

# *Review Articles on Religion and Science Around the World*

with Willem B. Drees, “Glocalization: Religion and Science around the World”; Seung Chul Kim, “Śūnyatā and Kokoro: Science–Religion Dialogue in the Japanese Context”; Lluís Oviedo and Alvaro Garre, “The Interaction between Religion and Science in Catholic Southern Europe (Italy, Spain, Portugal)”; and Bartosz Brożek and Michael Heller, “Science and Religion in the Kraków School.”

## ŚŪNYATĀ AND KOKORO: SCIENCE–RELIGION DIALOGUE IN THE JAPANESE CONTEXT

by Seung Chul Kim

*Abstract.* When we read books or essays about the dialogue between “religion and science,” or when we attend conferences on the theme of “religion and science,” we cannot avoid the impression that they actually are dealing, almost without exception, not with a dialogue between “religion and science,” but with a dialogue between “Christianity and science.” This could easily be affirmed by looking at the major publications in this field. But how can the science–religion dialogue take place in a world where conventional Christian concepts of God, religion, and science are foreign and unfamiliar? Is the critique that the scientist plays God still valid when there is no “God” at all? This article tries to answer the questions mentioned above, and seeks to sketch out some aspects of the science–religion dialogue in Japan which I believe could contribute a new paradigm for understanding and describing ultimate reality.

*Keywords:* Buddhism; circuminsessional integratation; God; *Kokoro*; Keiji Nishitani; religion (*shūkyō*); science–religion dialogue; *Śūnyatā*; Paul Swanson

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### DINOSAURS, HUMANS, AND GOD

*Jurassic Park*, the 1993 Hollywood film by Stephen Spielberg, shows us a character named Ian Malcolm. He is depicted as a rather cynical mathematician who expresses great curiosity and, at the same time, serious concern about the biotechnology of cloning. He thus does not fail to warn

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us against artificial intervention into the natural process of living things. When he sees a flock of cloned dinosaurs running about furiously in a field, this intelligent skeptic points out explicitly and exactly the historical and theological implications of the cloning of dinosaurs in the context of a “Christian” Western society. He instinctively mutters to himself with a complicated smile on his face, “God creates dinosaurs. God destroys dinosaurs. God creates man. Man destroys God. Man creates dinosaurs.” (His words were further amended by the character Ellie Sattler, hired as an advisory lawyer by John Hammond who wants to make an entertainment park on the island: “Dinosaurs eat man, woman inherits the earth.”)

Spielberg, and needless to say, Michael Crichton, the original author of the story, were sufficiently creative to visualize dinosaurs, human beings, and God as clearly as if they were performing a play on stage before our very eyes. Those two deserve to be acknowledged as devoted heirs of the Christian Western tradition in the sense that they apprehend instinctively that dinosaurs and human beings, that is to say, nature and history, could not be separated from God the Creator of the whole world. In the above words of Dr. Malcolm, the divine history of salvation and the evolutionary history of nature are intertwined in an extremely coherent way. If Spielberg and Crichton were scholars on the lecture platform, there is no doubt that they would use willingly, or in some sense unavoidably, theological and philosophical terms such as creation, Creator, *scala naturae*, Darwin, evolution theory, Nietzsche and his “mad man,” and “playing God,” and so on. If one were to explain Malcolm’s words with a theological gloss, I think it could be done by and large in the following way: “Dinosaurs and human beings were created by the Divine Word of God. Dinosaurs were destroyed all of a sudden for some as yet obscure reason, but we believe firmly that the extinction of dinosaurs nonetheless occurred through the Divine Providence of God as well. But the human as the creature of God came to obtain the capability of explaining various natural phenomena by natural law, and then expelled God from the process of the nature and eventually from history. Humans did not feel any need to presuppose God as a working hypothesis to explain phenomena in the world. And thus human beings came to control nature, reign over nature, and also over God. Dinosaurs that were created and destroyed by the Divine will of God were recreated by man, the Second Creator, at his own convenience.”

But Dr. Ian Malcolm, the fictional mathematician, is not the only one that relates the scientific work of humanity to God. The embryologist Ian Wilmut of the Roslin Institute, this time in reality, who became a man of worldwide fame in 1997 by successfully bringing Dolly the cloned sheep to birth, recognized instinctively that his work was deeply related with the act of God, the Creator, too. He and his colleges depicted their work as scientists as *The Second Creation*. The subtitle of that book tells us the contents of the Second Creation clearly: *Dolly and the Age of Biological*

*Control*. Wilmut was sure that Dolly “might reasonably claim to be the most extraordinary creature ever to be born.” (Wilmut, Campbell, and Tudge 2000, 3) The title of the book tells us that, just as in the case of *Jurassic Park*, Dr. Wilmut belongs spiritually to the Christian West. As Gregory Pence has pointed out, judgments about Dolly went far beyond a simple biological concern. It was fundamentally a theological question in the sense that it was considered to be related essentially to God:

The word “cloning” is a thought-stopper. Actually, even that statement is premature in that it implies that some thought was begun that has stopped. . . . The universal reaction has been Thou Shalt Not! Popular bioethicists measure how far down the slippery slope this event has brought us, and theologians warn of “playing God.” People inveigh against medical technology as if the antibiotic they are now taking is not covered by this phrase. (Pence 2002, 57)

