

Scientific Contribution

The deconstruction of medicine - Metamorphosis of Chinese traditional medicine in Japan and the birth of morphologic pathology in the Edo period, which led to contemporary Japanese manual therapeutics

Hajime FUJIMORI, Yoshihiko YANO, Yoshitake HAYASHI

(Kobe University,

E-mail: hayashiy@med.kobe-u.ac.jp)

Abstract :

Integrative medicine is a relatively new field that seeks to unify scientific conventional medicine and non-conventional medical practices: complementary and alternative medicine (CAM). This article will contribute to understanding the difficulties associated with evaluating the efficacy of CAM therapeutics. A central argument of this article is that the reductionist methodology of clinical evaluation is not appropriate for CAM therapies. The history of Chinese traditional medicine (CTM) and Japanese traditional medicine (JTM) were compared, not to judge which is superior, but to elucidate their differences. While JTM is an offspring of CTM, JTM may be preferable to CTM for scientific study. A background has been provided to introduce the hypothesis that has been developed throughout this article: that the study of integrative medicine implies an essential predicament that prevents research from progressing, which is derived from the lack of balance in-between disregard and respect for CTM's theories.

Keywords: integrative medicine, complementary and alternative medicine, Chinese traditional medicine, Japanese traditional medicine, concept of *qi*

Introduction

Integrative medicine is a relatively new field that offers a novel, more

holistic approach to medicine to satisfy the needs of the public by unifying scientific conventional medicine and non-conventional medical practices; complementary and alternative medicine (CAM), and has not yet been scientifically verified. What we call integrative medicine emerged in the early 1990s, and its potential is promising; however, it is crucial that the level of knowledge in this field be increased. This raises a philosophical question rather than a scientific one: How to integrate CAM therapies into conventional medicine, which have completely different origins and histories, because the attempt influences the scientific framework of medicine.

My dissertation will compare the history of Chinese traditional medicine (CTM) and Japanese traditional medicine (JTM) so as not to judge which is superior but to elucidate their difference. Although current studies tend to take CTM mostly as an object of research: acupuncture, moxibition and so on, they have not so far been able to succeed in proving sufficiently the efficacy of CTM. The central dogma of the CTM is the concept of “*Qi*”, which is enormously difficult to be treated in the framework of modern science. While JTM as an offspring of CTM, JTM is freer from the concept of *qi* because through its history JTM has reduced influences of excessive theorization in CTM. I argue that JTM is preferable to CTM for scientific study.

1. Predicament of integrative medicine research

1-1 Obstacles preventing the development of integrative medicine research

Dr. David Eisenberg, a Harvard medical school professor, published an article in 1993 on the use of CAM therapies in the United States entitled “Unconventional medicine in the United States – prevalence, costs, and patterns of use” in *The New England Journal of Medicine*.¹ This study revealed that more than one-third of the US population used CAM therapies in daily life and sometimes spent more money on them

than on conventional medicine. It also showed that highly educated, well-paid, and higher-class individuals were more likely to use CAM therapies. This study had a large impact on both medical professionals and ordinary citizens. Its findings were the first big shock in this field of integrative medicine, which became very popular in the US just after this article was published.

In 1992, the Office of Alternative Medicine (OAM), which engages in CAM research, was founded in the National Institute of Health (NIH). This entity started with a budget of \$2.0 million in its first year; by 1999, it had grown to \$50.0 million. At that time, the division changed its name from OAM to the National Center of Complementary and Alternative Medicine (NCCAM). The entity had grown to \$128.0 million by 2012. As the NCCAM has grown and CAM has gained popularity, many well-known Medical Schools, such as Harvard, Columbia, Stanford, the University of California, and the University of Arizona, have established CAM research centers, where much research is currently being conducted.

The popularity of CAM has been suggested to have increased for two main reasons. First, conventional medicine is not adept at dealing with lifestyle-related diseases, one of today's largest health-care challenges.² Second, such a huge health-care budget challenges even developed countries' national budgets. Integrative medicine is expected to be one of solutions to these problems. In addition, from a quality of life (QOL) perspective, the general population appears to need holistic medical approaches. They say that in the beginning, it was not doctors but patients who wanted integrative medicine. It is expected to be further improved upon the more it satisfies general needs.³

Research currently being conducted in this field in the United States mainly focuses on the demonstrative clinical evaluation of CAM therapies. Researchers recognize it as the first task to be conducted because they believe that scientific verification of the clinical efficacy of CAM represents the first step to its integration. Acupuncture has mostly become the object of study by CAM researchers, followed by moxibustion.

Other than Chinese traditional medicine (CTM) currently being examined objects include natural remedies such as herbal medicine and homeopathy, or manual therapies such as chiropractic, shiatsu, an-ma, and also therapeutic exercise, kikô, reiki, and originally Indian therapies such as yoga and ayurvedic medicine. [Figure1] The scope of possible therapies is vast because CAM by definition covers almost all unorthodox medicines other than scientific occidental medicine. The reason for the preference for CTM may be that it is recognized as a medical system equal with that of occidental medicine, and as suitable for scientific research because it has a very long history, abundant records, information, materials that support research, and is a “living traditional medicine”, which many patients appreciate even today. As such, clinical efficacy studies have most frequently been conducted on acupuncture; therefore, Eastern Asian traditional medicines have been mainly discussed in this article.

