

## Sōka Gakkai on the Alleged Compatibility between Nichiren Buddhism and Modern Science

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Sōka Gakkai, the most conspicuous lay organization of the Nichiren Shōshū and the largest of the new religious movements in Japan, asserts the compatibility of its particular form of Mahayana Buddhism with modern science. Ikeda Daisaku, until recently president of Sōka Gakkai, has not only written extensively on the subject of the relationship between Buddhism and modern science but has also entered into dialogue on this topic with a distinguished British historian, the late Arnold Toynbee.

One of the corollaries of the claimed compatibility between Buddhism and science is that Buddhism can furnish the ethical wisdom that will provide guidance for science in order that scientific achievements may be used for the peace and prosperity of mankind. The concern of Sōka Gakkai for the humane application of scientific knowledge arises from the conviction that the limitations to which science is subject as it deals with the human mind and ethical issues can be overcome by "true religion."

### BUDDHISM AS A SCIENTIFIC RELIGION

*Argument for compatibility.* Buddhism, according to Ikeda, is compatible with modern science in that it was scientific from its inception. Sōka Gakkai claims that religion is "a kind of science which makes a special study of human life" (Ikeda 1968, p. 301). Religion is scientific in the sense that both religion and science rest on the fundamental presupposition that every phenomenon, spiritual as well as material, occurs according to the principle of cause and effect.

The purpose of life, based on the law of causality, lies in obtaining a happy life and in practicing and teaching religious doctrines correctly. Insofar as a true religion makes life-activities its object of study, it is different, in a narrow sense of the word, from natural science which is involved only with natural phenomena. . . . It is, however, no different from other fields of science, in that it is also an approach to discover the universal law of cause and effect and that its aim is to increase the happiness of mankind (Ikeda 1968, p. 301).

Buddhism satisfies a major condition of science, namely, “the conformity of a proposed theory and a result gained through its application” (Ikeda 1968, p. 302). The value-realization argument goes as follows:

Just as dynamics, electro-magnetic theory, and other physical and chemical laws discovered by the modern progress of physics and chemistry are utilized in various types of machinery, such as television and radio, to make our life more convenient, the fundamental doctrine of our life activities . . . is realized as the *Gohonzon* [the Nichiren Shōshū object of worship, regarded as a symbolic expression of the fundamental power of the universe] which creates value in our daily life, by granting divine blessings (Ikeda 1968, p. 302, italics added).

Thus in respect of the principles of causality and value-realization, science and Nichiren Buddhism are said to be compatible.

*Argument for superiority.* Even though Buddhism is essentially scientific, it is also superior to modern science, says Sōka Gakkai, and can properly be designated “the super-science” (Ikeda 1968, p. 293). What makes it superior to modern science is its mode of perception of natural phenomena, a mode of perception known as *butsugan*. *Butsugan*, the fifth and highest mode of perception,<sup>1</sup> is a term denoting

“the eyes of the Buddha” which “see through everything covering the three existences of life — past, present and future” (Ikeda 1968, p. 296). The superiority of this mode of perception over that of modern science derives from its power to disclose “the realities of the universe.”

Sōka Gakkai claims not only that science cannot surpass Nichiren Buddhism but also that Nichiren Buddhism is superior to Christianity. The universal law governing phenomenal change, symbolized in the invocation *Nam' myōhō renge kyō* [Adoration to the wondrous law of the *Lotus sutra*], shows more insight than the Judeo-Christian view presupposing a personal god who embodies the Law and who controls human beings and the world. Nichiren Buddhism rejects the Christian notion of a superpersonal god as superfluous. Since the universe incorporates the divine as immanent within the physical, there is no need to posit a supernatural over and above the natural. “There is no such God outside the great universe” (Ikeda 1968, p. 478). One of the Nichiren Buddhist criteria for judging other religions is “scientific reasoning based on the Buddhist doctrine of cause and effect” (Ikeda 1968, pp. 302-303n). When this method is applied, the Bible is found to contain “unreasonable and non-scientific thought.” The incompatibility of religious teaching with modern science indicates that the Christian religion, particularly in its theoretical foundation, is inferior and shallow. Ikeda concludes that “it is nonsense to discuss whether . . . doctrines of the Bible are consistent with science. . . . People consider a Christian teaching almost a ‘miracle’ if it is consistent with science” (Ikeda 1968, p. 340). Moreover, since Christianity is at odds with science, it is a religion that lacks effective methods for controlling the abusive effects of science.

