

Science and Religion in Meta-Perspective – Part III

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Abstract

A meta-theory was developed that brought together implicit premises or world views that constantly re-surface in human thought. Although these elements have long been part of the scholarly activity of humankind, a comprehensive synthesis has been lacking. An integrating perspective redressed this shortcoming and was shown to account for a repeated pattern of basic approaches in human thought, across disciplines, cultures and traditions of thought. The scholarly evidence supports the existence and ongoing dynamic of four paradigmatic or root intellectual orientations, namely: the objectivist-empyrean or metaphysical (type I); the objectivist-empiricist or scientific (type II); the subjectivist-empiricist or narrative-interpretive (type III); and, the subjectivist-empyrean or pragmatic (type IV). The first section of the current paper (Part III) discusses the subjectivist-empiricist (type III) tendency in the S-R field as represented by Philip Hefner (theologian), Karl Peters (theologian) and Ursula Goodenough (biologist). The second section focuses on the pragmatic (type IV) orientations of Hefner, Peacocke, Grassie and Pederson.

Keywords: Hefner, Peters, Goodenough, Grassie, Pederson, subjectivist

1. Introduction

In this section the work of Hefner, Peters and Goodenough (see Figure 1), are discussed as being representative of the subjectivist-empiricist orientation of the mind.

Figure 1: The type III and type IV tendencies in S-R

Type II	Type I
Type III ➤ Hefner ➤ Peters ➤ Goodenough	Type IV ➤ Hefner ➤ Peacocke ➤ Grassie ➤ Pederson

They are all S-R participants who are convinced of the importance of science (especially Goodenough, the biological scientist), yet, there is a substantial difference between the way they present their own views and that of the objectivist approaches, discussed in Part II.

2. The Subjectivist-Empiricist tendency in S-R (Type III)

2.1 Philip Hefner

Philip Hefner is a theologian who spent much of his career in the science and religion field. For many years he served as editor of *Zygon*, thus performing a key role also in the public sphere of the S-R endeavour.

Hefner has an abiding interest in bio-cultural evolution coupled with a deep respect for science, and, more importantly for him, with considering the wider implications of these for theology/religion and the health of the planet. In other words, he is concerned about the well-being of both humans and the biosphere of which they are part, and about making people aware of their responsibilities as 'created co-creators' (thus, the 'stewardship' role as in the Christian tradition).

He persistently attempts to relate science and human values to the wider social and ecological issues that is of

concern to humanity today, and for which humans is largely responsible. As the discussion in the second section will show, Hefner also has a substantial affinity for the advocacy mode in the type IV orientation of mind.

He is neither scientist nor philosopher, preferring to leave it to others more competent in those areas. It must be remarked, though, that the ideas of the philosopher of science, Imre Lakatos figures prominently in his exposition.

With his concept of the 'created co-creator' (to be described below), he has provided an alternative (and apparently generally accepted) perspective in the S-R literature. It is an approach that falls within the ambit of the humanistic tradition in the narrative-interpretive (type III) paradigm of thought. In fact, the title of his most prominent work: *The human factor: evolution, culture and religion* (1993), is indicative of where his interest and focus lies. He phrases it as follows: "...these pages attempt to sketch a framework of meaning that can include our human lives as they work their way in the world about us." (Hefner, 1993: 5).

Hefner's starting point, his problem, is the impersonality of a universe portrayed by the Nobel physicist Steven Weinberg, which leaves little room for the meaning and purpose of human life. (Hefner, 1993: 277).

He speaks of the experience of the scientific and the social (namely, 'science' and 'liberation') as the two main sources in the human quest for meaning: "This book will exhibit more clearly the impact of science, but at every point I want to acknowledge the importance of liberation in our quest for meaning." (Hefner, 1993: 8).

True to the type III modality, he prefers his work to be seen as relating 'the stories of science and religion,' stating: "This context of story is the setting in which I introduce my reflections upon science and the relationship of science to religion..." (Hefner, 1993: 12).