Such a theological awareness of Dr. Wilmut and his colleges also could be read from their report on the process of cloning. At the homepage of the Roslin Institute we could read, albeit for a limited time, the expression “Progress AD (After Dolly).” Needless to say, AD stands for *Anno Domini*, meaning “In the Year of Our Lord” in the Christian West and also in this globalized world. With “Progress AD (After Dolly),” which was surely devised to be more than a mere wordplay, they seemed to emphasize the meaning of the epoch-making event of the birth of Dolly and the coming of the new era where there is nothing that could not be controlled by biotechnological manipulation. They represent prototypes of the Christian Western intellect.

Yet it is one thing for Hollywood moviemakers to be outstanding geniuses, and it is another that they could bring their intellectual gifts into full play in any circumstances. It is surely indisputable that their brilliant message could be accepted and evaluated correctly only under the limited condition that it was expressed in a hermeneutical situation in which *God* plays, consciously or unconsciously, an indispensable central role. With the film they attest to the fact that they belong to a culture where God is tacitly supposed to be the final court for the judgment of all human behavior, especially when dealing with issues of modern science and technology. *Jurassic Park*, at least judged by the words of Dr. Malcolm, thus represents and reaffirms the conventional Christian thesis that what is natural is theological in that it should be concerned with *theos*, God. If everything in nature is created by God, then it is logical and theological to conclude that to be concerned with natural processes, whatever they may be, inevitably involves theology. In this sense the above-mentioned statement of Pence about Dolly that “the *universal* reaction has been Thou Shalt Not!” should be corrected as follows: “the *Western* reaction has been Thou Shalt Not!”

## “PLAYING GOD” WITHOUT GOD?

Seeing the discourse about the relation between science and religion carried out with a focus on the concept of God in the Christian world, we naturally come to raise a very simple question: What if we remove the term of God from the words of Dr. Malcolm of *Jurassic Park*? If there is no First Creation, what meaning could we make of the title of a book called *The Second Creation*? What might play the role of the mediator if there is no God who is to be acknowledged as the indispensable mediator between science and religion? How would the discourse on the dialogue of religion and science look in a culture where the concept of God could not play the same role as it has in the case of the “cultural semantics” (*kulturelle Semantik*) of monotheism, that has “a semantic paradigm that is expressed in grand stories and differentiations”? (Assmann 2005, 19).

This series of questions are raised from critical experiences and reflections upon those experiences: Whenever we read books or essays about the dialogue between “religion and science,” or whenever we attend conferences on the theme of “religion and science,” we cannot avoid the impression that they actually are dealing, almost without exception, not with a dialogue between “religion and science,” but with a dialogue between “Christianity and science.” This could easily be affirmed by looking at the major publications in this field. This is deeply connected to the historical fact that natural science was born within the Christian world. At the same time, another reason that may be mentioned for this phenomenon is the fact that Christianity has tended to see itself as synonymous with religion as such. As a result, when “religion and science” are researched in terms of how the discussion has occurred outside of Christianity, there is undoubtedly a need for the natural sciences to rethink the meaning of human self-understanding and worldviews and for a reconstruction of the significance of “religion” as it seeks to encounter such sciences.

My suspicions on the endeavors for the dialogue between religion and science were deepened by another personal experience. In 2009, I published a book in Japanese on the Christian dialogue with the phenomenon of “Dolly the cloned sheep:” *God and Gene: Christianity in the Age of Biotechnology* (jp. *kami to idenshi: idenshi kōgaku jidai ni okeru kirisutokyo*). It was a book about how Christian theologies have responded to biotechnological issues, among which I believe the cloning of living things (including human beings) raises the most radical question for theology. I classified three theological attitudes towards (human) cloning with the concept of “playing God.” There is a wide spectrum, from “We ought not to play God” (Paul Ramsey), to “Are we playing God at all when we make human clones?” (Ted Peters) to “Let’s play God!” (Joseph Fletcher). Needless to say, there are distinct theological viewpoints behind those judgments about cloning. Paul Ramsey stands on the theology of the Word of God by Karl Barth,

which underlines the absolute otherness of the transcendent God from human being. Ted Peters's flexibility toward human cloning comes from his affinity with the theology of Wolfhart Pannenberg, who understands history in the category of eschatological openness. And Joseph Fletcher, the author of *Situation Ethics: The New Morality* (1966) and *The Ethics of Genetic Control: Ending Reproductive Roulette* (1974), was an active advocate of secular theology, which emphasizes the responsibility of human beings in the age of death of God (Kim 2009).

How then did Buddhists respond to (human) cloning? Such a question is not raised as a mere curiosity but from a compelling need in one who has a deep interest in the possibility of interreligious dialogue and cooperation. I believe that religious understanding today is necessarily mediated through the encounter of the religions on both existential and academic levels. At the same time, the understanding of religion is not separated from the scientific explanation of religion. Given this interest, I surveyed essays and articles written by Buddhist scholars on cloning, at least in the Japanese academic world. At that time, I was quite surprised by the fact that I could find only a handful of documents from the side of Buddhism or other traditional Asian religions on such an epoch-making phenomenon like cloning, in contrast to the thousands of books and essays on it in the Christian world.

