



EAST-WEST PERSPECTIVES ON METHODOLOGICAL APPROACHES
TO SCIENCE AND THE SACRED

by

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ABSTRACT

One way to address the apparent discrepancy between the segmented, mechanistic scientific approach and the holistic, mystical approach often attributed to most sacred traditions is to explore the system of logic which serves as the *modus operandi* behind the methodology used in each approach. This paper investigates this issue not so much from the perspective of comparing the dichotomy between the approaches to science and the sacred *per se*, but rather the underlying logic systems characteristic of the Eastern and Western approaches to both science and the sacred. In other words, there seem to be characteristics of a prevalent logic system in the Orient which influences how people there perceive and deal with both science and religion. These characteristics are different from another logic system operating in the Occident which determines how people there approach the two topics.

The two systems are conceptualized in this paper as *rational logic* and *relational logic* and the two form a typology or theoretical model which is used as a heuristic device to analyze how the West approaches the study of science and the sacred as compared to how those in the East approach the two issues since these two general cultural spheres can be characterized by the two systems respectively. On the surface, one system may not seem "logical" from the perspective of the other. Nevertheless, while a relational approach may not always be rational and vice versa, they are both, in fact, highly-sophisticated systems of logic out of which all human thought and activity are defined and interpreted.

The first section of the paper identifies the characteristics of both logic systems and establishes the framework for the main argument by employing some of the insights of Edward Hall and other anthropologists who have researched this area from related perspectives. The second section uses these insights to suggest one reason as to why the West approaches both science and religion from a more linear, rational perspective as compared to the more organic, relational approach of the East. The author argues that both approaches have their strengths and limitations, and that in order to advance the study of science and the sacred in contemporary society, one must draw from the insights and strengths of both perspectives.

Introduction

There are many ways in which one might address the theme of this committee and the concerns outlined by the chairman both in his paper and committee summary. One way to address the apparent discrepancy between the segmented, mechanistic scientific approach and the holistic, mystical approach often attributed to most sacred traditions is to explore the system of logic which serves as the *modus operandi* behind the methodology used in each approach.

This paper investigates the issue not so much from the perspective of comparing the dichotomy between the approaches to science and the sacred *per se*, but rather the underlying logic systems characteristic of the Eastern and Western approaches to both science and the sacred. In other words, there seem to be characteristics of a prevalent logic system in the Orient which influences how people there perceive and deal with both science and the sacred. These characteristics are different from another logic system operating in the Occident which determines how people there approach the two topics.

The two systems are conceptualized in this paper as *rational* logic and *relational* logic. Much is discussed in the literature of anthropology and intercultural communications regarding the characteristics of these two systems though not referring to them in the terminology used in this paper. The first section draws upon some of these insights in order to establish the framework of the argument. The second section of the paper uses these insights to analyze some general observations as to how Eastern and Western cultures approach the study of science and the sacred.

Of course, there is always the risk of seeming too simplistic and reductionistic when portraying the East and West in general, stereotypical terms. The attempt here is merely to gain some insight into the topic of this committee by developing a typology or theoretical model based on general observations and using it as a heuristic device to analyze this long-standing problem from another innovative perspective.

It is important to mention that in actuality, the attempt here is to steer away from the stereotypes of Eastern and Western perspectives, which have proven to be very problematic in fostering intercultural understanding, and replace them with a model of logic systems which may primarily be operational in the East and West, but can be observed as operating differently in African, European and South American societies as well.

Characteristics of the Two Logic Systems - Relational and Rational

It has often been observed that when people from Oriental and Occidental cultures meet that there is a severe lack of effective communication and understanding. This occurs in the arenas of business, politics, education, journalism and nearly every type of social interaction. The novel *Shogun* by James Clavell is an ideal example of a story that portrays this cultural gap poignantly, as members from 17th Century Europe and Japan meet for the first time and see the other as barbaric and irrational in nearly every expression of human attitude and behavior. While not expressed as blatantly in contemporary society, these perceptions still persist as members from each culture claim that those of the other are illogical and non-sensical.

This dilemma also exists in the realm of science and religion. Those in the West sometimes—though not always explicitly—imply that people from the East do not know how to do proper science as they often incorporate concepts and data which are often inadmissible in Western science. Some will defend this by noting that the history of science includes very few—until recently—Oriental names in and among the founding "fathers" of modern science from Europe and America. This attitude has even surfaced in many committee discussions of past ICUS meetings. On the other hand, those in the Orient might subtly boast that the West lacks any true sense of spirituality as evidenced in the fact that nearly all religious and moral philosophical traditions have their origin in the Far and Middle East.