His basic argument revolves around answers to a few important questions, namely:

- "Who are we human beings? We are, first of all, thoroughly natural creatures. We have emerged from the natural evolutionary processes" (Hefner, 1993: 19), but also: "...creatures of culture...grounded in the fact that we are biologically formed culture-creators" (Hefner, 1993: 20);
- "What is our situation today? Planet earth has reached the point where the success of human beings in actualizing who we are - self-aware creators of culture - is critical for the entire planetary ecosystem, including the planet's nonhuman inhabitants." (Hefner, 1993: 20);
- The importance of the *role of myth*, defined as: "...a story that is of ultimate concern..." (Hefner, 1993: 21);
- "What is required of us today? It is science that sets forth the fundamental descriptions of our human teleonomy, but it is myth and ritual [culture] that make the basic proposals concerning the direction, meaning, and purpose of the structures and processes whose fulfillment shapes the form of human being." (Hefner, 1993: 21).

His core thesis is that: "Human beings are God's created co-creators whose purpose is to be the agency, acting in freedom, to birth the future that is most wholesome for the nature that has birthed us...Exercising this agency is said to be God's will for humans." (Hefner, 1993: 27). In this regard Hefner's values stance is that: "...we can no longer tolerate understandings of human nature that insist upon separating us from our fellow human beings, from the natural ecosystem in which we live, or from the evolutionary processes from which we have emerged." (Hefner, 1993: 37).

Linking his thesis to the sphere of religion, Hefner expresses himself in the following manner: "...The paradigm set by Jesus, as mythically, ritually, socially, and psychologically sketched here, is proposed as the Christian vision for the created co-creator, the human purpose." (Hefner, 1993: 251).

Hefner's Lakatosian theory of the created co-creator is summarized in Figure 2 below.

Figure 2: Hefner's Lakatosian propositions (Hefner, 1993: 264 - 265)

Core Elements	Auxiliary Hypotheses
<i>The First Element.</i> The human being is created by God to be a co-creator in the creation which God has brought into being and for which God has purposes.	<p><i>Hypothesis #1:</i> Integral to Homo sapiens and its evolutionary history are certain structures and processes, the requirements for whose functioning may be said to constitute, at least in a tentative way, <i>goals and purposes for human life.</i></p> <p><i>Hypothesis #2:</i> The meaning and purpose of human beings are conceived in terms of their <i>placement within natural processes</i> and their contribution to those same processes.</p> <p><i>Hypothesis #3:</i> A concept of <i>wholesomeness</i> is both unavoidable and useful as criterion governing the behavior of human beings within their natural ambience, as they consider what their contribution to nature should be.</p> <p><i>Hypothesis #4:</i> <i>Nature is the medium</i> through which the world, including human beings, receives knowledge, as well as grace. If God is brought into the discussion, then nature is the medium of divine knowledge and grace.</p>
<i>The Second Element:</i> The conditioning matrix that has produced the human being-the evolutionary process-is God's process of bringing into being a	<i>Hypothesis #5:</i> <i>Freedom</i> characterizes human existence as the condition in which humans have no choice but to act and to construct the narratives and symbols that contextualize that action. Such contextualization provides justification, explanation, and norms for guiding and assessing the action.

<p>creature who represents the creation's zone of freedom and who therefore is crucial for the emergence of a free creation.</p>	<p>This condition is intrinsic to the evolutionary processes at the level of Homo sapiens. <i>Hypothesis #6:</i> Homo sapiens is a <i>two-natured creature</i>, a symbiosis of genes and culture.</p>
<p><i>The Third Element:</i> The freedom that marks the created co-creator and its culture is an instrumentality of God for enabling the creation (consisting of the evolutionary past of genetic inheritance and culture, as well as the contemporary ecosystem) to participate in the intentional fulfillment of God's purposes.</p>	<p><i>Hypothesis #7:</i> The <i>challenge that culture poses</i> to human being can be stated thus: Culture is a system of information that humans must construct so as to adequately serve the three tasks of interpreting the world in which humans live, guiding human behavior, and interfacing with the physico-biogenetic-cultural systems that constitute the environment in which we live. <i>Hypothesis #8:</i> We now live in a condition that may be termed technological civilization. This condition is characterized by the fact that human decision has conditioned virtually all of the planetary physico-biogenetic systems, so that <i>human decision is the critical factor</i> in the continued functioning of the planet's systems. <i>Hypothesis #9:</i> <i>Myth and ritual are critical components of the cultural system</i> of information and guidance. They are marked in linguistic form by declarative or imperative discourse, and their concepts are vastly underdetermined by the data of evidence. In light of human evolutionary history these marks were necessary if culture was to serve its evolutionary function.</p>