However, this fact did not indicate to me a need in Japan for a more active dialogue between the non-Christian religions and science. On the contrary, the Buddhist silence on cloning indicated a cultural and spiritual difference concerning the relation of ultimate reality with science. Therefore, I began to think that we have to change the form of the question on the relation between religion and science. That is, the question on this relation could not be raised and answered uniformly. Every religious and cultural tradition has its own method of inquiry when it approaches its relation with science, because every religious tradition has its own understanding of the reality from which the different viewpoints on science are presented.

Again, if there is no God and therefore no realm of God is admitted, what does it mean that we warn with Dostoyevsky that human beings can do anything if God does not exist? As mentioned before, it is said that human beings as creatures of God are not allowed to play God. Where God does not play a role at all, however, humans can in no way play God, either, even when they want to. From what perspective should we evaluate the ethical aspect of the scientist's work if there does not exist such a God who has set up the boundary that humanity may not transgress? What could it mean to transgress the realm of God if there is no God and if there is therefore no boundary at all which is set up by God? All of these things remind us of the differences in the question and answer about what religion is, and how religion should respond to the scientific mode of truth.

The work of a scientist is not evaluated from the same religious and ethical perspective as the work to make a cloned sheep in Europe was evaluated.

The issue I want to deal with in this review article is to find some clues to answer the question how we should and could carry out a dialogue between science and religion, even within a cultural context where the conventional obviousness of the Western concepts of “God” and “religion” could not be accepted as being beyond doubt. I want to pay attention to two remarkable attempts at a dialogue between science and religion, not in a Christian context, but exclusively in a Japanese context.

I think there are at least two ways of dealing with the relation between religion and science in the Japanese context. The first way is to *reinterpret* the concept of God that is used in the conventional Christian dialogue with science. If we have an interest in this reinterpretation of God, I think we have to pay attention to the book by Keiji Nishitani (1900–1990), *What is Religion?* (jp. *shūkyō towa nanika* 1967). Nishitani is a well-known Japanese philosopher who belongs to the so-called Kyoto School that was established by Kitarō Nishida (1870–1945), a representative Japanese philosopher who tried to combine Japanese Zen Buddhist insight with Western religiophilosophical thought. *What is Religion?* deserves special attention in that it attempts to reinterpret the Christian concept of God through a Buddhist philosophical standpoint.

The second way to carry out the science and religion dialogue meaningfully in the Japanese context is closely related with the first one. But it goes one step further, I think, than the first one. It does not aim to reinterpret the key concept of God for the science–religion dialogue, but rather to *replace* the key concepts that have been conventionally applied in the Christian dialogue with natural science. It endeavors to create a science-religion dialogue without using the concept of God, and it is paradoxically theological in the sense that it directly concerns the problem of God in the science–religion dialogue in a non-Christian context. Nishitani himself did not belong to the academic generation that tried to deconstruct the discourse on religion. *Brain Science and Kokoro* (Swanson, 2011) is a remarkable attempt to ask whether and how the science–religion dialogue is possible in the Japanese religious-cultural context where the concept of God, at least with its Christian implications, is alien and foreign. It is therefore deeply connected with the ambitious question whether and in what way, if any, there could be a possibility of redefining concepts like religion, science, and consequently God itself. It puts the Japanese concept of *kokoro* (心) in the place of the traditional Western concept of God (jp. *kami* 神) for the science and religion dialogue in Japan. And when they replace God with *kokoro*, they *de facto* raise doubts about whether concepts like “religion” could be applied as such to explain the spiritual-cultural situation of Japan. As much as the Christian concept of God is alien for the spirituality for the Japanese, the terminology “religion,” which was

imported from the Christian West, cannot play a suitable role for explaining Buddhism and Shintoism in Japan. In short, it is a question whether or not Buddhism and Shintoism, and so on, fit the category of “religion.” A critical reexamination of the science–religion dialogue in the Japanese context leads us to the awareness that we need a new concept of “religion” if we are to touch the essence of the dialogue at all.

Needless to say, we also have to pay attention to many creative works by Japanese Christians on the science and religion dialogue in a non-Christian context like Japan. We may call those theological works a third possibility for carrying out the science and religion dialogue in Japan. Kanzō Uchimura (1861–1930) and Toyohiko Kagawa (1888–1960) should be mentioned as representative Japanese Christians in this field. Even though their endeavors were accomplished on the ground of their Christian perspective, their *Sitz im Leben* and Christian self-consciousness were rooted undeniably in the Japanese spiritual context. Therefore, their approach to the science and religion dialogue should be quite different from that of Western Christians. By looking into their efforts, we may get some clues for answering the hermeneutical question about the Japanese spirituality upon which they accepted the Christian faith and also the concept of science imported from the West. But in this article I have to omit such efforts, not because they are not important, but because the main theme of this article is to review some non-Christian approaches to the science and religion dialogue in Japan. Therefore, I will concentrate only on the two possibilities mentioned above.

