

# Zen and Science

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## Abstract

The many volumes published under the title 'Buddhism and science' all carry the predisposition that those two distinguished fields are somehow related. Indeed, being regarded as 'scientific' is one of the most important trademarks of Buddhism in the modern era. The aim of this paper is to analyze the meaning and function of science within modern Japanese Zen discourse. The article shows that references to science are part of a Science vs Religion rhetoric, which lies at the foundation of modern Zen. This rhetoric has occupied an important place in Zen ideology since the end of the nineteenth-century until today. The article demonstrates how the changes in attitude towards science reflect, above all, the different historical, ideological and social conditions in Japan, rather than any inherent connection between Zen and science. This analysis will hopefully offer a new perspective both on the Buddhist-Science discourse as well as on the modernization of Japanese Zen.

**Keywords:** Zen, religion, science, Japan, Buddhism, modern.

## Introduction

It is hard to think of two fields more incompatible than Buddhism and science. For what could possibly be the correlation between a religion, which originated in India more than two thousand five hundred years ago, and an enterprise to describe the laws of nature born in Europe in the 16th century? Yet, the discourse of Buddhism and science has become so popular that the apparent discord is not nearly as obvious as it sounds.

The discourse around Buddhism and its compatibility with science is but a part of an ongoing dialogue between religion and science. A wide range of ideological, historical and political factors influenced these complex relations, as the tension between these two key areas of human experience has lasted more than four centuries. In fact, the relationships between religion and science are so multifaceted it is argued by some to be an independent field of inquiry (Clayton and Simpson 2006: 1).

Even within the Buddhist tradition itself, it would be too difficult to treat these relations fairly in a single paper. As Donald Lopez so aptly put it: 'Buddhism and science. What does this term [...] imply? The answer to this question depends, of course on what one means by Buddhism, what one means by science, and, not insignificantly, what ones means by and' (Lopez 2008: 2).

As Lopez points out, before addressing such a multifaceted field as Buddhism and science one should define the subjects of inquiry carefully. What does one exactly mean by science? This is indeed a difficult question to answer, for although the attempts to characterize science have been the subject of countless volumes, they have

not yet provided us with a clear-cut answer.<sup>1</sup> Accordingly, this paper refers to science as a discursive element, or in other words, the paper limits its discussion to what Buddhist spokespeople consider ‘science’, without adopting any definition as its own.

As for what one means by Buddhism, this paper focuses on one Buddhist tradition – Japanese Zen – in an attempt to analyze the meaning and function of science within its discourse from the late 19th century until today. By focusing on some key figures in the modernization of the Zen tradition, the paper aims to demonstrate how different historical stages brought about changes in the way science was addressed as part of the Zen rhetoric.

Although much has been written about Buddhism and science, most of the writers, until very recently, have chosen what might be regarded as a ‘dialogic perspective’, hereby implying a kind of kinship between science and Buddhism.<sup>2</sup> One of the few exceptions to this tendency is Lopez’s work *Buddhism and Science: A Guide for the Perplexed*. Unlike most of his predecessors, Lopez adopts a critical historical approach, explaining the Buddhist scientific discourse within the social and political context of its time, hence he identifies the motives and ideologies behind the attempts to bring these two fields together (Lopez 2008).

In this paper I attempt to follow in Lopez’s footsteps by applying critical historical analysis to various references to science within Zen rhetoric. By analyzing different discourses by different spokespeople and over different periods, I intend to show how changes in attitude towards science reflect different historical, ideological and social conditions in Japan, rather than any inherent connection between Zen and science.

## **Shaku Sōen and the Zen science discourse**

The science-religious discourse has its roots in the early modernization of Japanese Zen, most notably in the way it was presented to the west. As Judith Snodgrass shows, one of the principal motives for Western interest in Buddhism was ‘its perceived lack of conflict with scientific world view’ (2001: 211). This is also the reason why, from the very beginning, Buddhist advocates had presented it using scientific terms. The interaction between Buddhism and modernity was an endeavor to merge Buddhist doctrine and science in an effort to show not only that Buddhism does not operate outside modern assumptions but that, in fact, it can even contribute to them (McMahan 2008: 61-62).