2.2 Karl Peters

Peters describes himself as "...a teacher of philosophy and religious studies and a scholar in religion and science..." (Peters, 2002: vii) and follows the school of process thought. He is also a former editor of *Zygon* (preceding Philip Hefner, in fact).

In *Dancing with the sacred: evolution, ecology and God* (2002) he shows his preference for the type III mode of thought, stating that in his career: "I have been developing a way of understanding the presence of God in my life that is compatible with the ideas of modern science...Seeking a practical theology has led me to engage in a thought experiment. I have come to think of God as the creative process or creative event rather than a being who creates the world." (Peters, 2002: vii). He describes how he personally became estranged from Christianity: "...Christian religious ideas simply broke down for me, because I could not attach them to my *sense experiences*." (Peters, 2002: 2).

Like other S-R participants, Peters also struggles with the personal-impersonal antinomy. Although the title of his main work and his narrative style of exposition (interspersed with events from his own life) clearly bespeaks the narrative (story-telling) modality of mind, he maintains that his is an impersonal approach that explores: "...non-personal metaphors and models..." (Peters, 2002: vii).

The well-known mechanisms in the theory of evolution, namely, random variation and natural selection, become for Peters a metaphorical "Darwinian two-step" (Peters, 1997: 484), which, incidentally, explains the title of his book. He goes further and states that: "...God is like the dance I have called the Darwinian two-step..." (Peters, 1997: 484). For Peters God is to be conceived: "...not as a being who creates the world but as the process of creation itself." (Peters, 2002: 1).

For Peters: "...both scientists and religious thinkers are involved in telling stories about the past and spinning scenarios about the future..." (Peters, 1997: 465). In an earlier publication he states that his aim is to develop a Lakatosian framework, and to discuss: "...how religious stories might be evaluated pragmatically..." (Peters, 1997: 465). He also declares that his own version of Lakatos consists of: "...empirical justification in two senses: first, a more general pragmatic sense; second, a more specific sense that leads to what might be called scientific theology and that echoes positivist notions of verification from the middle of the twentieth century." (Peters, 1997: 483).

Following Barbour he makes the following distinction between science and religion, namely: "...religion seeks not just knowledge for its own sake, as does science, but knowledge which is 'salvational'..." (Peters, 1997: 469).

Peters describes his aim as being three-fold, namely:

- Firstly, to try and see: "...how the sacred can be understood as the creative activity of nature, human history, and individual life." (Peters, 2002: vii);
- Secondly, to: "...explore how we might understand ourselves in a way that motivates us to live more in harmony with the rest of life on planet Earth" (Peters, 2002: vii);
- Thirdly, to try and discover: "...how we might live meaningfully in a world in which suffering and death are creatively intertwined with life." (Peters, 2002: vii).

In terms similar to Hefner, Peters states that: "...in helping create a global village, science is unifying the world in three ways: through the use of scientific technology, through the use of empirical methods, and through seeing the causes of natural events in non-personal rather than in mental or personal terms." (Peters, 2002: 9).

However, he still seems to struggle with the personal-impersonal aspects, and asks the question: "...Can we think about the sacred in ways that are consistent with the nonpersonal way of understanding things that is part of the scientific worldview? I think so. Although personal ways of characterizing the sacred are more prevalent, if one looks at the cultures of the world, one still finds examples of the use of nonpersonal metaphors." (Peters, 2005: 638).