Furthermore, it must be admitted readily that the discourses on natural science in Japan do not exist in a homogeneous context. There are various cultural, ideological, and sociological contexts wherein science is received and discussed. Historically seen, “natural science” was imported from the Christian West in the time of Japan’s modernization. The term “science” was then translated into Japanese using the Japanese word *kagaku* (科学). And in the past in China, *kagaku* (ch. *ke xue*) was originally used to indicate the individual disciplines covered by the selection examination for government officials.

As Chikara Sasaki, a Japanese scholar of the history of science, clearly explained, science was welcomed in Japan under the catchphrase “From Ethics to Science.” That means, science was acknowledged as something totally new which had never existed in premodern Japan, and which therefore could bring Japan a new moment for the building of a “wealthy country and strong army.” Sasaki supports his argument with a citation from Yukichi Fukuzawa (1835–1901), a famous Japanese Enlightenment writer of the Meiji era. By comparing the Confucianism of Asia (= Japan) with the Culturalism (jp. *bunmei shugi* 文明主義) of the West, Fukuzawa indicates critically that Japan lacks “exact science” (jp. *sūrigaku*) which could imply mathematics, mathematical

natural science, or physics. In short, the modernization of Japan meant a paradigm shift from ethics (jp. *rinri*) to mathematics (jp. *sūri*) (Sasaki 1996, 12) The following works could be mentioned as outstanding discussions of a similar theme, that is, how the Japanese have received the natural sciences from the West; Shigeru Nakayama, *The Japanese Understanding of Natural Science* (1980, jp. *nihonjin no kagakukan*); Yōichirō Murakami, *Japanese and Modern Science* (1993, jp. *nihonjin to kindai kagaku*).

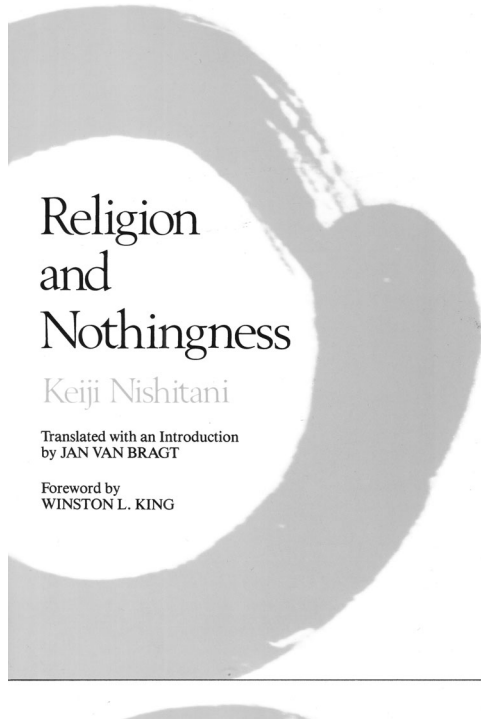
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As we said above, *shūkyō towa nanika?* by Keiji Nishitani is a representative effort that tries to understand the meaning of science and its contribution to the reestablishment of the concept of religion. According to Nishitani, the problem natural science raises for the modern world is the problem of nihilism. Nihilism comes from the collision between the traditional understanding of God's will and the natural processes of nature that have evolved without any divine purpose at all. The traditional concept of the personal God who reigns over the world and gives the process of the world ultimate meaning was thoroughly denied by the emergence of modern natural science. If we want to stick to a traditional concept of God, we have no choice but to fall into the abyss of nihilism.

But what if we do not stick to the traditional Christian concept of God as the personal? Or: Couldn't the science-religion dialogue reveal to us a hidden aspect of God that has thus far been understood only through the category of personality? Such a question reveals the very core of what Nishitani wanted to elucidate. He wants to overcome the problem of nihilism by reinterpreting the Western concept of God. To repeat, science has a direct connection to the problem of modern nihilism, and in this sense science encompasses a religious meaning. According to Nishitani, there is a need to rethink the relation of religion and science in order to overcome this nihilism. Nishitani is critical of the position that takes the common single line that this relation is mutually contradictory, and he takes the relation of religion and science in terms of what he calls a relation of "double exposure." On the one hand, he criticizes the established tendency of religion to take reality only in terms of life and spirit. "[...] it seems to me that traditional religions spin on a life-oriented axis, while the line running from the scientific viewpoint to nihilism represents a death-oriented axis. Perhaps this will seem clearer if we contrast them both with the standpoint of *śūnyatā* alluded to earlier" (Nishitani 1982, 93).

