CONCEPTUAL CHANGES IN JAPANESE MEDICINE DURING THE TOKUGAWA PERIOD

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Conceptual Changes in Japanese Medicine during the Tokugawa Period.

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The establishment of the medical faculty at Tokyo University based on German models during the late nineteenth century marks a significant departure from Japan's traditional sinological heritage. An investigation of the implications of this change in view of conceptual changes in medical thought during the Tokugawa period is in order predicated on the recognition of the existence and necessary resolution of an incompatibility between the philosophical foundation of traditional Chinese medicine as practiced in Japan and Western medicine at the onset of the Tokugawa period (1660-1868).

The attempt to identify contributing developments both historical and intellectual that significantly affected the direction of medical thought also involves considerations at the level of the philosophical and methodological implications of science and conflicts arising out of competing scientific systems. In this regard, questions concerning the nature or definition of "medicine" are constantly in the background.

Although the emphasis is focused on the changes in the mode of medical thought as a necessary contributing factor, these alone were not sufficient to explain the integrative phenomenon. The development of Western medicine in Japan was a function of the social,religious, economic, and political factors that characterized Tokugawa Japan. The interactive juxtaposition forms the narrative background to my investigation.

The overwhelming presence of characteristically invariable Chinese modes of therapeutics tend to divert the investigation of changes in Japanese medicine to later and later chronological periods. This tendency to dismiss early Japanese medicine as simply mirror images of Chinese models is a natural reaction to its ostensible immutability both in its practice, as well as in historical continuity. However, generalizations of this type tend to obscure the nature of Chinese and Japanese medicine. By investigating the changes in the mode of thought coterminous with changes in the practice of medicine, we can better assess the directional changes in the development of medicine.

The impetus for divergence and change in Japanese medicine was an already emerging theme before Western medicine presented itself as a competing medical system. Physicians of the Rishu school of medicine were already slowly changing the normative standards of Chinese medicine by adapting new terminology and selectively stressing elements not emphasized in the original models. But this devleopment was circumscribed by the oppressive effects of seirisetsu and contained any positive contributions from effecting a directional influence on medicine within the the Rishu school of thought as the mainstream of medicine.

Nonetheless, these changes in Rishu medicine helped to reinforce stronger expressions in other movements that were more directly associated with the integration of Western medicine.

The Koihō arose as a reaction to Rishu medicine with the teachings of Nagoya Gen'i in Japan. Drawing on doctrinal models already advocated in China, the Koihō succeeded in displacing Rishu medicine as representative of the mainstream of Japanese medicine by 1750. The school of Koihō was primarily responsible for reducing the degree of conceptual disparity by changing the contextual meaning of many key elements of Chinese natural philosophy and creating cognates for potential alignment of conceptual perspectives within Western science and medicine. By eliminating seirisetsu and firmly establishing medicine on empiricism, the Koihō made innovative contributions in the rationalization of methodology and in expanding the application of that methodology. However, these changes must be identified within the context of Chinese medicine and not motivated by any specific need or pressure brought on by the presence of Western medicine.

Western medicine was introduced into Japan during the sixteenth century by the Portugese , but because this medicine was primarily surgical in nature, it was largely ignored by the traditional medical community.

The term "medicine" during the Tokugawa period primarily meant the practice of internal medicine. Surgery was mainly practiced by individuals who were outside of the established medical community. The reason for this aversion toward surgery was in large part due to the inherited Chinese medical tradition. Even the term "surgery" had its own connotations. It dealt mainly with superficial skin eruptions and lesions. Wounds inflicted by traditional weapons of war were treated by practitioners of kinsōi, a school of practice that arose toward the end of the Muromachi period (1392-1568) and eventually came to be associated with the surgical community.

Until 1740, when Aoki Kon'yō and Noro Genjō were commissioned by Shogun Yoshimune to study Western science and culture, Western medicine was perpetuated primarily by the interpreters. It was this nuclear group who maintained Western medicine as a tradition within their own ranks from the time it was first introduced. It was also members of this group who initiated translation work in the Dutch language and began to produce didactic anatomical works. Their activities in these areas antedated both Yamawaki Tōyō and Sugita Gempaku and are viewed as predecessors of the Rangaku movement rather than isolated events. A definite intellectual tradition is in evidence.

CHAPTER I

JAPANESE MEDICINE, A QUESTION OF CHINESE SCIENCE

Introduction

The history of Japanese medicine is one of two broad contrasts that mark the prominence of Chinese medical theory and Western medical thought. This analysis is an attempt to bring into close perspective, conceptual changes occurring in medical thought during the Tokugawa period (1603-1868) of Japan.[1] It is based on the thesis that such changes necessarily occurred in order that a medical system based on Western models, in contrast to the then extant schools of Chinese medicine, might be established during the early part of the Meiji period (1868-1911).

The medical school of Tokyo University stands as a landmark initiating Japan's commitment to Western medical theory and practice. As an isolated phenomenon it stands as a point of departure from Japan's traditional relationship with the sinologically centered Asian culture. However, as many authors have shown in the past, the history of western influence in Japan is much older and dates back to the middle of the sixteenth century, beginning with the arrival of the Portuguese traders and Jesuit missionaries.

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[1]Another name for this period is the Edo period.

The initial and obvious question of why such a long time lapse occurred before the recognition of Western medicine, can not be answered simply and succinctly and forms the narrative background of this dissertation. As a function of the history of the period, the complexity of the Tokugawa society requires an investigation into the many factors exerting directional influence.

Historical Relations

For centuries, Chinese culture provided the models for many aspects of Japanese culture, consequently, medical thought prior to the advent of Western learning was based on Chinese patterns. Parenthetically however, such a generalization should not overlook the fact that an indigenous medical system flourished from a very early period of Japanese history. According to traditional accounts, the legendary figures of Ōkuninushi-no-mikoto and Sukunahikona-no-mikoto played major roles in the early origins of this native Japanese medicine. Despite the fantastic accounts of various gods and demi-gods, by the end of the third century B.C., the indigenous forms of medicine exhibited a systematized, although immature body of medical practice, the nature of which revealed a highly empirical element mixed with a theurgical remanent absorbed from the historical myths of Japan. Therapeutics was aimed at the symptomatic manifestations of disease, and in general, took the form of prayers or amulets together with herbal medical treatments. Infusions and decoctions were the common mode of administering medicines and are mentioned frequently in both popular and medical literature. Mineral baths were also popular, as was massage.

Contacts between the people of Japan and the continental mainland of China occurred at least as early as 200 B.C. when the high culture of Han China (206 B.C.-220 A.D.) began to exert its influence on Japanese civilization. Dr. Yū Fujikawa mentions even earlier contacts between China and Japan.[1]

Early accounts on the introduction of Chinese medicine begin to appear about the fifth century A.D. The Nihon Shoki 日本書紀 [2] mentions that the Emperor Ingyō 允恭天皇 had summoned a physician from Korea named Konmu 金武 in the year 414 A.D. Again in 459 A.D., a physician named Tokurai 徳来 arrived in Japan settling in an area known as Naniwa 難波. From this period, it did not take very long before the indigenous medical system of the Japanese was eclipsed by the more sophisticated Chinese systems. The great classics of Chinese medicine, Su Wen (素問, Somon in Japanese),[3] Ling Shu (靈樞, Reisu in Japanese),[3] and Nan Ching (難経, Nankei in

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[1]Fujikawa puts forth a date antedating the Chou Dynasty (ca. 1122 B.C.).

[2]One of the two oldest historical chronicles concerning the earliest periods of Japanese history. It was written during the Nara Period (646 A.D.-794 A.D.) as a thirty volume work, and is also known as Nihongi 日本紀.

[3]The Su Wen and Ling Shu together constitute the great medical classic known as Huang Ti Nei Ching 黄帝内経素問, or Kotei Nai Kei in Japanese. It was written sometime during the period 300 B.C. to 100 B.C., depending on various historical interpretations. Its exact date of compilation is still open to question. It is alleged to contain the medical wisdom of Huang Ti, the mythical deity of Chinese medicine. Hereafter I will refer to the Huang Ti Nei Ching simply as the Nei Ching.

Japanese)[1] were being read at official request by Court physicians as part of their training by the reign of Emperor Kimmei 欽明天皇 who ruled from 540 A.D. to 571 A.D.

By the early seventh century, Japanese students under Court sponsorship were studying Chinese medicine in China as part of their formal education. The foreign medical system of China never encountered the many obstacles faced by the introduction of Western medicine. It did not have to confront and displace the theoretical foundations of a competing complex medical system as an intimate part of the social and cultural structure. It was possible for Chinese medicine to coexist with indigenous medical practices. There were no major contradictions as was the problem in the case of Western medicine. The favor shown by the Imperial Court in Japan also helped immensely in the acceptance of Chinese medicine. In 702 A.D., the codes of law known as the Taihō Ryō, instituted by Emperor Mommu 文武天皇, established a system of medical education along the lines found in Tang China (618 A.D.-907 A.D.). Chinese medical texts formed the basis of this education. Thus, the Chinese medical tradition in Japan was already quite old by the opening of the Edo period in 1603.

Philosophical Relationship

As it evolved, a fundamental difference in the developmental state of medicine existed during the seventeenth century in Japan when compared to

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[1]This work is a commentary on the Nei Ching by Pien Ch'iao 扁鵲 written in two volumes. It contains explanations of 81 difficult passages from the Nei Ching. It is considered equal to the Shang Han Lun and Nei Ching in importance.

its contemporary Western medicine. And, although many similarities can be demonstrated, their basic difference marked a schism which could not be bridged by a camouflage of historically demonstrable operational and functional similarities.

The basis for this difference lay in the philosophical or theoretical legitimations for Japanese medicine, and in a larger sense, science. It arose as a legacy in its descent from Chinese medicine.

In general, Chinese medical doctrines were only a part of a larger system of cosmogonic and cosmologic proportions, and its various doctrinal forms took shape parallel with the changes occuring within this larger philosophical setting. After the death of Confucius (born ca. 550 B.C.- died ca. 479 B.C.), his teachings came to occupy a central theme in the philosphical tradition of China. As a moral philosophy, Confucianism had established itself as a formal system during thereign of Wu Ti (140 B.C.-187 B.C.), during the early Han Dynasty (206 B.C.-220 A.D.).[1] Tung Chung Shu 董仲舒 (179 B.C.-104 B.C.) was responsible for the official Court recognition and exclusive sponsorship of Confucianism.[2] Its primary function was as an ethical system to give credence to the maintenance of social and political order. The early relationship between morality and its physical manifestation in nature was mentioned by Ssu Ma Chi'en 司馬遷 (ca. 145 B.C.-ca. 86-74 B.C.) in his work Shih Chi 史記.[3]

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[1]Masao Maruyama, Studies in the Intellectual History of Tokugawa Japan (Tokyo: University of Tokyo Press, 1974), p. 5.

[2]Shigeru Nakayama and Nathan Sivin, eds., Chinese Science (Cambridge: The MIT Press, 1973), p. 80.

[3]Ibid., p. 71ff.

The Will of Heaven, in this moral system was manifested in natural phenomena expressing itself as a function of certain natural laws, and it was the duty of the ruler to clarify these mandates as expressions of ultimate authority. The astronomical movements of the stars and planets, as well as the physical expressions of yin and yang, and the Five Elements constituted the principal workings of natural law. A balance of yin and yang represented the moral ideal.[1]

Projected on to this moral philosophy with its extensions into natural phenomena, was a cosmological perspective originating in the idea of ch'i . Between its early appearance in the Huai Nan Tzu 淮南子 in ca. 120 B.C., through the various interpretations of Lao Tzu 老子 (b. 604 B.C.), Tung Chung Shu, Wang Ch'ung 王充 (27 A.D.-97 A.D.), and finally in the extremely structured doctrines of Chu Hsi 朱熹 (1130 A.D.-1200 A.D.), the concept of a "pneumatic," and at the same time "energetic" ch'i 気 as the original ontological matter of the universe became the basis for existence.[2] This monistic perspective viewed man as a product of this ontological process, and came to occupy the microcosmic image of the universe. However, to this apparent monistic view was combined the concept of li 理 as the logical or moral function of existence, and whose close identity with ch'i has given rise to endless controversies concerning the Chinese perspective of existence as dualistic or monistic.

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[1] Maruyama, p. 74.

[2] Lao Tzu described ch'i as shape without shape, image without substance, in Lao Tzu , Tao Te Ching. (Harmondsworth: Penguin Books, 1976), p. 70.

Thus during the Sung period of Chinese history (960 A.D.-1275 A.D.) major revisions occurred in the orthodox Confucianism of China. The flowering of a true naturalistic perspective which occurred during the late Han period came together at this time to form a synthesis of new ideas.

Tokugawa Confucianism

Neo-Confucian philosophy, as it then became known, found its way into Japan during the Kamakura period (1185-1333)[1] and it was one of these revised Sung schools of Confucianism that became the accepted form of thought during the Tokugawa period.

Tokugawa Japan was unique to the history of Japan for the unprecedented length of time of its existence as a period of relative peace and stability. But the price for this era of stability was the degree to which the Bakufu[2] attempted to impose rigid institutional and intellectual patterns upon the nation. It was motivated by a compulsion to perpetuate its own dynastic dominance over the country. As the result of political expediency, the various moral and social doctrines contained within the Sung school of Chu Hsi[3] were

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[1]Maruyama, p. 13.

[2]"Bakufu" is another name for the government of Japan during the Tokugawa period. As a descriptive term, it refers more to the structural configuration specifying it as a military government under a shogun. This form of government was also prevalent during the Kamakura (1185-1392) and Muromachi (1392-1573) periods.

[3]The various doctrines of Chu Hsi were considered as the tenets of a school of thought known in Japan as Shushigaku.

used by Tokugawa Ieyasu to establish historical and philosophical precedence for the maintenance and perpetuation of his political and social order. Specifically, the Chu Hsi school of Neo-Confucianism provided the intellectual models for behavior during a period when a functionally stabilizing ideology was sought by the Bakufu. It exerted its greatest influence in the area of social and political behavior by providing the necessary moral and ethical precedents. However, this transplanted knowledge developed along its own lines in Japan, and as a result, Japanese medicine can not be viewed as a mirror image of China's. Differing cultural settings favored distinctly Japanese colorations. It will suffice to say that the general intellectual trends of the Sung Dynasty as well as the medical theories of the post-Han period became the general models, but served only as the impetus for Tokugawa transformations.