For Peters it is important to emphasize that one should feel at home in an evolutionary universe, for which he has the following advice:

- "...we can use our intelligence, our brains that have been created in the fourteen billion years of evolution, to anticipate when we might be confronted with an increased rate of possible chance events." (Peters, 2005: 662, 663);
- "...we can place ourselves in communities of supporting persons. Families, friends, colleagues at work, and members of religious communities can be sources of support." (Peters, 2005: 663);
- "...we can use the chance encounters of life as opportunities to participate in the jazz of creative existence. Creation itself occurs through unforeseen, chance re-combinations of events. Once we understand this, we can be at home in the universe, uniting ourselves with the processes that have brought us into being by joining the improvisational music of the spheres." (Peters, 2005: 663).

Some critical reaction to Peters' ideas is that:

- His idea of an ecological responsibility or ethic: "...must itself be grounded in a wider theology." (Hardwick, 2005: 675);
- In religious terms: "...dancing with the sacred cannot be conceived in terms of projected purposes." (Hardwick, 2005: 676);
- It is objected that: "...Peters has no conception of human fault, or sin." (Hardwick, 2005: 677).

2.3 Ursula Goodenough

Goodenough is a biological scientist with an interest in religion, or, perhaps more accurately stated, in the spiritual response that nature (and the scientific understanding of it, in her view) evokes in us.

In her *Sacred Depths of Nature* (1998) she expresses a desire for a general or common religion that goes beyond various individual and collective self-interests, a religion that can serve as source for: "...a planetary ethic..." (Goodenough, 1998: xv). The aim of her work is to provide such an ethic, although her exposition is largely in terms of a personal description and narrative (in the type III mode) of various issues she regard as important to take note of.

What she refers to as 'The Epic of Evolution' and the scientific, specifically bio-cultural, account of nature, is for her: "...the one story, that has the potential to unite us, because it happens to be true." (Goodenough, 1998: xvi). She explains that her goal is to: "...present an accessible account of our scientific understanding of Nature and then suggest ways that this account can call forth appealing and abiding religious responses - an approach that can be called religious naturalism." (Goodenough, 1998: xvii).

In almost Schweitzerian terms she goes on to share the conviction that such a project requires that: "...we all experience a solemn gratitude that we exist at all, share a reverence for how life works, and acknowledge a deep and complex imperative that life continue." (Goodenough, 1998: xvii). Clearly for Goodenough a deep sense of awe for and the spiritual experience of nature is important and is also reflected in the personal (first-person) style of her work.

She describes her book as a collection of short stories, each followed by a religious meditation. The stories: "...walk through the Epic of Evolution: the origins of the universe and the planet the origins of chemistry and life; the workings of cells and organisms; the patterns of biological evolution and the resultant biodiversity; awareness and emotion; sex and sexuality; multicellularity and death; and speciation. Throughout, I have done my best to bridge the two cultures." (Goodenough, 1998: xix, xx).

To this she adds a short religious response, about which she states: "...each response is personal, describing the particular religious emotion or mental state that is elicited in me when I think about a particular facet of the evolutionary story. For example, the evolution of the cosmos invokes in me a sense of mystery. (Goodenough, 1998: xix). It demonstrates her preference for the type III mode of thought. Goodenough states that she wishes to: "...to articulate a covenant with Mystery." (Goodenough, 1998: 167).