Researchers have not yet been able to succeed in scientifically proving the efficacy of CTM. Although many scientific clinical efficacy studies have been conducted on acupuncture, conclusive results have not yet been obtained. Why, how, and from where do the difficulties associated with clinical efficacy studies of CAM originate? Why are randomized controlled trials (RCTs) not effective in evaluating CAM therapies?

Classical CTM was developed in the Spring and Autumn period (B.C.770-B.C.403) and Warring States period (B.C.403-B.C.221), and was then completed in the Han dynasty period:漢 (B.C.206-A.D.220) when the most important canonical classic “*Huangdi-neijing* : 黄帝内经 (Yellow Emperor’s internal medicine)” was written. Classical CTM adopted the Taoist concept of *qi* as its central medical theory, acupuncture as its main therapy, and diagnostics based on the human sensory system as its practical intervention. Contemporary CTM and *Kampo medicine* :漢方 (Japanese style CTM) are its legitimate offspring. As such, CTM represented a complete medical system based on a metaphysical substance (the concept of *qi* : 氣) with a focus on human sensory

diagnostics.

Modern science has never accepted metaphysical substances as an object of study; it has tried to eliminate the human sensory system from its own field because of its ambiguity and lack of certainty and reliability. Accordingly, in integrative medicine, when researchers use CTM therapies, including acupuncture, moxibustion, and Kampo medicine, they try to remove the characteristics of CTM from their study. However, this approach spoils the essence of CTM. Acupuncture becomes the mere insertion of a metal wire. Nevertheless, researchers feel that if they accept the concept of *qi* and the human sensory subjective diagnostic system more in scientific study, they may in turn lose scientific certainty, clarity, and objectivity.

Is this a serious conflict? Can the discipline develop despite a dilemma in its philosophical base? What is needed for CTM to be accepted as an object of scientific study?

These questions can be applied not only to CTM, but also to all other CAM therapies. The reason unorthodox medicines have been eliminated from orthodox medicine is that scientists recognize that they depend on the principles and appreciate the results outside of modern science. As such, this difficulty is associated with almost all CAM therapies.

Furthermore, the same difficulties in evaluating the clinical efficiencies of CAM therapies are also associated with conventional medicine. The expression “the prevention of potential diseases” exists in Chinese traditional medicine, which means that understanding the predispositions of a patient and providing an appropriate intervention helps to prevent diseases from occurring. The same approach is conducted in conventional preventive medical practice. However, it is difficult to evaluate its clinical efficiency in a reductionist way because this approach is medical art instead of scientific analysis, in which it is virtually impossible to eliminate completely subjective interactions between the patient and practitioner. Medicine implies science and research, but does

medical art to reduce the suffering of a patient, which depends on empirical knowledge and human sensory diagnostics instead of information reducible to physical entities.⁴ Once preventive approaches work well, the incidence of diseases, represented by physical damage to specific organs or tissues of the human body, and/or specific substances that are lacking or overabundant is reduced. In this case, one cannot clearly pursue the connection between the cause and effect of medical intervention.

In the beginning, integrative medicine met with problems that prevented its development. As such, the most desirable research is that which leads to a solution to these problems while showing how to deal with the questions that shape the framework of scientific research. Research on integrative medicine may also be useful in conventional medicine providing that these two medicines share the same difficulties, in which medical art plays an important role and are difficulties clearly separating subjectivity and objectivity.

Questions concerning the essential and basic methodology of science – in this case how to treat this predicament – are beyond scientific research and should be treated in the same manner by which the philosophy of science works because they precede science itself and shape the framework of scientific research instead.

1-2 Application of randomized controlled trials (RCT) to the study of acupuncture

In this section, I will argue the special character of today's dominant evaluation methodology – randomized controlled trial (RCT) – and the ways in which excessive reliance on RCT distort the essence of CTM and amplify the predicament that prevents integrative medicine study development.

A randomized controlled trial (RCT) is a method for clinical evaluation developed mainly for use in the field of pharmaceuticals, which is

currently recognized as the most scientifically strict method for clinical evaluation. As a result, it has been adopted by many other medical fields including CAM research. Those who initially developed RCT showed that psychological bias influenced a patient's physiological status, which in turn had an effect on a new drug's clinical trial results. They insisted that to ensure the appropriate and correct evaluation of new drugs, the psychological bias and subjectivity of both the participant and practitioner should be eliminated in clinical trials.^{5 6}

The elimination of subjectivity and construction of objectivity using randomization and double blind methodologies, and the determination of materials that have a real effect on target symptoms by the use of a placebo are the two major basic philosophies of RCT.