On the other hand, he criticizes the established tendency of science to analyze reality only in terms of death and matter. Nishitani claims that these conventions of religion and science may be overcome from the Buddhist





standpoint of emptiness, *śūnyatā*. Seen from the standpoint of *śūnyatā*, life and death, and spirit and matter are taken as a mutually dependent relation. He calls such a mutual dependence “double exposure” of the one and the same reality. Let’s listen to what Nishitani says about the “double exposure” and the “standpoint of *śūnyatā*” in sequence:

[...] the emergence of any given thing in the Form of its true suchness can be considered as the point at which the orientation to life and the orientation to death intersect. Everything can be seen as a kind of “double exposure” of life and death, of being and nihility. [...] I mean that while life remains life to the very end, and death remains death, they both become manifest in any given thing, and therefore the aspect of life and the aspect of death in a given thing can be superimposed in such a way that both become simultaneously visible. ... This could also be called a standpoint of absolute “equality,” in which personality, while continuing to be personality, would nonetheless be seen as equal to material things; and material things, while retaining their materiality, would nonetheless be seen as equal to personality. It is the very standpoint of *śūnyatā* itself that enables such a viewpoint to come about. (Nishitani 1982, 93–94)

This kind of double exposure is a true vision of reality. Reality itself requires it. In it, spirit, personality, life, and matter all come together and lose their separateness. They appear like the various tomographic plates of a single subject. Each plate belongs to reality, but the basic reality is the superimposition of all the plates into a single whole that admits to being represented layer by layer. It is not as if only one of the representations were true, so that all the others can be reduced to it. Reality eludes all such attempts at reduction. In the same sense, the aspect of life and the aspect of death are equally real, and reality is that which appears now as life and now as death. It is *both* life and death, and at the same time is *neither* life nor death. It is what we have to call the nonduality of life and death. . . . [T]he crosscut of reality which discloses the aspect of death has heretofore been called the *material*, and that which discloses the aspect of life, the *vital*. Soul, personality, spirit, and the like have been viewed exclusively from this latter aspect of life; so has been God. (Nishitani 1982, 52)

Nishitani's concept of "double exposure" of the one and the same reality comes from the Buddhist "death's-head contemplation" (Nishitani 1982, 50). Meditating in front of the skull of the dead, a monk is asked to realize that death has already penetrated his life here and now. And he comes to realize that life and death, spirit and matter, are not separated from each other, but they make a "circuminsessional integration."

The idea of *śūnyatā*, according to Nishitani, could also be read from the Sermon on the Mount in the New Testament. It reveals to us the unity of the "indifference of divine love" and the "indifference of nature": "He [= God] causes his sun to rise on the evil and the good, and sends rain on the righteous and the unrighteous" (Matthew 5: 43–48). In front of the all-encompassing indifferent love of God, "the evil and the good" may be saved indifferently. The same indifference could be applied to natural law that does not divide "the righteous" from "the unrighteous."

The "nonduality" of "the indifference of divine love" and "the indifference of nature" may be thought of as a relation of paradoxical unity. Through entering this "standpoint of *śūnyatā*," religion and science are led to a religious self-consciousness that overcomes ego-centrism and may also be able to overcome nihilism. *Śūnyatā*, instead of God, plays the role of a bridge between religion and science. And from the standpoint of *śūnyatā*, God is reinterpreted as personal imperson, or impersonal person that contains in itself being as the ground for the personal and nothingness as the abyss of God's impersonality. Religion and science help us understand that in God being and nonbeing coincide in a circuminsessional way. The science–religion dialogue leads us, according to Nishitani, to the realization that life and death, spirit and matter, being and nothingness, person and imperson, are to be understood as circuminsessional integrations, equivalent to the Buddhist enlightenment of "form is emptiness; emptiness is form":

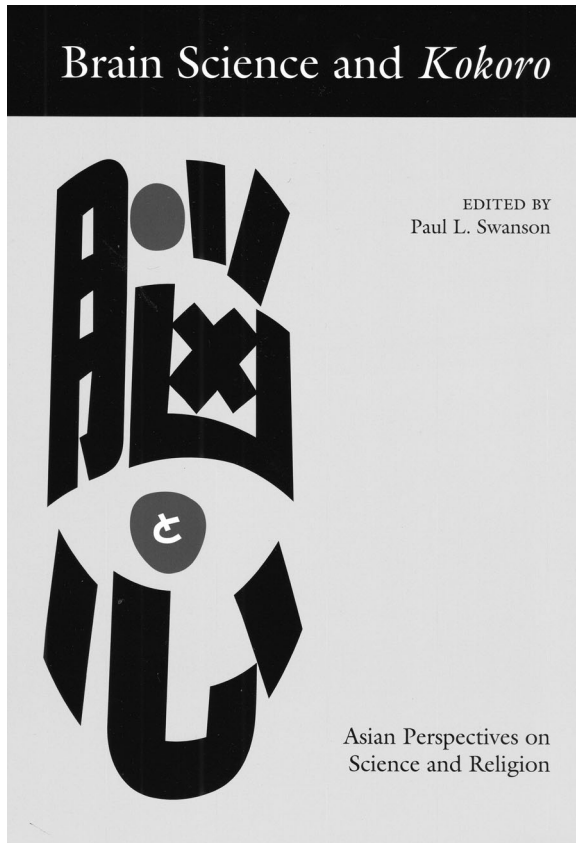
When we say “being-*sive*-nothingness,” or “form is emptiness; emptiness is form,” we do not mean that what are initially conceived of as *being* on one side and *nothingness* on the other have later been joined together. In the context of Mahāyāna thought, the primary principle of which is to transcend all duality emerging from logical analysis, the phrase “being-*sive*-nothingness” requires that one take up the stance of “*sive*” and from there view being as being and nothingness as nothingness. Ordinarily, of course, we occupy a standpoint shackled to being, from which being is viewed solely as being. Should such a standpoint be broken through and denied, nihilism appears. But this standpoint of nihilism in turn becomes a standpoint shackled to nothingness, from which nothingness is viewed solely as nothingness, so that it, too, needs to be negated. It is here that emptiness, as a standpoint of absolute nonattachment liberated from this double confinement, comes to the fore. (Nishitani 1982, 97)