Its role as a barrier to the introduction of western culture took its origin in the epistemological considerations of behavior and experience as sources of knowledge, and the relationship of knowledge to general morality. The primacy of morality in Chu Hsi philosophy and its relationship to epistemology precluded any fundamental shift toward a Western scientific perspective. However, having made the statement, one will also find a very curious transitional phenomenon occurring toward the end of the seventeenth century and beginning of the eighteenth century. Because it is transitional, it has all the characteristics of mutational forms. It is important to understand this phenomenon historically, and to see the mutational forms correctly within the changing conceptual framework of this period. The philosophy of Western science was antithetical to Shushigaku as the conceptual base of natural philosophy and medicine. As a

system of knowledge, Western science could not exist in Shushigaku because of the extraordinary inconsistency at the fundamental level of epistemology. In its simplest expression, knowledge was made a function of ethics and moral behavior in Shushigaku. Those who maintain that the historical forms of the late seventeenth and eighteenth century indicate evidence to support the thesis that medicine and science developed within Shushigaku are committing errors of logic and misinterpretation by ignoring the most fundamental concepts of both Western science and Chu Hsi doctrines. However, this conclusion can be maintained if accompanied by interpretive assumptions based on certain conceptual changes in Chu Hsi doctrines within Shushigaku and the willingness to acknowledge that these changes were indicative of the changing character of Shushigaku in general. This view runs counter to Maruyama's interpretation of the fragmentation of Shushigaku,[1] which in part has been challenged successfully recently, and my own interpretational conclusions of a variational fragmentation process.

This process witnessed the development of elements that could be identified as particulars of a Western scientific methodology within the framework of altered Chu Hsi rationalizations. This phenomenon confirms my thesis that the emphasis of certain methodological elements within Chinese based science and medicine were beginning to converge with Western emphases as an intermediate step prior to the acceptance of Western medicine.

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[1]Maruyama, p. 17.

Definitional Differentiations of Science

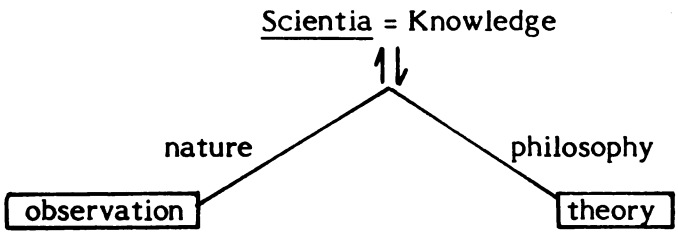
Underlying these theoretical considerations in the discrepancies between Western medicine and Japanese medicine of the seventeenth century, lies the fundamental issues in the definition of science and the incompatibility of the Chinese system of this period with such a definition. The secondary emphasis of knowledge and its acquisition, only as a method to the primary task of attaining virtue, subordinates objective observation within a metaphysical framework whose underlying motivational value is deeply imbedded in the moral considerations of Chu Hsi's ethical system.

This relationship between activity and theory is a critical one in attempting to characterize the nature of medical thought as it evolved out of the seventeenth century into the late eighteenth century in Japan. It is the changing character of this relationship that marks the prominent feature of the transitional period of Japanese medicine. Thus, the necessity of some valid working model of science is in order to carry on a meaningful discussion of the development of Japanese medicine coterminous with the Western tradition of science and medicine. Formulating such a body of criteria has presented enormous difficulties in the distillation of a simple set of working concepts. Admitting the difficulties of such an undertaking, the simplest, yet meaningful, generalization which can be made about science has already been unconsciously alluded to. The two most important dichotomous perspectives of science are:

1) Science as an activity manifesting itself in such modalities as methodology, institutions, and other functional or operational elements.

2) Science as an ethos whose modes of expression have manifested themselves in its philosophic, semantic, value, and other theoretical differentiations. In short, it is the foundational theory of science and its associated value systems.

This differentiation is derived from the semantic origin of "science" whose Latin root in scientia literally means "knowledge." If one then makes a further analysis of "knowledge," it can be identified as being the product of the interaction of two important elements. The one represents the theory or philosophy describing the system itself. Its main components being the logical, ethical, metaphysical, and epistemological descriptions which together constitute the theoretical parameters of the "science" in question. The other primary element is the data gathering methods which can be either grouped under the term "methods" or specified as "objective observation." Graphically, the interacting system might look like this:



The identification of any activity as a function of science must be made according to the criteria contained within the theory of the specified "science."

A number of historians of science, one of the most distinguished of whom is Joseph Needham, have referred to Chinese and Japanese observational activities in the area of natural and physical phenomena and its practical

applications, as "scientific" or "proto-scientific." Certainly one can not dispute the objectivity and acuteness of Chinese astronomical observations. Nor can anyone dispute the minuteness and detail with which the Chinese and Japanese observed the subtle manifestations of various diseases. Most historians would agree that acute observational powers are in the best tradition of science but it does not necessarily have to be within the framework of science to be referred to as "scientific." This semantic differentiation over the adjectival use of "scientific" serves merely to point out that in its broadest definition, "scientific" merely means "...exhibiting the methods or principles of science,"[1] and makes no distinction as to degree. Thus many examples can be cited as "scientific." But even in the face of such overwhelming evidence, the activity itself and the resulting data will have no meaning unless it occurs within the context of an ethos that describes and gives meaning to both the activity and resultant data. Certainly the exact nature of the various criteria and their parameters within such an ethos, has as much to do with the quality of science as the activity itself, but the role of the theoretical foundation defines that activity and gives it meaning. Hence the two are inseparable in defining science. The basis for Chinese and Japanese medicine of the seventeenth century remained intimately related to a philosophical construct whose principles defined a system incompatible with a Western oriented scientific ethos because of the emphasis between knowledge and morality.

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[1] Webster's New Collegiate Dictionary, 1977 edition, s.v. "scientific," p. 1034.

The usefulness of words like "scientific," "pre-scientific," or "proto-scientific" are helpful in describing specific elements of Japanese medicine, but at the same time they tend to introduce an element of pre-determinism in the historical perspective when investigating the direction of Japanese medical thought. It is for this additional reason that a short discussion concerning the use of the word "scientific" was previously included. From the vantage of historical retrospection, the progression of events leading to an integration with the European tradition of science is obvious with each succeeding decade after the middle of the eighteenth century; but, there was no natural reason to assume that Japanese medicine contained some inherent characteristic that precluded any other alternatives. The historical background of Tokugawa Japan had as much to do with its course of development as the coincidental occurrance of certain doctrines which lent themselves easily to integrative modifications in the transition to a Western scientific ethos.

The Nature of "Scientification"

This line of discussion becomes crucial when one considers the question of the nature of the process evident in the development of Western medicine. Certainly the end product of the history of Western thought in the area applied natural philosophy has been "science" as it evolved to the twentieth century. To the Japanese of the eighteenth century, it was not the conscious "scientification"[1] of existing methodology or thought.

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[1]"Scientification" is a neologism which I coined to describe the general processes involved in the development of a science.

The impetus and motivation for the theoretical modifications in Chu Hsi occurred not as the direct result of confrontations with Western science or medicine. It was a process which began about the middle of the seventeenth century as a series of public criticisms against the rationale used by the Bakufu to legitimate its policies. Initially there was nothing inherent in the changes in Tokugawa Chu Hsi which directly affected science or medical thought. The focus of the reformation was directed at social and political tenets believed to be the cause of the economic suffering and political injustice experienced by the entire country. It arose out of the internal domestic crises which were becoming more and more evident by the end of the seventeenth century and certainly manifesting themselves in all areas of life during the eighteenth century.[1] Yamaga Sokō 山鹿素行 (1622-1685) and Itō Jinsai 伊藤仁齋 (1627-1705) led the early attempts at reforms of this type as advocates of the School of Ancient Learning.

Chu Hsi's critical role was to represent the accepted intellectual tradition in Tokugawa Japan. It stood not only as the legitimacy of the imposed cultural norms of Tokugawa orthodoxy, but also as the generalization of specific theoretical contradictions to Western scientific theory. By sustaining the kinds of criticisms leveled by men like Ogyū Sorai 荻生徂來 (1666-1728), it signaled the general fallibility of Chu Hsi Neo-Confucianism, and indirectly its authority and popularity among the intelligentsia. These series of attacks had

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[1]Tetsurō Ikeda, "Jugaku to Rangaku," in Rangaku to Nihon Bunka, ed. Tomio Ogata. (Tokyo: Tokyo Daigaku Shuppankai, 1971), p. 162.

the effect of changing certain of the internal conceptual elements within Shushigaku, and how these changes made their effects felt depended largely on the individual scholar's own field of interest. The most significant changes occurred in the restructuring of the concept of "nature."

As Shushigaku scholars interested in the natural sciences attempted to justify their activities theoretically, they effected changes which directly contradicted the ideological originality of the system and altered its character. The most damaging process was an external factor. As modifications were made, a degree of recognition was accorded to scholars for their accomplishments achieved under the new rationalizations. The Bakufu itself bestowed sponsorship by extending employment to those specially gifted individuals. From a broad perspective, this recognition given by the Tokugawa government aided the disruptive forces which confronted the integrity of Chu Hsi doctrines, as well as its position of power and authority. The recurrence of ostensibly supporting Shushigaku and indirectly undermining its authority will be a constant theme in the policies of the Bakufu. In the end, the power and slowly diminishing authority of Shushigaku was a function of continued government sponsorship.

The new developments of the late seventeenth and early eighteenth centuries within orthodox Chu Hsi provided an easing of restrictions in the intellectual atmosphere to allow more freedom of expression in scholarly activities. These changes brought about shifts in the mode of thinking which permitted physicians to embark on experiments based on innovative ideas

unrestrained by the stifling dogma of Chu Hsi Neo-Confucianism, which in many instances actually forbade acknowledging the existence of knowledge derived by the kinds of experimentation which produced the Kaitai Shinsho.[1] From the middle of the eighteenth century, Rangaku[2] physicians slowly began objectively to pursue knowledge through experimental evidence. In a real sense, Yamawaki Tōyō山脇東洋(1705-1762) and Sugita Gempaku杉田玄白 (1733-1817) were pioneers in initially demonstrating conclusively the fallibility of Chinese medical knowledge.

Although this picture may seem to fit nicely into what Kenneth Downey describes as the "destruction theory" of scientification, his theory is really based on the two extremes of cause and effect.[3] What is occurring during the Tokugawa period is not necessarily a destructive process, although some choose to see it as such. "Modificational constructive adaptation" may be a better descriptive term, which some might prefer to call, simply, "acculturation." The developmental mechanisms and nuances are far too complex to fit so neatly into

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[1]The Kaitai Shinso ("The new book of anatomy") was the title given to one of the earliest published translations of a western book into Japanese. Its undertaking by Sugita Gempaku, Maeno Ryotaku et al. was motivated as the result of anatomical observations on a human cadaver.

[2]"Rangaku" is taken from the Japanese phonetic transliteration of "Holland" or "Oranda." Ran meaning "Holland" and gaku meaning "the study of," the combined term roughly translates "Dutch studies." In fact, the term meant more than just the study of Dutch. It was the study of western culture as transmitted through the Dutch language. After 1638, Holland was the only Western country admitted into Japan.

[3]Kenneth Downey, "Sociology and the Modern Scientific Revolution," Sociological Quarterly, Vol. 8, No. 2 (Spring, 1967), p. 247.

any single preconceived sociological theory. As Downey points out, science sociology is still in its adolescent stage of development and its theoretical endeavors tend toward the speculative side.[1] The formal dissolution of the restraints imposed by Chinese natural philosophy may be seen as a destructive process, but the internal classifications of Confucianism were at the same time perpetuated, taking on new meanings within a Western scientific ethos. They provided the necessary modes of thought to carry over Japanese medicine through the void caused by the disappearance of a theoretical base. The implication appears correct that Western medicine initially developed during a period when an intensive understanding of the existence and role of a theory of science was little understood. As a result, the Japanese made many changes in method and technique without firm grounding in the theory of science. The transition and integration of Japanese medicine into the Western scientific tradition may be seen as actually having been mediated by these sinological classifications. For a time, Japanese medicine was sustained merely by the immediacy of the results produced by actual experimentation, or the access to Western translations which became more abundant and better in quality during the early nineteenth century. Single theory explanations are insufficient to account for the complexity and importance of historical trends motivating conceptual changes.

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[1] Ibid., p. 246.

Conceptual Change: A Definition

Having arrived at a substantial point in this introduction, one might now be compelled to ask, what the topic of this dissertation is. Not only does the word "conceptual" require some explanation, the word "change," simple as it is, may also need some attention. "Change" defines the transformations of one form into another, be it tangible or intangible. However, it also encompasses the definition of "modification." "Change" can also indicate a replacement mechanism. Thus the idea of mechanism plays an important aspect in examining "change." In a like manner, "conceptual" manifests itself variously. Obviously, the topic of this thesis is not a discussion of the differing points of view regarding fertilization procedures of the human ovum during the Edo period. Central to the use of this word are the ideas current in medical thought. "Conceptual" indicates not only the "...complex product of abstract or reflective thinking,"[1] but can also indicate the methodology used in the intellective process. My method of attempting to elucidate the more remote or esoteric changes in attitude will incorporate both definitions of "conceptual" paying close attention to the mechanisms motivating the "changes."

By investigating the changes in the methodology of thought, or what Maruyama calls "modes of thought,"[2] it is possible to look into changes that preceded the transition so conspicuous in the change from the methodology of

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[1] Webster's New Collegiate Dictionary, 1977 edition, s.v. "conception," p. 233.

[2] Maruyama, pp. xv-xxxvii.