Modern Buddhist rhetoric was aimed at what Buddhist advocates considered to be the two major authorities governing western thought: Religion and Science. Religion was described as dogmatic and irrational, failing to comply with the irrefutable truths of modern science. Science, on the other hand, was criticized for its overly materialistic nature preventing it from solving humanity’s ‘real’ problems. This rhetoric, though very critical towards Christianity, was deeply influenced by Protestantism, the Enlightenment and rationalism, and it regarded Western thought as both enemy and model in what Ketelaar referred to as ‘strategic Occidentalism’ (1991: 41).

Perhaps the first traces of this discourse might be found in the writings of Shaku Sōen (1859-1919) one of the most prominent figures in the modernization of Japanese Zen. In a manner that is rather typical of late 19th century positivism, Sōen regarded

science as the future of mankind. According to Sōen, while science carries with it progress, religion binds men to dark times:

Science is steadily making its progress in various fields of human knowledge, and our intellectual sphere is being constantly widened; while pious, God-fearing religionists are still dreaming of the by-gone days, when their forefathers were engaged in the so-called holy wars, or when they were conducting the most atrocious, most diabolical outrage against humanity called the Inquisition (1906: 113).<sup>3</sup>

Sōen the Buddhist monk, however, could not and, most likely, did not want to renounce religion altogether. His critique was mainly directed against Christianity, which he saw as dominating Western thought. He therefore portrayed Buddhism as unique among world religions in its being compatible with the principles of modern science: ‘Now, I grant that Buddha taught the irrefragability of [Buddhist] law, but this is a point in which, as in so many others, Buddha’s teachings are in exact agreement with the doctrines of modern science’ (ibid: 122) .

Sōen regarded Buddhism as rational and critical, its ‘matter-of-fact-ness’ making it broad-minded, and therefore exceptional among the world’s religions (ibid: 113). Like science, Buddhism does not accept truths that cannot be proven. According to Sōen Buddhism provides rational tools for exploring the self in a manner that is similar to those provided by science for exploring the phenomenal world. Consequently rational understanding of the self-facilitates morality in the same manner that science enables technology.

In the same way that the ignorant savage is killed by the electric shock of lightning, while an electric engineer uses it for lighting the halls and streets of our cities, the immoral man suffers from the moral law, he groans under its inexorable and implacable decree, while the moral man enjoys it, and turning it to advantage glories in its boundless blessings (Shaku 1906:123).

In presenting Buddhism to the west, Sōen’s basic motivation was an apologetic one. Like Daharmapala and other Asian promoters of Buddhism of his time, he was highly influenced by the colonial discourse. Seeking to defend Buddhism against criticism both from within as well as from outside Japan, he presented Buddhism as relevant to the modern world by framing it as ‘scientific’.

With a mechanistic perception governing Western thought at the turn of the 20th century, Sōen focused on two rather marginal elements of the Buddhist doctrine: causality and karma. Buddhism, according to Sōen, is scientific in the sense it complies with the rules of cause and effect, and hence is superior to Christianity (Lopez 2008: 21). Unlike Christianity, Buddhism is a religion that does not require supernatural or transcendental elements to ensure human morality. It is a rational system in which action and its reward are governed by natural laws rather similar to those of science. Thus argues Sōen: ‘[T]he Buddha was not the creator of this law of nature, but [...] the first discoverer’ (quoted in Snodgrass 2001: 213).

However, Sōen did not settle for arguing that Zen is equal to science, for if he had done so he could not have claimed Zen superiority over Western thought. After he

distinguished Buddhism as the only religion that meets scientific criteria, he returned to argue that religion has certain qualities that science can never expect to achieve.

Philosophy and science have done a great deal for the advancement of our knowledge of the universe, and there is a fair prospect of their further service for this end. But they are constitutionally incapable of giving rest, bliss, joy, and faith to a troubled spirit; for they do not provide us with a complete knowledge of existence, and are unable to lay bare the secrets of life. What they teach concerns the shell and husk of reality. In order to satisfy fully our religious yearnings we must not stop short at this; we must appeal to a different faculty, which will reveal to us the inmost life of the universe (Shaku 1906: 135).

Zen emerges in this argument as a superior religion without any equal. Unlike Christianity it follows scientific principles, yet it can also satisfy human longing for peace of mind, a task science had failed to achieve. Like other proponents of modern Buddhism Sōen did not just present Buddhism as a rational alternative to a supposedly irrational religion, but also as the humanized answer to an overly rationalistic and materialistic model of science in the West (McMahan 2008: 74).