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1. The other “eyes” are the *nikugan* or ordinary eyes, *tengan* or sharp eyes, *egan* or discerning eyes, and *hōgan* or eyes of saving truth.

*Oriental origin.* Sōka Gakkai claims that science first developed from small beginnings in the Orient and that the ancient Orient surpassed the West in the use of bronze, ironware and magnets, and also in techniques of navigation.

The history of science, according to Ikeda, discloses that up to the fifteenth century there were no remarkable differences between the Orient and the West. After the fifteenth century, however, the West far surpassed the Orient in the field of science. Ikeda enumerates two reasons for the lack of scientific development in the Orient: (1) Oriental thought, particularly some forms of Buddhism and Confucianism, placed a high premium on the mental dimensions of life and “neglected the material and scientific way of thinking” (1968, p. 355); (2) Buddhism was prevented from contributing to the progress of culture and science because it was thwarted by competing Asian religions and by the premodern feudal system. “As a result, people lost the urge to seek the freedom of study, and knowledge was in the possession of a privileged class. This caused delay in the scientific development in the Orient” (Ikeda 1968, p. 406).

In Japan in particular, the Zen and Pure Land misinterpretation of Buddhism as “the religion of calm resignation” also retarded scientific progress.

A basic assumption of Sōka Gakkai is that rejection of the True Buddhism it espouses will result in cultural decline while, conversely, acceptance of True Buddhism will lead to national prosperity and to scientific and cultural achievement. “If the peoples of the Orient are awakened to the True Buddhism, there will arise great cultural states” (Ikeda 1968, p. 406). By the same token, if science in Japan takes True Buddhism as its basis, there will be “a great stride in culture as in the days of the Renaissance” (Ikeda 1968, p. 310).

The purpose of this essay is to examine the following claims of Sōka Gakkai with respect to the relationship between Nichiren Buddhism and modern science: (1) that the scientific understanding of cause and effect corresponds to the Buddhist law of causality; (2) that the views of matter and field in theoretical physics parallel the Buddhist concept of the inseparability of matter and mind; and (3) that the quantum and relativity theories are converging toward a holistic understanding of the phenomenal world similar to the Buddhist metaphysical concept of *kū*. The central issue to be explored is the extent to which legitimate parallels, if any, can be drawn between Buddhism and modern science. This monumental task will not be fully achieved in this essay, but following a presentation of each of these Sōka Gakkai claims, a critical comment will be attempted.

#### CAUSATION IN NICHIREN BUDDHISM AND SCIENCE

*Correspondence and difference.* Though Sōka Gakkai claims that the scientific view of causation corresponds to the Buddhist law of causality, it also contends that the Buddhist concept provides a more comprehensive way of understanding the interrelations among phenomena — physical, mental, and spiritual. On the Buddhist view, all phenomena represent a temporary combination of factors subject to the law of causality.

A major premise in the Buddhist understanding of universal causality is that nothing occurs by chance or accident. Cause and effect are continuous, most conspicuously on the macroscopic level, but also, despite apparent gaps, on the microscopic. “The atomic scale may display some inescapable discontinuities, but even when an interval occurs between cause and effect, the two are still perfectly consistent” (Ikeda 1977, vol. 2, p. 62).