Chinese medicine as manifested in Japanese medicine to those based on Western scientific models. This technique reveals that the necessary conceptual changes needed to form the foundations of Western-styled medicine occurred principally during the eighteenth century with the earliest beginnings in the late seventeenth century. This "latent" or "incubation" period is the critical interval to the development of Western medicine in the nineteenth century. Although one does not see the kinds of activity that characterized the nineteenth century, in which tremendous amounts of human energy was expended at attaining proficiency in Western knowledge; the eighteenth century produced the necessary conceptual changes to support the more obvious and visible activity of the nineteenth century. These changes occurred in the rationalizations of observation and the value structures associated with the observed data. This frenetic activity of the first half of the nineteenth century solidly reinforced the conceptual shifts of the eighteenth century, and perhaps no other event did more to achieve the successful establishment of Western medicine than the demonstration of the efficacy of smallpox vaccination.

Specific Conceptual Changes

Once conceptual change in the modes of thought had been initiated, it was followed by changes in the product of the rationalization process producing variations in the ideas themselves. Many such changes can be isolated and pointed out, therefore I have differentiated some of the more interesting areas due to their significance to the actual practice of medicine. These areas are:

1) The idea of "nature" and vis medicatrix naturae.

2) Changes in disease concepts and nosological considerations.

3) Therapeutic considerations.

4) Surgical interventions.

Thomas Kuhn: Paradigm Theory

Ultimately, investigations involving conceptual changes must somehow be brought to light in view of Thomas Kuhn's thesis concerning the nature of scientific development as expressed in his book, The Structure of Scientific Revolutions. A thorough assessment at this time would be difficult due to the additional information needed to fulfill the requirements of Kuhn's analysis; however, some interesting insights may be mentioned in passing.

Kuhn is primarily concerned with the mechanisms involved in the progress of science. He delineates a process that describes the linear progression of science from one conception, which he calls a paradigm, to another. These paradigms provide the models and explanations of observable phenomena. This conceptual change is what he refers to as a "scientific revolution." By using the accumulation of anomalies which are produced by a given scientific community as a catalytic agent initiating changes in the paradigm, he has produced an explanation for the development of science.

Japanese medicine provides some interesting contrasts to this picture. It entered the Western scientific tradition from an intellectual tradition outside of the scientific norms of the West. It was made possible by philosophical speculations arising as the result of social unrest due to what was perceived as

governmental inability to deal with social and political reality. The most significant conceptual shift was in the mode of thinking which allowed physicians to recognize the value of their own experiential evidence. This shift allowed physicians access to objective observational material and the freedom to analyze it unencumbered by any preconceived notions of epistemology. In short, the impetus for this fundamental change in perspective occurred outside of what might be termed the formal methods of science. It was not supported by scientifically generated evidence. Yet one can identify many operational classifications in Kuhn's theory in the sinological doctrines of Japanese medicine.

Many Confucianistic doctrines carried themselves into the thought processes of Western science and were not destroyed in the paradigmatic shift. In the transitional period of about fifty to one hundred years after 1750, Western-style Japanese medicine was essentially without any foundational theoretical definitions of the type which might constitute a theory of science. The techniques and methods were being employed but it is doubtful if any of the underlying scientific ethos was fully understood. These features are rather oversimplified but they do illustrate some of the problematic themes. In short, the general statement which was made concerning the "destruction theory" holds in this case, that the complexity prevents the exact conformation to any preconceived sociological theory.

General Remarks

Aspects of my point of view to this period have been elaborated on by several prominent historians of Japan. Albert Craig, writing in an article in the

Princeton University series on Japanese modernization,[1] deals with the issue of the confrontation between Western science and Confucianism in Japan primarily from a philosophical or conceptual approach. He deals with the opposition of ideas and the prevalance of the Western scientific ethos. In contrast, Ikeda Tetsurō[2] and Charles Sheldon[3] focus on the social and economic history of the Edo period in an attempt to give explanation to the destruction of Tokugawa feudalism and its theoretical legitimation. Sheldon's emphasis on economic changes among the merchant class and Ikeda's stress on the social and economic conditions of the peasant class bring additional points of view to the argument that the foundations of Tokugawa Japan were no longer tenable against the various antagonistic circumstances that threatened the stability of the period. It is my contention that conceptual changes in medicine reflected the integrated social, economic, and political history of the period.

Some General Comments on Form

Because this dissertation deals with Chinese as well as Japanese topics, there is some difficulty in reconciling the reading or pronunciation of Chinese terms. As ideas and associated materials entered Japan from China, it was very

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[1] Albert Craig, "Science and Confucianism in Tokugawa Japan," in Changing Japanese Attitudes Toward Modernization, Marius B. Jansen, ed. (Princeton: Princeton University Press, 1965), pp. 133-160.

[2] Ikeda, pp. 181-194.

[3] Charles D. Sheldon, The Rise of the Merchant Class in Tokugawa Japan (New York: Russell and Russell, 1958).

common to observe changes in pronunciation into Japanese. A simple example is that of the pronunciation of China, Chung Kuo 中国 , which becomes Chūgoku 中国 , in Japanese. In order to maintain some degree of consistency in the text, I have left all names of Chinese personalities and book titles in the original language. However, there is a problem with those terms which exist in both the Japanese and Chinese written language that must be pronounced and written in one language or the other to be read in English. A large number of terms that originate in Chinese enter the Japanese language only to take on uniquely Japanese interpretations. In these cases it is best to use the Japanese pronunciations. However, this technique appears to cause some difficulty in maintaining the continuity of ideas from the Chinese language to the Japanese language. Therefore, I have elected to maintain uniformity for the sake of clarity and sacrifice semantic correlations to pronunciations in certain instances. I have done this specifically with ch'i which is ki 気 in Japanese, and li 理 which transliterates to ri 理 in Japanese.

The term Shushigaku 朱子学 in Japanese literally means, "the study of Shushi." In turn, Shushi is the Japanese transliteration of Chu Hsi 朱熹 (1130-1200), who was a Sung philosopher and originator of a specific school of Neo-Confucianism. Throughout the text, I will use Shushigaku to mean the study of Chu Hsi Neo-Confucianism as was persued by the Japanese. Implied in the usage are all the interpretational changes that Japanese scholars made as they endeavored to refine their own knowledge of it.

There is a broad class of specific Chinese concepts and terms which have become integrated into Japanese culture, that I have chosen to use the Japanese pronunciation for. I have done this in cases where the chances for ambiguity are

minimal. In the end, this method is perhaps the most useful. Were one to make further studies of Chinese medical ideas in Japan, the written documents and their references can be easily found in the Japanese readings. Too, if one were to approach Japanese scholars to discuss related topics, they would be more familiar with the Japanese readings, and more comfortable discussing them in those terms. In cases where confusion might occur in my text, I have included either Japanese or Chinese characters.

Japanese and Chinese names can at times be perplexing to those unaware that the normally accepted order of an individual's name is surname first and given name second. Thus I would be known as Ozaki Takeshi 尾崎武司. I have maintained this order for all Japanese and Chinese names that appear in the text. Normally one will not see the comma between the two names that often appear in the use of this order when applied to Western names. However, footnote style in historical disertations dictate that the citation begin with the author's or editor's given name first and then followed by the surname last. In order to observe this formality, I have changed the name sequence appropriately.

CHAPTER II

GENERAL PHILOSOPHICAL CONCEPTS

Introduction

Before continuing into the historical development of Japanese medicine, it is necessary to lay down some working definitions of the concepts which appear most frequently in the area of investigation we are to follow. These interpretations have changed throughout both Chinese and Japanese history, and therefore one must carefully identify the appropriate meanings and relate them to the period in which we are working. Chapter III will present the development of Japanese medicine during the Tokugawa period beginning with a background of the period. The sources of its medical ideas will be presented principally along the lines of thought discussed in Chapter I. Emphasis will be given to disease concepts and their changing nature. The definitions presented here will form the basis of these discussions. This theme will then be expanded to a discussion of some of the underlying assumptions about the concept of "nature," and their implications.

Throughout the paper, the interlaced discussions concerning the idea of therapeutics follows the general assumption that there is a close correlation between it and the theory of disease. The exceptions to this assumption occur during the period of transition, roughly between 1750 to 1850, when changes in medical concepts could not furnish the necessary information and correlations to

provide a basis for change in therapeutics. This is the same type of situation that occurred during the late Renaissance and seventeenth century when the discoveries of Vesalius, Harvey, and the Iatrochemical and Iatrophysical traditions produced enormous new reservoirs of knowledge concerning the nature of man's physical existence, but had little immediate effect on the nature of therapeutics.

Behind Chinese etiological theories lies a vast, historically complex medical system few western historians have attempted to unravel. In addition to the elusiveness of historical reflections, discussion of medical concepts of a foreign culture in English presents a problem of tremendous dimensions, particularly in the comprehension, let alone the expression or accurate translation of ideas which may not exist in English. Chinese and Japanese medical concepts represent particularly vexing examples. Nakayama and Sivin, Manfred Porkert, Joseph Needham and Ilza Veith have done admirable jobs in this regard. Porkert's The Theoretical Foundations of Chinese Medicine, and Needham's Science and Civilization in China series, as well as Veith's The Yellow Emperor's Classic of Internal Medicine and Nakayama and Sivin's Chinese Science have accomplished a great deal in elucidating the complexity of Chinese science and medicine. No single work exists in English in regard to Japanese medical thought. Japanese authors, on the other hand, have been exceptionally productive; Fujikawa Yū, Yamazaki Tasuku, Ogata Tomio, Ogawa Teizō, the five volume Meijizen series, and most recently, Hattori Toshirō have contributed greatly to the presently available works in Japanese. However, Japanese works have their own unique shortcomings. Unless clear explanations are presented along with the use of technical ideographs, there is an inherent difficulty in

understanding the use of particular Chinese ideas in Japanese medicine. Because written Japanese share the use of Chinese ideographic characters, there is a tendency simply to use these symbols without further explanation as to their meanings.

It is obvious from Japanese texts of the Tokugawa period, as well as modern historical accounts, that the original Chinese ideas, concepts, and terminology have been modified or synthesized into uniquely Japanese expressions. Nonetheless, as a point of initiation, the meanings of the more prominent and widely used Chinese ideas are essential, and a slight digression may be in order at this point.

Metaphysical Concepts: Yin and Yang

The idea of yin 陰 and yang 陽 [1] is probably the most ubiquitous in Chinese thought, and undoubtedly have come close to household words even here in the United States. These two ideas, which are in reality one, form the most fundamental idea in Chinese philosophy. Porkert provides a most detailed discussion in defining their meaning and significance, although it may not be necessary for our purposes to go to such lengths.[2] Yin and yang are universal generalizations indicating the opposing or polar elements of reality...some examples of which are, the positive and negative, top and bottom, male and

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[1] In and yō respectively in Japanese.

[2] Manfred Porkert, The Theoretical Foundations of Chinese Medicine, M.I.T. East Asian Science Series, Vol. 3 (Cambridge: MIT Press, 1974), pp. 31, 42.

female, light and dark, up and down. This idea is the most fundamental in Chinese thought and begins to take on more precise meanings depending on the context. It is a qualitative concept which can be expressed in quantitative terms.[1]

In the introduction to Porkert's The Theoretical Foundations of Chinese Medicine, there is a brief discussion of the word "science." Porkert refers to Chinese medicine as a "system of correspondence."[2] It is indeed a fitting term and it may be a convenient approach to understanding the endless ideas that fill Chinese medicine. From this point of view, what we are discussing and attempting to define are the "conventional standards of value"[3] around which Chinese medicine is developed. These first principles are the fundamental units of truth.

Metaphysical Concepts: Wu Hsing

The concept of wu hsing 五行,[4] or the "five elements" ranks in equal importance to the idea of yin and yang in Chinese thought in general, and medicine in particular. It remained undiminished in importance to Japanese medical thought. According to traditional accounts, the five elements resulted from the differentiation of yin and yang. In a sense, it is in this form, that yin

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[1] Ibid.

[2] Ibid., p. 2.

[3] Ibid.

[4] Gogyō in Japanese.

and yang manifested itself most prominently as it related the microcosmic idea of man to the macrocosmic idea of the universe. Porkert's use of the term "five evolutive phases" probably comes closest to an adequate English translation but equally sounds the most foreign. Needham's use of the term, "five elements," in vogue through historical precedent, is the one I favor because of the widespread recognition of the term itself. Regardless of the translation, the term refers to five elemental qualities or energies.[1,2] The idea of wu hsing has been attributed to Tsou Yen 騶衍 who flourished sometime during the period 350 B.C. to 270 B.C.[3] This was also about the time that both Needham and Porkert feel that Chinese science was born.

Movement and change are two prominent features that characterize the five elements, and this perspective was consistent with how the Japanese physicians of this early Tokugawa period perceived this idea. For whatever reason, wood 木 , fire 火 , earth 土 , metal 金 , and water 水 were used to symbolize these five qualities. Absent in the definitions of the five elements is the emphasis of each element representing the specific material composition or matter referred to by its name. Instead, the focus has been on the real or supposed qualities of that element.

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[1]Joseph Needham, Science and Civilization in China, 5 vols. (Cambridge: Cambridge University Press, 1954-). Vol. 2: History of Scientific Thought, p. 243.

[2]Porkert, pp. 43-54.

[3]Needham, vol. 2, p. 232.

Correspondence Relationships

Wood	Fire	Earth	Metal	Water
windy	heat (hot)	humidity (moist, wet)	dryness	cold
liver	heart	spleen	lungs	kidneys
sour	bitter	sweet	pungent (hot)	salty
spring	summer	四季末 [1]	fall	winter
east	south	middle	west	north

The Chinese system of correspondences, or relationships, as used in Japan during the Kamakura Period (1185-1392) continued into the Edo period essentially unchanged.[2]

Conspicuous in Japanese medicine, particularly in Ryūchō Igaku[3] are the use of the terms unkiron 運気論,[4] goun rokki 五運六気,[5] saiun 歲運,[6] unkō 運行,[7] undō 運動.[8] All of these terms have

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[1] This is the last 18 days of every season.

[2] Yū Fujikawa, Nihon Igakushi, final ed. (Kettei ban) (Tokyo: Nisshin Shoin, 1944), p. 122.

[3] Ryūchō Igaku is a school of thought that was very popular during the early Tokugawa period. It will be discussed in Chapter III.

[4] Yun ch'i lun in Chinese.

