aspects of this are necessary, the most important shift must be a renewed vision of our relation to the whole of the creation, a renewed way of telling the story of who we are. (Hessel and Ruether, 613)

How we think about the relationship of stories from religion and the stories from science varies. Are we to see them as enemies, or strangers, or partners? Barbour proposed a fourfold typology to help name the many ways in which people have related science and religion. He named these four positions to be Conflict, Independence, Dialogue, and Integration which he said are similar to categories named by John Haught: Conflict, Contrast, Contact, and Confirmation. (Barbour, 2-4) Whatever the position, developments in both science and religion affect current consciousness.

Several components of current thinking have affected the present relationship between science and religion: the rise of historical consciousness, intellectual revolutions in science, and the contemporary discussion of pluralism. (Grant, 12) Modern historical-critical judgment critiques how human life is embedded in history. Simple reporting of what someone tells us is no longer accepted as adequate for constructing history; the accounts are critically evaluated and determined credible before a historian accepts them as historically viable. Even this judgment is considered probable and open to reassessment and correction. (Grant, 19)

Some of the most pertinent intellectual revolutions in science that affect current thinking have come about through research in physics and biology. At least three that have had great impact on how we think of the world today: "...the displacement of human beings from the center of the universe brought about by the recognition that the earth is not at its center; the recognition that the heavens are not qualitatively distinct from our experienced reality but operate under the very same laws of physics that describe falling apples and spinning tops; and the discovery that the whole universe and all creatures on our planet are in process of continuing change and transformation." (Grant, 34)

These discoveries have all contributed to a changing cosmology.

It is necessary to rethink Christian cosmology, God's relation to the world, and the vocation of humanity, with ecological seriousness from "the ground." Cosmologies built on Greek philosophical dualism must be deeply recast in the light of both the new 'universe story' and a recognition of the way the older cosmologies were themselves rationalizations and justifications of human domination over other kind.
(Hessel and Ruether, xxxv)

Changing Cosmologies

Cosmologies do change. Discoveries impact consciousness and influence the way we see our world and our place in it. Even a brief, simple sketch of a few of these changes based on the perspective of the development of Western thought can be revealing.

During the time that the Old Testament was written none of these changes in consciousness had occurred. A very different view of the world was in place. The Old Testament conception of the world included a firmament, waters above the firmament, storehouses of snows, chambers of winds, pillars of the sky, fountain of the deep, navel of the earth, etc. (Gaster, 702-709) God was in this sphere and walked on the earth.

During the period of New Testament writings another cosmology had developed. The ancient Greeks were the first to build a cosmological model within which to interpret the motions of the moon and the stars and the planets and the Sun. By the fourth century BCE they had developed the idea that the stars were fixed on a celestial sphere which rotated about the spherical Earth every twenty-four hours, and the planets, the Sun and the Moon, moved in the ether between the Earth and the stars. Aristotle identified fifty-six spheres. The model was further developed culminating in the second century AD with Ptolemy's great system, a system of perfect circles, heavenly spheres. The Christian world view labeled the outermost sphere, *Heaven, realm and dwelling place of Gode and of all the elect*. The next three spheres were the spheres of the fixed stars, then the Constellations, then the seven planets. At the center of the solar system was the Earth composed of atmosphere, hydrosphere, Earth, with Hell (Satan) at the center of the Earth. Note that in this model God no longer walks on the Earth but resides in the heavenly sphere with all the elect. Also, note that the very center of the Earth has become the dwelling place of Satan. God resides in the heavenly sphere; Satan dwells at the center of the Earth: a vivid dualism.

Later Copernicus would propose a heliocentric system. In his model the Earth rotated and, together with the other planets moved in a circular orbit about the Sun. But it would take Galileo and his invention of the telescope to confirm this model. Galileo questioned the perfection of the heavenly spheres when he was able to observe the craters of the moon, the imperfections of other planets, the four moons of Jupiter, and others.

Although he was a religious man, the church would reject his reported observations. They would, however, provide a foundation for interest in probing the laws of nature (such as Newton's laws of cause and effect, and the law of gravity) resulting in a

mechanistic model of the universe. In this cosmology the “heavenly” sphere was absent; where was God? The watchmaker had left it all to run on its own.

