

# RI and KI in Japanese Thought

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It is not entirely clear when the Neo-Confucian thought was introduced into Japan — but certainly not long after Chu Hsi died in 1200. Zen monks visiting China did not only learn about *zazen* “sitting meditation” but also about *seiza* “quiet sitting”, practised by Confucian scholars. They took a scholarly interest in the last outpour of Confucian thought and they became assiduous students of Confucian metaphysics and natural thought in between their meditation sessions, to the extent that a Zen abbot once complained that there was too much philosophy and too little *zazen* in the Rinzai (Gozan) temples. However, through the Kamakura and especially the Muromachi periods the Neo-Confucian studies were mostly an intellectual sideline and seem never to have become the main occupation of the monks who were both in name and deed Zen monks.

This was going to change in the Tokugawa period when we find the first monks who left Rinzai and established themselves as Confucian scholars. They broke out of the Buddhist Zen eclecticism, even often denied Buddhism, and began to preach a Confucian message, leaning toward the native *kami* creed, thereby giving it a distinct Japanese identity. Traditionally Fujiwara Seika (1561-1618) and Hayashi Razan (1583-1657) are mentioned as the forerunners of this new Confucian age and tradition. Whether they left the Buddhist orthodoxy because of conviction or convenience is difficult to say. Fujiwara Seika seems to have been the noble personality who did it out of conviction; Hayashi Razan, on the other hand, might well have done it out of convenience, having plans to rise in the new world that was built by Tokugawa Ieyasu. Fujiwara Seika never accepted a position in official service, but Hayashi Razan happily turned to Tokugawa Ieyasu and entered shogunal service in 1605, establishing a connection with the Tokugawa regime that would last for twelve generations, that is, throughout the Tokugawa era. The Hayashis became the carriers of the Shushigaku *ri* tradition, and whatever new thought appeared to their left or to their right, they were in the centre.

How can their Neo-Confucian *ri* doctrine simply be described? *Ri* can be seen as the totality of the “wiring” of the universe, as ordained by Heaven. One finds also the expression *tenri*, “the Inscap of Heaven”, in which one can see the close connection between Heaven and its “wiring” of the world, synonymous with the term *tendō*. “the Way of Heaven”. *Ri* is, however, not alone — and not sufficient. The “wiring” is without meaning and useless if it were not for the *ki*, the “electricity”, which makes the whole net come alive.

*Ri*-ism can be seen as a kind of rational thought, built upon man's ability to reason about things. Man can see *regularities* in things, lines and streaks which individuate. He begins to see order in chaos, and science is born. The unchanging lines and regularities are seen as the *ri* in things, and all these *ri* in things are in turn related to a Heavenly Principle — *RI*, (*TENRI*), —, the Mother of all individuated *ri* and the ultimate cause of creation and change. *Ri* can accordingly be registered as the same in, for example, each horse and each man not only in his physical appearance but also in his mental and psychic apparatus. In the "original Chu Hsi thought this meant empirical inquiry into individual functions, synthesized by intuitive perception of larger and larger functional systems until one encompasses the one *ri* permeating all nature, including human nature". These inquiries were expressed with terms, such as *kyûri* (Ch., *ch'üung-li*), to "penetrate the *ri*" or *kakubutsu kyûri* (Ch., *ke-wu-ch'üung-li*), "to investigate things and penetrate the *ri*".

*Ri* does not and cannot, however, operate alone, it is only the framework or network for the life-giving *ki*, which flows through the lines of *ri*: without *ki* no *ri*, and without *ri* no *ki*. They form the inextricable two sides of the same coin: one does not go without the other.

The question is which of the two, *ri* or *ki*, should take precedence over the other. In the orthodox Chu Hsi thought it seems that *ri* has the priority and is valued over *ki*. It is *ri* that represents Heaven — it is *tenri* in man's nature (*sei*) as well as in all other things —, while *ki* represents Earth and comes second, without, for this reason, being secondary. It comes first because it should, in the human *moral* world, be the essential, unchangeable part which is in control of the *ki* emotional and changeable part of man's psyche. They are in a kind of opposition in the nature of man, which is unfinished and indeterminate, but in nature otherwise it seems that *ki* and *ri* go hand in hand without being in opposition, one functioning due to the other, one being alive because of the other.