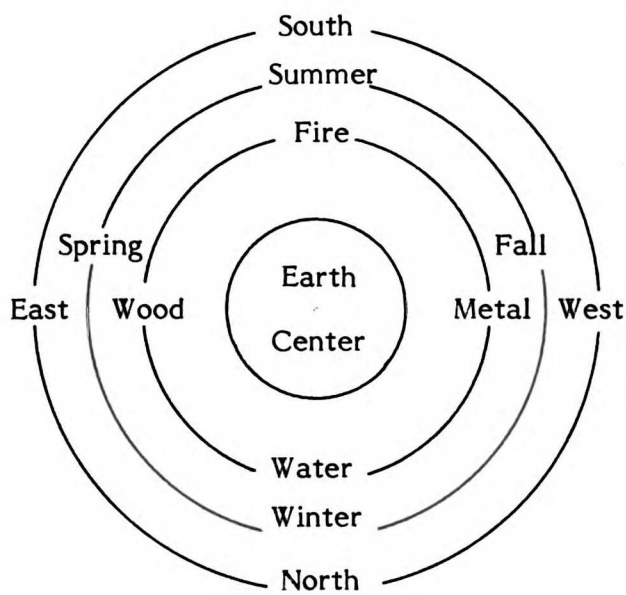
[5] Wu yun liu ch'i in Chinese.

[6] Sui yun in Chinese.

[7] Yun hsing in Chinese.

[8] Yun tung in Chinese.

terms have incorporated in their literal meaning the idea of movement and were used in reference to the five elements. They are in fact, rather technical terms which are used to define a theory of correspondence between the universe as the macrocosm and man the microcosm. The English use of the word "movement" may be inappropriate here for the phenomenon being described is not movement. It is a change from one state or phase to another. Porkert's use of the term, "evolutive" may be more applicable, since these phenomena described by the Japanese unkō or undō are really phase shifts in the qualitative dominance in the five elements. The simplest of these shifts, that are grouped in sequential cycles, is one already alluded to above. It is formed by the relationship between the five[1] geographic directions, the four seasons, and the five elements.[2]



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[1]The fifth direction is the center direction. China was considered to be the center of the world, its land represented the center to the Chinese. China was the middle kingdom, the country of the center. Hence, its name, Chung Kuo meaning the "middle kingdom," is derivative of this idea.

[2]This diagram and the following two diagrams are taken from Porkert, pp. 47, 51, and 52 respectively.

The relationship between the units of the five elements and natural phenomena are herein clearly expressed. The seasonal changes occur coterminously with the five elements. The integration of the polar elements, yin and yang, are expressed in movement and location of the sun during the course of the day and during the year. Thus, morning and noon, the directions South and East where the sun rises, and the seasons, spring and summer, are considered yang. Whereas, midnight and evening, the directions North and West, and the seasons, winter and autumn, are considered yin. Because these changes describe universal natural or natural environmental phenomena, Porkert calls this cyclical sequence the "macrocosmic sequence."[1]

The terms 大陽 ,小陽 ,大陰 ,小陰 play an important part in Japanese and Chinese medicine, and the origin of their existence comes from a further analysis of this cycle. Morning and noon represent periods when the sun is fully evident, and as mentioned earlier, are yang. Conversely, evening and midnight show a common difference and are considered yin. However, the solar manifestations at noon and midnight are fully evident, and the conditions are immediately perceivable, whereas in the morning and evening, potentiality is manifest. This analysis yields the following relationships.

Wood	= potential yang	=	minor yang	小陽
Fire	= actual yang	=	major yang	大陽
Metal	= potential yin	=	minor yin	小陰
Water	= actual yin	=	major yin	大陰

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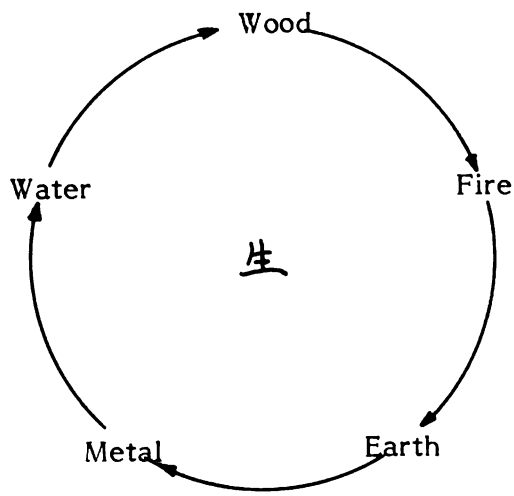
[1]Porkert, p. 51.

The hsiang sheng 相生 ,[1] is another sequential cycle found in the Nei Ching that is prominent in Japanese medicine of the Tokugawa period. The earth element is incorporated into the previous cycle between fire and metal. This cycle is by far the most widely known and has been referred to as the "productive sequence." Each state or quality is thought to produce the following elemental quality.

The sequence is often referred to as starting with the wood phase.



Wood
Fire
Earth
Metal
Water

A third cycle, often referred to in Japanese medicine, is the opposite of hsiang sheng and is called hsiang k'o 相剋 ,[2] because it represents a subjugation or destruction sequence. The term itself may be somewhat misleading. The existence of this third cycle is the result of a resistive quality in yin which already exists in the material substrate of the organism's systems.[3] It functions to equalize the 相生 cycle.

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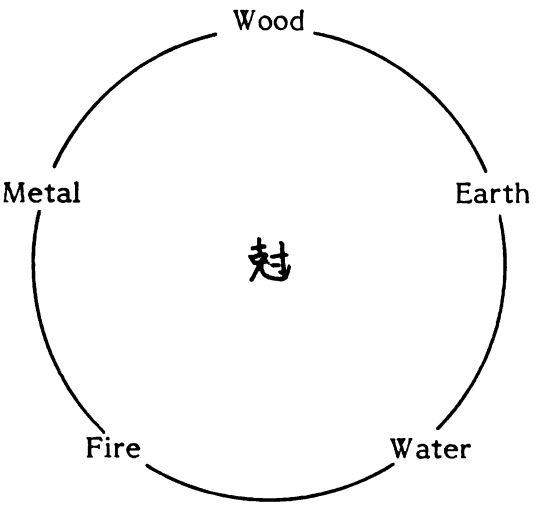
[1] Sō shō or sō sei in Japanese.

[2] Sō koku in Japanese.

[3] Porkert, p. 52.



Both sequential cycles, the hsiang sheng 相生 , and hsiang k'o 相生 , interact dynamically maintaining metabolic balance in man, as well as in universal physiological function. These two systems were known as gogyō shōkoku 五行生剋 in Japanese. Yang, manifested in energy and positive stimulation, encouraged cycle sequence sheng 生 , whereas yin encouraged cycle sequence k'o 剋 .

Pathology or unbalance was caused by influences termed hsieh 邪 .[1] The Nei Ching classified hsieh into internal and external sources. Literally hsieh means "harmful emanations," "miasma," "evil," or "wickedness," and appears as the causative agent of disease. This character should be best defined as denoting a generalized pathogenetic agent. Often these agents are specifically identified within the context of their usage. Their effects were manifested in "excesses" 實 [2] or "deficiencies" 虛 [3] in energy. These two terms and their expression are extremely important ideas in pathogenetic theory in relation to hsieh in both China and in Japan. The terms hsu hsieh 虛邪 and shih hsieh 實邪 appear

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[1] Ja in Japanese.

[2] Jitsu in Japanese.

[3] Kyo in Japanese.

frequently in Chinese medicine; however, in Japan, particularly during the Tokugawa period, the term hsieh appears predominantly in combination with specific hsieh as for example in fuja 風邪 and kanja 寒邪. These foreign influences then cause irregularity in the balance of the "movement" or "change" in the various cycles just mentioned. The states of imbalance represented disease states.

Metaphysical Concepts: Ch'i 気

Another idea which Japanese culture integrated from China was the idea of ch'i 気.[1] This idea is an extremely elusive one because of the many different ways that it is used in the literature. In its most fundamental form, one would have to concede that it was a form of energy. But like energy in the modern understanding, the Chinese, as well as the Japanese, made finer distinctions in the various forms of energy that were integrated into their understanding of universal phenomena.

In its most fundamental expression, Confucianists of the early Tokugawa period thought it to be the material or energetic substrate of all things. Ch'i was the origin of all things including the source of the universe itself. Yin and yang and the five elements were all expressions of ch'i. These elements of a cosmogonic and cosmologic nature were embodied in what was known as seirisetsu 性理説[2,3] in Japan.

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[1] Ki in Japanese.

[2] Hsing li shuo in Chinese.

[3] Nihon Gakushiin, Meijizen Nihon Igakushi (Tokyo: Nihon Gakujitsu Shinkōkai, 1955-1964), vol. 2, p. 65. Hereafter this work will be referred to as Meijizen.

Metaphysical Concepts: Wu Yun Liu Ch'i 五運六気

In the 22nd chapter of the Huang Ti Nei Ching Su Wen, Huang Ti is quoted as saying:

> In order to bring into harmony the human body one takes as standard the laws of the four seasons and five elements. This method serves as a regulation to man . . . in success or in failure.[1]

This short quote is an introduction into an extremely complex system which is developed in part rather simply in the older sections of the Nei Ching. Known variously as yun ch'i shuo 運気説,[2] yun ch'i lun 運気論,[3] or wu yun liu ch'i 五運六気,[4] it was an attempt to explain and predict microcosmic events or experiences in reference to macrocosmic phenomena. The basis for this theory was the assumption that man was composed of a qualitative and quantitative expression of the five elements. These then manifested themselves in the cycles previously discussed. The macrocosmic manifestations in meteorological, climatic, and calendric phenomena then influenced the human body through their effect on the five elements.[5] In short,

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[1] Ilza Veith, The Yellow Emperor's Classic of Internal Medicine (Berkeley: University of California Press, 1970), p. 198.

[2] Unkisetsu in Japanese.

[3] Unkiron in Japanese.

[4] Goun rokki in Japanese.

[5] Akira Ishihara, Nihon no Igaku, Nihon Rekishi Shinsho, no. 53 (Tokyo: Shibundō, 1970), p. 110.

it was a theory based on a system of correspondences which established classifications describing the climate of each year and attempts at determining the nature of the hsieh and the resulting disease.

The edition of the Nei Ching most widely used during the Sung period was the Wang Ping 王冰 edition, edited by Wang during the Tang dynasy in 762 A.D.[1] It has been theorized that he was responsible for the addition of seven chapters (chapters 66-71 and 74) to the Nei Ching which were not part of the original older section.[2,3] These appended sections were the very same that detailed yun ch'i in greater depth. During the Sung period, the Neo-Confucian theory of hsing li 性理 was added to the idea of yun ch'i, and was still further elaborated during the Chin and Yuan dynasties to the stage that it became known in Japan as unkiron 運気論.[4]

Metaphysical Concepts: Hsing Li Shuo 性理說

Although aspects of this theory, which was known as seirisetsu 性理説 in Tokugawa Japan predate the Sung period, its full development has been attributed to Chou Lien Ch'i 周濂溪 ,[5] Ch'eng Ming Tao 程明道[6]

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[1]Porkert, p. 56.

[2]Ibid.

[3]Ishihara, p. 110.

[4]Meijizen Vol. 2, p. 38.

[5]Also known as Chou Tun I 周敦頤 (1017-1073).

[6]Also known as Ch'eng Hao 程顥 (1032-1985).

Ch'eng I 程頤,[1] and particularly Chu Hsi who formalized the synthesis as the foundations of Chu Hsi Neo-Confucian metaphysics. Its morphological essence was based on the idea of t'ai chi 太極.[2] According to hsing li shuo or seirisetsu, t'ai chi was the ultimate principle from which all things derived. It represented the origin of the universe. Before the differentiation of heaven and earth, it was the name given to the source of all things. Yin represented the inactive expression and yang, the active aspect.[3] Yin and yang were produced by t'ai chi.[4] "In turn, the interaction of yin and yang produced the five elements. The ch'i of the five elements gave rise to the four seasons and was considered the 'movement' of the five elements."[5] Chu Hsi modified the idea of t'ai chi and identified the principle of li 理 with it. The concept of li 理 formed the basic ontological principle, and was considered to be the logical and moral basis for existence. Although considered to be an ultimate principle, it was not an

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[1]His dates are 1033-1107.

[2]Taikyoku in Japanese. This term has been translated into English variously as the "great pole," "the great void," "supreme ultimate," "supreme pole," and the like. It is an idea that comes out of the schools of divination during the Sung period (960-1279).

[3]Meijizen, vol. 2, p. 65.

[4]Maruyama, p. 21.

[5]Ibid. In addition to the incorporation into Chu Hsi doctrines, these ideas and their conceptual interrelations formed the basis of a school of medical divination known as Eki-i 易医 in Japan during the early Tokugawa period. See Fujikawa, 1944, pp. 293-296.

ultimate principle of first cause.[1] Its manifest existence was only in conjunction with ch'i. "...the Supreme Ultimate (t'ai chi 太極) is the li (Principle) that makes the ch'i...of yin and yang and of the five elements what it is. Thus it is the ultimate source, transcending everything in heaven and earth." "Before there was heaven and earth, there was Principle (li). Heaven and earth exist because of Principle."[2]

Li 理 was thought to enter into form at the moment of metamorphoses of ch'i into material form.[3] However, the question as to the genesis of li is never properly addressed in Shushigaku.

The Japanese of the early Tokugawa period conceptualized ch'i in terms of its qualitative aspects although not unaware of its quantitative expressions. One of the more prominent conceptual changes which occur in regard to the idea of ch'i after the seventeenth century is the recognition of ch'i as an objective phenomenon whose manifest existence warranted investigation and study for its own sake outside of the orthodox Neo-Confucian value structure of Hayashi Razan. This shift in perspective signaled the philosophical recognition of knowledge as a function of the material world that could sustain a value judgement based on utility.

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[1]Craig, 1965, p. 136.

[2]Maruyama, pp. 21-22.

[3]Ryōen Minamoto, Tokugawa Gōrishisō no Keifu, Chūkō sōsho (Tokyo: Chūkōronsha, 1972), p. 18.