The scientific revolution would continue to reveal an explosion of new discoveries and theories about the nature of the universe. Much later, during the early part of twentieth century, the dominating theory for the nature of the universe would be that of “Steady-State.” In this conception the universe expands, but new matter is continuously created at all points in space left by the receding galaxies. The theory implies that the universe has always expanded, with no beginning or end, at a uniform rate and that it always will expand and maintain a constant density. The mechanistic nature had also become self-sufficient with no limits.

At this point Western Christianity was immersed in a way of thinking that imagined God as transcendent to creation, and human beings as separate from and above the rest of nature. The earth was an object to be used and cared for because of its benefits to humankind. The earth and the universe were totally material. A hierarchy of being arranged how entities were to be valued. (McFague, *Body*, 30-36)

In 1969, human beings saw their Earth from the Moon. The image of “Earthrise” has become an icon for consciousness. This picture along with information from space exploration and the vision of the Hubble Telescope presents a radically altered modern cosmology. According to the “big-bang” theories, around thirteen billion years ago all of the matter and energy in the universe was concentrated in a very dense state, from which it “exploded” with the resulting expansion continuing until the present. The universe was a very hot thermal soup of quarks, electrons, photons, and elementary particles. As the universe rapidly cooled, the quarks condensed into protons and neutrons, the building blocks of atomic nuclei, converting into helium and hydrogen. After millions of years the expanding universe thinned and cooled enough to condense into individual galaxies and then stars. Out of a Supernova, a collapsing star, our solar system was born, forming planets from the debris. On at least one of those planets, conditions would develop which were precisely right for the creation of life. These discoveries have all contributed to a changing cosmology.

Reforming Perceptions

This perception suggested major new implications for the thought of Western Christianity. As the consciousness of a new cosmology is taking shape, a reforming of perceptions is beginning to occur. Some persons of faith see implications for reforming traditional ideas of God, the world, human nature. Some of these reformulations include that God is revealed and embodied in nature. God is intimately revealed in the diversity of creation, yet infinitely more than the whole of creation. Humans are recognized as an integral part of Earth, not superior to it. Earth is primary; humans are derivative. This view is committed to taking the findings of science into account while trying to be

faithful to the central message of religious heritage. Ecological theologies from a Christian perspective are both covenantal and sacramental. (Hessel & Ruether, 604-605)

Some of this rethinking is influenced by the reclaiming of thought from Celtic Christianity, and from some medieval mystics such as Hildegard of Bingen, Julian of Norwich, and Francis of Assisi. Rather than looking inward they looked outward from the self to find signs of God. For them nature was a book to be read in order to find a way to God, a way God had chosen to lead humans into the divine presence.

Over the last twenty years ecofeminist theologians have examined the connections between the domination of women and the domination of nature. They have drawn from many sources including goddess religions and indigenous peoples including Native American traditions. They have critiqued the consequences of androcentrism and hierarchical dualism and pointed to a new wholeness of relationship, a mutuality of equals. Mutual interrelatedness is claimed as the heart of reality. “The kinship model of humankind’s relation to the world is not just a poetic, good-hearted way of seeing things but the basic truth. We are connected in a most profound way to the universe, having emerged from it.” (Johnson, 34) This view proposes the reshaping of relations from domination to partnership and mutuality.

Two other religious thinkers of the twentieth century who had influence on this beginning reformation of thought from a cosmological perspective were Teilhard de Chardin and Alfred North Whitehead. Teilhard focused on the religious and Christian meaning of evolution. “For Teilhard evolution is not an obstacle to faith, but the most appropriate framework in which to articulate the meaning of faith.” (Haught, 101) A Jesuit with expertise in geology and paleontology, he recognized that the entire universe is in process, and that the direction of the cosmic evolutionary story is one toward increasing complexity.

Whitehead, a philosopher, thought that all of nature is becoming, and that the ultimate source of this becoming is God. All is in process. This is a God who is persuasive toward change and toward more intense versions of beauty. For Whitehead persuasive love is the essence of the God of biblical religion who is not only the source of order in nature and history but who is also the source of new adventurous becoming. (Haught, 136) His work became the basis for the development of Process Theology.