The argument here is not that one argument is more correct than the other or that one perspective is more logical than the other. Instead, the reason why one group sees the other as not making sense or being logical is because they are perceiving and assessing the other from a very different logic system—one being *rational* by nature and the other being *relational*. The argument here is that while a relational approach often may not be rational and a rational approach may defy relational principles, both approaches make profound sense within the parameters of their own highly-sophisticated logic systems. In other words, both approaches are very logical and anything outside of each approach seems highly illogical, even primitive.

The rational system of logic has its primary expression in Aristotelian syllogistic logic which makes its argument by linking segmented ideas together in a linear progression until the conclusion is established. One result of this is that the whole is seen as the sum of the parts. Also, "x" and "not-x" are contradictory opposites such that if something is "x" it cannot also be "not-x." This sets up the

characteristic "either/or" perspective of the rational logic approach. The anthropologist, Edward Hall, identifies this linear approach as the basis of most Western cultures. [Hall, 1976, pp. 9-12]

The foundations of relational logic are most clearly evident in the traditions of Taoism and Confucianism which define all things in terms of their relationships with everything else, including human identity. Because of the emphasis on integration and harmony, this system can be characterized as "both/and." In other words, it is possible for something to be both "x" and "not-x" within the ground rules of the rational logic system. This perspective is primarily evident in Eastern cultures such as Korea, China and Japan. Robert Christopher makes this connection to Japanese culture in his book entitled, *The Japanese Mind*:

Confucianism, with its emphasis on loyalty, personal relationships and etiquette and with the high value that it places on education and hard work, is ideally suited to the pragmatic Japanese character. Few if any Japanese today would describe themselves as Confucian, but Confucian values still permeate the thinking of virtually the entire Japanese population. [Christopher, 1983, p. 47]

The research and writings of Hall describe characteristics of a theoretical model which attempts to explain the differences between Eastern and Western cultures, and can shed light on the specific nature of the rational and relational forms of logic. One of these characteristics is described in terms of how the two cultures view time. The West is characterized as a monochronic time culture whereby people essentially deal with time in a linear fashion doing one thing at a time. [Hall, 1983, pp. 46-58] M-time culture sees time as tangible, something that can be saved, spent, lost, wasted and the like. Schedules take precedence over relationships which also tends to compartmentalize one's life into time segments. Hall states that M-time people are

oriented to tasks, schedules, and procedures. As anyone who has had experience with our bureaucracies knows, schedules and procedures take on a life all their own without reference to either logic or human needs. [Hall, 1983, p. 53]

This is juxtaposed to polychronic time which tends to be a characteristic of Eastern culture. P-time emphasizes the completion of transactions and relationships with people rather than strict adherence to schedules and appointments.

. . . polychronic individuals are oriented toward people, human relationships, and the family, which is the core of their existence. Family takes precedence over everything else. Close friends come next. In the absence of schedules, when there is a crisis the family always comes first. [Hall, 1983, p. 54]

Appendix A provides a comparison of consequences of these two time perspectives.

Hall describes a second characteristic of the two cultures as stemming from the time perspective. Because P-time individuals are primarily concerned with relationships, there is a greater tendency for the free flow of information to exist among people. In other words, because of the constant exchange of information in the relational mode, there is little need for lengthy explanations or discussion when problems need to be solved. Hall calls this high context culture. The low context culture comes from the lack of interaction in the normal affairs of M-time people and hence there is a need for the dissemination of large amounts of information to participants before action can be taken on an issue. [Hall and Hall, 1987, pp. 7-11 and Hall, 1983, pp. 59-77]

While Hall elaborates on his model in much more detail and describes other characteristics consistent with those already mentioned, the present insights can be employed to describe the heuristic model used in this paper, namely the concept of rational and relational logical systems. A rational logical system can be said to have M-time, low context characteristics. Words and sentences have different meanings depending on the context in which they are embedded. Many white Americans are "low-context". American and other western societies do not favor extensive, well-developed, informal information networks. They do exist, but compared to systems in the Orient, they are limited in scope and development. Westerners often need to be contexted any time they have to do something or make a decision. This need for detailed background information stems from the fact that western life is often segmented and focuses on discrete, compartmentalized bits of information. [Hall and Hall, 1987, pp. 7-11]

The relational logical system can be said to have the characteristics of P-time, high context culture. This conceptualization leads to other consequences which are helpful in understanding the difference between the rational and relational approaches. Individuals from the Orient think intelligent human beings should be able to discover the point of discourse from the context, which they are careful to provide. Individuals from the Orient, Arab countries and the Mediterranean tend to have extensive information networks among families, friends, colleagues and clients. Their personal relationships are "high context". As a result most day to day

interaction does not require much background information.