In man *ri* appears as his "basic nature" (*honzen no sei*). This is his "good" nature, which is the same and identical in everybody. Everybody is therefore a potential sage — if it were not for his volatile earthly *ki* nature (*kishitsu no sei*), which obstructs the goodness of his "basic *ri* nature". In other words, *honshitsu no sei* is the pure part of man's nature, while the *kishitsu no sei* is varying from person to person, the impure part of man's nature. Desires, emotions, and passions are encoded in his earthly *ki* nature, and man must keep at purifying and polishing, checking and controlling this earthly part of his nature — and perfect his inborn potential.

It is of interest that the *ri* thought served as a conservative force and ideology, supporting the state and the system. The Tokugawa *bakufu* feudal order incorporated and represented *ri* and Heaven in this world, and it became the duty of all people to support the *bakufu seido*, which corresponded to and was in line with the universal *ri* of all things. The feudal socio-political order was a reflection and embodiment of the cosmic "natural" order, and so Heaven remained the supreme source of legitimation for the occupation of shogunal power. Any rebel could be accused of having alienated himself from the *ri* and not being in control of his *ki*.

The *ri* and *ki* dialectic is anchored in a long Chinese tradition. The *I Ching*, *The Book of Changes*, presents a monistic cosmology, codifying the patterns of universal change — a *ki*

universe of change. If change equals *ki*, the first among Chinese classics emphasizes the *ki* side of reality. The question is whether the Chinese ever left this cosmic view. Chang Tsai (1020-1077) in the Neo-Confucian thought also described a monistic cosmos, in which the Way (*dao*) and *ri* were immanent in a *ki* totality and so did many other philosophers both before and after him. It was in a more rational Confucian world that *ri* came to be emphasized. The virtues, "goodness", *jen* (J. *jīn*) first among them, became *ri* in man. In the *Ta hsüeh* (J. *Daigaku*), for example, it is said that "the Way of Great Learning (*ta hsüeh*) lies in making clear the clear virtue; it lies in loving the people, it lies in resting in ultimate goodness". *Ri* is equal to this clear virtue in man's moral life, it is Heaven and Heaven's Way in man, as in all other living things, and it is man's duty to cultivate virtue at all times. In Neo-Confucian thought it was then identified with the Grand Ultimate (or Grand Polarity) (*t'ai-chi*, J. *taikyoku*), the one unchanging substance running through all things, yet beyond all things, and giving unity to all things. From the Grand Ultimate emanated the *yin* and *yang*, and out of their complementary duality and the operation of the Five Elements all things were born. This was a rational system and a metaphysics, that gave a dialectical understanding of reality, both close to and independent of religion. It was the "practical learning" (*jitsugaku*, Ch., *shih-hsüeh*) that occupied Confucian thinkers from Sung times, until a new *jitsugaku* appeared in the form of modern science in a later age.

If *ri* the warp of the weave, while *ki* is the woof. *Ki* gives life and colour to the pattern, but it has to be disciplined and ordered and not overstep what is heavenly ordained. To use other similes, it is the blood that flows through the *ri* veins, or *ri* are the stable genes while *ki* is the changeable life force. The cooperation of *ri* and *ki* takes place so naturally in animals and plants that we only observe it habitually. Man has, however, the ability to go beyond what is ordained. His blood can overflow and cause high blood pressure and go slow and cause low blood pressure, he can get passionate, and he can get enraged. Man has accordingly to discipline his moral life and not allow his emotions and passions to run wild. This can lead to rigidity and suppression of the natural life's brocade — and this is what happened in the lives of many over-zealous Neo-Confucian scholars. Yamazaki Ansai (1618-1682) and his Kimon School represented the extreme bigot wing of Neo-Confucianists in Japan, while others in the Neo-Confucian tradition turned to investigation and observation of *ri* in things. For example, Nishikawa Joken (1648-1724) and Kaibara Ekken (1630-1714), and a number of others, turned from moral *ri*-ism to natural *ri*-ism as they began to study astronomy, geography, calendration, botany, and other fields. Both lived on Kyushu and both were influenced by living close to the Dutch on Dejima. Nishikawa was called to Edo by Shogun Yoshimune in 1718 and probably influenced the latter when he relaxed the ban on the import of Western books and allowed scholars to undertake Western studies in first of all astronomy in 1720. This wing of Neo-Confucianists, first in China and then in Japan, *could* have led to modern science, and the question is why it did not. One reason could be that also thinkers like Kaibara and Nishikawa were by education Confucian thinkers, and when they turned to natural science, they never left, and never needed to leave, their Confucian heritage. A