Some of the key ideas developed by Process Theologians are that the universe is an interconnected web of life; that each living being has instrumental value, positive or negative; that the universe is inherently creative, is constantly evolving, and unfolds moment by moment; that God is more than all things added together; that God feels the feelings of all creatures, sharing in their sufferings and the joys. (McDaniel, 150-158) Process Theology acknowledges that its ideas are not absolute but only attempts to verbalize intuitions.

How is this knowledge to be reconciled with the story of creation in our faith tradition? As the older cosmologies are eroding, what are people of faith to do with their Stories of Origin? How can a Western Christian appropriate the Story of Creation found in the Book of Genesis of the Old Testament? There are several responses that are already being enacted. Some decide that the Genesis story must be accepted literally, as seen in the Creationist movement. The other response is to reject it as having no truth, as seen by scientism, scientific materialism, or religious naturalism. Some are intent on refuting it.

The popular argument between biblical creation stories and the story of evolution reveals bankruptcy in our ability to hear and interpret stories of our heritage. The biblical stories are multiple (with four quite obvious ones), and they lend themselves to multiple interpretations. Likewise, scientific stories are multiple (including, but not limited to evolutionary stories), and they also lend themselves to multiple interpretation. By limiting discussions to creation vs. evolution, we close off many stories, many languages of wonder, and many interpretations that could open our eyes to the cosmos. (Moore, 16)

Some are discovering that Genesis still conveys truth about life in partnership with the scientific story. Some of these affirmations present in the Genesis story are that God is the sole source of all that is; that God stands within and behind the world as its very source and structure; that God created all that is as good; and that creation is undergirded by grace. (Grant, 77-78)

A Role for Christian Religious Education

Some religious educators are beginning to understand that what is needed are methodologies that promote embodied knowledge of the story being composed by the New Cosmology in relation to the traditional stories of Creation and Human Identity. In particular, Christianity has historically shown little interest in the new cosmology, opting to live out of the story of the world as told in the Bible. If Christian Religious Education is to participate in the task of moving modern industrial civilization from fragmented commitments and nihilism, from its present devastating influence on the Earth, to a more benign mode of presence, then its role must be explored in relating the story being composed by the New Cosmology to the Hebrew story of Creation while discerning implications for Christian Ministry and Discipleship.

The purpose of such a project need not be to dispute the creation story of Hebrew origin but to imagine, to know, and to understand a relationship with the cosmic story now narrated. Theological students and those who lead faith communities need to know the relationship between central discoveries that make up the scientific world view and the life-affirming story of Christianity in order to participate in the process of transformation that moves from the destructive nature of our time to a new era of well-being for every form of life. The aim is not to eliminate one way of knowing in favor of another, but the aim is to ground understanding in both the scientific empirical detail and in primordial poetic visions of the cosmos that augments rather than conflicts with the religious traditions' vision of lifestyle and practice.

Religious Education knows about the power of myth (Campbell), and how the internalization of narratives and stories affects values, attitudes, and behaviors. Cultural narratives mold attitudes and behaviors. These cultural narratives transmitted from generation to generation form values that can be changed through new narratives. (Eisler, 18-19) In the study of myth "...Milton Rokeach's work is instructive in that it demonstrates that values can be changed through the introduction of narratives that cause conflict between ostensible or consciously held values..." (Eisler, 19)

Creating a Course

As I thought about how to participate in this "Great Work"(Berry) for Christian Religious Education, I decided that one way to begin was to create, develop, and teach a course for theological students. This course would have as its purpose to engage theological students in a learning/teaching environment in which they could (1) become aware of cosmology and its New Story, (2) discern how the story may be intentionally incorporated into the education of Christian faith communities, (3)use tools for creating curriculum, and (4) generate methodologies for transformative learning.

For as long as I can remember, I have had a natural affinity for the Earth. As a child growing up in the Deep South of the United States, my earliest memories are of days spent outside playing in the woods and meadows surrounding my home on a tree covered hill in the countryside. One of my favorite pastimes was to wander down new paths and to discover new plants or natural objects I had never seen before. At one time my ambition was to become a Forest Ranger! Later on, as a Youth Director and as a Director of Christian Education, I was very active in camping programs and outdoor ministries. The issues related to ecology and care of the Earth affected my family's lifestyle and practice. I have come to understand that I was born a Panentheist!