In contrast to this universality, the scientific concept of

causation is subject to a certain limitation, namely, that it is not applicable to the motion of elementary particles. To explain this motion, scientists must appeal to the Heisenberg Uncertainty Principle. Sōka Gakkai acknowledges that “the degree of latitude of uncertainty is incomparably greater when one is dealing with human life than when one is concerned with inanimate beings or other forms of life.” Nonetheless, “long-term observations make it possible to grasp phenomena in terms of statistical laws of cause and effect that are inevitably accompanied by uncertainties” (Toynbee and Ikeda 1976, p. 284).

*Destiny and decision.* Whereas the scientific law of causality is restricted to natural phenomena, the Buddhist law of causality operates on both levels, the spatial-temporal and the mental-spiritual. This difference in scope, however, does not make the two views contradictory, for both concur that events in the physical world invariably occur in accordance with the scientific law of causality. “In figurative terms, the law of cause and effect deep within life itself emerges into the world of phenomena by operating through physical and spiritual aspects of life activity. In terms of concepts of time and space, this manifestation of the law of cause and effect may be compared with what physics calls the statistical law of causation” (Toynbee and Ikeda 1976, p. 284).

That the law of causality governs the spiritual dimension of life in addition to the physical means that Sōka Gakkai affirms the law of karma. Every living being runs a karma account, but the concept of causation in the ethical dimension differs from that in the physical, for the individual can decide to sever the chain of karmic forces in order to redirect his destiny.

Superior explanatory power is claimed for the Buddhist law of causation in the area of psychology. Since human

beings possess freewill and exhibit an extremely broad range of action, psychology is too complex for a simple law of causation. Consequently, "Buddhism brings the light of its wisdom to examine an ever deeper mental sphere – that which initiates all phenomena and sets forth the law of causation working within – the subconscious areas of human life" (Ikeda 1977, vol. 2, p. 59). Transcending the limits of time and space, Buddhist causation covers "the spiritual sphere – the mind's real realm or the mind in a latent condition . . ." (Ikeda 1977, vol. 2, p. 59). "The law of causality inherent in one's inner life can be understood in terms of the categories of the spiritual world" (Ikeda 1977, vol. 2, p. 63).

*Critical comment.* Sōka Gakkai's assertion that scientific causation corresponds to Buddhism causation is weakened to the extent that Sōka Gakkai sides with one viewpoint in science, namely, the "hard" or determinist view of causation, and thus tends to minimize the "weak." F.S.C. Northrup remarks that the concept of mechanical causality has two different but scientifically precise meanings, strong and weak. The strong meaning identifies causality with determinism; the weak meaning implies that not every causal system is deterministic. Newtonian and Einsteinian physics reflects the strong meaning, and quantum mechanics, together with the Heisenberg Principle of Uncertainty, is associated with the weak – particularly in the case of subatomic phenomena.

The strong type of causality implying determinism holds for the "gross common sense object." The weaker type of causation occurs when "independent variables referring to probabilities, as well as other properties such as position and momentum, appear in the state-function" (Heisenberg 1962, p. 15). Heisenberg contends that "the law of causality is no longer applied in quantum theory" (1962, p. 88).

Quantum mechanics entails “the necessity of a final renunciation of the classical ideal of causality” (Bohr 1958, p. 60). The law of causality which posits that there is a preceding event from which another event must follow is not applicable in the case of the emission of an alpha particle from a radium atom.

The time for the emission of the “a”-particle cannot be predicted. We can only say that in the average that emission will take place in about two thousand years. Therefore, when we observe the emission we do not actually look for a foregoing event from which the emission must according to a rule follow. Logically it would be quite possible to look for such a foregoing event, and we need not be discouraged by the fact that hitherto none has been found. . . . We know the foregoing event but not quite accurately. We know the forces in the atomic nucleus that are responsible for the emission of the “a”-particle. But this knowledge contains the uncertainty which is brought about by the interaction between the nucleus and the rest of the world. If we wanted to know why the “a”-particle was emitted at that particular time we would have to know the microscopic structure of the world including ourselves, and that is impossible (Heisenberg 1962, pp. 89-90).