### **Zen vs. science**

Sōen's most famous disciple, D.T. Suzuki, continued his master's endeavor to promote Buddhism as a superior religion. Despite the romantic vision of Zen usually attributed to Suzuki, in his early works he too declared the compatibility of science and Buddhism.

It is to be inferred [sic] that Buddhism never discourages the scientific, critical investigation of religious belief. For it is one of the functions of science that it should purify the contents of a belief and that it should point out in which direction our final spiritual truth and consolation is to be sought (Suzuki in Lopez 2008: 23).

Suzuki even went as far as claiming that the Buddha anticipated certain scientific discoveries (ibid: 40). In spite of the mystical status Zen receives in many of Suzuki's writings, it is simultaneously presented as empirical and psychological (Faure 1993: 62). Suzuki's ambivalence towards science runs through all his works. On the one hand, he does not dismiss the potential of science, while on the other hand he constantly points to its limitations. Suzuki's Zen, especially as it is exposed in his later writings, is more creative and mystical than rational. For Suzuki, Zen is a religion, perhaps the Religion of all religions, though it 'never leaves this world of facts' (Suzuki 1973: 347).

Despite his longing for 'primitive simplicity' it seems that Suzuki was rather reluctant to omit entirely Zen's resemblance to science. While Sōen had emphasized the rational and mechanistic aspects of Buddhism relying on karma and causality, Suzuki shifted attention to Zen's empirical aspects. Suzuki's long and close relationship with psychology demonstrates how, to a certain extent, he considered Zen a science of the mind. This view is perhaps best expressed in the following segment taken from Carl Jung's foreword to Suzuki's famous work *An introduction to Zen Buddhism*: 'Since, out of scientific modesty, I do not here presume to make any metaphysical declaration,

but mean a change of consciousness that can be experienced, I treat satori as a psychological problem' (Suzuki 1964: 14-15).

Suzuki's friend and colleague Nishida Kitarō (1870-1945) was perhaps Japan's most prominent philosopher. Nishida also had a profound influence on the development of modern Zen thought both in Japan and in the West.<sup>4</sup> In his 'Inquiry into the Good' (*Zen no kenkyū*, 善の研究) Nishida presents the concept of 'pure experience'. This concept was Nishida's attempt to unify his Zen experience with Western philosophical terms (Takeuchi 1978: 182). However, unlike Sōen, who had emphasized Zen's scientific characteristic in an attempt to depict it as modern, Nishida was far less enthusiastic about science. Nishida's main idea was that the abstract concepts of science do not reveal reality itself (Noda 1955: 346).

The laws of nature, attained through the law of induction, are simply assumptions that because two types of phenomena arise in an unchanging succession, one is the cause of the other. No matter how far the natural sciences develop, we obtain no deeper explanation than this one, which becomes ever more detailed and encompassing (Nishida 1990).

Like Suzuki, Nishida too regarded the truth attained by direct experience to be superior to all other means of knowledge, including science. By reducing science to generalizations devoid of any absolute or superior status Nishida subordinates it to what he considers the ultimate truth: 'Even mathematics, the so-called abstract science, has its basic principle in the intuition, i.e., direct experience' (Nishida 1911 quoted in Noda 1955: 346). Pure experience, according to Nishida, includes the entire range of human knowledge.

The ultimate truth of the universe Nishida claims is that of pure nothingness, and is accessible only by eliminating the separation between subject and object - which is characteristic of human experience (Takeuchi 1978: 185). Hence, for Nishida science is no more than a set of false abstractions not essentially different from earlier, mythological world views (Adams 1998).

Nevertheless, referring to its superiority over religion, Nishida argues that the understanding of the ultimate truth as pure nothingness is more compatible with modern science than is the Christian theistic idea of God (Noda 1955: 350). Like Suzuki, Nishida too is reluctant to entirely give up the legitimacy gained by depicting Zen as 'scientific'.

## **The Kyoto School synthesis**

The discourse of Zen as a new mode of thinking was adopted and carried on to postwar Japan by major Japanese thinkers, notably Nishida's followers of the Kyoto School of philosophy. In spite of the fact that the Kyoto School's philosophy is diverse and comprehensive, it might be generally summarized as an attempt to bridge the gap between Western philosophy and Buddhist, especially Zen, thought. This attempt brought about the development of a new 'Zen theology' meant to retain the best of those two, apparently contradicting, worlds. What characterizes most, if not all, the thinkers of the Kyoto School is their refusal to admit the validity of a distinction

that would separate philosophy and religion (Dumoulin 1992: 45). Hence, they made constant effort to harmonize both, using Zen as the prime medium to achieve this goal.