But, as a seminary professor I did not pursue this interest as a scholar teacher except as I avidly read the works of ecofeminist theologians and Celtic spirituality. During that time in response to a traumatic personal experience, I became more isolated from the natural world, not being able to feel comfortable or safe in wandering down paths or exploring unknown vistas. During these years there was little interest in my academic field related

to this matter. Over this period there was little in the literature of Christian Religious Education on the subject and the field did little to create a vision other than what has tended to be romanticized, left to those enthusiastic about ecology, or relegated to a marginal interest. It was more recently that a colleague in the field, Mary Elizabeth Moore, encouraged me to look at this subject out of the perspective of Practical Theology and Christian Religious Education with the publication of her book, *Ministering With the Earth*.

I began the work of creating a course for theological students and proposed a course for the Phillips Theological Seminary curriculum that was accepted. In the process of preparing this course I became even more aware of the great amount of literature in several fields published on this topic, but I soon saw how very little had been developed by Religious Educators related to the practice of ministry in local communities of faith. I also became aware that though much of the current literature on the sacrality of creation presented a powerful statement about care for our planet Earth, it seemed to stop there. As I began to become aware of some of the literature on the New Cosmology, I became convinced that my commitment to the Earth resides in a commitment to the Universe, the Cosmos, and the powerful images and stories of what it may mean to be human out of those perspectives. I became convinced that the development of a new course that focused on the crisis in perception should be explored.

As I began to discover literature on the relation of religion and cosmology, I became convinced that a course was needed that could develop expertise for teaching and learning that engages imagination in discovering a vision for an adequate metaphysics for our time. I also became convinced that being engaged in this conversation could have a great impact on my already developed understanding and implementation of transformative teaching and learning. I was painfully aware of what a novice I was in the area of cosmology and the conversations occurring between science and religion on this topic. However, it did not take me long to discover how I could learn about and be a part of those conversations. I began to delve into this area with the intent that I would create a course that would make such conversations available for my students and help them to enter such conversations with the people of their congregations. I submitted a proposal to The Teaching and Learning Grant Program of The Association of Theological Schools to fund research for such a course. The grant was awarded, providing monies for sabbatical research.

The Course

The very essence of Christian Religious Education was supportive in creating the course, “Christian Nurture and the New Cosmology.” My present understanding is that Christian Religious Education empowers persons with skills to:

- Identify present assumptions;
- Name what these assumptions are within the context of Christian Stories;
- Decide whether to continue to appropriate and live out of these stories;
- Make choices about revisions and new ideas; and

- Transform vision that opens the future to hope.
(adapted from Groome)

The Purpose of the course was to enable theological students in their awareness of conversations occurring between science and religion; to consider a constructive partnership especially concerning cosmology and perceptions of the universe; and to discern how these conversations may be incorporated into the education of faith communities.

The Objectives supporting this purpose were that by the end of the course the participants would be able to:

- Become aware of cosmology and its New Story
- Imagine and integrate a relationship between Christian Stories and the scientific cosmic story,
- Discern how both these stories may be intentionally incorporated into the education of faith communities
- Use tools for creating curriculum
- Generate methodologies for transformative learning.

Modules

The course was divided into four modules that are briefly described below:

1. Introduction and Orientation: Stories of Creation and the Cosmos

The course began by acknowledging the crisis in perception caused by differing cosmologies. Stories and myths of creation from different cultures and times were examined. Students gave special attention to the Hebrew Story of Creation and the current story being generated by science. Possible relationships of the two were examined. This first module acquainted students with the revolutions in science that have shaped understanding of the world, the metaphorical nature of religious language, and the rise of historical thinking that impacts consciousness. Relationships between science and religion were described and discussed.