She describes a number of key principles (almost a credo) in her own thinking about the relationship between science, an evolving universe, and religion, which is worth relating in some detail:

- *Gratitude*: "Imagine that you and some other humans are in a spaceship, roaming around in the universe, looking for a home. You land on a planet that proves to be ideal in every way. It has deep forests and fleshy fruits and surging oceans and gentle rains and cavorting creatures and dappled sunlight and rich soil. Everything is perfect for human habitation, and everything is astonishingly beautiful. This is how the religious naturalist thinks of our human advent on Earth. We arrived but a moment ago, and found it to be perfect for us in every way...And then we came to understand that it is perfect because we arose from it and are a part of it. Hosannah! Not in the highest, but right here, right now, this. When such gratitude flows from our beings, it

matters little whether we offer it to God, as in this poem, or to Mystery or Coyote or Cosmic Evolution or Mother Earth." (Goodenough, 1998: 168, 169);

- *Reverence*: "Our story tells us of the sacredness of life, of the astonishing complexity of cells and organisms, of the vast lengths of time it took to generate their splendid diversity, of the enormous improbability that any of it happened at all. Reverence is the religious emotion elicited when we perceive the sacred. We are called to revere the whole enterprise of planetary existence, the whole and all of its myriad parts as they catalyze and secrete and replicate and mutate and evolve." (Goodenough, 1998: 170);
- *Credo of continuation*: "...The continuation of life reaches around, grabs its own tail, and forms a sacred circle that requires no further justification, no Creator, no superordinate meaning of meaning, no purpose other than that the continuation continue until the sun collapses or the final meteor collides. I confess a credo of continuation." (Goodenough, 1998: 171).

In a later publication, (Goodenough, 2000: 725 – 734) she deals with what in the present work is referred to as the personal-impersonal antinomy, by attempting to accommodate both orientations, treating them, however, as 'components of subjectivity.' (Goodenough, 2000: 727). She expresses it as follows:

- Firstly, as humans we are: "...material, we *do* emerge from mechanism, we *are* primates. Our present-day scientific understandings of molecular genetics and physiology and neurobiology and evolution are foundationally true; those additional discoveries that will be made in the future will build upon and deepen these foundations but will not overturn them." (Goodenough, 2000: 731);
- Secondly, our: "...subjectivity too is material. It can be reduced to the level of neurotransmitters and ion fluxes and synaptic transmission and action potentials, or it can be integrated such that we speak of cortical domains or prefrontal waystations, but it is material all the way up and all the way down." (Goodenough, 2000: 731);
- Thirdly, "Our subjectivity doesn't *feel* material at all. It feels 'spiritual.'" (Goodenough, 2000: 731).

In another paper Goodenough (2000a: 561) introduces the concept of 'religiopoiesis' or the 'crafting of religion' which, she states, the scientific worldview calls for. She regards the *Sacred Depths of Nature* as a contribution to the project of religiopoiesis.

In the subsequent discussion she speaks of a 'duality of religiopoiesis,' which in the present context is interesting in that it reflects the meta-theoretical distinction between *objectivist* (the impersonal, formal) and *subjectivist* (the personal, poetical) modalities of human thought. She goes on to state that "the first pole can be called theology" which she identifies with: "A theologian, trained in philosophical discourse..." (Goodenough, 2000a: 564). She then moves on to a "...second pole [which] can be called spirituality." (Goodenough, 2000a: 564). This, she equates with: "...romantic adjectives: emotional, intuitive, poetic, mystical." (Goodenough, 2000a: 564).

Finally, she concludes by stating that: "The goal is to come up with such a rich tapestry of meaning that we have no choice but to believe in it. This is, to my mind, the urgent project before us all." (Goodenough, 2000a: 566).

3. The Subjectivist-Empyrean Tendency in S-R (Type IV)

In this section, which deals with the last of the four basic modalities or orientations in human thought, a brief review of a number of more programmatic proposals in the S-R field is presented.

The type IV or advocacy mode of thought is about what should be done to better or improve a situation. Thus, it has a strong ethical aim and focus. The S-R field as a whole, especially the *zygon* movement shows a clear desire and ambition to achieve (or help realize) a 'reformed' (science-compatible) religion/theology.

In short, theology is expected to re-invent itself in terms of its beliefs, dogmas and doctrines. Religion (and the Church) should accept the truths of science and incorporate that into its life and teachings.

The S-R literature contains many suggestions for accomplishing this task. Various writers, some in greater detail and more directly than others, draw parallels between science and religion.