Confucian scholar could, as it were, look either way and yet remain a Confucian. In a Cartesian way Nishikawa rationalized things when he developed the dualism of *meiri* and *keiki*. *Meiri* stood for *ri* studies in the Confucian sense, while *keiki* stood for studies in the European sense. Of interest is that *ki* came to represent the *res extensa* which were studied empirically, while *ri* came to represent *res cogitans*, about which one could speculate philosophically. Thus, he considered his studies to be *ki* studies; likewise Kaibara saw the universe as a *ki* reality and asserted that *ri* was within *ki* and not above it. The whole circle was a dynamic *ki*, and only its inscape was a *ri* ordering, and it was this inner ordering that absorbed them, one turning his interest to astronomy and the other to botany.

In Japan we find that, during Tokugawa, many philosophers turned their interest toward the *ki* and gave priority to the *ki* over the *ri*. One can wonder why? One reason might be that there had been a tendency earlier in Ming China to give preference to the *ki* side of man, while the *ri* side of man was of less interest even if never rejected. There had been one wing of Neo-Confucianist thinkers from Sung times who had stressed the investigation inward in man with the motto that "the truth of the universe is within oneself" rather than in things outside oneself. Their approach was introspective and meditative and referred to as "learning of the mind" (*hsin-hsüeh*). Lu Chiu-yüan (also Lu Hsiang-shan) (1139-1192) had been one such thinker and he related to and connected with Wang Yang-ming (1472-1529) in Ming times, and their thought has often been called the Lu-Wang School. Their intuitionism can be considered a *kakubutsu* limited to man and close to Zen Buddhism. For them the human heart (*hsin*, *J. kokoro*) was in the center and the *ri* came to be the *ri* of the human heart, and not a cosmic *ri* to be investigated and found in any organism or phenomenon in the world. Illumination should come from one's inner, not from rationalistic investigation of outer phenomena. The step was not long from their thought to the thought of Lo Ch'in-shun (1465-1547), who stated that "the *ri* is only the *ri* in *ki* or of *ki*. *Ri* must be observed in the phenomenon of the revolving and turning of *ki*. If one gains a clear understanding of this phenomenon of revolving and turning, one will find that everything conforms to it." So *ri* ought to be studied and investigated only in connection with *ki*, and not as a something separate and independent. Kaibara Ekken who was influenced by Lo Ch'in-shun's thought, believed that *ki* contained within it both the *ri* of constancy and of transformation (*ri no jôhen*) and he sought a study of nature that was unfettered by the restrictions of metaphysical ethics, imagining a single "life principle" (*seiri*) running through all reality. This meant a separation of ethics and nature, which ran against Chu Hsi Neo-Confucian thought. Investigation and study of things came to be a-moral as in modern science. Also Nishikawa Joken saw the *ri* as the visible forms of the *ki* when studied in astronomy and other subjects. He never left his basis in Confucianism. He dichotomized reality and his study of astronomy and geography was termed the study of the "*ki* of forms" (*keiki*) while orthodox Neo-Confucian studies were termed the study of the "*ri* of the Will of Heaven" (*meiri*). He drew a Cartesian line between heaven and earth and concentrated on earth which was seen as an interplay of *ki* energies and forces.