What becomes clear is that Shushigaku was both a moral philosophy that heralded a particular social order 上下定分の理 ,[1] and at the same time a rationalistic system of metaphysics. The potential which eventually provided the philosophical rationalizations to support the general identification of an observational method physically resembling elements of a scientific nature defined by its affinity to Western science, lay in the relationship between individual morality and metaphysics in Shushigaku. Using li 理 as the common denomination in all material existence, and identified as the basic ontological principle, its existence in man was isolated as his "nature" or honzen no sei 本然ノ性 . In the sages, li was reflected in his own innate nature, and was clearly visible to him. However, the ordinary person had to deal with his own ch'i which prevented him from seeing his own nature. In the sage, the ch'i was pure and clear but in common man the ch'i gave rise to his human desires, thereby clouding his vision.[2]

By implication, the expression of "moral behavior" was to seek one's own honzen no sei as specified in one of two ways. The first maintained that through meditation and moral cultivation one could free himself of human desires, thus permitting purification of his ch'i. In doing so, it allowed him to see his own innate nature, and facilitated the attainment of the wisdom of the sages. The other method was to seek the li of things by study and investigation. The underlying assumption was that the continuity of the li of things with one's

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[1]Ibid., p. 17.

[2]Maruyama, p. 23.

honzen no sei or "innate nature," permitted the devotee to attain the same revelation were he to engage in meditation. Clearly this latter method became the more conspicuous rationalization toward the end of the seventeenth century, but was not really considered an alternative during the earlier part of this period. This method became the meaning of the phrase kakubutsu kyūri 格物窮理 (investigate things and know the li) which in turn evolved into the emphasis of chichi kakubutsu 致知格物 (to attain knowledge by the investigation of things). Thus, by investigating the li of things, man's innate character as honzen no ri was revealed. This change was one of the effects the school of ancient learning or Kogaku 古学 had on Shushigaku during the late seventeenth century. It was used effectively by certain Shushigaku scholars, notably Kaibara Ekken 貝原益軒 (1630-1714) and Arai Hakuseki 新井白石 (1657-1725) and Miura Baien 三浦梅園 (1723-1789) to rationalize their interests in the natural sciences.

Within this context, what is now clear is that Japanese natural philosophy of the early Tokugawa period was an extension of aspects of Shushigaku metaphysics. Li was represented as the genesis of all universal phenomena and in this respect constituted a kind of natural law. Thus, the relationships contained in this theory of knowledge, and this particular view of natural law subserved questions of morality. These were the implications of the orthodox position of Tokugawa thought that used Shushigaku to legitimate the social and political order of Tokugawa Japan. Confucian texts formed the standard educational materials for the literate society and consequently was well disseminated. This is not to exclude a rational tradition outside of

Confucianism. Knowledge was not the sole property of Shushigaku, but if one were forced to speak in terms of normative models of cognition, one would have to accede the point to the Neo-Confucian synthesis.

CHAPTER III

PRE-TOKUGAWA PERIOD: PROMINENT SCHOOLS OF THOUGHT

Introduction

Conceptually, Chinese medicine has been characterized in the modern image as a single entity, recognizable in contrast to Western medicine. Without argument, this view certainly can be maintained; however, it tends to oversimplify issues dealing with the historical nature of Chinese medicine, and an understanding of the influence and practice in the twentieth century. Equally, the same kinds of considerations tend to cloud the historical nature of Japanese medicine when simply viewing modern Japanese medicine from its current theory and practice. Judged from this contemporary standard of dichotomizing medicine into Western versus Chinese medical practice, modern Japanese medicine can be identified as Western in origin. However, herein lies the rather obvious but often overlooked error of forming first impressions from the conspicuously evident. Chinese and Japanese medicine share a common history, the remnants of which can be seen in the practice of acupuncture, moxibustion, and the use of Chinese herbal medical prescriptions along side modern contemporary Western medicine in Japan today.

As a function of history, Chinese medicine presented an entirely different picture. Particularistic motivations led to the formation of schools of thought and subsequent factional identification. This tendency marked the

development of Chinese medicine and formed a powerful influence on Japanese medicine. The importance of Chinese medicine as a source and inspiration for Japanese medicine repeats itself as a recurring theme throughout Japanese medical history and only after the eighteenth century does this type of influence come to an end.

Because of the recent public exposure to Chinese medicine, the misconceptions concerning the nature of Chinese medicine and the lack of information as to its historical development, particularly in view of the close historical relationship between Chinese medical thought and that of Japan's, have misled the casual reader into believing that Japanese medicine before the acceptance of Western medicine was a mirror image of China's and that the process of "transplantation" was the dominant feature of this relationship. Although a continuum of shared medical ideas can be easily identified, closer investigation of Japanese medical thought shows a process of innovation and change which characterized and differentiated it from Chinese medicine. The basis for this differentiation underlies the operational similarities. It is the conceptual framework, or the underlying assumptions that serve to distinguish a departure from orthodox Chinese thought and what might otherwise appear on the surface as a simple manifestation of kampō.[1]

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[1] Kampō 漢方, literally means the method of the Chinese, and refers to the practice of Chinese style medicine. The term became very popular during the Edo period and was used in contrast to Dutch medicine. The word Kampō as used in contemporary Japanese medicine is more specific, referring to the use of Chinese herbal medicines as a therapeutic technique in distinction to the methods of moxibustion and acupuncture.

The Tokugawa jidai[1] represented a period of intense activity in the history of thought. What appears as a simple commitment to Western medicine after 1868 involved tremendous changes in medical thought extending into the process of cognition itself. The ultimate effect was the movement from one world view to another of completely contrasting epistemological, metaphysical, and moral foundations.

The Historical Origins of the Rishu School of Medicine

Changes in medical thought initially occurred within the context of Chinese medicine as practiced in Japan; and by in large, the dominant school of medicine during the early Tokugawa period was the school of Rishu Igaku 李朱医学.[2] The doctrines of this school date back to the Chinese physicians Li Tung Yuan 李東垣 (1180-1251)[3] and Chu Tan Ch'i 朱丹溪 (1281-1358)[4] of the Chin (1115-1234) and Yuan (1260-1368) dynasties, and from whom the name of this school of medical thought derives (李朱) its origin.

Li Tung Yuan was a student of Chang Yuan Su 張元素,[5] and used the

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[1] Jidai literally means "period" or "epoch."

[2] This is the Japanese name under which this school of medicine was known in Japan. The Chinese romanization under the Wade system would be Li Chu. Igaku 医学 , which means "medicine," transliterates to I Hsueh.

[3] Ri Tō Gaki in Japanese. His real name was Li Kao 李杲 (Ri Ka in Japanese) or Li Ming Chih 李明之 (Ri Mei Shi in Japanese).

[4] Shu Tan Kei in Japanese. His other name was Chen Heng 震亨 (Shin Kyō in Japanese), and was also known as Yuan Hsiu 元修 (Gen Shu in Japanese).

[5] Chō Kan So in Japanese. He was also known as Kekko 潔古.

medical classics Su Wen 素問,[1] Ling Shu 靈枢,[2] and other texts including the well known Shang Han Lun 傷寒論,[3] or "Essay on typhoid" by Chang Chung Ching 張仲景,[4] as the basis for his thought.[5] The Shang Han Lun is considered to be one of the most important texts in traditional Chinese medicine. Together with the Huang Ti Nei Ching 黄帝内経, these works represent the classics of Chinese medicine. The influence of the Nei Ching on Li Tung Yuan's thought can be seen in the emphasis of the idea that disease resulted from two different sources.[6] He used the terms Wai Shang 外傷,[7] and Nei Shang 内傷,[8] to indicate their origin.[9] Literally, Wai Shang means

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[1] Somon in Japanese.

[2] Reisu in Japanese.

[3] Shōkanron in Japanese. This work is equal in importance to Chinese medicine as the Nei Ching. Published about the year 217 A.D., it contains discussions on not only typhoid fever, but other diseases as well, giving treatment methods as well as prescriptions.

[4] Chō Chū Kei in Japanese. His dates are 142 A.D.-220 A.D.

[5] Willis Norton Whitney, "Notes on the History of Medical Progress in Japan," Transactions of the Asiatic Society of Japan (reprinted by Yūshodō Booksellers Ltd., 1964), Vol. 12 (1883-4): 304.

[6] The first explicit use of the terms to draw the distinction between external and internal diseases occur at the beginning of ch. 13 in the Su Wen. They are simply identified as Nei 内 and Wai 外. The focus of the disease appears to be implied, although previous discussions centered around the origin of the cause, that is, the derivation of the disease causing agent. See chs. 1-12 of the Su Wen, any edition in the bibliography.

[7] Gaishō in Japanese

[8] Naishō in Japanese

[9] Fujikawa, 1944, p. 186.

"exogenously induced injury," but Li Tung Yuan uses it to refer to the sources of disease that arise external to the human body. These he called ten no jaki 天ノ邪気,[1] and referred specifically to "wind, cold, and other evils 客邪,"[2] such as overwork. These elements were thought to directly harm the five organs 五臓.[3] By Nei Shang, he meant excessive emotions, excessive eating and drinking, the appropriateness or inappropriateness of the various kinds of foods, and their yin and yang affinities. These affected the six viscera 六腑.[4] In using these ideas, Li Tung Yuan emphasized the digestive system as the focal point from which disease arose. He felt that the stomach and spleen were responsible for the generation of yuan ch'i 元気,[5] which in turn nourished the five organs and six viscera. Damage to the spleen and stomach inhibited production of ch'i.

> When food and drink goes into the stomach the chi'i of the food is [given] up. The ch'i of the food is the ch'i of the stomach and is the ch'i of the heaven, that is, it is the ch'i of the yang.[6]

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[1]This term literally means "the evil ch'i of heaven." The term ja 邪, is explained further on page 34. I use the term here in the Japanese spelling and transliteration.

[2]Fujikawa, 1944, p. 186. See also preceding footnote.

[3]Gozō in Japanese. These are the: 1-heart 心, 2-lung 肺, 3-kidney 腎, 4-liver 肝, 5-spleen 脾.

[4]Roppu in Japanese. These are the: 1-large intestine 大腸, 2-small intestine 小腸, 3-gall bladder 胆, 4-stomach 胃, 5-urinary bladder 膀胱, 6-the three burning spaces 三焦.

[5]Li Tung Yuan used the term yuan ch'i 元気, to denote this form of ch'i which was produced in the stomach.

[6]This quote is from Nei Wai Shang P'ien Huo Lun by Li Tung Yuan as found in Yū Fujikawa, 1944, p. 186.

> The spleen receives the energy of the stomach and is able to ferment the five grains[1] and digest them. The stomach is the origin of the twelve meridians and the ocean of the water and food.[2]
>
> The energy of the five organs gets its ch'i from the six viscera, and the six viscera get their ch'i from the stomach. Therefore, if the stomach is already ill, then the ch'i of the six viscera stops. And if the ch'i of the six viscera stops, the skin and the blood vessels, muscles and bone are not able to get nourishment.[3]
>
> Therefore, when the stomach becomes weak 虚 , then the whole body will become ill.[4]

Li therefore advocated a theory which he termed:

> Pu chung i ch'i 補中益気 [5,6]
>
> "Supplement or assist the central organs and increase the ch'i."

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[1] Gokoku 五穀 : 1-rice 米 , 2-barley 麦 , 3-"awa" millet 粟 , 4-bean 豆 , 5-"kibi" millet (sorghum) 黍 .

[2] Tung Yuan Li comp., Tung Yuan Shih Shu, 20 vols. (Kyoto, Japan: Yamamoto Chōbei, printer, ca. 1720), vol. 3: P'i Wei Lun by Tung Yuan Li, leaf 10.

[3] Ibid., vol. 3, leaf 10-11, passim.

[4] Ibid., vol. 3, leaf 9.

[5] Tung Yuan Li comp., Tung Yuan Shih Shu, 20 vols. (Kyoto, Japan: Yamamoto Chōbei, printer, ca. 1720), vol. 6: Nei Wai Shang P'ien Huo Lun by Tung Yuan Li, leaf 15-16 passim.

[6] The character 中 literally means "the center or middle." As used here, it refers to the organs which occupy what is considered the center of the body--the spleen and stomach. "Supplement the central organs..." means to supplement the ch'i of these organs which is known as chung ch'i 中気 . See Chung I Yen Chiu Yuan, Peking, s.v. "中气 Chung ch'i," p. 71; Chung I Ming Tz'u Tz'u Tien, s.v. "中気不足 Chung ch'i pu tsu," p. 36.

Chu Tan Ch'i was born during the Yuan dynasty. He studied medicine under Lo Chih T'i 羅知悌,[1] who was a student of Li Tung Yuan. From him, he learned the teachings of Liu Wan Su 劉完素 (1110-1200),[2] and Chang Tzu Ho 張子和 (1156-1228),[3] as well as those of his own teacher Li Tung Yuan. His medical education was based on Su Wen, Nan Ching, and the Shang Han Lun. Chu Tan Ch'i advocated the theory that yang was always in excess in cases of illness. He said:

> 陽常有餘，陰常不足，気常有餘，血常不足
>
> Yang is usually always in excess, yin is always deficient. Ch'i is always in excess and blood is always deficient.[4,5,6]

and as a general theory of therapy he proposed:

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[1] Ra Chi Tei in Japanese.

[2] Ryū Kan So in Japanese. He was also known as Liu Shou Cheng 劉守眞, as well as Liu Ho Chien 劉河間, one of four great physicians of the Chin and Yuan periods.

[3] Chō Shi Wa in Japanese. He was also known as Chang Ts'ung Cheng 張從正, as well as Chang Tai Jen 張戴人, one of the four great physicians of the Chin and Yuan periods.

[4] This quote is found in I Hsueh Cheng Ch'uan and is attributed to Chu Tan Ch'i by Yu T'uan, the author.

[5] T'uan Tien Min Yu, I Hsueh Cheng Ch'uan, Ching Pan Chiao Cheng Ta Tsu edition (China: 1577, preface date), vol. 1, leaf 4.