The fact that the subatomic world cannot as yet be explained in terms of universal determinism tends to vitiate Sōka Gakki's claim that scientific causation corresponds to Buddhist causation on the phenomenal plane.

#### THE ONENESS OF MATTER AND MIND

*Oneness in twoness.* Sōka Gakkai contends that views of matter and field in theoretical physics parallel the Buddhist concept of *shiki-shin funi*. *Shiki* (“matter”) and *shin* (“mind”) are different but inseparable (*funi*).<sup>2</sup>

2. *Shin* also refers to the “spiritual activities of life simultaneously occurring with the movement of the body” (Ikeda 1968, p. 309).

The Nichiren Buddhist doctrine of *shiki-shin funi*, the inseparability of matter and mind, is interrelated with other doctrines that affirm holism. One such doctrine is that of *kū*, the potentiality imbued void that is the source of the phenomenal world. Another is that of *kuon* or “eternity in a moment of existence,” a term suggestive of the inter-relatedness of phenomena and the cosmic life force. These doctrines imply that “all things in the universe are inseparable and one — or as the Mahayana Buddhist formula has it: “Nirvana and samsara are one.”

The physical and the mental are inseparable dimensions of ultimate reality or the cosmic life force. “Human beings, elementary particles, animals, plants, the suns or the stars — all things animate and inanimate are contained in the whirlpool of cosmic life” (Ikeda 1977, vol. 1, p. 139). From this perspective Sōka Gakkai can assert that “field is field, matter is matter, and yet both are inseparable and therefore one. Buddhism describes this idea [in the formula] ‘two but inseparable; inseparable yet two’ ” (Ikeda 1968, p. 428).

*Expansive claims.* Since Sōka Gakkai holds that science is handicapped by neglecting the mental or spiritual side of phenomena, extravagant claims are made on behalf of the *shiki-shin funi* concept. “The only philosophy to meet the demand of current physics is the life-philosophy of *shiki-shin funi*.” That contemporary scientists, notably Einstein, have formulated theories similar to this concept “impresses us with the greatness of Buddhist philosophy” (Ikeda 1968, pp. 460, 445). Einstein’s theory of relativity, according to Sōka Gakkai, indicates that matter and field cannot be qualitatively distinguished. “The difference between matter and field is [a] quantitative rather than a qualitative one” (Ikeda 1968, p. 427).

The conversion of mass and energy from one to the other also approximates the Buddhist concept of *shiki-shin*

*funi*. Sōka Gakkai holds that the universe as “the existence of *shiki-shin funi* . . . enables interchange between matter and energy in accordance with changes in conditions of the field” (Ikeda 1968, p. 428). Heisenberg remarks that “every species of elementary particle consists of the substance that is known as energy or universal substance. Elementary particles are different forms of universal substance” (1962, p. 160). The view that the same substance assumes various forms, physical as well as mental, echoes the *Avatamsaka sutra* (Jps., *Kegon kyō*), which equates ultimate reality with “mind-only.” Thus Sōka Gakkai contends that it is impossible to separate matter from mind as if they were independent entities.

*Critical comment.* That the material and the mental or spiritual realms are indivisible is an idea that Sōka Gakkai appears to have imposed rather hastily on modern scientific theories, first by equating non-matter with mind, and second by equating non-matter (understood as mind or spirituality) with field.

Sōka Gakkai contends that Einstein’s view of field “is apparently non-material, but in reality it becomes material when condensed. Therefore, the field will explain, in scientific terms, the essence of Buddhism, *shiki-shin funi*, though not perfectly” (Ikeda 1968, p. 438). Physics has proven, it says, that “matter (mass) and non-matter (energy) are essentially the same,” a discovery that “helps us to understand *shiki-shin funi* more easily” (Ikeda 1968, p. 445).<sup>3</sup>

3. The Nichiren Buddhist doctrine of the inseparability of mind and matter finds a Western parallel in the speculative thought of the physicist-philosopher Erwin Schrödinger. Schrödinger, former professor of physics at the University of Vienna and the discoverer of wave mechanics, contends that our picture of the world is a mental construct.