Among other Chinese who later influenced Japanese thinkers was Fang I-chih (1611-71) who sought “the extended principles of things”, and stressed “the comprehension of seminal forces”. *Kakubutsu* came with him to be widened and directed at that which is external to our minds. Fang I-chih was cognizant of and discussed the works by Jesuit missionaries which were published in Chinese at the end of the Ming Dynasty. He was impressed by the *ri* dimension of these studies, which he found, however, to lack the metaphysics of the *ki* dimension. Whether geocentric or heliocentric, the universe was under a Heaven where *ki* forces operated in *yin* and *yang* revolutions. Wang Fu-chih (1619-92), likewise, under the influence of Chang Tsai, expressed that “within the universe there is nothing but one mass of *ki*” and that “*ri* are only visible in the arrangement and pattern of *ki*”. A contemporary of Fang I-chih and Wang Fu-chih, Ku Yen-wu (1613-82) also held that knowledge had to be rooted in the objective world, external to our minds. All of them influenced Japanese Confucian thinkers in the eighteenth century, for example, Miura Baien, who had read Fang I-chih’s works.

It was, then, under the influence of Chinese thought that Japanese emphasized *ki* over *ri*. We find Nakae Tōju (1608-1648) who accepted Wang Yang-ming and began the Ōyōmei tradition in Japan. The *kokoro* (= *ki*), immediate intuition, and “innate knowledge” (*liang-chih*, J. *ryōchi*,) became coincident with the workings of the heart. Thinking was removed from “scientific” study of *ri* in things, and “willing” limited to self-control. Like Wang Yang-ming he found that each man’s *kokoro* can be his own standard. *Ri* was found “in there” in the mind and not “out there” in a bamboo. Kumazawa Banzan (1619-1691), who was influenced by Nakae Tōju, spoke about the *ki* of Heaven and Earth (*tenchi no ki*). He says, “If man’s heart is upright, the *ki* of heaven and earth is also pure in him.” *Kokoro* and *ki* became synonymous and *ri* became subjective and dependent on each person’s *kokoro*.

In the following *kogaku* thought it was again *ki* more than *ri* that came to the fore. Yamaga Sokō (1622-1685) rejected the Neo-Confucian stress on *ri* cultivation and expressed that man became like “dead bones” if the *ki* side did not come first in his life. *Ri* was certainly there, but it was the *ki* life that should come first in a *bushi*’s life. So he became the creator of the *shidō*, later *bushidō*, the “Warrior’s Way”. Itō Jinsai (1627-1705) went farther when he considered life a spontaneous thing, a life of *ki* and not a life of *ri* when he stated that “All between Heaven and Earth is the one original *ki*” (*tenchi no aida wa ichi-genki nomi*) and that the whole universe is a living thing (*katsubutsu*), a one-dimensional *ki* monism. Ogyū Sorai (1666-1728), likewise, put the life of *ki* first when he considered a life of goodness — *jin* — as that of *ki* and not of *ri*. As he said (*Benmei*), *Jin naru mono wa toku nari, sei ni arazaru nari, iwanya ri wo ya*, “Goodness (*jin*) is virtue, it is not human nature (*sei*), so how could it be *ri*?”. According to him, all *ri-ki* thought was accretions of a later age, not found in the sacrosanct early Six Classics of the Sages. At the time of Confucius people used all strength on propriety and on how to rule the state. It was the Sung Confucianists who began fruitless speculative thought, leading to forced interpretations about what the Sages had said little or nothing.

Sorai only accepted the *kishitsu no sei*, the “*ki* nature”, in man and this *kishitsu no sei* was unchangeable. As he said in the *Benmei*: “Can *kishitsu* possibly be changed?! (*kishitsu wa hen-zubekenyā*)”. The *rishitsu no sei* (*honzen no sei*), whether accepted or not, was of less interest. The *ri*, mentioned by Sorai, was *tenri*, the Heavenly Inscap, which was limited to the Sages’ Way. To understand things in a “scientific” way was not possible: *ri* should not be studied except in areas where the Sages had already studied it. In spite of the fact that Sorai was both curious and open-minded, he did not deviate from “sagely” subjects unnecessarily. “Modern” science, in the form of *ri* study, was not for him for the simple reason that the Sages had not undertaken such studies. In this sense Sorai’s approach was much removed from natural science; his “science” concentrated wholly on sagely areas. The natural sciences in a Western sense (and a Chu Hsi sense) were left for smaller minds; they were nothing for lofty philosophical minds — they should keep to political economy (*keizai*), moral cultivation — and other classical subjects, as the Sages had presented them.