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*Brain Science and Kokoro*, published by the Nanzan Institute for Religion and Culture in 2011, is an overall summary of research that this institute accomplished as part of a five-year research project entitled “Global Perspectives on Science and Spirituality” (GPSS) from 2004 to 2009. As the subtitle of the book *Asian Perspectives on Science and Religion* already suggests, the book could and should be read as an alternative approach to the science–religion dialogue that was performed almost exclusively in the Christian West. As Paul Swanson, the leader of this project sponsored by the John Templeton Foundation, explains in the introduction, the Japanese title of the project tells us more directly the characteristic of this endeavor: “Science-*Kokoro*-Religion: Can there be a meeting of science and religion in our day?”

In this sense *Brain Science and Kokoro* could be a starting point for a critical reevaluation of the science–religion dialogue to date. Let’s hear directly how Swanson refers to the project as a whole:

In the Japanese context, the immediate problem with the contraposition of science and religion is that the concept of “religion” is limited and problematic, too one-sided and controversial, to serve as a counter or “partner” for dialogue with science. The word “religion” (*shūkyō*) was introduced into Japan along with other Western terminology about 130 years ago, and it has always remained an uneasy fit within the Japanese context. To most Japanese, “religion” (as opposed to, say, “spirituality”) is a matter of institutional affiliation with an organized religious group, and surveys consistently show that while a large majority of up to 90% of Japanese identify themselves as “Buddhist,” an overlapping majority of about the same size identify themselves with “Shinto,” while at the same time more than half of the Japanese claim to be atheists or agnostics, revealing a crucial difficulty for using the category “religion” to analyze Japanese society. Nevertheless the term “religion” does retain positive implications of spiritual matters, traditional values, ethical issues, sensitivity, emotional healing, meaningful ritual,



and so on, suggesting that the term “spirituality” might be more useful in the modern Japanese context. (Swanson 2005, 22)

He says that in Japan the concept of “religion” is not suitable as a dialogue partner for science. First of all, the concept of “religion” is so controversial and ambivalent that it is almost impossible to make clear what was to be meant by “religion.” In fact, “religion” is a Christian and theological category invented by Western theology. Religious studies or the science of religion as an independent academic discipline, whatever it was called, emerged as a theological invention. The study on the religious phenomena of humankind was built up as an application of the traditional *loci theologici*. Many famous pioneers in the science of religions were professors of theology in faculties of theology, and accordingly the study of religion was carried out as a part of theological studies. Religion was to evolve or be changed

into Christian truth as the fulfillment or the overcoming of the religion (Masuzawa 2005, 309ff.).

Furthermore, the ongoing criticism of Christianity from natural science since the Enlightenment provides an important background for the emergence of religious studies as an academic discipline. With the criterion of objective truth, modern natural science has criticized Christian truth as mere subjectivity that could not be supported by objective reason. In order to overcome this critique, Christians turned their eyes to the religious phenomena of the world, and maintained that religion—including Christianity—is different (= *anders*) from science, and this difference is the genuine realm of religion. Religion is different (= *anders*) from science, and God is the absolute Other (= *der absolute Andere*).

As the controversy on the discourse on “religion” in the science of religion shows, the concept of “religion” is suspect as a Western Christian construction. It shows us how Western Christians experienced Asian Non-Christian religions and societies. As S. N. Balagangahara has said critically about the Western understanding of India, “what the Europeans think they know of India tells us more about Europe than it does about India.” (Balagangahara 2012, 5) The same thing could be maintained concerning the science of religion: What the science of religion thinks it knows of religions tells us more about Christian theology than it does about religions.

Considering the situation of the emergence of the science of religion, we cannot help raising the question whether such a Christianity-oriented concept of “religion” could be applied to Buddhism, Confucianism, Taoism, and so on that make up the religious traditions of Asia. Swanson’s skeptical assertion that we have to avoid the concept of “religion” as a partner for science in Japan could be reasonable. In this sense, *Brain Science and Kokoro* is thus to be read as an attempt at the De-theo-logi-sation of the religion-science dialogue:

At the risk of oversimplification, a cursory acquaintance with the science-religion dialogue in the West reveals that much of the debate concerns, or is somehow connected with, the idea of a creator God, whether it be the attempt to show that belief in a creator God is not incompatible with modern science, or the attempt to debunk religion as incompatible with science because a creator God is unacceptable. Perhaps this is unavoidable, given the situation that the debate and dialogue has developed for the most part in a Christian (or anti-Christian) context. The Japanese context, however, does not require the affirmation or denial of a creator God; rather, to force the issue in these terms would mitigate against a truly indigenous debate. (Swanson 2005, 25)