Hall mentions an example that exemplifies the difference in contexting patterns when he discusses the story of a Jesuit missionary he met in Japan. This Jesuit missionary was very successful, because he had understood this difference. He concluded that the way to reach the Japanese was not with the low-context reasoning of Thomas Aquinas as he was used to, but by emphasizing something else -- the wonderful uplifting feelings one has by being Catholic. [Hall, 1983, pp. 63]

Rational logic persuades by means of reason, whereas relational logic persuades by means of interpersonal sensitivities. Rational logic puts emphasis on independence and the individual due to its segmented nature. This primacy of the individual leads to the notion of personal identity as defined by personal qualities, achievements and occupation. Relational logic puts emphasis on dependence upon others and the primacy of the group. Personal identity is defined in terms of one's responsibilities in relationship with others.

In addition, rational logic is direct and aggressive, promoting specificity and immediate results. The highest virtue is honesty. Relational logic is indirect and passive, promoting mystery and a long-term process for acquiring the results. Here, the highest virtue is loyalty.

One of the extremes of the rational approach can be an excessive emphasis on schedules, rules and legalism without regard to personal or situational circumstances. Lawsuits, contracts and written agreements—even in marriage—is a product more of rational cultures as opposed to what exists in relational cultures where people tend to settle things outside of court. The excesses of relational logic can result in the loss of individual identity and rights, especially when the benevolent dimension of superior position is missing in the relationship. For instance, the five basic Confucian relationships—parent/child, elder/younger, husband/wife, teacher/student and superior/subordinate—presume the benevolence of the superior position when loyalty and obedience is demanded of the subordinate position. Mao's critique of Confucianism during the Cultural Revolution as enslaving the people, came as a result of that system's failure to address the abuses of the superior.

Applications to the Study of Science and Religion

Western approaches to both science and religion tend to stem more from a rational logical perspective. In contrast, Eastern approaches to science and religion derive more from a relational logical perspective. For instance, in terms of religion,

there is a great emphasis in Western religion on systematic theology, historical and form criticism, doctrine, dogma and interpretive exegesis. We find this not only in Christianity as represented by Augustine, Aquinas, Luther, Calvin, Wesley, Barth, Tillich and Schleiermacher, but also in Judaism with the Talmudic texts and Rabbinical commentaries on the Torah. Such writings often claim to provide airtight rational arguments to defend and form the basis of the belief system. These arguments are linear and often lengthy as they seem to comply with Hall's definition of a monochronic and low context culture.

One finds that Eastern religions have little need for systematic theology or interpretive commentary. The words of the master stand on their own merit and usually need no exegesis. The maxims are often short and difficult to discern from a rational perspective. The brevity can be seen as fitting well within Hall's definition of polychronic and high context culture. Little need be said because it is assumed that the student is informed enough to understand what is meant without a lengthy explanation. Likewise, the apparent absurdity from a Western perspective of a great deal of Eastern spirituality and its expression derives from the fact that many of the writings can be understood only from a relational context. To fully understand the life and words of the Buddha requires relational logic. Taoism and Confucianism in their own unique ways place an emphasis on relational principles and ethics.

In addition, Western forms of religion often place a primary focus on individual salvation in the immediate scope of time with secondary concern for the salvation of others, including relatives and family members. In some Christian thinking, for instance, a person can do his or her best to bring a loved one to salvation, but if the loved one does not adhere to the doctrinal tenets of the faith then the person may tend to rationalize that the loved one going to hell is not of his or her concern. The relational dimension of blood ties takes a back seat to the rational consequences of the theology. Due to this segmented approach, there is little sense of connection with others not only in the present, but in the past or future as well. The concept of the afterlife is subsequently put in terms of the supernatural apart from the natural earthly existence. This dichotomy between the natural and the supernatural has significant consequences on how the West defines the allowable domain of scientific inquiry.

The East, in contrast, places emphasis on the relational connectedness of all beings, not only among human beings but also between humans and all things in the created order. Humanity and nature are seen as one both in Eastern science and religion. Likewise, that one maintains a normal daily relationship with a parent

who has passed over into the afterlife, or any ancestor for that matter, is as natural as maintaining relationships with those on the earthly plane. There is a sense of connectedness between past, present and future in a very natural context. For this reason, there is not as strict dichotomy between the natural and supernatural in Eastern spirituality. Since everything is natural, topics such as Qi (or Chi) and the substantial existence of a spiritual reality become part of the allowable domain of scientific inquiry, much to the chagrin of Western scientists.

Finally, the rational logical perspective becomes the basis for ontological dualism in Western religion. There is either good or evil, and one cannot have both if one is to have a good society. This either/or dualism carries over to other issues as well. For instance, one is either a member of one religion or another, but not both since it is seen as a contradiction in Western rational thinking. Except for the earlier Roman Catholic perspective, there is also finality in the concept of salvation and the destination of one's life after death with little room for process and development.