Although these two major basic philosophies have worked well in clinical trials in the pharmaceutical industry, they may not be so successful for the clinical evaluation of CAM therapies because it is difficult in these kinds of therapies to completely eliminate subjectivity and retain objectivity, and determine a specific remedy or intervention that has a real effect on test symptoms.^{7 8} Many researchers have cast doubt over the practical use of RCT in CAM research.⁹

In the pharmaceutical RCT design, every player is represented by a physical substance so that researchers can pursue the causal connection among them in a reductionist way. In contrast, in acupuncture interventions for instance, researchers cannot follow the causalities in a reductionist way because not all the players here have physical entities. Furthermore, according to the theory of CTM, the flow of *qi* represents a patient's health condition. Wrong flow is a sign of disease and its conditioning is a cure. The acupuncturist senses the wrong *qi* and cures diseases by removing or conditioning it. Accordingly, acupuncture interventions can always be described as follows. Disease → flow of *qi* → sensory diagnostics. Intervention → flow of *qi* → cure. The flow of *qi* and its sensing and conditioning always play an essentially important role in

both the diagnostics and intervention of CTM. Therefore, if it were to disappear, CTM would no longer be CTM, and acupuncture would no longer be acupuncture. The approach of CTM radically differs from that of biomedicine; therefore, methodologies applicable to biomedicine are not always available in CTM research. *Qi* is something separate from modern science, and has not yet been analyzed successfully in any reductionist or positivist way. *Qi* is not what can be measured or analyzed, but “what the practitioner senses”.

The concept of *qi* is the central dogma of CTM, which is out of the realm of modern science. Researchers cannot treat with the concept of *qi* and highlight its importance in the field of biomedicine. Nevertheless, if they operate as though *qi* does not exist, CTM would no longer be CTM, which represents a serious dilemma.

2. Deconstruction of CTM

In this section, how Japanese traditional medicine (JTM) has decreased the influence of the concept of *qi*, and also how this has made JTM more preferable to integrative medicine research than that of Chinese traditional medicine is discussed. The history of CTM and JTM will be compared, not to judge which is superior, but to elucidate their differences.

2-1 Canonical Chinese traditional medicine

In the Chunqiu-zhanguo :春秋戦国 era, superstitious etiology that had developed in previous days wore out and the idea that the influence of our lifestyle or environment resulted in diseases became common. An episode of the politician Zichan :子産 (?-522 B.C.) of Zheng :鄭 (806-375 B.C.) referred in the *Chunqiu-zuozhuan* :春秋左氏伝 tells us how he pointed out that a disease that King Ping :平 of Jin :晋 (1100-376 B.C.) had was a result of his bad habits. Zichan's belief illustrated that a new concept of etiology had emerged in this era.

Referring to Zichan, Sima qian :司馬遷 also shared his belief; the wrong circulation of *qi* causes diseases. This passage shows us that a very important pathological notion based on the concept of *qi*:氣 was emerging in the Chunqiu :春秋 era: Spring and autumn period.

The pathology based on concept of *qi* in Zuozhuan's :左氏傳 era referred only to excessive *qi*, but we can find a passage in an excavated medical book “*Yin-yang-maishihou*” :陰陽脈死候 from the tumulus of *Mawangdui* :馬王堆 (beginning of the 2nd century B.C.): “In case of excessive of *mai* :脈 (pulse) you have to choose a cure to reduce *mai*, in case of its decrease you have to increase *mai*, and in case of its restration you have to cease treatment”. In this citation, we encountered the idea that there could be not only increases, but also decreases in *qi*, and what doctors were initially concerned about was the equilibrium of *qi*. This represents a concept against a Taoist background that the loss of equilibrium led to diseases. Laozi :老子, the patriarch of the Taoist school, described in the 77th chapter of his book that “The Tao rid an excess and supply a deficiency”.¹⁰

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Citation from *Huangdi-neijing* :黃帝內經

Huangdi :黃帝 (Yellow Emperor) asked Qibai: 岐伯, “I love my people and provide for them. But I also levy taxes on them. I feel sympathy for them because they are unable to support themselves and frequently attacked by diseases. I don't want to use any remedies (poisons) or stone needles to treat them. I am thinking of using the filiform needles to dredge their channels, regulate their blood and *qi* and adjust the activities of adverse and due, going out and coming into. To pass it on to the latter generation, it is necessary to decide the principles of acupuncture treatment so that it can be kept forever and will never be lost. To make it easy and to use and memorize, it is necessary to put it into good order and divide it into reasonable chapters so as to differentiate the internal from the external as well as to decide the starting and terminating points of blood circulation and *qi* flow. In order

to describe the shapes of different kinds of needles, the Canon of acupuncture must be established first. I'd like to know your ideas about this issue.

(*Lingshu* : *Jiuzhen-shieryuan*, 靈樞 : 九鍼十二原)

The *Neijing* was a book on acupuncture. A Japanese researcher recognized it as a victory for acupuncture schools.^{12 13} From the end of the Zhanguo : 戦国 era: the Warring states period, to the Qin dynasty : 秦, the development of acupuncture schools increased and finally overtook moxibustion schools, which had previously dominated.