Ogyū Sorai says in the *Seidan* III: 12: “Now the truth (*dōri*) of the Book of Changes (*I Ching*) that ‘things grow up from below’ is certainly no foolish fancy. In the course of the year, spring and summer are the seasons when the spirit (*ki*) of Heaven descends, the spirit (*ki*) of Earth rises, and the two combine harmoniously so that all things grow. In autumn and winter the spirit (*ki*) of Heaven rises and the spirit (*ki*) of Earth descends; Heaven and Earth separate and cease to be in harmony with the result that all things wither and die. It is also like that in human society”. All natural life forms a circle of *ki*, and as it is in nature, so it is in society.

There were others in Sorai’s time who took a keen interest in the *ri* of things, but they are not mentioned so often as those who dealt with lofty philosophy. Who has, for example, heard of Inō (Inao) Jakusui (1655-1715) who investigated herbs for medicinal reasons and wrote works like *Shobutsu ruisan*. and is rightly called the “ancestor of herbal studies” in Japan? Sorai is mentioned and honoured and every educated Japanese knows his name. Jakusui is not, even though he probably meant more for the daily life of the Japanese than all Sorai’s philosophy. Important thought was directed toward the *whole* and not toward the parts; toward the great *why*, and not toward the partial *how*.

The tendency of leading Confucian thinkers was, accordingly, to leave *ri* alone and move in the direction of *ki*. This is evident as we enter the eighteenth century.

Among thinkers of the first half of the eighteenth century who stressed *ki* over *ri* we find Andō Shōeki (1703?-1762) who saw nature (*shizen*) as the “advance and retreat of the one *ki*” (*ikki noshintai*). It is *ki* advancing (*shinki*) and *ki* retreating (*taiki*) in an eternal perpetuum mobile. Nature and *ki* were for him synonymous. All dualism is rejected and *kami* and Buddha are only cultural creations, as also ethics. Heaven and Earth are a composite term for nature, and the *ki* is the life force which encompasses the whole. Nishikawa Fumio has in his article, *Andō Shōeki ni okeru shizen no gainen*, demonstrated how Andō Shōeki was close to Schelling in European nineteenth century naturalism. One wonders whether Andō Shōeki was influenced by Itō Jinsai and Ogyū Sorai.

Another thinker in the mid-eighteenth century who stressed the *ki* side of things was



Yamagata Daini (1725-1767). He was clearly influenced by Itô Jinsai and Ogyû Sorai and like them he saw the operations of Heaven and Earth as an interplay of the *ki* force. There were probably others who saw things in a similar fashion.

*Ki*-ism perhaps reached its finest and final expression in Miura Baien (1723-1789) and his *Genkiron*, "On Primal *ki*" and *Genron*, "Deep/dark words". In his *Genron* analysis — he rewrote the work not less than 23 times — *KI* is the supreme One Primal *KI* residing above as well as in things, equal to Heaven and Earth. (One can talk about *tenki* as much as about *tenri* in orthodox Chu Hsi Neo-Confucianism.) The heavenly *ki* is diffused through *yin-yang* operations to become all things and all bodies. With a terminology that is often not clear, Miura sees balances, or a balance in all nature, all of *ki* origin, coming from Heaven and *yin-yang* revolutions, which end up in the *jôri* reality of opposites in the world. But *ki* can not exist without the channels of *jôri*. All forces are *ki*, active or passive, waxing or waning, in dynamic flux or in static form, in action or in being. All is under a *ki* Heaven — is formed of *ki*.

Miura wrote that "at the age of thirty I first recognized that heaven and earth are *ki*" and he spent the rest of his life to convey this truth to others. In his enlightenment he saw the oneness of the universe and this oneness can be summarised by the two-letter word *ki*. This (primal) *ki* is above all opposites. The opposites appear when *ki* come to operate in all *jôri* configurations.