[6] The original source of this quote is from: Tan Ch'i Chu, Ke Chih Yu Lun (Japan: Murakami Kambei, printer, 1670), Introduction, leaf 3 and vol. 1, leaf 2. It appears thus:

> 人之一身陰不足而陽有餘
> 人受天地之気以生天之陽気為気地之陰
> 気為血故気常有餘血常不足

....獨重滋陰降火

The only important principle is to nourish or supplement the yin and decrease the fire.[1]

In this regard, he advised the use of "peaceful or tranquil drugs" and warned against the use of drugs which caused heat and fever.[2] In Chu Fang Fa Hui 局方發揮,[3] he expressed opposition to the schools of thought which advocated the theory that disease was due to excess yin. He attacked the popular medical text of that period, Ho Chi Chu Fang 和劑局方,[4] as erroneous and misleading. Chu Tan Ch'i felt that a balance between the ideas of Chang Chung Ching, detailing disease as a function of external causes, and Li Tung Yuan's emphasis of internal causes was the proper approach.

The ideas of the four great doctors of the Chin and Yuan dynasties 金元四大家,[4] were in ascendance, and about one hundred and fifty years old in China at the time of the end of the Muromachi period (1392-1568) in Japan, when Tashiro Sanki 田代三喜 (1465-1537) travelled to

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[1]Quoted from Ke Chih Yu Lun as found in Fujikawa, 1944, p. 187.

[2]Ibid.

[3]Kyokuhō Hakki in Japanese.

[4]Wazai Kyokuhō in Japanese.

[4]These were:

Liu Wan Su	劉完素	1110-1200
Chang Tsu Ho	張子和	1156-1228
Li Tung Yuan	李東垣	1180-1251
Chu Tan Ch'i	朱丹溪	1281-1358

Ming China (1368-1644) staying twelve years studying Chinese culture and medicine. He is traditionally credited for the importation of Rishu medicine into Japan; however, because he lived in the Edo area (at first in Kamakura, then later in Koga), this school of medicine did not immediately spread. Kyoto remained the of center of culture during this period, and Edo, which was to become a sprawling population center under the Tokugawa shoguns, was but another rural area of Japan.

Rishu Igaku: Manase Dōsan 曲直瀬道三 (1507-1594)

It remained for Manase Dōsan 曲直瀬道三 (1507-1594) to popularize and disseminate the Rishu school of thought throughout Japan. Having spent some 20 years studying Rishu medicine, seven of them with Tashiro Sanki in the Kantō area,[1] Dōsan returned to Kyoto in 1545.[2] Dōsan was by profession a Buddhist priest trained since childhood. It was a common practice for physicians to be Buddhist priests and was a mark of distinction to attain the higher levels of Priesthood as the result of one's medical skills. Dōsan, on the other hand,

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[1]Kantō 関東 is the name given to the geographical area around present day Tokyo and Yokohama. Before the organization of the present day prefectures in the Meiji period, Kantō was composed of the eight eastern provinces: Hitachi 常陸, Shimotsuke 下野, Kōzuke 上野, Musahi 武蔵 Sagami 相模, Shimo-osa 下総, Kazusa 上総, Awa 安房. It encompasses much of present day Ibaraki 茨木, Tochigi 栃木, Gumma 群馬, Saitama 埼玉, Chiba 千葉, Kanagawa 神奈川, and Tokyo-to 東京都.

[2]Masayoshi Sugimoto and David L. Swain, Science and Culture in Traditional Japan, The M.I.T. East Asian Science Series, no. 6 (Cambridge: The MIT Press, 1978), p. 215.

renounced his priesthood to devote his life to the practice of medicine. He did so very shortly after his return to Kyoto, and it was about this time that he was responsible for the recovery of Shogun Ashikaga Yoshiteru 足利義輝 from a serious illness. As the result of official recognition, Dōsan's practice benefitted greatly. Among his patients were members of the Imperial Court, high officials both the Ashikaga and Tokugawa shogunates including both Hideyoshi and Ieyasu. He practiced medicine for some 20 years in Kyoto, and his name became very well-known in the medical community. His school of thought grew in numbers as the result of his teaching activities at the Keitekiin 啓迪院, a school he found in Kyoto. His concern for what he believed as the basis for medical practice is reflected in his book, Keitekishu 啓迪院, 1574. In writing it, Dōsan drew heavily on the authors of the Chin, Yuan, and to some extent the Ming periods. Because it had been endorsed by the Imperial Court, it found a wide acceptance within the medical community. It can be considered one of the standard medical texts of its day and its influence was respected during the early Tokugawa Period. He attempted to establish medical practice based on empirical observation...and the knowledge gained from personal observation.[1,2] This emphasis, significant as it may seem, was in truth an accepted heritage of the Chinese medical tradition. The observational powers of Chinese physicians will never be open to question, for they were indeed acute. A glance at the

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[1]Fujikawa, 1944, p. 189.

[2]Yasuo Otsuka, "Chinese Traditional Medicine in Japan," in Asian Medical Systems, ed. Charles Leslie (Berkeley: University of California Press, 1977), p. 328.

detailed symptomatic descriptions and disease classifications based on clinical observations will quickly dispel any disbelief.

During the Sung period the phrase ke wu ch'iung li 格物窮理 (kakubutsu kyūri in Japanese) was developed as a cornerstone for the establishment of a systemic approach to cosmography and man's ability to know it. However, this naturalistic view was incorporated as merely one part of a greater concern with man as a moral being and the importance of his attaining the highest levels of moral and ethical achievement. The phrase means that by the investigation of things, one can know the li 理 , that is, the truth. Thus, empirical observation was not at all foreign to Japanese thinking of the Tokugawa period. As one reads Manase Dōsan, "observation" was applied as a tool but deeply submerged in the framework of Chinese medical theory.

Rishu, as it was known and practiced in Japan, differed from its counterpart in China. The natural inclination to ask why is not an easy question to answer, if in fact a straight forward one can be provided. A simple approach worth considering is that for the Japanese, Chinese was a foreign language. Despite the close contact, scholars had to learn the language as such. A system developed to convert classical Chinese into classical Japanese was employed. That is, although original texts were used, they were not read in conformity to Chinese grammatic and syntactic forms, but were altered to conform to Japanese rules of syntax and grammar, and became known as Kambun style 漢文 . This system contained an inherent propensity for error because of the skills required in dissecting Chinese and reconstituting it into classical Japanese. This source may have contributed to inaccurate interpretations of original materials thereby altering Japanese understanding of Chinese medicine.

Another consideration worth pursuing is Manase Dōsan's attitude toward the practice of medicine. Yasuo Otsuka provides us with the translation of a passage from Dōsan expressing just this point.

> The dialogue between Huang Ti and Ch'i Po shows us the general rule of medicine, but we should take measures suited to the occasion; therefore a proverb says that medicine ("I" in Chinese as well as Japanese) is will (also "I" in Chinese as well as in Japanese).[1,2]

Rishu Medical Theory

Fundamental to Manase Dōsan's thoughts, and to the school in general, was the idea of exogenously identified causes of disease and endogenously caused diseases. The terms he used were gaikan 外感 , meaning literally "external sensations or influences," and naishō 内傷 meaning literally "internal injury." Manase's use of the term 感 kan is broader than was originally used in Chinese medicine by Li Tung Yuan.

Kan as the "perception" or "induced feeling" which results from the effects or changes of some action,[3] was enlarged to incorporate the physical manifestation or symptoms of disease itself:

外感ハ風寒有餘ノ証ニシテ [4]

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[1] Ibid.

[2] Keisetsu Otsuka and Dōmei Yakazu, eds. Kinsei Kampō Igaku Shoshusei Projected 30 vols., 12 vols. currently available. (Tokyo: Meicho Shuppan, 1978), Vol. 2: Keitekishu, by Dōsan Manase, Preface, leaf 18.

[3] Porkert, p. 15.

[4] Keitekishu as quoted in Fujikawa, 1944, p. 190.

With this term, he replaces the original term Shang 傷 used by Li Tung Yuan which referred more to the physical aspects of the causative agents of wounds or injuries.

Dōsan identified excess wind and cold as well as heat and dampness as gaikan 外感 . He called these zokufu kyoja[1] 賊風虛邪 二 風寒暑湿 but stressed dampness and fever as the main causative elements of disease.[2] This was a departure from the medicine of was a departure from the medicine of the ancient period[3] which stressed wind and cold. He maintained that these elements affected the yang and entered the six viscera 六腑 , via the ch'i 気 , blood 血 , and phlegm 痰 . The naisho was considered to be:

> "...the evidence of an excess or deficiency in drinking, eating, or working, and is caused by eating and drinking without control or not living in a temperate way. Yin is thus affected and enters the five organs 五臓."[4]

Here again, we see Manase Dōsan changing the relationship of the exogenous and endogenous origins of disease and the foci of their effects from that established by Li Tung Yuan. This attitude of individual initiative is a theme which

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[1]The idea of zokufu is identified in Kampō Igo Jiten as originating in the Ling Shu. It principally focused on the wind as the offending agent. It causes a chronic situation by entering into the blood and affecting the pulse. It also resides in the flesh.

[2]Fujikawa, 1944, p. 191.

[3] 古代, Kodai refers here to the late Chou and Han dynasties.

[4]Ibid.

characterizes the development of Japanese medicine. This theme takes on the character of a tradition within Japanese medicine and is a conscious attempt on the part of Japanese physicians to change what they feel would improve Chinese medicine, thus making it more amenable or responsive to Japanese needs. This endeavor is the motive force behind the slowly changing nature of Japanese medical thought and practice, and is the catalytic agent initiating conceptual changes.

Manase Dōsan further details the effect of naishō by quoting from Yu Chi Wei Chi 玉機微義,[1] a work by Liu Shun 劉純 of the Ming dynasty (1368-1644).

> Even in naishō 内傷, there is excess and there is deficiency. The damage caused by overwork and tiredness, and the damage caused by eating and drinking are [classed as] both internal damage; however, you should not mix these together [i.e., confuse the two types]. Damage caused by overworking and tiredness is really deficiency; however, in considering damage caused by eating and drinking, deficiency or excess should be distinguished. That is, if you become hungry, and don't eat, then the stomach ch'i becomes deficient (胃気虚ス) and therefore, it is a deficiency [category]. On the other hand if you eat and drink in excess and those foods become teitai 停滞 [lit: "stagnation," "congestion," "stale," "rotten"] [in the stomach], harm will then be sustained by the stomach ch'i 胃気傷ヲ受ク. In this kind of deficiency 不足, abundance exists [as the real character].

In addition, he identified emotional states[2] as a disease contributing factor and classed them as endogenous causes.

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[1] Gyokkibigi or Gyokukibigi in Japanese.

[2] The "seven feelings" on shichi jō 七情 are enumerated on page 59, footnote 1.

There is a strong element of empirical rationalism in Dōsan's interpretation of Chinese medicine. In this regard, the de-emphasis on discussions based on the highly theoretical speculative elements of goun rokki is significant. He emphasized the inspection of urine and feces, using its appearances for diagnostic purposes. He felt that disease elements affected the ki(ch'i) 気 (energetic element), ketsu 血 (blood) and tan 痰 (phlegm). Inspection of the urine indicated the nature of the ch'i, while the stool indicated the condition of the blood. "If the condition of the stool and urine were normal, the disease was thought to be in the meridian and outside the blood system. When there continued chronic symptoms in the ch'i, ketsu, and tan, these gave rise to utsu 鬱," [utsu literally means something that doesn't run smoothly, congestion, depression].[1] Quoting from Tan Ch'i Tsuan Yao 丹溪纂要[2] in his Keitekishu, Dōsan writes:

> Ch'i wants to become active and cannot;
> wants to become less active and cannot;
> wants to change and cannot change; therefore,
> it loses its natural state and shows outwardly
> its utsu state.

He identified six different types of utsu according to this description.

1.	気鬱	ch'i utsu
2.	血鬱	blood utsu
3.	湿鬱	dampness utsu

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[1] Meijizen, vol. 2, p. 366.

[2] Tan Kei San Yō in Japanese.

4. 熱鬱 fever utsu
5. 痰鬱 phlegm utsu
6. 食鬱 food utsu[1]

These were all classified as utsu tai byō or uttai byo- 鬱滞病, that is, "diseases arising from congestion or stoppage."

The juxtaposition of Chu Hsi Neo Confucian metaphysics on discussions of physiological function produced explanations which are reminiscent of similar discourses in the history of medicine in the West. The idea of the importance of an "innate heat" appears to have been understood in both cultures. In the following passage, Manase Dōsan attempts to further differentiate the idea of "fire" as it exists in nature and explain its existence in man by drawing a relationship focusing on the quality of heat. By doing so, he simultaneously reinforces the theory of man as the microcosmic image of the universe.

> Taikyoku 太極 gives rise to water, fire, wood, metal, and earth, and all things have this nature. In fire there are two. One has form and quality. It is arranged in the sōshō 相生 cycle of the five elements[2] and this is called kun-ka 君火 . The other arises in emptiness and does not have any location. It gives life and one can see it from its movement. This is called sō-ka 相火 .[3]
>
> Besides the two fire, kun and sō, there is another one. This is the fire of the five organs. It takes its origin in the five organs when the six desires

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[1]Fujikawa, 1944, p. 191.

[2]Hsiang sheng: see page 33.

[3]T'uan Tien Min Yu, I Hsueh Cheng Ch'uan (Ching Pan Chiao Cheng Ta Tzu edition, China: 1577, preface date), vol. 1, leaf 3 et passim., as found in Dosan's Igaku Seiden.

> and seven feelings 六慾七情[1] become active, then this fire follows. That is, if you become angry, a great deal of fire arises in the liver 肝. If you drink too much alcoholic beverages, then the fire arises in the stomach. If you indulge in sex too much, then the fire arises in the kidney and if you are melancholy, then the fire arises in the lung. The heart is the center of all, and if the heart gives rise to fire then death is the result.[2]

By separating out the more abstract elements of the passage, one can easily identify what Dōsan was observing and attempting to explain. Emotional energy in human passion is an observable phenomenon, and it was this element he was isolating. Although merely speculation, one would be tempted to attribute the cultural emphasis of the Japanese on emotional calmness in part to this kind of logic.