Nishitani Keiji (1900-1990), one of the major figures of the Kyoto School, defined the main problem of our civilization as nihilism, which is an outcome of what he regarded as the 'mutual aversion between religion and science' (quoted in Franck 1982: 111). Nishitani claims that the scientific analysis of the world damages its fundamental harmony:

[W]hen modern science excluded teleology from the natural world, it dealt a fatal blow to the teleological world view, which leads from the 'life' of organic beings in the natural world, to the 'soul' and 'spirit' or 'mind' of man, and, finally to the 'divine' or 'God'. The world was no longer seen as having its ground in what may be called pre-established harmony of the 'internal' and 'external' (Nishitani 1965: 112).

In another place he writes 'The various manifestations of culture at present, if looked at closely, are mere shadows floating over the void' (quoted in Dumoulin 1992: 46).

Nishitani's main concern is the modern scientific materialistic world view. He claims that by discarding religion, science had deprived man of the theologic understanding of the universe, and the sense of meaning that comes with it. The result is that mankind is lead towards nihilism. Thus, he considers the resolution of the conflict between science and religion as one the most fundamental missions of modern philosophy (1965: 117).

Nishitani sees science as an unquestionable truth, and believes the efforts to combine the scientific perspective together with the teleological world view to be pointless (Dumoulin 1992: 52). He relies in his writings on the concept of immediate experience, also accepted by science. However, like Nishida and Suzuki before him, Nishitani too was rather skeptical towards science.

Unlike Sōen and his contemporary Zen advocates, Nishitani - even more than Nishida - was not at all compelled by the Buddhist or even the Zen tradition itself.<sup>5</sup> He promoted Zen as a form of religion or 'spirituality' deprived of any historical or social context. Though he suggests that the scientific methodology might be implemented for the study of the self, Nishitani clearly states that what is actually needed is a new vision that transcends the two opposite ways of viewing the universe (the teleological and the mechanistic). What he describes as 'a universal standpoint of religion' found especially in Zen Buddhism (1965: 135-137).

Nishitani believed that in spite of the apparent controversy between science and Christianity they share the same fundamental view of nature as divided between subject and object (Heisig 2001: 242). This separation is the root of the modern world's state of nihilism. Therefore he holds that the Eastern tradition, by which he is referring almost entirely to Japanese Zen heritage, might prove a solution to the problem (Dumoulin 1992: 46).

However, the 'Tradition' promoted by Nishitani should not be mistaken for that promoted by Sōen and his contemporaries. It is rather a well established, profound



philosophical system, which constructs its arguments in a manner which resembles more Western philosophy than traditional Zen.

Abe Masao (1915-2006), another major figure of the Kyoto School had also considered the disharmony between science and religion the major problem of modern civilization, and held Buddhism to be its cure.

Science without religion is dangerous, for it necessarily entails a complete mechanization of humanity. On the other hand, religion without science is powerless in that it lacks an effective means by which to actualize religious meaning in the contemporary world. Science and religion must work together harmoniously. It is an urgent task for us who approach the global age to find a way to integrate the two (Abe 1985: 248).

According to Abe, science is designed to answer the question 'how' while religion can answer the question 'why'. However, since the answers offered by religion, by which he largely means Christianity, are theistic and incompatible with modern thinking, religion had lost its relevance to the modern world.

Buddhism, on the other hand, is unique among religions because it provides a non-theistic answer to the question of 'why' 'through its emphasis on "dependent co-origination", "no-self", "Emptiness", "suchness" and so forth' (ibid: 245). Buddhism, according to Abe is neither teleological nor mechanistic and answers the question 'why' not by abandoning it, like science does, thereby leading to nihilism, but by 'breaking through the question' itself (247-248). He therefore suggests a new 'super religion' which will combine the advantages of science and religion (275).

Other participants in the academic discourse around science and Zen, like Tanabe Hajime (1885-1962) should also perhaps have been included, but space constraints prevents me from dealing with their ideas fairly. The important point for our discussion is that the Zen science discourse extended beyond proselytism and was, at least for a few decades, rather popular in Japan's academic circles.