But as *ki* is individuated, objects are there and they last as long as each *jôri* "gene" system lasts. Bodies change with time, but the given "genes" in objects do not, and therefore the *jôri* laws can be investigated and described. And the reason is that the *jôri* does only exist within the merged being of *yin* and *yang*. Within the life of the *ki*-force, rules and laws exist in objects, which form the essences and regularities which can be the object of observation, classification, and mathematics. This scientific work, concerned with the *jôri* of things was for a *ki*-ist philosopher like Miura Baien a business of second importance to be left to "practical" people, smaller spirits, who worked with "plebeian" matters. Since theirs was not "lofty" thought, they are not often mentioned, but they were there and they increased in number from mid-Tokugawa.

They can be called the *ri*-ists, the true exponents of the Neo-Confucian tradition, and they were in later Tokugawa more and more influenced by Western *rangaku* thought. It took Arai Hakuseki no time to find out that Giovanni Battista Sidotti (1668-1715), who smuggled himself into Japan in 1708 and whom he interrogated, had two distinct sides to his thought. On the one side he was the irrational Christian, but on the other side he was the rational thinker, who astounded Hakuseki with his precise knowledge of natural science — a dichotomy that Hakuseki could not understand. Beginning with Hakuseki, however, a new interest was taken in Western science and from 1720 Shogun Yoshimune, the eighth Tokugawa shogun (r. 1716-1745) allowed Western books in Chinese dealing with astronomy, geography, medicine, weaponry, shipbuilding, food, clockwork and perhaps other fields to be read and studied by scholars. This was to develop into *rangaku* studies later in the eighteenth

century. Astronomy, medicine, geography and many other fields came peu-à-peu to be influenced by Western thought until, with a scholar like Yamagata Bantô (1748-1821), it was Western science that came to be in the centre of "progressive" Japanese thought. Yamagata Bantô can be seen as an important turning point. With him the study of nature became the study of *ri* in things as in Western science. His *Yume no shiro*, "Daydreams" (1802-20), has rightly been described as "an intellectual guide for future generations". But yet, even Yamagata Bantô saw his *ri* studies taking place within a *ki* universe.

It can be said that the emphasis was on *ki* among leading scholars from the middle of the seventeenth century until late in the eighteenth century. The *ki* energies and forces were in the center while the *ri* were only encased within them. With Yamagata Bantô and others by the beginning of the eighteenth century the emphasis came instead to be on *ri*, and so we can say it has been until today. Until the middle of the nineteenth century we have *rangaku* studies in a Confucian context: all who studied Western learning were first schooled in Confucianism and all mixed Confucian and Western learning. After the middle of the nineteenth century, however, *rangaku* widened into Western *yôgaku* learning, in which China rarely mentioned. The acceptance of Western science and the mathematical ordering of the universe spelled a new world-view and paradigm in which *ri* and *ki* were seen in mathematical terms (and ethics and human concerns were left out).

But was the way so long from traditional Chinese *ri-ki* thought to modern science? The *kakubutsu-kyûri* thought of Chu Hsi thought asked for the "investigation of things and the *ri* in things". This thought was certainly often taken in a moral sense, and it was not so clearly defined *what* should be investigated and where the *ri* was to be reached. There was a dichotomy in Chu Hsi thought inwards and outwards, both in the direction of material life and in the direction of moral life. *Mono* (*butsu*) certainly concern concrete material objects and *koto* acts, actions and events. For the Confucian philosopher, not least the Neo-Confucian philosopher, however, *mono* was a wider notion. For him *mono* referred to human and social relationships, to human beings and their characters, and so to moral life. As a result the line was thin between *mono* and *koto*. Usually moral life came first in Neo-Confucian thought and investigation of things aimed at moral perfection. The moral life of man was further connected with the laws of nature so that the *ri* of man, the *ri* of society, and the *ri* of nature were identical. And all *ri* ended up in the one heavenly *RI*. Therefore, when the Neo-Confucian philosopher spoke about the *ri* of a tree and the *ri* of a grass, this was not in the sense of modern science. This *kakubutsu-kyûri* had a moral goal in orthodox Neo-Confucian thought, not the search for the laws of nature *per se*. In late Ming China first and in early Ch'ing China and in Tokugawa Japan next the investigation of things began to be directed toward the material world and the *ri* (= laws) of objective nature began to be studied independently of ethics, and as a result one finds a pre-modern science both in China and Japan. There was thus a dichotomy in the practice of *kakubutsu*, and perhaps depending on the individual thinker, the investigation turned in an inward moral direction or an outward scientific direction. When modern European science came which took on interest only in the material