The world is a construct of our sensations, perceptions memories. . . .  
The stuff from which our world picture is built is yielded exclusively  
from the sense organs as organs of the mind, so that every man’s

Averting that scientific study of phenomena from the standpoint of the material is incomplete, Sōka Gakkai offers the *shiki-shin funi* concept as a “blood transfusion” from the Orient to aid modern science.

Many Western scientists, however, are unlikely to be

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world picture is and always remains a construct of his mind and cannot be proved to have any other existence. . . . The world extended in space and time is but our representation (*Vorstellung*) (Schrödinger 1967, pp. 132, 146).

Schrödinger equates the mind-self-ego with the world. The ego or mind “is itself that [world picture]. It is identical with the whole and therefore cannot be in it as a part of it” (1967, p. 138).

On his view, not only is mind identical with the world but mind or consciousness is also one, not multiple. “Mind is by its very nature a *singulare tantum*. I should say: the over-all number of minds is just one” (Schrödinger 1967, p. 145). In support of this position he argues:

The doctrine of the identity [of minds] can claim that it is clinched by the empirical fact that consciousness is never experienced in the plural, only in the singular. Not only has none of us ever experienced more than one consciousness, but there is also no trace of circumstantial evidence of this ever happening anywhere in the world (Schrödinger 1967, p. 140).

Further support for Schrödinger’s contention that mind is unitary can be drawn from the biologist Sherrington: “Matter and energy seem granular in structure, and so does ‘life,’ but not so mind” (1941, p. 73).

Schrödinger affirms that the scientific concept of the material world (the principle of objectification or the “hypothesis of the real world” around us) was developed by excluding mind or self (the subject of cognizance) from the realm of nature.

The material world has only been constructed at the price of taking the self, that is, mind, out of it. . . . The fact [is] that a moderately satisfying picture of the world has only been reached at the high price of taking ourselves out of the picture. We step with our own person back into the part of an onlooker who does not belong to the world, which by this very procedure becomes an objective world (Schrödinger 1967, p. 127).

He contends that the concept of an objective world has been constructed for functional purposes. “It is convenient to regard it as existing objectively on

receptive to Sōka Gakka's affirmation of the unity of the material and the mental-spiritual because of their commitment to a materialism that rejects the spiritual, or to a pragmatism (typified by the Copenhagen interpretation of quantum mechanics) that limits itself to correlations in human experience and foregoes attempts to arrive at a one-to-one correspondence between theory and physical reality. They would be skeptical of Sōka Gakkai's contention that the relationship between matter and field in theoretical physics parallels the Buddhist concept of the inseparability of mind and matter.

#### HOLISM IN NICHIREN BUDDHISM AND MODERN SCIENCE

*The potential-void.* Sōka Gakkai claims that the quantum and relativity theories are converging toward a holistic understanding of the phenomenal world, an understanding similar to one based on the Buddhist metaphysical concept of *kū*, the potentiality-charged void from which everything phenomenal derives.

The concept of *kū*, according to Sōka Gakkai, is an approximation of the terms "field" and "space" in modern science. Metaphysically speaking, *kū* represents the "unconditioned reality of the universe" or, as Nichiren himself remarked, the "potential-void" (Ikeda 1968, p. 433). As such it is the source of the phenomenal world. Thus Sōka

its own. . . . I maintain that it amounts to a certain simplification which we adopt in order to master the infinitely intricate problem of nature" (1967, p. 127).

Western science, based as it is on the principle of objectification, may be unable, on its own, to obtain an adequate understanding of mind. Schrödinger offers relief from the problems associated with the dichotomy of mind and matter by prescribing a "blood transfusion from Eastern thought. This will not be easy, we must be wary of blunders – blood transfusion always needs great precaution to prevent clotting. We do not wish to lose the logical precision that our scientific thought has reached, and that is unparalleled anywhere at any epoch" (1967, p. 140).