## **Zen science and contemporary Japanese society**

Like many contemporary Japanese religion advocates, the starting point of numerous popular Zen manifestos is that modern society is teetering on a breaking point. This distrustful image ties together various factors in an attempt to demonstrate that there is something fundamentally wrong with the modern world. Indeed, this presentation of Japanese society as being in a state of deep crisis seems to fit well with the commonly-held view that social crisis brings about the emergence of new religious movements (Kisala & Mullins 2001:1). However, as many scholars have suggested, this point of view is extremely problematic, and seems to represent at best the movements own rhetoric, rather than any objective reality.[6](#)

Hiro Sachiya, a Buddhist scholar and a prominent advocate of popular Buddhism in Japan today begins the preface to his book *Zen no yomikata* [How to Read Zen] as follows:

Japan has become strange. Times have become strange. Politics too, economy too has completely gone mad. Education is totally devastated. Everything is in a mess. Looking at the morning paper or hearing the TV and radio news I wonder 'ha... what will become of Japan?' (1998:1)

This approach, typical to many other contemporary Zen advocates, is rather inclusive and does not distinguish between socio-political and mental aspects of human existence. According to this outlook wars, terror attacks, natural disasters, depletion of natural resources, global warming, politics, etc. are all indicators of the same crisis. See the following passage taken from the Ningen Zen, a contemporary Zen group, guidebook:[7](#)

A macro perspective of the world reveals that, nowadays, due to the advance of revolutionary technologies [...], developing countries had recently gone through rapid industrialization; [in these countries] we are witnessing a wave of urbanization and an environmental destruction alongside a decline of natural resources that is quickly becoming a severe condition. Additionally, religious wars, nationalism [...] conflicts over natural resources etc. still continues.

When we look at the current condition in Japan we find corruption among bureaucrats, politician and police officers, we see the businessman's lack of vision, the youngster's wrong conduct, the troubled mental condition of young mothers and so on... (Ningen Zen no shiori 2008: 53).

Many popular Zen campaigners in Japan, like Hisamatsu Shin'ichi (1889-1980) Akizuki Ryūmin (1921-1999) and Uchiyama Kōshō (1912-1998), adopted a double discourse toward science. On the one hand, they praise science for its rationality, logic, and progress and on the other hand they criticize it for causing most of the modern world's misfortunes, especially human anxiety. By pointing out its weaknesses, they wish to deprive science of its elevated status in modern culture. While elements of science such as rationality and critical thinking are said to exist also in Zen, science's lack of 'spirit' limits its capacity to help solving modern man's real problems: 'No matter how far science progresses, it is not going to be the answer to our lack of peace of mind, nor can we be pacified by a high standard of living, for it lacks a base for spiritual peace' (Uchiyama 1973: 95).

While some of Zen's advocates recognize the advantages of science and technology, most of them share a negative perception of modern civilization. According to this vision humanity has lost its sense of direction and is possessed by progress in a manner that leads only to more anxiety.

Civilization galloping onward like a wild horse when we know nothing of peace of mind is a crazy civilization. This modern civilization which started in Europe and spread throughout the rest of the world may itself be called insane. The further civilization advances the clearer it becomes that this is pure madness (Uchiyama 1973: 96).

The main reason for this state of affairs, they claim, is the imbalance between materialistic and spiritual progress. While technology and science advanced, spirituality actually diminished and is currently in a state of decay. Science and



progress fail to bring relief to the world, both at the personal and global levels. Hence, the source of all of humanity's problems, from wars to corruption and crime, may be traced to spiritual negligence.

Lately science culture made rapid progress, things that we considered to be dreams, for a long time, such as going to the moon, are gradually becoming a reality. The use of electronics and the development of nuclear energy will probably have great effects on future culture. By contrast, isn't spiritual culture been neglected? Isn't the fact that material culture and spiritual culture are imbalanced, contemporary culture's greatest fault? (Osaka 1969:1)

Thus, contemporary Zen narrative presents two main causes as responsible for this spiritual decline. First, modern society is based on materialistic values and therefore it strives only to gain more material possessions, thereby neglecting the spiritual aspects of human being. It is a culture that overlooks the meaning of human existence and that is the reason for all its misfortunes. Consequently, this view is critical toward materialistic culture which it considers meaningless and selfish: 'In our prosperous materialistic life, we lost our hearts as humans, we pass through the world focusing on seeking selfish benefits and pleasure - is this a good way to end one's life?' (Ningen Zen no shiori 2008: 53).