Pulse diagnostics also became very refined with the development of acupuncture. Therefore, by the Han dynasty period, CTM acquired (1) diagnostics: *maizen* : 脈診 (pulse diagnostics), (2) therapeutics: acupuncture, (3) medical theory: theory of *qi* based on Taoist thought; consequently, CTM was established as a complete medical system. Four classics of canonical CTM were also published by the end of the later Han dynasty: *Neijing*, *Nanjing* : 難經, *Bencao* : 本草, and *Shanghan-zabing-lun* : 傷寒雜病論.¹⁴

Thus, CTM that was completed in the Han dynasty period was introduced to Japan, and is the root of *Kampo* medicine (Japanese style CTM), which continues to be used in the present day.

2-2 Fundamental theory of Chinese traditional medicine

Citation from *Neijing*:

All diseases derive from the wind and rain, cold and heat, *yin* and *yang* : 陰陽, joy and anger, eating, drinking and housing, surprise and fear, which divide blood and *qi*, break *yin* and *yang*, crash the channels and damage the pulse. *Yin* and *yang* come into conflict. *Wei* (*qi*) is out of order. The meridian empties. The blood and *qi* are disturbed losing its order.

(*Lingshu* : *Kouwen*, 靈樞 : 口問)

In the CTM theory, “*qi*” is divided into three phases. The first

corresponds to a metaphysical substance that governs the universe and all animate beings, the second corresponds to the “vital power” that runs in the human body under a fixed order, and the last corresponds to the organic liquid body that runs in the human body. The last phase has also been subdivided into two types of *qi*: *yin* :榮 (nutrients), corresponding to blood, and *wei* :衛 (defensive), corresponding to organic liquid bodies other than the blood.

Citation from *Neijing*

Stagnation of *yin* (nutrient) and *wei* (defensive) leads to dispersion of *wei* and extravasation of *yin*. Loss of *qi* and stagnation of blood result in external heat and internal shortage of *qi*. This problem should be treated immediately with reducing techniques to promote the flow of *yin* and *wei*.

(*Suwen* : *Qixue-lun*, 素問 : 氣血論)

“*Qi*”, as the principle to hold the whole universe, is also the principle to govern and complete the life of all living things, which circulates all over the universe, and finally comes to our body to perfect it. The *qi* holding our body runs through it in a fixed order. Disharmony, discord, and friction in the flow of *qi* are used as the signs of a disease; therefore, reconstructing the sound circulation of *qi* using instruments such as a needle, moxa, or remedy is the cure. This represents the fundamental theory of CTM.

2-3 Scientific turn in the Edo period

Throughout its history, Japan has admired and imitated China; Japan is deeply indebted to China for its culture, including medicine. Japanese history can be described as an abrupt and complete Chinalization in its foundation as a country and subsequent gradual domestication. Chinese culture is characterized by its refined theorization. However, Japanese people are generally said to prefer simplicity to complexity, and concrete to abstract; Chinese culture was too complicated

and abstract for them.¹⁵ Behind their faith in Chinese culture, Japanese people have always had an inclination toward their own fastidiousness.¹⁶

Until the Edo period (1600-1868), no obvious inclination to intensive domestication had appeared. In the middle of the 18th century, Japanese culture entered into a completely new phase. This was a significant “scientific turn”, which was described as intensive Japanization. Some Japanese Confucians abandoned the nèo-confucianism of Zhu Xi :朱熹 of Songs :宋 – the *Cheng-Zhu* :程朱 school (*Syushi-gaku* :朱子学) – and insisted on a return to the basic classics of Confucius and Moncius, while others insisted on the importance of Yanmingism :陽明学. A Japanese fundamentalist Confucian in the early Edo era, Yamaga Sokô :山鹿素行, said that only Japan maintained the authentic tradition of Confucius, and that it had been lost in China.¹⁷ He believed that the Chinese people had lost the true confucian traditions so completely that Japan alone was the most likely successor. Furthermore, other Confucians criticized Confucianism in itself and began seeking a genuine Japanese mind before the penetration of Chinese culture.¹⁸ ¹⁹ Thus, in this era, Japanese thinkers started criticizing Chinese culture and sought out their own thoughts. This scientific turn, the tendency of Japanese cultural independence in the Edo period :江戸時代, was synchronized in many fields; various disciplines encountered a simultaneous turn. In the middle of the Edo period, many new schools emerged including *Kogaku* :古学, *Kogigaku* :古義学, *Kobunnjigaku* :古文辞学, *Kokugaku* :国学, and *Yômeigaku* :陽明学. All these new schools criticized the orthodox science adopted by the Tokugawa Shogunate: the nèo-confucianism of Zhu Xi of Songs (*Syushi-gaku*). Against this background, the medical school *Kohô-ha* :古方派 began a critical approach toward CTM, which Japanese doctors had sought for with enthusiasm.

This scientific turn in the middle of the 18th century in the Edo period was characterized by simplification, fundamentalism, positivism, and secularism of the concept of *qi*. These were the principal elements of

Japanization in this period. This scientific turn also affected Japanese medicine, which had previously been a faithful follower of Chinese medicine. How deeply was Japanese medicine affected?