Thus Schrödinger argues for a view that appears congruent with, if not actually inspired by, the Nichiren Buddhist concept of *shiki-shin funi*.

Gakkai can assert that the “fields” are in the state of *kū*.

*The kū field.* For purposes of comparison with modern science, *kū* is defined as “the field of force” which can “produce elementary particles and change them” (Ikeda 1968, p. 428). Einstein, according to Sōka Gakkai, “described matter as the close composition of fields. Wonderful coincidence! Buddhism preaches that all phenomena are the appearance of what naturally happens in the universe. . . . The field can produce new matter. . . . It [that is, Einstein’s view] is equivalent to the Buddhist concept of *kū*” (Ikeda 1968, pp. 422, 427). The contention is, then, that Einstein’s concept of space approaches the Buddhist concept of *kū* in that “it implies unlimited possibilities for the formation of matter” (Ikeda 1977, vol. 1, p. 83).

Sōka Gakkai goes on to affirm that the concept of *kū* is an “incomparably higher idea than field” in that it incorporates “spiritual and qualitative aspects of life, such as character, wisdom, and feelings.” As a basic aspect of *kū* is latent potentiality, this dormant aspect of *kū* contains the flow of cosmic life (Jps., *kuon*) in static form. “The state of *kū* is charged with vibrant life-energy; the eternal presence vibrates dynamically in the *kū*” (Ikeda 1977, vol. 2, p. 138).

*Support.* A case can be made for the view that the Nichiren Buddhist concept of *kū* approximates the theoretical physics concept of “field.” The physicist Fritjof Capra states that “the conception of physical things and phenomena as a transient manifestation of an underlying fundamental entity is not only a basic element of the quantum field theory, but is also a basic element of the Eastern world view” (1975, p. 211). *Kū* has been treated as a fundamental entity in Nichiren Buddhism, and the quantum field, according to Capra, is viewed as “the fundamental physical entity: a

continuous medium . . . present everywhere in space" (1975, p. 211). The field is the basis of all particles and their mutual interactions. It is "the carrier of all material phenomena. It is the 'void' out of which the proton creates the pi-mesons. Being and fading of particles are merely forms of the motion of the field" (Capra 1975, p. 222).

A case can also be made for the view that quantum and relativity theories are converging toward a holistic understanding of the phenomenal world similar to the Buddhist concept of holism implied by the term *kū*. Sōka Gakkai notes that Einstein held that "the field is a limitless space which is filled with great energy . . . and that [apparently] the field is only existence." Immediately qualifying this statement, however, it goes on:

It would be too much to say that Einstein defined the field as the only existence. Consequently, Einstein [confessed] that he had failed to formulate a physics of field as an established branch of learning: "we must still assume in all our actual theoretical constructions two realities: field and matter" (Ikeda 1968, p. 428).

David Bohm, a leading proponent of the quantum theory, views the universe in terms of a "notion of *unbroken wholeness*," and avers that "inseparable quantum interconnectedness of the whole universe is the fundamental reality" (Bohm and Hiley 1975, pp. 96, 102, italics in original). Capra too states that the basic oneness of the universe "becomes apparent at the atomic level and manifests itself more and more as one penetrates deeper into matter, down into the realm of subatomic particles" (1975, p. 131).

*Two aspects of one reality.* Sōka Gakkai's view of diversity within unity, namely, that field and matter are "two but inseparable," is also paralleled in field theory which attempts

to interrelate matter (particles) with field. In its totality the field is an underlying continuum, but “in its particle aspect [the field] is a discontinuous, ‘granular’ structure. The two apparently contradictory concepts [matter as atoms and matter as field] are thus unified and seen to be merely different aspects of the same reality. As always within relativistic theory, the two aspects of matter transform themselves endlessly into one another” (Capra 1975, p. 215).