Finding meaning in life is a motive that repeats itself in many popular Zen writings. Those writings raise questions such as: What might be considered 'happiness' in modern life? What is the purpose of human existence? And, what kind of role should one assume in society? The main argument is that despite the development of science, technology and culture, our world is far from being a harmonious place to live in. It raises doubts regarding what is the true (*shinjitsu* 真実) or the original (*honjitsu* 本実) happiness of human existence, regarding the modern condition of man as obscured by the complexity of progress.

Where on earth is the value of human life? What the heck is true happiness, real joy? Nowadays culture and civilization no longer guarantee a worthwhile life or happiness, rather they cause us to be lost. Therefore we have to think again as regards what is important in life (Tanaka 1960: 1).

However, the imbalance between spiritual and material development, as presented above, is not entirely the latter's fault. The second reason for the decline, according to this narrative, is the failure of traditional religion to maintain its relevance to the modern world.

This attack is being directed mainly toward what Zen advocates regard as the irrational aspect of religion. According to this view the main reason why religions have failed to maintain their vitality is due to a lack of rational thought, which characterizes modern society. Elements such as this-worldly-benefits (*genzairiyaku* 現世利益) and magic (*jū* 呪), typical of both traditional and new Japanese religions, are criticized as primitive and incompatible with modern rational thought.<sup>8</sup>

This criticism of magic and superstitions carries strong marks of Protestant rhetoric. Or as McMahan claims, it is an application of Protestant grammar to Buddhist vocabulary (2008). This rhetoric is not only used to challenge Japanese religions, but

is also turned back against Christianity itself. According to this view, most of , if not all, the wrong-doing in our world is related, in one way or another to religion. Excluding Buddhism, the various world religions are depicted as narrowminded and intolerant towards one another, they are said to oppose progress, freedom of thought, rationality and science, as well as being prejudiced and superstitious. Despite the fact that monotheistic religions are generally acknowledged to be superior to polytheistic beliefs, they are still regarded as inferior to the 'real religion' or 'true religion' which is Zen.

If we look back on history we see that, there is an ongoing conflict between Christianity and Judaism, and despite the fact that more than two thousand years have passed there are many who see this continuous hatred as the foundation of the Nazis slaughter of the Jews. In Christianity there was a conflict between Catholics and Protestants, in spite the fact that recently those two became good friends. During the middle ages the Catholic Inquisition tortured and executed on the stake many whom their faith considered to contradict its own. Stalin's even worse cruelty towards his opponents was also in the name of God. Compared to this the orient Buddhism, Confucianism, Daoism etc. are much more tolerant. Despite the fact that in Buddhism too there were cases of fanaticism, generally speaking it is clear that these were exceptions (Sato 1964: 41).

As we have seen, technology and science brought about complexity and anxiety, yet traditional religion lacks the tools to address such problems. The premise is that the more science advances, the more spirituality recedes and the balance between materialistic culture and spiritual culture is disrupted. Zen rhetoric expresses deep longing for the natural harmony that society had lost to modernity and technology.

It sometimes seems that human civilization is like cancer. Cancer is nothing other than a part of the body that does not follow the natural order. Cancer grows as it wishes, in disharmony with other parts of the body. Finally cancer is uncontrolled, destroying the entire system [...] Our lives as humans have aspects in common with cancer (Okumura 2003: 12).

Hence, contemporary Japanese Zen advocates the aim of restoring harmony and simplicity to an unbalanced and twisted modern society. This is to be accomplished by filling the spiritual hole that exists with a 'true religion' which is compatible with science and rationality: 'It is urgent that we find a genuine religion concerned with the true peace of mind, as the scientific civilization develops' (Uchiyama 1973: 96).

Zen is therefore promoted as a unique spiritual system that suppresses both religion and science. It is praised as a unique religion unlike any other, one that is capable of bringing peace and harmony to the turmoil of human existence. Zen uniqueness, according to this narrative, is found in the fact that it puts the self in the center, the self becomes the source of certainty that is higher than any of those provided so far by religion or science. The discovering of the 'real self' (shin no jiko 真の自己) or the 'original self' (honrai no jiko 本来の自己) is what, according to Zen narrative, would bring peace not only to the individual but to the entire world:

Therefore Zen is a religion that has no factors inconsistent with the principles of science at all. Zen has no gate and is open to all who seek to awaken the real self. A religion of such free and rational features cannot be found anywhere else in the world.