2-4 The deconstruction of Chinese traditional medicine: *Kohô-ha*

After Tashiro Sanki :田代三喜 (1465-1544), who had introduced a New Wave of Chinese medicine in the Jin :金, Yuan :元, and Ming :明 dynasties to Japan in the Muromachi :室町 and Sengoku :戦国 era, Manase Dôsan :曲直瀬道三 (1507-1594) and Manase Gensaku :曲直瀬玄朔 (1549-1631) succeeded him. This father and son developed widely their master's medicine and examined many important people such as the *Shôgun* :将軍, *Daimyô* :大名 (powerful territorial lords), and Japanese Emperor. They founded their medical institution at Kyoto and educated many medical students. This school became more mainstream at the beginning of the Edo period (1600-1868), and is now called the *Gosei-ha* school :後世派, the modernist school of medicine. Doctors in this school defended up-to-date Chinese medicine after the Song :宋 and Yuan :元 dynasties, which were characterized by their refined theorization.

In the middle of the Edo period, another new medical school called *Kohô-ha* :古方派, a fundamentalist school, was rising. This new school criticized the *Gosei-ha* school for its excessive theorizing and defended the return to classics such as *Shanghan-lun* :傷寒論 of Zhang Zhongjing :張仲景 of the Han dynasty period, and insisted on the refusal of excessive theorization after the Song dynasty era and acceptance of a positivist approach. Partisans in this school examined the subscriptions of Zhang Zhongjing and verified its clinical efficacy 1500 years after its publication, which illustrates their fundamentalist and positivist approach.

An important doctor of this school, Gotô Konzan :後藤艮山 (1659-1733), defended *Ikki-ryûtai-setsu* :一氣留滯説 (the infarction theory of *qi*): jamming or an infarction of *qi* can cause all diseases; therefore, all that doctors had to consider is the circulation of *qi* and its conditioning. Konzan radically simplified original concept of *qi* that had developed into a

complicated theory with Yin-Yang and the Five Elements notice :陰陽五行説. A very important point in his claims was that Konzan shut *qi* up in the human body. This approach illustrated how Konzan simplified and secularized the concept of *qi*. Another important doctor of this school, Yoshimasu Tôdô :吉益東洞(1702-1773), defended *Manbyô-ichidoku-setsu* :万病一毒説 (the toxic theory): a toxin can cause all diseases. Tôdô claimed that a toxin in a body could vary its place and, according to the place the toxin occupied in the body, the representation – diseases – could vary too. One can easily recognize the closeness and continuity between Konzan and Tôdô's claims. They cut the line between *qi* running in the human body and *qi* as a principle of the universe, and, thus, closed *qi* as an object of medical intervention in a human body, which was no longer a metaphysical subject and functioned instead to create an optimal organic norm. This approach can be recognized as their simplification and secularization of the concept of *qi*. Furthermore, Tôdô's toxin and Konzan's jam seem to have been recognized as physical items. This is Morganian pathology rather than CTM. Tôdô also cast doubt on, and finally denied the theory of both Yin-Yang and the Five Elements, which had been the central dogma of CTM. He also added that no one could refer to what he or she could not see or touch, which may have reflected his positivist mind. Doctors in this school disregarded the central dogma of CTM because of its complicated excessive theorization and impracticability. Their scientific methodology synchronized with the other disciplines of their contemporaries in the Edo period.^{20 21}

CTM, in principle, has four fundamental diagnostics. First, visual diagnostics allow doctors to examine the patient's condition by observing his or her face and body. Second, auditory diagnostics allow them to appreciate patient's condition by listening to their voices, smelling their bodies, and assessing their feces. Third, a medical examination is conducted by interview. The last is palpation. Although Chinese doctors had four availabilities, they came to exploit only one palpation: pulse

diagnostics for many years from the Han dynasty period. Accordingly, Chinese doctors elaborated on this method until they ultimately abandoned all other diagnostics.²² In contrast, Japanese doctors in the Edo period, not only fundamentalists, but also modernists, exploited these four diagnostics more frequently than Chinese doctors. Finally, they stopped focusing only on pulse as Chinese doctors did and invented their own original palpation *Hukushin*:腹診 – palpation of whole patient’s body. They sought the representations of diseases by palpating, not only the pulse, but also the chest, stomach, back, buttocks, spine, and pelvis. They recognized that palpating the whole body was more practical than palpating the pulse alone.²³

The refusal of both medical theorization and diagnostics led Japanese medicine to abandon Chinese medicine; the former was no longer a carbon copy of the latter. What did Japanese doctors in the Edo period want to achieve by abandoning their precursor despite their faith in CTM for over 1000 years with such an enthusiasm? A former professor of the History of Science at Kyoto University, Yamada Keiji, once pointed out that the scientific turn in Japanese medicine in Edo period brought about the “ruin of Chinese traditional medicine”.²⁴

What did Japanese doctors in the Edo period want to construct from this ruin? Was their original medicine completely different from that of CTM?