As Swanson correctly points out, the science–religion dialogue in Japan where Buddhist spirituality is dominant should be carried out more effectively without the concept of God. Instead of God as the Creator of the world, the Buddhist insight that everything in the world originates from the

laws of *karma* reminds us, as Whitehead pointed out in his book *Science and the Modern World* (1925), of Greek tragedy's influence on the emergence of natural science in the West. In the "mechanical worldview" of Buddhism, there can be no room for the existence of a personal God in its explanation of the rising and the distinguishing the reality of suffering: "In order to arrive at the goal of extinguishing desire from the mind, Buddhism, which from the beginning has understood materials and spirits from a godless, mechanical worldview, tried to know which law the mind should follow. Science has investigated the matter; Buddhism has inquired into the mind. To improve the mind, we have to know its structure precisely. As long as there is no absolute One who is moving freely, the mind moves by strictly following its own law. In order to rid oneself of desires, a Buddhist should be well aware of the law of the mind, and use it correctly" (Saitō and Sasaki 2009, 45–49).

And as Swanson mentions, there is also a "high-level academic discussion with a 'spiritual' dimension" in science, and "the concept of *kokoro* (a very broad term including the meanings of mind, heart, spirit, will, and soul) is, instead of God, a comfortable and useful one to pursue issues in the science–religion dialogue in Japan" (Swanson 2011, viii).

Then what is *Kokoro*? The Japanese word *kokoro* could be translated into Western language as mind, heart, spirit, and will, and so on. Or, *kokoro* implies all of these concepts. As mentioned above, the starting point of Buddhist awakening is to eliminate desire from the mind, that is, from the *kokoro*. Buddhism explains the way from *duḥkha* to *nirvana* according to a radically mechanical worldview. Therefore, what a Japanese brain scientist is searching for is thus not the "*God* part of the brain" (Matthew Alper), but to "create a 'science of mind'" (Swanson 2011, xi). The "science of mind" is a scientific research into the mechanical function of the mind, and this mechanical study is not necessarily contradictory to the spiritual understanding of the mind, *kokoro*. *Kokoro* is thus rational, and at the same time emotional, and spiritual (Swanson 2011, vii; 2005, 23):

The human mind (and heart) and how it works is one area of mystery that is still ripe for examination through scientific inquiry. What does it mean to think (and feel)? Is the bifurcation between thinking and feeling, cognition and emotion, mind and heart an accurate and useful distinction when considering the integrated nature of human experience? Are the familiar Western (and some distinctively English) concepts of mind, heart, spirit, will, consciousness, soul, and so forth the best way to describe and divide the human experience? Or is a broader and more inclusive concept useful for understanding how humans think/feel? The Japanese term *kokoro* is such a comprehensive concept that may prove useful for considering the interrelated activity of the human mind and heart. (Swanson 2011, ix; 2007, 10–11)

If the spiritual is not contradictory to the mechanical, and to study the state of mind according to the radically mechanical cause-effect law leads to a spiritual awakening for eliminating suffering from the mind, I think that the “spiritual” dimension of science that is sought in the Japanese religion–science dialogue could contribute to the science–religion dialogue in this age of the scientific reduction of religion. We nowadays experience radical assertions by certain scientists about the religious phenomena of humankind. And as we know well, there is a harsh response from the side of Christian faith against such scientific reductionism. But is the scientific reduction of religion necessarily contradictory to religious awareness? Is not it a typically Christian phenomenon? As long as we agree with the opinion of Sasaki that Buddhism is essentially atheistic, do Buddhists feel any need to attack scientists who maintain the following views?

Although the manifestations of the religious experience are resplendent and multidimensional, and so complicated that the finest of psychoanalysts and philosophers get lost in their labyrinth, I believe that religious practices can be mapped onto the two dimensions of genetic advantage and evolutionary change. (Wilson 1978, 172)

Supernatural concepts are just one consequence of the human capacity for decoupling representations. (Boyer 2001, 131)

Like other animals, we have built-in desires to reproduce and to do pretty much whatever it takes to achieve this goal, but we also have creeds, and the ability to transcend our genetic imperatives. This fact does make us different, but it is itself a biological fact, visible to natural science, and something that requires an explanation from natural science. (Dennett 2006, 4)

Sasaki’s above-mentioned assertion could be read in the same direction as Swanson’s comments on why *kokoro* could be a hermeneutical substitute for God in the science–religion dialogue in Japan. Taking this position, attempts to reduce religious phenomena from the side of natural science lose their target and effect when there is no God who is supposed to transcend scientific attacks. Swanson’s critical evaluation of the Western science–religion dialogue may be supported by the report of Saitō and Sasaki mentioned above:

If the concept of a creator God is not the central issue in Japan, as has been in the West, then what are or should be the central issues? This is a question that can only be answered by actually carrying out a long-term discussion and dialogue, but there are indications that questions of the mind and consciousness will play a central role, as shown in recent dialogues between Buddhism and the sciences. The Japanese context also indicates that issues of daily practices, family rituals, the interrelationships of conventional phenomena, and traditional values (with regard to ethical issues raised by scientific advances) will be given greater weight than abstract issues of cosmological origins, ontological principles, or the working (or not) of a

creator God. Whether a dialogue focused on mind and consciousness, or a focus on daily conventional experiences, *kokoro* is a key concept. (Swanson 2005, 25)

What then might the science–religion dialogue in Japan contribute to the science–religion dialogue in the West? Could we expect from the Japanese approach to the science–religion dialogue a new paradigm for understanding and describing ultimate reality? Or, might the Japanese approach disclose a point of view where there is neither “religion” nor “science” at all? Such questions urge us to observe carefully what is going on in the science–religion dialogue in Japan, a country in East Asia where conventional conceptions of “religion,” “science,” and even of “God” are foreign and unfamiliar.