(‘The religion for the people of today’ Ningen Zen Japan).

## Conclusions

John Haught suggests four distinct manners in which religion and science might be related to each other: conflict, contrast, contact, and confirmation. Conflict is the conviction that these two great cultural forces are essentially irreconcilable. The contrast approach holds that there can be no real conflict between science and religion for those fields respond to different kinds of problems. Contact is an approach that looks for dialogue, interaction and especially the ways science influences religious thinking. Finally, conformation is a perspective according to which ‘religion supports and nourishes the entire scientific enterprise’ (Haught 1995: 9).<sup>9</sup>

So far we have seen that the religion-science discourse lies at the foundation of modern Zen. It is possible to point out four major phases in the development of this discourse, which roughly correspond with the four types of relationship presented above.

The first stage lasted from the late 19th century to the second decade of the 20th century, roughly overlapping the Meiji period (1868-1912). This interaction, as it is reflected in the writings of Shaku Sōen, might be characterized as of the contact type. This period in Japanese history was a time of rapid modernization; for the first time in its long history Japanese society had absorbed a completely new set of ideas and values over a relatively short period of time. Confronted by these new Western values, ideology and perhaps most significant, science and technology, Buddhist leader found themselves on the defensive.

Accordingly, some Buddhist modernists, like Shaku Sōen, adopted an apologetic standpoint claiming Zen’s comparability with science. Wishing to defend Buddhism against modernity’s criticism, Sōen implemented Buddhist concepts like causality and karma in an attempt to meet the period’s intellectual climate. By associating Zen with science, the peak of modern civilization’s achievement, Sōen hoped to maintain Zen’s relevance to modern society.

The second phase lasted from the end of the Meiji period to the end of the Second World War. This period might be regarded as the phase of conflict, for it is characterized by a shift in Zen advocates’ standpoint from apologetic to assertive defiance. Japanese nationalism and the need to establish a modern Japanese identity had without doubt influenced secular thinkers like Suzuki and Nishida to question the validity of science and to claim Zen superiority. Although these thinkers, like their predecessors, emphasized Zen’s ‘empirical truth’ especially as embodied in the concept of satori, Zen was depicted by them as the ultimate truth which transcends scientific inquiry; it is an original thought system which is to be Japan’s dowry to modernity.

Following the Japanese defeat in 1945, members of the Kyoto School saw their mission as being to close the gap between what they considered Western and Eastern thought. This stage might be referred to as an attempt to integrate science and religion to create a new Zen philosophy, hence, it corresponds to the conformation phase suggested by Haught.

Nishitani, Abe and their contemporaries had transferred the discourse concerning science and religion to the realm of philosophy. They were motivated by the need to redefine the opposition between Japan and the West, but unlike Suzuki and Nishida they were more inclined towards integration than assertions of uniqueness. For this reason they emphasized Buddhist philosophical terms like 'emptiness' and 'dependent arising' in an attempt to integrate them into Western philosophy. The Kyoto School thinkers believed to a great extent that Zen might nourish Western thought and contribute to our scientific understanding of the phenomenal world.

The final stage of this process is the adjustment of the Zen science discourse into popular Zen rhetoric since the 1960s. This stage corresponds to the contrast stage for popular Zen advocates who had completely given up on attempts to integrate Zen and science, and regarded them as two separate entities. No doubt many of the contemporary Zen spokespeople were influenced by the global postmodernist atmosphere, which tends to underestimate the value of rationalism and scientific thought. Consequently, any reference to science is only a part of a gloomy vision of modern society, rather than an attempt to synthesize it with Zen. Zen has shifted its emphasis from the philosophical to the spiritual, psychological, new-age field. Hence, Zen advocates refer mainly to the discovery of the true self or the original human being (*honmono no ningen* 本物の人間) as the prime goal of Zen (Hiro 1998: 2).[10](#)

To summarize this process it might be argued that in order to save Zen from modern criticism of religion, originating with Protestantism, it was gradually extracted from the religious sphere and was established as an independent field of experience. Different spokespeople in different time periods have acknowledged the prestige science has enjoyed and have used it as a rhetorical instrument to establish Zen's place in modern thinking. Finally, towards the end of 20th century as scientific thought lost a great deal of its former prestige, Zen spokesmen have all but abandoned their attempts to reconcile Zen with science, regarding the two as completely different fields of human experience.