2-5 The birth of morphologic pathology

The idea that “spinal and corporal misalignments, gaps, or indurations are the representation of the disease, and its conditioning is the cure” is completely different from the fundamental theory of CTM, in which “disharmony, discord, and friction in the flow of *qi* are a sign of disease, and the reconstruction of the sound circulation of *qi* by instruments such as a needle, moxa, or remedy is the cure.” The former was one of the major branches of new medicine that Japanese doctors in the Edo period wanted

to build on after the radical transformation of CTM. They refused the theory of Yin-Yang and the Five Elements and radically modified the concept of *qi*. They then focused not only on the pulse, but also on corporal stiffness and spinal misalignments in their practice. Careful palpation of the whole body allowed them to discover that patients had spinal misalignments or indurations, and physical imbalance, which corresponded to each disease. Kuriyama once pointed out that another important doctor of the Kohô-ha school, Kagawa Syûan : 香川修庵 (1683-1755), a disciple of Konzan, had written about the discovery of relationships between diseases and spinal mis-alignments and physical imbalance in his well-known book, *Ippondô kôyo igen* : 一本堂行予医言.^{25 26}

Citation of *Ippondô kôyo igen*

Doctors have to carefully observe the back of patients who suffer from chronic diseases because they must have some indications behind the stomach. In mild cases they locate superficially, in serious case they locate deeply in the stomach and coagulate behind the back. Their back swells or puffs. The vertebral column curves to the left, turns to the right or juts out. These metamorphoses make patients feel pain.

(*Ippondô kôyo igen* : *Shihai*, 一本堂行余医言 : 視背)

Syûan attested that one could definitely recognize the relationships between diseases and spinal misalignments. Syûan also claimed that pathology could be categorized into several types and doctors could give interventions directly to these pathologies. He continued.

Citation of *Ippondô kôyo igen*

These symptoms derive from the focus. When doctors recognize these pathologies (vertebral misalignments), the best way is to give a moxibustion directly to the points corresponding to symptoms regardless of the meridians, or to give moxibustion to optimal points nearby.

(*Ippondô kôyo igen : Shihai*, 一本堂行余医言 : 視背)

This comment was very important. First, he affirmed that doctors could treat optimal points regardless of the meridians. Second, he directly treated vertebral misalignments. The meridians is the line along which *qi* runs, on which acupuncture points can be defined. This was the most fundamental concept of CTM. Syûan strongly refused this fundamental concept and recommended application of the arbitrary usage of acupuncture points, which suggests that Syûan thought that doctors could apply treatments directly to the level of the spinal misalignment and/or physical imbalance. In other words, the focus of medical practice was altered from the circulation of *qi* to spinal misalignments and/or physical imbalance. This was a completely new medical approach, and, based on Syûan's citations, showed that Japanese medicine ceased copying CTM and started seeking its own therapeutic identity. It can be also interpreted as a radical transformation of CTM. If we qualify the concept of *qi* as a fundamental concept of CTM, we can qualify “morphologic pathology” as a medical theory of the Kohô-ha school. This was the birth of a completely new pathology.

I assume that diverse current manual therapeutics such as *Shiatsu*, *Anma*, and *Sei-tai*, which are widely accepted today in Japan by many individuals, are the offspring of the medical practices of the Kohô-ha school; however, the link between them has not yet been well studied because JTM was abruptly marginalized just after the Japanese modernization in the middle of 19th century. Among these therapies, we have the medical practice what is called “Sei-tai”, a manual therapy that conditions the physiological status with the arrangement of physical imbalance. “Sei” means arrangement, “Tai” means body. In this type of manual therapeutics, one in particular focuses on arranging misalignments in the vertebral column, which I would like to call “Vertetherapy” (vertebra+therapy). I will argue the preference of verte-

therapy to scientific study.

In CTM, the pathway of medical practice is as follows: Disease → flow of *qi* → sensory diagnostics. Intervention → flow of *qi* → cure. However, in “Vertetherapy”, the pathway is as follows: Disease → spinal misalignment → sensory diagnostics. Intervention → spinal realignment → cure. In the latter scheme, the influence of *qi* has been reduced. Furthermore, the approach of reducing *qi*'s influence differs radically from that of “as though *qi* were to disappear”. In the latter approach, researchers treat with acupuncture in scientific study as though *qi* does not exist. In contrast, in the former approach of reducing *qi*'s influence, one can interpret *qi* as functioning to create its own optimal organic norms and shut it up in a patient's body by cutting the link with a metaphysical substance while keeping the essence of traditional medicine intact. Thus, researchers can treat with traditional therapeutics with freedom from dilemma. This is a likely solution to the well-balanced disregard and respect of spontaneous functioning. This is also a key element for the study of CAM therapeutics to interpret what a practitioner senses into a scientific expression. If what the practitioner senses is a spinal misalignment, researchers may be able to treat this misalignment more practically than with *qi*. One can measure with ease differences of a spinal misalignment between before and after the intervention of vertetherapy because the vertebral column is a physical item.

An off-course evaluation of the clinical efficacy of JTM is not the final objective of scientific study, but a step to the realization of integrative medicine. Furthermore, indeed JTM is less affected by the concept of *qi*, but it is not “completely” free from the central dogma of CTM because JTM is an offspring of CTM. However, it is generally accepted that JTM is more preferable for scientific study than CTM.

The way in which Kohô-ha school doctors decreased the influence of *qi* and the methodology in which what vertetherapist senses is translated into scientific description will be applicable to another CAM study. Indeed practices are diverse and other essences are also difficult to interpret into

scientific description, but methodology can be shared. Thus, contemporary Japanese manual therapeutics study will be a first step to another.