The main options seem to be theism, panentheism or process theology (other world religions are barely mentioned). The present paper (Part III) concludes the application of the meta-theoretical framework to the field of science and religion. For this purpose the focus will be on the proposals of Hefner, Peacocke, Grassie and Pederson.

3.1 Hefner

Philip Hefner suggests a range of criteria for the kind of knowledge that will serve life (in his phraseology). This is shown in Figure 3 below. As he states: "...If nature is God's great project, then by devoting ourselves to its care and redemption we are pouring our resources into the same effort that God has poured the divine resources into." (Hefner, 1993: 74).

Figure 3: Hefner’s rules for knowledge that serves life (Hefner, 1993: 72 - 74)

1. This knowledge will have to teach us how to talk about ourselves as intrinsically part of the processes of nature
2. We must understand that what we are, what we do, and what we aim for as humans is to be referred to the processes of nature and to their future
3. We must recognize that, in light of our status as a phase of nature’s processes, our niche can also be understood as one of preparing for the best possible future for those processes.
4. We must learn how to discern the dimension of ultimacy in nature’s processes and how to conceptualize them.

3.2 Peacocke

Arthur Peacocke is arguably the most voluble and forthright of the S-R writers, about the need for religion/theology to change its ways, presenting in his work many sharp criticisms of it. For Peacocke: "...Theology [is] at the crossroads...it is now essential that the theological pier of the bridge to science be subject to the same demands for epistemological warrant and intellectual integrity as other disciplines, especially science." (Peacocke, 2002: 30). In Figure 4 he compares the current situation (in his view) of theology ‘as it is,’ with how it ‘might be.’

Figure 4: Peacocke’s vision for theology (Peacocke, 2002: 31- 33)

Theology as It is	Theology as It Might be
1. Reliance on an authoritative book: ‘The Bible says’	S: the realities of the world and humanity discovered by the Sciences; + CRE: the Jewish and Christian communal inheritance of claimed <i>Classical Revelatory Experience</i> ; + RT: a radically Revised Theology
2. Reliance on an authoritative community: ‘The Church says’	
3. Reliance on a priori truth	

In Figure 5 he goes on to suggest a number of guidelines or norms according to which the S-R community should conduct the dialogue between science and religion.

Figure 5: Peacocke’s norms for science-theology participants (Peacocke, 2002: 34 - 35)

1. To avoid importing spurious spiritualisations into our discourse
2. To be explicit when our language is metaphorical
3. To avoid well-known fallacies: ‘genetic’ (explaining away current beliefs and procedures by reference to their origins); ‘naturalistic’ (deriving an ‘ought’ from an ‘is’); and that of ‘misplaced concreteness’ (not all words refer to real entities - they often refer to relations and properties).
4. To beware of marginal and speculative science (e.g., Hawkings’ speculations, or even life on other planets).
5. Not to be selective of our science, choosing the parts favourable to our theologies
6. Not to overly socially contextualise science - most people see that science works.
7. To keep a historical perspective
8. To distinguish ‘theology’ (the study of the intellectual content of religious beliefs) from ‘religion’, which is about individual and communal experiences
9. Not to claim for theology credibility based on its long history
10. Not to be tempted to discern prematurely coherences and consonances between science and theology
11. To recognize that much religious language is functional in society rather than referential, as it should be in theology.

There is no mistaking Peacocke’s stance toward conventional (traditional) religion: "...it will never again in Western culture be intellectually defensible simply to claim authority for propositions by asserting that they are ‘biblical.’" (Peacocke, 2002: 36).

He asks the critical question: "...Can thinking hard about religious beliefs (theology) exercise a method or procedure of comparable reliability that can carry conviction and be heard above the cacophony of siren calls from other sources today?" (Peacocke, 2002: 417).

His dream is for a global theology to be realized, stating that: "...I am full of hope, in spite of the gargantuan task facing a Christian theology aspiring, as we enter its third millennium, to transmute into a global theology." (Peacocke, 2002: 172).