2. Developing a Functional Cosmology: Paying Attention to the Natural World; A Sense of Sacred Place

A “functional cosmology” requires an understanding of purpose and place and our relationship to the natural world. This module proposed that a Christian cosmology for our time be based on a subject-subjects model of being, knowing, and doing in place of the subject-object model of Western culture (I-Thou, rather than I-It). This module invited students to “pay attention” to the natural world and to discover some basic principles inherent in the universe such as interiority, diversity, and communion. Both process theology and the evolutionary theories of science that suggest journey were presented as a theoretical structure for this understanding. The experience of awe and wonder invited reverence for sacred place. If nature is affirmed by religious persons as a gift of the Creator, then how should such a sacred place be treated? What does it mean to embrace creation as sacred? The course invited students to ponder the sacred depths of nature and the idea of a personal God.

3. *Sacred Journeys: Journeys Through the Cosmos; Keeping Sabbath*

Metaphorically, sacred journeys are sometimes thought of as journeys through life, a cosmic journey, an evolutionary journey. Persons are transformed as they travel. The class experienced a pilgrimage to a special place away from normal environments and routines. This journey invited participants to *wonder* at the magnificence of creation and at the sorrow of a hurting earth; to *wander* with other members of the class across a new landscape with curiosity and hope; and to *retreat* in order to be refreshed and imagine a vision of the future. (Moore, 96-118) The module continued an exploration of an “attention epistemology.” (McFague, *Body of God*, 49-55) It invited the experience of knowing through seeing and through the formation of deepened community with the natural world. Through this immersion event the class was invited to Journey and Sabbath. The class traveled to the Tall Grass Prairie Preserve near Pawhuska, Oklahoma, for exploration and discovery. There was participation in experiments of stargazing designed to engage the imagination in new perceptions of the universe. A day was spent learning about the Tall Grass Prairie, its subtle landscape and its unique ecological significance.

4. *Educating Congregations: Imagining a Design for a New Creation*

How does a new perception of the cosmos affect decisions about the way we live? What can we do in order to love nature? How will we live if we truly care for all of creation? This module engaged the class in the question about how to imagine a just and sustainable way to live; what will create mutually enhancing relations between human beings and the rest of the Earth Community. It examined consumerism. It asked about vocational decisions and explored challenges for the task ahead. In particular, it explored how religious education can participate in the process of transformation that moves from the destructive nature of our time to a new era of well being for every form of life, and how this new story and vision may be intentionally incorporated into the education of congregations. The implications for religious education were described through the presentation of particular methodologies and models.

Pedagogical Style

In its pedagogical approach the course sought to embody the implications of the current cosmology for education. Multiple and connected ways of knowing were acknowledged including conceptual, experiential, participative, and reflective. The course methodology focused on *seeing* (as well as *hearing*), incorporating an “attention epistemology,” (McFague, *Super, Natural Christians*, 26-34) coupled with confluent education processes that are aware of “multiple intelligences.” (Gardner) The course practiced partnership (Eisler) as the model of teaching/learning recognizing collaboration between the roles of teachers and learners. The varieties of processes used in the course were designed to enable students to name their own questions and insights and to integrate their ways of knowing.

Partnership process is an integrated teaching style or pedagogy that honors students as whole individuals with diverse learning styles. It focuses not only on cognitive or intellectual learning but also on affective or emotional learning. It recognizes the additional dimensions of somatic or bodily learning and of conative learning—the cultivation of *conation*, or the will to act. It recognizes what Howard Gardner calls “multiple intelligences” and what Rob Keogel calls partnership intelligence. It cultivates less linear, more intuitive, contextualized and holistic ways of learning through what Mary Belenky, Blythe Clinchy, Nancy Toldberger, and Jill Tarule call “connected teaching” in their book *Women’s Ways of Knowing*. (Eisler, 14)

Partnership teaching also relies on nonverbal experiences through art and music, drama and poetry, contact with nature, and, above all, play...the conceptual play of a mature minds exploring rich possibilities in our selves and our world. (Eisler, 16)

Group projects were encouraged with the expectation that students would learn from each other through the formation of a supportive community of learning. The class sought to model conversation and methods, content and process that students would find applicable in the context of their congregations.

Setting and Format

All sessions of the course were held on a weekend format, meeting on Friday evening and all of Saturday. Three of the sessions were held in a log cabin retreat center on a wooded hill off campus in the heart of the city. One of the sessions was held on the Tall Grass Prairie Preserve near Pawhuska, Oklahoma.