In the East, the "both/and" dimension of the relational logical system is predominant in religious thinking. This is epitomized most clearly in the Yin/Yang (or Um/Yang) pattern in Taoist thought. They cannot stand alone or exist separate from the other since one shape is defined by the other and one has no meaning without the other. The relational implications of this symbol are the foundation for allowing good and evil to be defined by the other and coexist in a paradoxical fashion. Because of this "both/and" dimension, a Christian in Asia can also be a Buddhist, a Confucianist and a Shammanist all at the same time without a sense of betraying the tenets of the others. This integrative sense of reality is another reason why the East cannot separate nature from humanity and science from the sacred.

In the area of science, the rational approach has tended to place an emphasis on gaining knowledge from reason. This was systematized during the Enlightenment in the thought of Bacon and Descartes who developed the framework for what has been called the scientific method through the processes of deductive and inductive reasoning. Setting aside the more extreme results of this development, namely positivistic scientism, even Newtonian physics approaches reality in a segmented manner, observing reality in parts. Western medicine and biology is often studied in terms of segmented parts and dissection analysis. Likewise, Newtonian time is quantified and treated as an absolute substance which is fixed and immutable in its linear progression. These characteristics of the rational perspective provide for technological progress and the development of human

living conditions. However, it also allows for the aggressive tendencies to deal nature from merely a utilitarian perspective since nature is not seen in terms of one's relationship with it but rather how it can be used.

The relational approach advocates that while knowledge can be gained through a rational process, it is also acquired from experience through relationships. The writings of Michael Polanyi elaborate on the characteristics of means of acquiring knowledge. Little emphasis is placed on rational analysis and creative inquiry in most Oriental educational systems. Rational knowledge is to be memorized and emphasis is to be put on the knowledge one gains in family, social and business relationships. This has, until recently, been problematic for the development of innovative science and technology in countries like Japan. Michio Nagai, former Minister of Education in Japan notes that

The central problem with Japanese education is that it focuses on meeting the practical needs of society rather than on a long-term contribution to the formation of culture through the detached pursuit of truth. [Christopher, 1983, p. 91]

Because of the relational emphasis of the East, technological progress has often come from imitating the innovations of the West which has caused a great deal of tension in the international business and political communities. Nevertheless, the emphasis is harmonious relationships with nature and the creation which is more integrative and embracing, unlike the characteristic aggressiveness toward nature in the West.

Conclusion

There appears to be an awareness among some in the religious and scientific communities of the East and West about the need to learn and incorporate the insights of each perspective into the existing approaches to the study of science and religion.

Thomas Merton and Teilhard de Chardin are examples of religious thinkers who have sought to research and incorporate the relational insights of Eastern thought into the reinterpretation of certain fundamental concepts within Western Christianity. Likewise, many from Japan, Korea and other Oriental cultures have come to the West to study theology and religious thought in American and European seminaries and universities.

In the realm of science, there is a new fascination by Western scientists with Eastern thought especially since the advent of Einstein's general relativity, quantum

mechanics and high energy physics. While Einstein himself was intrigued with the relative nature of time and space as well as the relational integration of the physical universe, it is the thought of Fritjof Capra, David Bohm and Stephen Hawking—to name a few—that has explored the explicit relevance of Eastern relational logic to Western science.

In addition, the trend toward integrating the insights of the rational and relational approaches is evidenced in an interest displayed by scholars from both the East and West in developing an approach to holistic medicine, combining the insights of herbal medicine, acupuncture, homeopathy, chiropractic and traditional Western medicine.

It goes without saying that much can and needs to be learned about the characteristics of the rational and relational forms of logic, the results of which will not only foster better intercultural communication and understanding, but also a more comprehensive and integrative approach to science and the sacred on a global level.

Appendix A

Monchronic People

Do one thing at a time
 Concentrate on the job

Take time commitments (deadlines
 schedules) seriously

Are low-context and need information

Are committed to the job

Adhere religiously to plans
 Are concerned about not disturbing others;
 follow rules of privacy and
 consideration

Show great respect for private property;
 seldom borrow or lend

Emphasize promptness

Are accustomed to short-term relationships

Polychronic People

Do many things at once
 Are highly distractable and
 subject to interruptions

Consider time commitments an
 objective to be achieved,
 if possible

Are high-context and already
 have information

Are committed to people and
 human relationships

Change plans often and easily
 Are more concerned with those
 who are closely related
 (family, friends, close
 business associates) than
 with privacy

Borrow and lend things often
 and easily

Base promptness on the
 relationship

Have strong tendency to build
 lifetime relationships

[Hall and Hall, 1987, pp. 18-19]

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