3. Conclusion

Nowadays, chronic diseases, the so-called lifestyle-related diseases, pose a large threat to public health. Over the past few decades, there has been a shift in the population disease structure of developed countries from epidemical to lifestyle-related diseases [Figure 2]. This presents the biggest challenge to today's conventional medicine. In general, lifestyle-related diseases do not come from the environment, but are derived from within the body. Disease is a part of a person, and the person is also a part of the disease. No one can completely divide them, and the causality is obscure. It is generally difficult to determine a single cause of a lifestyle-related disease. This complexity may be one of the major reasons why conventional medicine cannot treat lifestyle-related diseases well and integrative medicine is needed.

The reason CAM is currently attracting attention is that it has its own "raison d'être" outside the Cartesian-Kantian philosophical demarcation, which is expected to be a clue to resolving the medical challenges faced in the present day.²⁷ As such, researchers have to introduce CAM therapies into scientific research without abusing its essence. In order to realize true integrative medicine, it is necessary to "interpret" this essence; we have to be careful to smoothly connect the inside with the outside. The endeavor was achieved by Konzan and Tôdô, who treated the concept of *qi* in a positivist way, and will help us in our attempts. They contribute the way in which one can draw a line between what can be treated in positivist way and what cannot. As for questions that we cannot treat in the framework of modern science, the concept of *qi* for instance, we should treat them in another discipline such as epistemology or philosophy of science. Integrative medicine demands of researchers that they should consider scientific framework of both conventional medicine and CAM therapies.

Notes

- ¹ Eisenberg D, 1993, Unconventional medicine in the United States – prevalence, costs, and patterns of use. *The New England Journal of Medicine* 28; 328(4): 246-252
- ² Butler D, 2008, Crossing the valley of death. *Nature* 453(12): 840-842
- ³ Lewith GT, Bensousan A, 2004, Complementary and alternative medicine — with a difference: Understanding change in the 21st century will help us in the CAM debate. *Medical Journal of Australia* 180: 585-586
- ⁴ Fagot-Largeault A, 2010, Enquête sur la notion de la qualité de la vie. *Médecine et philosophie*, PUF
- ⁵ Gold H, Grace WJ, Ferguson FC, et al. 1954, Therapy conferences on how to evaluate a new drug. *American Journal of Medicine* 17: 722-727
- ⁶ Kaptchuk T.J, 2001, The double blind, randomized, placebo-controlled trial: gold standard or golden calf? *Journal of Clinical Epidemiology* 54(6): 541-549
- ⁷ Paterson C, Dieppe P, 2005, Characteristic and incidental (placebo) effects in complex intervention such as acupuncture. *British Medical Journal* 330: 1202-1205
- ⁸ Maison S, Tovey P, Long AF, 2002, Evaluating complementary medicine: methodological challenge of randomized controlled trials. *British Medical Journal* 325: 832-834
- ⁹ Fujimori H, 2011, Integrative medicine, Agenda and Actualities – Prospects of scientific evaluation of clinical efficacy of CAM (complementary and alternative medicine) therapeutics. *Journal of Medicine, Life and Ethics Society* 10: 130-140
- ¹⁰ Yamada K, 1999, *Cyûgoku igaku wa ikani tsukuraretaka*, Iwanami shinsyo (in Japanese)
- ¹¹ Yamada K, 1999, *Cyûgoku igaku no kigen*, Iwanami syoten (in Japanese)
- ¹² Yamada K, 1999, *Cyûgoku igaku wa ikani tsukuraretaka*, Iwanami shinsyo (in Japanese)
- ¹³ Yamada K, 1999, *Cyûgoku igaku no kigen*, Iwanami syoten (in Japanese)
- ¹⁴ *Huangdi-neijing*: the most well-known canonical classics, Former Han dynasty, divided into 2 volumes as follows, (1)*Suwen*: basic theory of CTM (2)*Lingsu*: practical handbook of acupuncture. *Nanjing*: one of the most important classics, Former Han dynasty, practical handbook of acupuncture and moxibustion. *Shangunlun*: one of the most important classics, Later Han dynasty, practical handbook of Chinese remedy.
- ¹⁵ Nakamura H, 1988, *Nihon-jin no shii hôhô*, Syun-jû sya (in Japanese)
- ¹⁶ Otsuka Y, 1996, *Tôyô igaku*, Iwanami shinsyo (in Japanese)
- ¹⁷ Yamaga S, 1669, *Cyû-cyô jujitsu*. (in Japanese)
- ¹⁸ Moto-ori N, 1771, *Naobino mitama*. (in Japanese)
- ¹⁹ Kobayashi H, 1977, *Moto-ori Norinaga*. Shincyô sya (in Japanese)
- ²⁰ Otuska K, Yakazu M, 1979, *Kampo igakusyo syûsei 13*. Meicyo shuppan (in

Japanese)

²¹ Otuska K, Yakazu M, 1979, *Kampo igakusyo syûsei 10*. Meicyo shuppan (in Japanese)