The format and schedule provided blocks of time so necessary when experiential, participative, and reflective methods are used. The setting was crucial to enable a graphic connection to nature, erasing the isolation from the natural world characteristic of the academic classroom, and encouraging a focus on the intuitive as well as the cognitive. While the academic classroom was designed as a space that encourages a dominance of the mind, the class setting encouraged students to envisage and experience that learning also happens through the senses, and through bodily experiences. The setting gave students permission to “pay attention” to the natural world, relating and integrating a “sense of place.”

Assignments

A variety of assignments were used. This included extensive reading and creative generation of in-depth projects. Self-directed learning projects provided congruence with the cosmological concepts of multiple processes, choice, and generative connections. Several assignments unusual for academic credit were included that valued intuition,

embodiment, and experience such as spending time with a particular place in the natural world, taking photographs, taping sounds, creating scrapbooks, composing nature writing, music, and poetry. The students entered into a contract deciding the level of assignments to complete with choice about major projects to generate. These assignments included required reading with written responses, a written reflection of the “journey,” journal writing, narratives about relationship to place, weekly activities in paying attention to the natural world, and a self-directed Learning Project on planning for teaching/learning issues related to the course in local congregations.

Transformative Methodologies

The texts chosen for required reading and discussion presented major concepts and provided common ground for multiple discussions. The use of www.blackboard.com for sharing reports and for discussing readings provided ongoing discussion on a weekly basis and supported continuity between the four weekend modules.

Students read descriptions of cosmologies from different cultures and time periods within assigned supplemental resources. However, a *crucial* difference occurred for the students when they were able to *see* the diagrams of these cosmologies projected on the screen and to discuss together the differences, the implication of such differences, and to name what they saw. I made power point slides of these different cosmologies from Old Testament times, New Testament times (Ptolemy), Copernicus, Steady State, and current pictures from the Hubble Telescope, as well as Earthrise and other pictures from space travel. This became a powerful tool; the students were able to *see* the differences and to begin to talk about what that difference meant in terms of the way a world was perceived and is perceived. They recognized through this methodology why the current crisis is a cosmological one. They could see the difference in these models and begin to connect these observed differences to the written conceptual descriptions.

One of the resources that provided an overarching image for the course was the video, *Cosmic Voyage*, used during the first session. This video helped students visualize scientific theories from the birth of the cosmos and solar system to the nature of black holes and exploding supernovas, to quantum physics by presenting a visual journey through powers of ten beyond and within planet Earth. Other videos that presented major images for the course were *The Unfolding Story*, *Hidden Heart of the Cosmos*, and, *Water: Sacred and Profaned*. The aspects of these videos that were so important for this course were the profound visual images presented in a way that engaged the senses and altered perception. Students were engaged by complex scientific theories through these visual images in a way that transformed comprehension.

Methods that engaged students bodily were of utmost importance in changing perceptions. Although students read about the “big bang” theory and discussed other ways to name it, “flaring forth” and “cosmic egg” (Ruether), when the class constructed and became a “Cosmic Walk,” borrowed from the Genesis Farm Earth Literacy curriculum, a new relationship to the thirteen billion years of specific events was owned.

This experience is similar in content to Liebes' *A Walk in Time*, however it places the events in a ritual, combining aspects of a labyrinth and stations. Sacramental reality was activated.

The Genesis Story, several Psalms, and verses of Isaiah (and related exegesis) were read and ritualized through litanies with discussion of what central truths scripture holds for contemporary culture. However, the most profound telling of the Genesis story occurred through the use of the story and materials developed by Jerome Berryman for sensorimotor learning of religious language found in the *Godly Play* curriculum. (Berryman, Stewart and Berryman, 92-95) Adult students were given permission through this process to connect, reimagine, and to begin their own reforming of meaning available in the ancient narrative.

Crucial to the entire course was the bodily way of appropriating what we have come to know through scientific discoveries that involved aesthetic and affective components. The methods were designed "... to enable persons to transcend the split modern condition of experiencing the world one way, while knowing the truth of the world is otherwise." (Swimme, 24) The methods that were most successful in doing this were created by a cosmologist to provide "... a transformative process where one can learn to see and to feel the world in a way congruent with what is actually happening." (Swimme, 24) For example, the class engaged in the simple experience at sunset of focusing on the horizon in a way in which they were able to feel the earth rolling over. (Swimme, 26) We focused on the horizon, viewing Venus and Jupiter, and reminding ourselves of the differing distances from the Sun.