3.3 Grassie

Through the online outlet and discussion forum, called *Metanexus*, William Grassie has been prominent in promoting and extending the visibility world-wide, of the S-R field. He lists the following 'wrongs' and 'character flaws' of religion (Grassie, 2008: 298):

- Intolerance,
- Anti-intellectualism,
- Wishful thinking,
- Superstition,
- Tribalism,
- Chauvinism

He goes on to propose the following solutions:

- "...a global reformation of religions." (Grassie, 2008: 298);
- "...A transdisciplinary approach to the unity of knowledge..." (Grassie, 2008: 301);
- A new approach to education that emphasizes a "...rigorous and comprehensive understanding of science..." (Grassie, 2008: 301).

3.4 Pederson

Reflecting on the aims of the *zygon* movement, Ann Pederson proposes the following tasks:

- "To encourage the dialogue between specific sciences and specific spiritual/religious traditions." (Pederson, 2010: 504);
- "To foster research and conversations about the cultural embeddedness of the religion-and-science dialogue...hermeneutical dialogues around myth, narrative, public icons, and worldviews would be encouraged." (Pederson, 2010: 504);
- "To expand the dialogue with topics that address global and local crises." (Pederson, 2010: 504);
- "To use metaphors from the arts for exploring the religion-and-science dialogue in order to disclose or reveal new insights." (Pederson, 2010: 504);
- "To support new voices, new topics, new ways of saying things." (Pederson, 2010: 505).

4. Summary of Subjectivist Approaches in S-R

In the first section, this paper (Part III) considered the work of Hefner, Peters and Goodenough, as examples of the subjectivist-empiricist or narrative-interpretive modality of mind.

Hefner focuses on the 'human factor,' and the health of the eco-system, proposing the concept of humans as 'created co-creators' in an evolutionary world. Peters tells the story of the Darwinian 'two-step' dance in nature, which for him is the source of the sacred. Goodenough, in turn, is concerned about the 'sacred depths of nature.'

The second section discussed some of the more systematic programs of improvement, as examples of the advocacy or type IV mode of thought. Hefner suggests criteria and guidelines for the kind of 'knowledge that serves life,' while Peacocke proposes a re-shaping, a 'radically revised' religion/theology, so that it can become global.

Grassie's wish is for a universal religion that takes full cognizance of science. He also suggests educational reforms with greater emphasis on training in scientific knowledge. Pederson proposes the use of metaphors and the arts as sources of new meanings for the science and religion dialogue.

Pederson proposes the use of metaphors and the arts to provide different and new meanings to the science and religion dialogue.

5. General Conclusion

The series of papers (Parts I, II and III) has demonstrated that the theory of archetypal orientations in human thought has shown itself to be a plausible interpretation of diverse approaches in S-R. It provides a perspective that currently does not exist in this field.

The following closing remarks are offered:

- From a meta-theoretical stance it is not surprising to observe that many S-R thinkers and writers find it difficult

to deal with the impersonal-personal (or, objectivist-subjectivist) antinomy in human thought. The more objectivist-oriented participants seem to either reluctantly acknowledge the personal dimension (although they do express a conviction that it cannot be left out of consideration), or relegate talk at the level of the personal to 'folk psychology' or poetry. The subjectivist writers, in turn, although admirers of or practitioners of science, expressly formulate their ideas and thoughts in a quasi-poetical, personal manner, and freely incorporate metaphors and descriptions of events in their own lives into the exposition of their S-R ideas.

- There is much talk in the S-R literature of having overcome the Cartesian mind-body split. Yet, this dichotomy constantly re-surfaces in different guises, such as in Polkinghorne's 'dual-aspect monism,' or in the attention given to the concept 'emergence' as some sort of bridge between the mental and material.
- The literature does contain a few contributions from the social sciences, but these disciplines (diverse as they are), has yet to have the kind of visibility and impact in the S-R field, that some may wish for.
- Although someone like Ian Barbour explicitly noted it early on, there has been little attention to the other world religions in the S-R community.

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