Capra continues with a characterization of “field” that draws explicitly on “Eastern mysticism.” He maintains that the field, particularly the physical vacuum, is “the closest parallel to the Void of Eastern mysticism in modern physics. Like the Eastern Void, the physical vacuum – as it is called in field theory – is not a state of mere nothingness but contains the potentiality for all forms of the particle world. These forms, in turn, are not independent physical entities but merely transient manifestations of the underlying Void. . . . The vacuum is truly a ‘living void,’ pulsating in endless rhythms of creation and destruction” (1975, pp. 222-223).

It appears, therefore, that Sōka Gakkai and some (not all) theoretical physicists share the understanding that the universe is an inseparable whole where all forms are fluid and ever-changing.

*Critical comment.* The parallel between Sōka Gakkai’s affirmation of oneness with respect to the phenomenal universe and the monistic direction of some modern physical theories emerges from the latter’s relational way of viewing the physical world. Bohm’s interpretation of quantum theory, Chew’s bootstrap physics, and general relativity or geometrodynamics seem to require that the universe be regarded as a whole. The current emphasis on holism as over against discrete parts in some modern physical theories constitutes, in Holton’s terms, a “themata.” He defines themata as

“fundamental preconceptions of a stable and widely diffused kind that are not resolvable into or derivable from observation and analytic ratiocination” (1973, p. 24). Science is characterized as a dialectical process in which *thema* opposes *antithema* and thus energizes research. The history of science discloses temporary victories for wholes and parts conceived as *thema* and *antithema* or the converse. This thematic perspective in quantum and relativity theories transcends, it appears, the traditional understanding of wholes and parts in which parts are viewed as separate or independent. In a nonlinear geometrodynamics approach, the total field is not divided into a set of independent parts but is treated as a whole.

The holistic parallel may occur because the mind operates in terms of basic patterns or *themas* on the order of Holton's “*themata*” — patterns and themes categorized under such headings as whole and part, continuum and dichotomy, synthesis and analysis, absolutism and relativism. These themes span cultures and historical periods. Resitvo remarks that “if attempts to describe physical reality sound like [Buddhist] mysticism it may be because there are certain general linguistic patterns that people turn to when they have to describe the indescribable” (1975, p. 33).

Sōka Gakkai treats interpretations of the phenomenal world in Buddhism and modern science metaphorically or figuratively on occasion, but primarily in an objective, literalistic manner. It tends to equate religious and scientific propositions about nature with a literal description of objective reality. Consequently, Sōka Gakkai's interpretation of scientific language fails to take into account the fact that many proponents of quantum and relativity theories acknowledge the limitations of ordinary concepts and mathematical formulae as means of understanding the physical world. Heisenberg laments that “problems of language . . . are really serious. We wish to speak in some

way about the structure of atoms, . . . but we cannot speak about atoms in ordinary language. . . . Probing inside the atom and investigating its structure, science transcends the limits of our sensory imagination. From this point on, [science] could no longer rely with absolute certainty on logic and common sense." Capra, focusing on the language of mathematics, observes that "we have reached a point where the links with reality are so tenuous that the relation of the symbols to our sensory experience is no longer evident. . . . Mathematics, with its highly differentiated and well-defined structure, must be seen as part of our conceptual map and not as a feature of reality itself" (1975, pp. 33, 45, 51).

By avoiding the thorny issues associated with the limitations of scientific language in dealing with the phenomenal world, Sōka Gakkai allies itself, in effect, with a school of thought which affirms that scientific language describes an objective, physical world. This way of thinking is usually, but not necessarily, associated with Western theories of reductionistic materialism.<sup>4</sup> Ironically, Sōka Gakkai's uncritical literalism regarding religious and scientific statements about the phenomenal world, using them to assert a parallelism between Nichiren Buddhism and modern science, may inadvertently support the materialism it so vehemently denies.