Simply by focusing on the experience and viewing it through the theoretical model of the solar system's form, there comes a wonderful moment when you enter into it all at once: you feel in an experiential, imaginative, and direct way the Earth slowly turning away from the Sun. You have a sense of the plane in which the planets move, and even a beginning recognition of the great distance to Venus. You will also feel, and perhaps for the first time in your life, the immensity of the Earth as it rolls away from the great Sun. It happens in a flash. A single surprising shudder passes through you and you realize you are standing on the back of something like a cosmic whale, one that is slowly rotating its great bulk on the surface of an unseen ocean. (Swimme, 27)

We became acutely aware that the sun is not setting; it is the Earth that is moving and turning over. We reflected on how even our language comes from an old cosmology!

Later, in the evening, with only the light of the stars, we spread our tarps on the ground to lie down and try some stargazing. As our eyes adjusted, we began to be able to see millions of stars. Class members volunteered their knowledge of constellations learned in astronomy class, and we discussed how the ancients had perceived the heavens and named it. Then we imagined ourselves as we were at

that moment, held tightly to the Earth only by gravity itself, and though looking up, were asked to shift perspective and look **down** into the universe! Our subjectivity was transformed.

Now, as you lie there, imagine yourself peering down into the great chasm of the night sky. If your imagination is strong enough you can enter quickly into a new experience. Otherwise it might take some time, but the moment will come, in a rapid reorganization of phenomena, when all those stars will be experienced as down below, far, far below, and the amazing feeling accompanying this experience is a sense of surprise that you are not falling down there to join them. But of course you don't fall. You hover in space, gazing down into the vault of stars, suspended there in your bond with Earth. (Swimme, 52)

It was true, through the imaginative power of our senses, and the courage for re-education our subjectivity was transformed. We had truly entered into a visceral knowledge of the new cosmology.

This experience of feeling yourself embedded in the whirling solar system is certainly not solely cerebral. There is always a strong emotional and bodily experience in any entrance into the universe. Such moments are often even tinged with a kind of ecstasy. And unless this full-bodied experience is pursued, we are settling for abstract understanding rather than a full initiation into the universe. (Swimme, 31-32)

The next morning we rose well before dawn and traveled to the edge of the Tall Grass Prairie Preserve and waited with yawning patience in the darkness. We had covenanted to observe a time of silence during this early morning experience. We listened to the nocturnal sounds of the prairie, and to the increasing volume as the distant glow began to appear on the horizon. As if controlled by the intensity of the coming light, the volume of nature voices crescendoed to a full cacophony as the Earth rolled us over into the brilliance of a waiting Sun.

These methods invited the class to embrace and to own the reality that there is no new water on earth, only what has been recycled four billion years through steam, clouds, glaciers, dolphins, polar bears, soil, plants, and the baptismal fonts from which we baptize our children. Through this experience we came to know that the very air we breathe is the only air there has ever been or ever will be(– the air Jesus breathed and Joan d'Arc, the air my grandmother breathed, the air I breathe, and --- what about my grandchildren?). These methods invited participation in an inner transformation. These methods provided a profound educational experience in shaping human consciousness.

Conclusion

This course demonstrated the kind of methods that can create a new consciousness for theological students and persons in local communities of faith that can transform practice. It engaged processes that can change hearts and the commitment of will. The processes used by the course activate a partnership of learning through embodied knowing, conceptual imaging, visceral experience, somatic learning. It provides sensori stimulus and imaginal concepts that shift perception.

The course formed a community of learners that developed a shared consciousness regarding cultural narratives and myths that can impact attitudes and values. The course explored how these may be changed by new narratives appropriate for sustainable and humane ways of living. This community was able to dwell with despair, and yet to embrace a new vision of what our role and place can be in the universe – a vision of illumined hope and the will to act.

*In the dark of the moon
In the dead of night
In the dead of winter in flying snow,
The world in danger,
Families dying, war spreading,
I walk the rocky hillside sowing clover.*
(Wendell Berry)

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