#### SOME CLOSING REMARKS

To repeat, it is an undeniable fact that the theme of “religion and science” has up until now centered on Christianity. Scholars and research inquiring into the relation between the religious phenomena of humankind and scientific consciousness have expressed their endeavors under the title of “religion and science.” The content they were treating in their work have been, however, almost without exception, the relation between Christian and scientific understandings and approaches to reality.

Looking back on the historical background of the science–religion dialogue in the Christian West, we must conclude that the science–religion dialogue in Japan might contribute to the emergence of a new way for science–religion dialogue. It would bring birth to a new understanding of religion and also a new kind of dialogue between science and religion.

The focal point for considering the relation between science and religion in the Japanese context was, therefore, how we could interpret or reinterpret ultimate reality, which has been called God in Western Christian traditions. Our attention has been attracted to scholars in Japan who have tried to search out the possibility of the relation between science and religion not in the form of “science-God-religion,” as it has been overwhelmingly framed up until now, but under the title of “science-*śūnyatā*-religion,” and “science-*kokoro*-religion.” The science–religion dialogue in the Japanese context in turn sheds lights on the emergence of a new understanding of the ultimate reality called God in Western societies that originally gave birth to science.

#### REFERENCES

- Assmann, Jan. 2005. “Monotheismus und die Sprache der Gewalt.” In *Das Gewaltpotential des Monotheismus und der dreieinige Gott*, ed. Peter Walter. Freiburg, Germany: Verlag Herder.
- Balagangadhara, S. N. 2012. *Reconceptualizing India Studies*. Oxford: Oxford University Press.
- Boyer, Pascal. 2001. *Religion Explained: The Evolutionary Origins of Religious Thought*. New York: Basic Books.



- Dennett, Daniel C. 2006. *Breaking the Spell: Religion as a Natural Phenomenon*. New York: Viking Penguin.
- Kim, Seung Chul. 2009. *God and Gene: Christianity in the Age of Biotechnology* (jp. *kami to idenshi: idenshi kōgaku jidai ni okeru kirisutokyō*). Tōkyō: Kyōbunkan.
- Masuzawa, Tomoko. 2005. *The Invention of World Religions: Or, How the European Universalism Was Preserved in the Language of Pluralism*. Chicago, IL: University of Chicago Press.
- Murakami, Yōichirō. 1993. *Japanese and Modern Science* (jp. *nihonjin to kindai kagaku*) Tōkyō: Kōdansha.
- Nakayama, Shigeru. 1980. *The Japanese Understanding of Natural Science* (jp. *nihonjin no kagakukan*) Tōkyō: Shiny ōsha.
- Nishitani, Keiji. 1982. *Shukyo towa Nanika* (What is Religion?) *Religion and Nothingness*. Translated with an Introduction by Jan VanBragt. Berkeley: University of California Press.
- Pence, Gregory E. 2002. *Brave New Bioethics*. Lanham, MD: Rowman & Littlefield.
- Saitō, Naruya, and Shizuka Sasaki. 2009. *Seibutugakusha to Bukkyōgakusha Nanatzu no Taiwā* (*Seven Dialogues on Science between a Buddhist Scholar and Biologist*). Tōkyō: Wedge.
- Sasaki, Chikara. 1996. *Kagakuron Nyūmon* (Introduction to Science Studies) Tōkyō: Iwanami Shōten.
- Swanson, Paul. 2005. "Science, *Kokoro*, and Religion: Thoughts on a New Project." *Bulletin* 29: 20–26. Nagoya: Nanzan Institute for Religion and Culture. (This article is freely available on the website of Nanzan Institute for Religion and Culture at <http://nirc.nanzan-u.ac.jp/nfile/1956>.)
- Swanson, Paul. 2011. "Introduction." In *Brain Science and Kokoro: Asian Perspectives on Science and Religion*, ed. Paul Swanson, pp. vii–xiv. Nagoya: Nanzan Institute for Religion and Culture. (This book is freely available on the website of Nanzan Institute for Religion and Culture at <http://nirc.nanzan-u.ac.jp/en/publications/symposia/brain-science-and-kokoro/>)
- Whitehead, Alfred North. 1925. *Science and the Modern World*. New York: The Macmillan Company.
- Wilmot, Ian, Keith Campbell, and Colin Tudge. 2000. *The Second Creation: Dolly and the Age of Biological Control*. Cambridge, MA: Harvard University Press.
- Wilson, Edward O. 1978. *On Human Nature*. Cambridge, MA: Harvard University Press.