world, it was thus not so far away from one side of Chu Hsi thought, and it is also evident that the early scholars who took an interest in European science, like Yamagata Bantô, never discarded Chinese thought. As it were, they ended up with Copernicus in Confucius. The *ri* of European science were put in a Confucian setting, and the Confucian natural *ri-ki* order was not questioned. The new European science was also a *kakubutsu-kyûri*, “a study of the principles of things (*monogoto no ri*)” (Fukuzawa Yukichi), even if only taken in a limited outward sense, as interest was lost in the moral dimension of *ri* within man. From having had its concentration on what is “inner”, *ri* studies came to concentrate on what is “outer” — but they were yet considered studies of the principles of heaven (*ten no dôri*). Thus, it is no wonder that when a term was to be found for modern physics it became *butsuri*, a term that was taken from and a short form of *kakubutsu-kyûri*.

Who were right, the *ki*-ists or the *ri*-ists? It can seem that they were both right. It is a fact, however, that in recent modern thought the tendency has again been toward *ki*. First came Darwin who showed that all *ri* in the name of evolution is relative and then came Einstein and proved that all forms in time and space (*ri*) are relative, while all energy (*ki*) is constant, never lost nor destroyed. Whatever is done, the mass of energy remains the same, while things appear and disappear and the forms of things adapt according to environment. Thus, there is no entropy in the *ki*; entropy is only found in the *ri* world, with *ki* coming and going. No two *ri* constellations are the same; no two finger prints are ever the same; nor are two tree leaves ever the same. The laws whether it concerns land or government can change and are never eternal, while the energy that gives life to the universe is indestructible and can only be manipulated. So, it seems that in the light of today's science, the *ki*-ists were closer to the “truth” than the *ri*-ists. In this light Miura Baien and others were correct when they put *ki* first and *ri* second. And Ogyû Sorai was right when he stated that the *ki* nature could not be changed and Chu Hsi was wrong when he stated that *ri* could not change.

Scholars in the west began to measure the phenomena both in their *ri* and *ki* dimensions in ways that were not done in the east. The east had its version of science but it was the science in the west that would lead to modern science. From Newton and others a brave new world was created from the seventeenth century, which later reached Japan as *rangaku* and *yôgaku*. However, also earlier western science had reached Japan, beginning with the musket (*teppô*) in the sixteenth century (1543). This was the world of *scientific rationalism* which by means of mathematics began not only to map out but also to control things. Both the *ri* and *ki* have since been split apart and atomized, and the great cosmos has even been traced to a *big bang* at the beginning of time. The modernization of the world has been based on this scientific rationalism which has spread to ever more areas, also to social sciences. The original thought of *ri* and *ki* has been lost in the cold logic of mathematical structures, and life (*ki*) and form (*ri*) as ethical Neo-Confucian thought have disappeared.

The epilogue of Tokugawa *ri-ki* Neo-Confucian thought. With the full-fledged acceptance of the West after 1868, Western science came to rule the Japanese intellectual world, while the (Neo-) Confucian thought was slowly left behind. Although not entirely: when new

concepts were to be created in scientific nomenclature, it was again *ri* and *ki* that came to be the *key* terms. *Ri* came to be part of words like *ri-ka*, "science", *butsuri-gaku*, "natural science", *shinri-gaku*, "psychology", *chiri-gaku*, "geography", and so on, words which deal with the form of things. On the other hand, *ki* came to be part of words like *denki*, "electricity", *kiatsu*, "atmospheric pressure", *kishô*, "weather conditions", *kishitsu*, "character", "disposition", *jiki*, "magnetism", and hundreds of other words which deal with the life and energy in things. In this way one can see a link between Neo-Confucian *ri-ki*-science and modern science and a link between the earlier Chinese civilization and the later Western civilization.

And what became of Confucianism? It returned to the original thought of Confucius and became the ethics of modern Japan, and as ethics it has served Japan and other east-asian countries well — until this day. And for many a Chinese the universe is probably even today a *ki* reality.