A significant contribution made by Yu T'uan 虞摶 of the Ming dynasty in his work, I Hsueh Cheng Ch'uan 医学正傳 that greatly influenced Manase Dōsan was his differentiation of the cause or etiology of disease and symptoms.

> 百病皆有因有證因則為本
> 證則為標
>
> All diseases have symptoms and causes. The cause 因 is the origin 本, and the symptoms 證 are the outward manifestations.[3]

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[1] Shichi jō: 1. Happiness 喜, 2. Anger 怒, 3. Grief 哀, 4. Fear 懼, 5. Love 愛, 6. Hate 悪, 7. Desire 欲.

Roku yoku 六慾: The six carnal desires caused by the six senses of the human body. This is a Buddhist concept.

[2] Found in the Keitekishu as quoted by Fujikawa, pp. 190-191.

[3] T'uan Yu, I Hsueh Cheng Ch'uan (Japan: Murakami Heirakuji, 1622), vol. 1, leaf 34.

Having acknowledged this distinction, Dōsan specified treatment based on etiology. In cases of disease caused by wind, he prescribed hassan drugs 発散剤;[1] for diseases caused by dampness or wetness, he prescribed risui drugs 利水剤;[2] and in cases of illness caused by heat or wetness, he used happyō drugs 発表剤.[3] The general purpose being either to supplement or purge.[4] Yet, despite Yu T'uan's differentiation, Dōsan continued to identify disease according to symptoms. A glance at the Table of Contents of Keitekishu is quite convincing.

Although Dōsan drew heavily on the post-Sung physicians, he made many pragmatic changes in his medical thought and adopted them to his practice. In doing so, he showed an attitude of questioning the authority of Chinese medicine and an open-mindedness to investigate different methods. As the result of his individualistic approach to medicine, his school of thought was given the name Dōsan Ryu 道三流 or "The Dōsan School of Medicine." Nonetheless, in the end, his medical thought remained within Rishu medical theory, and thus considered a member of that school.

Nagata Tokuhon 永田徳本 (1513-1630)

In contrast to Manase Dōsan, there was another physician practicing medicine about the same time in the Kantō area who was equally individualistic

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[1] Meijizen, vol. 2, p. 366.

[2] Ibid.

[3] Whitney, p. 305, diaphoretic inducing prescription.

[4] Meijizen, vol. 2, p. 366.

in his approach to medicine. His name was Nagata Tokuhon 永田徳本 (1513-1630).[1] It would be difficult to classify him as a practitioner of Rishu Igaku since his medicine was an eclectic blend of post-Sung medicine and also medical thought of the ancient period. History has accorded him a position outside of Rishu Igaku but it would be difficult to speak of his medical thought ignoring the similarities. Tokuhon himself stresses a closer relationship to Chang Chung Ching of the Han dynasty (202 B.C.-220 A.D.). His principle method of treatment was Brunonian in character. It was one of rigorous therapy involving sweating 汗 , purging by vomiting 吐 , and diarrhea 下 . He also mentions the use of a treatment called wa 和 , which effected cure by opposing the more drastic effects of drugs. These were prescribed in special cases and rather rarely, judging from his descriptions.

Another departure which distinguished Tokuhon's medical practice from that of Dōsan was that Tokuhon retreated from the ostentation of fame and success. His practice best resembles that of an itinerant although the description may be somewhat harsh. He, nonetheless, travelled a great deal practicing among the poor as well as the wealthy. He is best remembered for his unorthodox cure of the second Tokugawa shogun, Hidetada 徳川秀忠 (ruled, 1605-1623) during the Kan-ei era 寛永 (1624-1643) when all other efforts to cure him had failed. The greatful efforts of Hidetada to reward him all ended in a polite refusal. Because of his recluse-like habits, not a great deal is known about him. He is said to have died at the age of 118 in 1630. Of his existent

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[1] Also known as Chisokusai 知足齋 .

written works, all are open to doubt as to their authenticity. Many were undoubtedly works written by his students.

Despite Tokuhon's eclectic style, his medical thought is heavily colored by Rishu theory. His idea of pathology is very reminiscent of Dōsan's idea of uttai byō 鬱滞病 . Instead of the emphatic chronic characteristics and a broad foci of utsu activity which Dōsan delineates, Tokuhon makes his idea of utsu specific to the gastrointestinal tract, describing it more in terms of an acute phenomenon, and bases his idea of pathology on it.

> All diseases are caused by "stoppage" or "stasis," so he thought. A person's body is like a tube from top to bottom, it is merely continuous. If a person eats and drinks from the top part 上焦 , [this food] goes into the middle part 中焦 where it is concocted コシラヘテ and from there it passes to the lower part 下焦 . The liquid will become urine and the solid parts become the feces. When nothing is wrong, food goes into the stomach which is then "broken down and transformed" [lit. destructive transformation 対化] and then goes to the lower part and no illness begins...like a fine day without any clouds in the sky and the sun and the moon shine. If, in the stomach, the food does not undergo transformation, and there is an obstruction [that is, it gets stuck] then poisonous or toxic food and liquid accumulate, and as a result the cold and fever stay in the body, and various disease result which leads to trouble. If you let the disease out of the body, unclear blood will become clear, fever will go down, muscles will become subtle [lit. "soft"], the ch'i will become alright, headaches will disappear, the Chūshaku 蓄積 will be gone, your sensations will become warm, the appetite will be good, and all illness will go away and the patient will recover.[1]

In this rather lengthy quotation are a number of elements that place Tokuhon's thought squarely between the ideas of Dōsan and the Koihō 古医方

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[1] Fujikawa, 1944, p. 204, as quoted from Tokuhon.

古医方 ,[1] a school of thought which will rise to prominence during the middle of the seventeenth century with the ideas of Nagoya Gen-i 名古屋玄医 (1628-1696) reinforced by the critical thinking of Itō Jinsai 伊藤仁齋 (1627-1705). In addition to the basic idea of utsu which was used by Dōsan as his pathology inducing origin, the emphasis on the gastrointestinal tract, especially the stomach, is reminiscent of the same idea found in the P'i Wei Lun of Li Tung Yuan.

Tokuhon also distinguishes the dual nature of disease inducing agents. However, in this respect, he sides with the physicians of the ancient period and advocates wind and cold as the primary exogenous causes. This idea is clearly stated by Chang Chung Ching of the Han period, and later appears in the writings of Gotō Gonzan 後藤艮山 (1659-1733), Yamawaki Tōyō 山脇東洋 (1705-1762) and Yoshimasu Tōdō 吉益東洞 (1702-1763).

Because Nagata Tokuhon's medical theory tends to be closer in affinity to the Koihō, the more abstract theoretical aspects of Chu Hsi metaphysics tend to be absent in Tokuhon. This resemblance has prompted at least one another to classify Tokuhon as a member of the Koiho where empiricism and practical therapeutic considerations tended to exert a strong influence.[2] Logically, when "stoppage" or "congestion" occurs creating pathology, the method toward cure is

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[1]This school of medical thought rejected the post-Sung schools of medicine and advocated a return to the classic teachings of the ancient period. It was a return to the teachings of the Nei Ching, Nan Ching, and Shang Han Lun in their original form. Koihō literally means, "the school of ancient medicine."

[2]Meijizen, Vol. 3, p. 54.

by eliminating this blockage. For Tokuhon, this meant the use of prescriptions which induced perspiration, vomiting, and diarrhea. He particularly liked the medicines which were known for their strength of potency, drugs which were thought to verge on the limits of poisons. Hōtan 寶丹 (made from mercury 水銀, black lead 黑鉛, a type of sand called keikanseki 鷄冠石, and the following herbs: Tassha 辰砂, Oren 黃連), Gyokutan 玉丹, and Shashintan 瀉心丹, were among the frequently used compounds of Tokuhon. These drugs were known by the doctors of the post-Sung period[1] but were considered too strong.

Even in his discussions of the more esoteric considerations of the qualitative aspects of the five elements, prescriptions, and the ideas of kyojitsu 虛實, his approach was mellowed by strong elements of empirical evidential considerations. Take for example, some of the inherent implications of the idea of uttai that may have led Tokuhon to state that diseases of the type Kakuran sessha 霍乱泄瀉 (this illness was characterized by acute vomiting and diarrhea due to generalized gastrointestinal upset caused probably by an inflammation of the mucous membrane) should be considered a disease type characterized by jitsu 實 (lit: "fullness," "excess," or "overabundance" of ch'i). He criticized the error of the Sung physicians for their classification of this disease as kyo 虛 (lit: "emptiness," "deficiency" of ch'i) and their attempts to treat by supplementing an already overabundant situation.[2] The rationale behind Tokuhon's criticism being that one can reject material only if there is material

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[1]Fujikawa, 1944, p. 206.

[2]Ibid., p. 205.

present. If there was a deficiency as the Sung physicians maintained, there would be no material to expel.

Despite his attempts at identifying etiology, he grouped disease by their clinical manifestations and treated according to symptoms. He was one of the early physicians to consider the psychosomatic origin of illness and attempted to eliminate the origin before considering organic disease.

> There was a person who suffered from high fever and was asked, what is good and what is bad [that is, what he wanted] . He answered that he disliked what he was wearing [Lit: "he hated to see the clothes that covered his body"]. What he wanted was food [Lit: Uri and candy]. Tokuhon told his attendant to let him do as he asked, and was allowed to drink water. The patient said that he felt much better. In a few days his illness became much better. Half of his illness was cured. There was a woman who suffered from diarrhea, and on her bed there was a bedpan. Her bed was surrounded by screens and her attendant was seated nearby. Tokuhon saw this and said that this was why the illness was prevalent and told her to sleep outside the screen. He then had the maid wash her. The illness was cured very quickly.[1]

These kinds of anecdotal stories have been pointed out by medical historians indicating Tokuhon's unique idea of shizenryōnō no chi 自然良能ノ治, "the therapeutic method of relying on the healing power of nature." This interpretation is intriguing, whether only partially correct. That these kinds of documentary evidence exist is entirely verifiable in the original written texts. What it means is another story. That a concept known as "nature" resembling the implied "nature" of Hippocrates really existed during Tokuhon's period is questionable. Japanese scholars of the sixteenth and seventeenth centuries were familiar with the various Chinese concepts of natural phenomena

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[1] Ibid., p. 205-6.

including those formalized in the philosophy of Chu Hsi. The fundamental elements of this world view were the cosmologic and cosmogonic concepts contained in the seirisetsu of Shushigaku. No doubt that the Japanese were well aware of their natural environment rationalized as a function of yin-yang and the five elements whose basis lay in the concepts of li and ch'i. In addition, competing conceptualizations were also in evidence. The Shintō religion perpetuated the stories of creation based on the historical myths of Japan and were popular in a broad segment of the population. What is open to question is the existence of an anthropomorphic "nature," or the idea of "nature" as natural law that acted outside of moral and ethical considerations, and once attaining manifest existence whether it acted to maintain its altered material integrity. Because there is no documented evolutionary written tradition to indicate such a notion at this time in history, it is difficult to make the theoretical association between the Hippocratic idea and the medical practice of Tokuhon. Certainly descriptions of some of his clinical practices fit the model, but to say that Tokuhon grasped the theoretical implications of vis medicatrix naturae may be presumptuous. The optimistic outlook of vis medicatrix naturae is certainly retained in the principle that underlies Tokuhon's practice. Although speculation, it is quite possible that Tokuhon observed the natural healing process of minor cuts and scratches and applied the repetitiveness of the process to a generalized disease process--that is, the simple identification and generalization of empirical evidence with little or no cognizance of underlying theoretical mechanisms. Whatever the explanation, it was a positive principle, but without further research, it is difficult to make any unequivocal statements.

What is apparent, is the resemblance of the meaning of vis medicatrix naturae and some of Tokuhon's clinical practice. It is not until the end of the eighteenth century do we find an unequivocal statement of Hippocrates' famous maxim. Nonetheless, there exists indications that Tokuhon may have been close.

> There is no such method to make it milder in any disease. The reason is if the characteristic of the disease is heat, then you must know how to cool down the heat. The disease will then cure itself. If the patient is cold, then the patient has to be warmed. Then gradually, by nature, the cold symptoms will go away.

熱シタル煩ニハ熱ヲサヘサマセバ,諸症
自カラ癒ル,冷タル者ヲバ補暖シテ
標證自然ニノゾク者ナリ.[1]

Not able to resolve the issue, this short quotation raises other issues of significance, which were considered by Manase Dōsan and his predecessor, Yu T'uan, mentioned earlier. From the point of view of modern medicine it was a nosologic, pathologic, and therapeutic question. Yu T'uan made a clear distinction between cause or etiology and symptoms, but disease continued to be classified according to symptoms while treatment was in conformity to supposed etiological causes. Tokuhon clearly states that if one eliminates the symptoms, the disease will cure itself. The precedent set by Chang Chung Ching in his description of typhoid fever appears to have impressed the coincidence of symptoms complexes as indicative of identifiable disease entities. Syphilis,

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[1] Ibid., p. 206.

beri-beri, cholera, and measles were among those identified by Dōsan and Tokuhon.[1] In all cases, including those symptom complexes mentioned previously, the primary criteria for therapy was the symptom or symptoms. The same treatment was administered in cases of identical symptoms regardless of their occurrance in what would have been recognized today as separate diseases.

The general principle of directing cure by eliminating the cause was indirectly practiced depending on interpretation of the term "cause." For Li Tung Yuan, "cause" represented two broad classes of intrusive elements which induced a state of illness by causing imbalances in the gastrointestinal system of the body. He was particularly concerned with those elements that induced a state of deficiency in the yang ch'i. Chu Tan Ch'i, on the other hand, identified disease as an imbalance resulting from an excess of yang and a deficiency in yin. Nagata Tokuhon identified disease as the result of stoppage or reduced movement of food through the gastrointestinal tract. The continuum of ideas is reflected in the similarity of the mode of thought. The offending element causing imbalance was identified as inducing a state of excess or deficiency in either yin or yang and hence directing its effect as changes in the qualitative balance of the body. The clinical manifestations were interpreted in terms of these altered qualities and the cure was appropriately chosen to correspond to these relationships in an opposing or antipodal manner in order to reestablish equilibrium.