There is also the possibility that some modern physical theories of holism may be so novel or unique as to undermine any alleged parallel with Nichiren Buddhism. The crucial question is whether Sōka Gakkai's view is congruent with the version of holism in theoretical physics. For example, Bohm's view of "holomony" is probably very

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4. Heisenberg is critical of materialism. Speaking of it as something that has had its day, he says, "The ontology of materialism rested upon the illusion that the kind of existence, the direct 'actuality' of the world around us, can be extrapolated into the atomic range" (1962, p. 145).

different from Sōka Gakkai's understanding of holism in that "holomony" refers to a process in which "new wholes" are continually emerging. Contrasting an instrument in contemporary physics with the lens that brings an object into sharp relief and increases awareness of the various parts of the object, Bohm states that "an instrument tends to be relevant to a whole structure, in a way rather similar to what happens with a hologram. . . . There is the germ of a new notion of order here. This order is not to be understood solely in terms of a regular arrangement of *objects* (e.g., in rows) or as a regular arrangement of *events* (e.g., in a series). Rather, a *total order* is contained, in some *implicit* sense, in each region of space and time" (1973, pp. 146-147, italics in original).

In discussing whether Nichiren Buddhism and modern science have developed parallel views of the phenomenal world, it is helpful to distinguish between conceptual and substantive equivalency, on the one hand, and the literal and instrumental modes of interpretation, on the other.

The literal mode of interpreting religious and scientific language about the phenomenal world enables Sōka Gakkai to assert, readily but uncritically, its claims with respect to the relationship between modern science and Nichiren Buddhism. These claims, however, ignore the subjective element in the scientific description of the microscopic world, an element that arises from the limitations inherent in ordinary language and in mathematical formulations. The instrumentalistic interpreter, for his part, might well contend that both religious and scientific language about the phenomenal world should be regarded as functional or heuristic. In this perspective, scientific language serves more to classify, order, and predict phenomenal "things" or "events" than to provide a description of the objective world. Similarly, Buddhist language, even when ostensibly about the phenomenal world, really functions in accord-

ance with a soteriological imperative, serving mainly to provide meditational or therapeutic devices (concepts) that help people to realize enlightenment. Buddhism provides an ingenious descriptive analysis of the world that may correspond, in some instances, to the results reached by modern science, but the real purpose of the Buddhist analysis of nature is to reveal the unsatisfactoriness of living solely in terms of the phenomenal world, thus motivating one to find fulfillment in enlightenment. Whether from a literal-descriptive or an instrumental-pragmatic perspective, the question of substantive equivalency leads, then, to a largely negative result.

The question of conceptual equivalency, however, leads to a different result. The instrumental approach to holistic imagery of the phenomenal world, an approach present in both Buddhism and modern science, implies a sound basis for asserting conceptual equivalency. A conceptual parallel between the two with respect to holistic imagery of the phenomenal world is warranted from an instrumental perspective.

#### CONCLUDING STATEMENT

Undeniably, Sōka Gakkai is trying to improve its status in the modern world by emphasizing the harmony between Buddhism and science. This compatibility may function in turn as a rational justification and explanation for the greatness of Nichiren Buddhism. The future development of science, according to Sōka Gakkai, will prove the profound depths of Buddhist philosophy. Buddhism will provide the fundamental solution to the problem of clarifying the truth of the universe. Ikeda puts it thus: "I believe that science, in so far as it is based on Buddhist philosophy, will make more remarkable progress than ever before. The day will not be long in coming when the world will know that the religion, which will lead scientific civilization in

the right direction, exists in Japan” (1968, pp. 354, 358).

There is also an important social factor operating in Sōka Gakkai's claim that Nichiren Buddhism and modern science are compatible. Since Sōka Gakkai, as a new lay movement, is becoming more institutionalized, its claim may be motivated by the desire to obtain respectability and prestige in the scholarly community and, as a result, in the world community. What is distinctive about this endeavor is not the claim to compatibility itself, nor yet the desire for recognition and status, but the sophisticated cogency of a position that compels us to explore in depth the interface of religion and science.

Religion and science need to take each other more seriously. As Whitehead prophetically reminded us more than half a century ago, “When we consider what religion is for mankind, and what science is, it is no exaggeration to say that the future course of history depends upon the decision of this generation as to the relations between them” (1925, p. 180).

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