Nevertheless, despite the many differences among the various discourses, they all share the assumption that spirituality evolves in the same manner as science. According to this view, while the West represents scientific and materialistic development the East evolved following the 'spiritual path'. Therefore, the unification of East and West is vital to restore balance to modern society. The reader might be already aware of the Orientalistic fragrance rising from this assumption. Indeed, Japanese thinkers adopted the conventional Orientalistic image of the East as 'spiritual', and giving it a rational twist, reversed it against what they perceived as Western thought. The motivation behind this was, without doubt, a desire to demonstrate Japanese superiority.

Another important point for our discussion is the influence of academic discourse on popular Zen in Japan. Many of the ideas presented by major Japanese thinkers like

those of the Kyoto School gradually found their way into popular Zen ideology. Nevertheless, those ideas had also gone through a process of simplification, from a complex existential philosophy to a more practical concern about concrete social and psychological problems.

Finally, I wish to note that the motivation to integrate science and Zen is by no means limited only to Japan. In fact we can find echoes of this discourse in many publications, conferences and pieces of research to this day.<sup>11</sup> What perhaps distinguishes the Japanese discourse around science and religion is the fact that it is highly related to issues of Japanese national identity and still bears the marks of colonialism. Concepts like East and West as representing spirituality and science respectively still constitute a large part of this discourse even today. This is rather surprising if we consider Japan's economic position as well as its status as one of world's leading scientific and technological superpowers.

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## Notes

[1] On the problems with defining science see: Plantinga, 2010.

[2] See for example: *The universe in a single atom: the convergence of science and spirituality*. New York: Morgan Road Books, 2005; Wallace, B. Alan. *Buddhism & science: breaking new ground*. Columbia: Columbia University Press, 2003; Watson, Gay, Stephen Batchelor, and Guy Claxton. *The psychology of awakening: Buddhism, science, and our day-to-day lives*. York Beach: S. Weiser, 2000; Ricard, Matthieu, and Xuan Thuan Trinh. *The quantum and the lotus: a journey to the frontiers where science and Buddhism meet*. New York: Crown Publishers, 2001; to mention but a few.

[3] It is important to stress that by referring to Buddhism Sōen was actually referring to Zen especially the Rinzai School which he regarded as the manifestation of true Buddhism. See Robinson (1997: 262-263).

[4] Nishida's work might be divided to several periods. This article refers mainly to his ideas as presented in 'Inquiry into the Good' considered his first important work.

[5] Sōen was a Zen priest and an abbot, and Suzuki even if not officially ordained considered himself as a devoted lay Zen practitioner. Nishida too had some years of traditional Zen practice.

[6] For criticism of this view, see for example Earhart (1989: 223-36) and Hardacre (1984, 30-34).

[7] Ningen Zen is a descendent of the Ryōbōkyōkai (両忘協会) one of the first Zen groups established in Japan in the late 19th century to promote Zen practice among laypeople. The group have had major part in the popularization of Zen in Japan. See: Joskovich 2010.

[8] Nevertheless, this-worldly-benefit has strong presence also in contemporary Zen. Benefits such as better concentration, health, vigor etc. are highly visible in contemporary Zen rhetoric.

[9] For the purpose of discussion, this paper generally adopts Haught's categories. However, one should keep in mind that like any other category, these are primarily meant as a methodological tool and not as an absolute statements. Since the categories were originally designed to analyze the mutual relationship between religion and science, and this paper deals only with religion's perspective, naturally a complete application would be problematic.

[10] For a discussion of modern Zen and New-Religions in Japan see: Sharf, Robert, H. *Sanbōkyōdan: Zen and the Way of the New Religions*. *Japanese Journal of Religious Studies*, 1995. 22(3-4), 417-458. and Joskovich 2010.

[11] See for example: Austin, J. H. (1998). *Zen and the brain: Toward an understanding of meditation and consciousness*. Cambridge, Mass.: MIT Press. Or Brissenden, R. J. (1999). *Zen Buddhism and modern physics: Morality and religion in the new millennium*. London: Minerva Press.