²² Kuriyama S, 2002, *The expressiveness of the body*. Zone Books

²³ Yamada K, Kuriyama S, et al, 1997, *Rekisho no naka no yamai to igaku*. Shibunkaku syuppan (in Japanese)

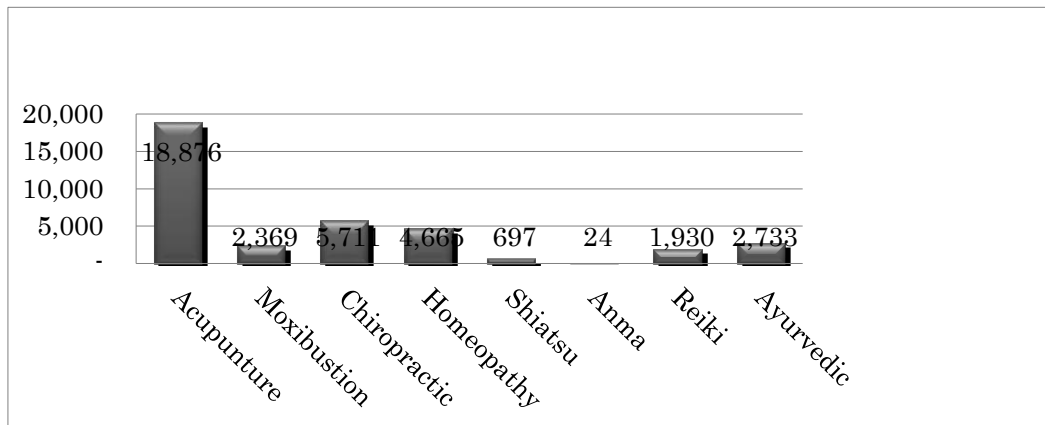
²⁴ Yamada K, 1999, *Cyûgoku igaku no kigen*, Iwanami syoten (in Japanese)

²⁵ Kagawa S, 1788, *Ippondô kôyo igen*. (in Japanese)

²⁶ Yamada K, Kuriyama S, et al, 1997, *Rekisho no naka no yamai to igaku*. Shibunkaku syuppan (in Japanese)

²⁷ Kaptchuk TJ, 1998, The persuasive appeal of alternative medicine. *Annals of Internal Medicine* 129(12): 1061-1065

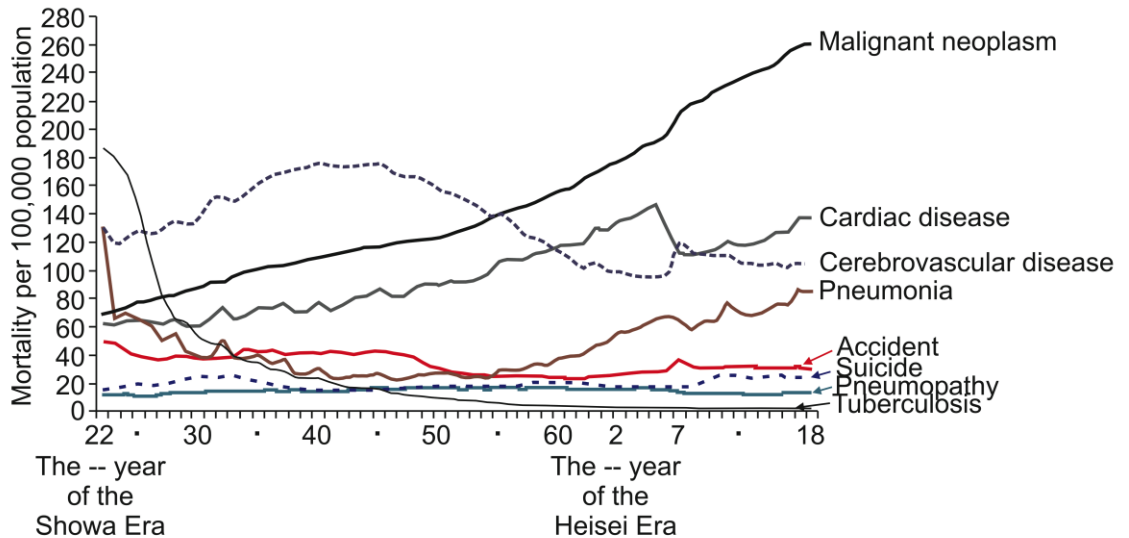
[Figure1] Result in Pubmed Home. <http://www.ncbi.nlm.nih.gov/pubmed> research words: acupuncture, moxibustion, chiropractic, homeopathy, anma, reiki, ayurvedic



[Figure2]

Fig. 2

Change in annual mortality rate according to the main cause of death



Note: (1) The decrease in the number of reported mortalities due to cardiac disease in the 6th and 7th year of the Heisei Era can be attributed to the enforcement of the instructions prescribed in the Death Certificate (Attestation) (which came into effect from January 1995); the instructions are as follows: "do not put a terminal disease such as heart failure or respiratory failure in the field of cause of death."

(2) The increase in the number of reported mortalities due to cerebrovascular disease in the 7th year of the Heisei Era can be attributed to a rule (which came into effect from January 1995) that specifies the selection of an original cause of death according to ICD-10.