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[1] Ibid., pp. 194-195 and 205.

In the end, I must concur with Fujikawa when he states that Tokuhon emphasized the method of treatment of symptoms and that what Tokuhon was treating were the symptoms,[1] but with an important exception. The implications of the passage quoted on page 65 indicate that Tokuhon's concept of the disease process was more complex than the simple dichotomous relationships of his contemporaries. Although he himself uses the terms "external symptoms" 表證 and "internal symptoms" 裏症 , he appears to be very close to the rudimentary idea that disease has an etiologic origin and that symptoms are its physical manifestations; and that by some causal relationship, treating the symptoms eliminates the etiological origin of disease. The general idea is not unusual to Chinese medicine since it forms the basic rationale of Chinese therapeutics. The difference is that Tokuhon recognizes the operation of some mechanism that attempts to effect cure through the reestablishment of balance. Simply providing the conditions to offset the imbalance through the use of prescriptions does not constitute cure. Treating the symptom is no longer synonymous with cure. He is cognizant of some intermediate step that acts to complete the cure. The passage quoted on page 65 would appear to indicate that Tokuhon believes that this mechanism manifests itself to some extent in the patient's own desires to make himself comfortable. He appears to believe that the object of therapy is to establish a favorable circumstance in the body so that the cure could be effected by some causal element inherent in the body.

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[1] Ibid., p. 206.

CHAPTER IV

SURGERY

Introduction

I have included a discussion of surgery more from the point of view of completeness, rather than to review an in-depth survey of surgical schools. Because of the importance of surgery in its role as one of the earliest medical disciplines to internalize Western medical practice, it is important to understand its character. I will attempt only a broad survey of this subject in order to avoid getting into an area of study which, although very interesting and important as an area of research, would yield enough material for a dissertation in itself and in the end, would only reinforce some broad generalizations that could be discussed more succinctly.

Before the advent of western firearms during the first half of the sixteenth century, the principal weapons of combat were swords, bow and arrows, lances of various kinds, as well as darts of various types, and the hand ax. The kind of wounds that these weapons inflicted can be easily imagined. That branch of medicine which endeavored to deal with these medical emergencies was not identified with an orthodox medical practice as a general rule. As in Europe, the history of surgery has taken a role as a second class citizen to the practice of internal medicine. It was an outcome of the Chinese tradition in medicine, as well as the social and religious prohibitions against

defiling the human body and discriminating attitudes against those who handled animal skins and flesh. That the Chinese were familiar with human anatomy has been adequately shown[1] in the Nei Ching and Nan Ching of the late Chou dynasty. Huo T'o's 華佗 (110-207 A.D.) surgical accomplishments have been acknowledged by western historians as competent as any found in the West at that time. He has been credited with such operations as splenectomies, laporatomies, venesections and even familar with trepanations.[2] But by the seventh century A.D., this condition was quickly brought to an end from which it never recovered. Anatomy and surgery suffered from the legal and social prohibitions imposed on it. This situation was transmitted to Japan when Chinese medicine was adopted by the Japanese. Nonetheless, the realities of constant warfare and other medically related problems which required surgical treatment had to be confronted.

Beginning with the Ōnin War of 1467, the Sengoku period 戦国 (1482-1558) was a particularly bloody period of Japanese history characterized by the constant hegemony of local rulers, and the popular revolts of the agrarian populations against the tyranny of their overlords. Out of this period, toward the end of the Muromachi period 室町 (1392-1568), a school of surgery called Kinsōi 金創医 arose. Practitioners were mainly men from within the ranks who became known for their ability to deal with battlefield wounds. As a result,

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[1]See Shu Yin Yang, "The Evolution of Anatomy in Chinese Medicine" (master's thesis, History of Health Sciences Department, University of California, San Francisco, 1978).

[2]Leo M. Zimmerman and Ilza Veith, eds., Great Ideas in the History of Surgery (New York: Dover Publications, 1967), p. 69.

surgery developed into two distinct areas of specialization, sōka or yōka 瘡家又瘍科 which dealt mainly with superficial skin eruptions, such as carbuncles, boils, lesions, scrofula, and the like, and kinsōi.

Takatori Ryū 鷹取流

Takatori Hidetsugu 鷹取秀次 (fl. ca. 1600) was well known as a surgeon. His forte was in dealing with yōka. His book, Gairyō Shimmeishu 外療新明集, 1581, of three volumes devoted two volumes to the discussion of boils and other skin afflictions together with their treatment. Fujikawa lists 12 pages[1] of the different kinds of boils alone. The color, shape, and location as well as their yin yang classifications, are important criteria in their identification, naming, and treatment.

Yō 癰疽 Thin skin boil; yang symptom; the ch'i of the 6 fu gets congested; 9 types are listed.

Sō 疽 Thick skin boil; yin symptom; the ch'i of the 5 Zō gets congested; generally not associated with pus; 8 types are listed.

Kasa 瘡 These are differentiated into cold and hot eruptions and form scabs.

Tandoku 丹毒 Also known as kusa クサ. There are various kinds depending on the color and shape. Five kinds are listed, generally characterized by fever, body redness, onset of rash, and lasts for quite awhile. If it settles in the joint, it requires amputation. If it enters the intestine, it may cause death. [Tandoku has a modern meaning: Erysipelas].

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[1] Fujikawa, 1944, p. 210-222.

Kobu 瘰癧 Lump from being hit or struck.

Ibo 疣目 White head, wart, papula, pustule.

These are some of the entries found in Fujikawa. The methods used in diagnosis were primarily those described during the Sui 隋 and Tang 唐 (581-618 and 618-906) dynasties and mainly employed diagnostic observations of the pulse.[1] In addition, the Takatori school used a method that was very popular during the Heian 平安 period (794-1185 A.D.) known as jinshin no setsu 人神ノ説 "theory of man's godhead" or "idea of man's spirit." According to this theory, the location of a person's jinshin varied according to the age of the individual. The location of the jinshin was considered a place to be guarded, since injury to the jinshin was considered very serious if not fatal.

The following were considered the location of the jinshin at various ages:

Forehead	3, 20, 25, 31, 60, 91.
Underneath both ears	19, 23, 25, 39, 51, 55, 61, 87.
Both shoulders	24, 40, 56, 63, 66, 67.
Both underarms	16, 26, 32, 56, 64, 80.
Back	19, 23, 49, 57, 65, 67, 72, 73, 81.
Buttock	11, 15, 21, 22, 23, 33, 46, 59, 63, 75, 91, 92.
Both ashi (feet)	13, 25, 29, 61, 73, 93.

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[1] Fujikawa, 1944, p. 222.

Or at the ages given:

1 yr.	back	29 yrs.	back, ashi
2 yrs.	leg	31 yrs.	forehead, buttock and abdomen
3 yrs.	head	33 yrs.	shoulders
4 yrs.	shoulder	37 yrs.	chest
11 yrs.	breast	39 yrs.	buttock
12 yrs.	groin	40 yrs.	leg
13 yrs.	breast	55 yrs.	back, ear, abdomen
19 yrs.	ear, back	56 yrs.	hips, forehead
21 yrs.	leg, feet	57 yrs.	back, thigh
22 yrs.	leg	58 yrs.	shoulder, abdomen, chest
28 yrs.	head	64 yrs.	eyebrows, sm. intestine
28 yrs.	throat, shoulders	66 yrs.	hips
		67 yrs.	eyes, shoulders[1]

In the event a boil or some eruption should grow in the place where the jinshin resided, it was considered very serious. Lancing was strictly prohibited. Consequently, a drug type called yarigusuri 遣藥 (or yobigusuri 喚藥) was used to transfer the location of the boil so that it grew in another place where it was not so dangerous.[2] The methods of treatment were:[3]

1. Yakuji 藥治 (drug treatment)
   a) Naiyaku 內藥 (internal drugs)
   b) Senyaku 洗藥 (washing drugs)
   c) Koyaku 膏藥 (ointment or salves)
   d) Fusube gusuri 薰藥 (inhalation type)

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[1] Ibid., p. 223.

[2] Ibid.

[3] Ibid., p. 223-4.

2. Suiji 水治 (hydrotherapy)
3. Kyūji 灸治 (moxibustion)
4. Shinji 針治 (acupuncture)
   a) Shin 鍼 (regular needle)
   b) Kashin 火針 (fire or heated needle)
   c) Kakibari 掻針 (bloodletting)
   (There were about 10 different techniques of actually handling the needle itself in the use of each of these methods.)
5. Saiji 祭治 (divination)

The choice of treatment was contingent on a complex consideration of the appearance, size, color, location, yin-yang affinity, and hot-cold affinity of the lesion in question, as well as the age of patient, stage of the illness and many other factors.

The fifth method, divination, is an interesting phenomenon which I have not mentioned to this point. It was popular during the Heian period in medicine in general, but by the Azuchi-Momoyama period 安土桃山(1568-1600) it was no longer considered to be in vogue[1] in internal medicine. However, in surgery, obstetrics, and ophthalmology it still retained power and popularity.[2] The following are some interesting examples mentioned in Fujikawa.[3]

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[1] Ibid., p. 225.

[2] Ibid.

[3] Ibid., pp. 225-26.

The method for the warm water burning and fire burning divination method 湯焼·火焼ノ心 is given as follows:

Put clear water in an ochawan [rice bowl], then on top of the water surface, write the following with the sap from a pine tree:

中ニ車，両ノ脇ニ石

Nakani kuruma, ryō no waki ni ishi.

Pour water over green dwarfed bamboo. Throw this over the fire and chant the following:

ヤケハダヲ，マジナヘバ，ウヅキハシラズ，
アトモナシ，タクサワノ，ツユツユ．

Yakehadao, majinaeba, uzukiwashirazu, atomonashi, takusawano, tsuyu tsuyu.

Chant this three times and then blow the fire, once.

The divination method to cure the bite of sasori 蝎 蜘 (scorpion) employed the following incantation:

イニシヘハ，タヌキメシミモノ，今ハウクロモチノ
ツチハナ艾ノ國ノカクリキカ袖ゾ

Inishiewa, tanukimeshi mimono, imawa ukuromochino tsuchi hana mogusano kuni no kakurikika sodenzo.

Chant this three times and then blow the fire once.

In the treatment of wounds, you are to say the incantation first when you initially look upon the injured person.

日ノ玉ノ太郎ノ御子ニ我シアラバタマコナン
チクコナンホロンソワカ

Hino tamano tarono mikoni ware shiaraba tamakonan chikukonan horonsowaka.

Next diagnose the pulse:

> When there is much bleeding or the pulse is weak 脈虛細 , the person will live. If the pulse is strong [lit: "big"] 實大 , then the person will die. And also in case where the pulse is fast and big 急ニシテ大數 the person will die.[1]

Thus surgery was practiced mainly with an emphasis in yōka 瘍科 which tended to be the more manageable type of medical problem under this rubric. The chances of survival for a person who had sustained serious injury cannot be viewed very optimistically. Fortunately the receptivity of surgical technique to empirical observation and pragmatic method has given surgery a kind of advantage internal medicine lacked. Because of the empirical element which left no doubt as to the success or failure of given surgical procedures, surgical practice tended to avoid the kind of excessive metaphysical and theoretical considerations found in internal medicine, particularly in areas where successful treatment had been established. One merely repeated known procedures in similar cases that had proven to be successful. Incantations were probably invoked to insure success.

Kinsōi, as practiced by the battlefield surgeons, tended to be just the kind of discipline that fostered practice based on pragmatic experience. In the case of wounds, immediate cessation of bleeding was advised. Closure of large wounds were accomplished using a rather interesting technique. After the proper use of various prescriptions, a piece of cloth was wrapped around the cut and sewn shut to keep the two edges of the cut closed.[2] Closure by direct

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[1] Ibid., p. 226 et passim.

[2] Ibid., p. 227.

suturing may have been known but I have not come across references to it in the Kinsōi technique prior to the arrival of the Portuguese.

A wide variety of drugs were used. Generally they were classed into: 1) Shiketsuyaku or chidomegusuri 止血藥 or 血止藥 (these were used to stop bleeding). 2) Kitsuke or chishibari 気付 or 血縛 (these were stimulants). 3) Senyaku 洗藥 (these were drugs used for washing wounds). 4) Iegusuri 創藥 (these help promoting healing).

Fujikawa points out that the difference between the various schools of surgery was the difference in the use of drugs or some minor technical skill. They did not differ greatly.[1]

Namban Ryū 南蛮流

The earliest contact between Japan and the West did not occur until about the middle of the Temmon era 天文 (1532-1554) with the arrival of the Portuguese. Accounts of their arrival are readily available in English by such authors as Ilza Veith,[2,3] John Bowers,[4] Willis Norton Whitney[5] and Ōtori

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[1]Ibid., p. 228, 230.

[2]Ilza Veith, "On the Mutual Indebtedness of Japanese and Western Medicine," Bulletin of the History of Medicine Vol. 52, No. 3 (Fall 1978): 283-409.

[3]Idem, "Medicine in Japan," Ciba Symposia Vol. 11, No. 4 (February-March, 1950): 1204-1206.

[4]John Z. Bowers, Medical Education in Japan (New York: Hoeber Medical Division, Harper and Row, 1965), p. 5-9.

Idem, Western Medical Pioneers in Feudal Japan. (Baltimore: The John Hopkins Press, 1970) pp. 10-17.

[5]Whitney, pp. 307-312.

Ranzaburō,[1] to mention a few. Suffice to say, their influence on Japanese medicine is reflected in the school of surgery to which their name is associated. The significance of their limited integration into Japanese medicine and the effects of this integrative process is an important element in an assessment of the earliest effects of Western medicine on Japanese medicine.

Ōtori, an extremely respected and competent historian of Japanese medical history makes an interesting unequivocal statement in his article, "The Acceptance of Western Medicine in Japan." He says, "On the whole, it can be said that the influence of Namban[2] medicine was not considerable....[3] This statement is perhaps closer to the truth than the extreme of the opposite point of view. But the word "influence" can indicate several effective foci. A contrasting consideration of medical theory does not yield an appreciable advantage to either the Rishu notion of the yin-yang, five elements theory or to the Hippocratic idea of the four humors. Each tradition produced remarkable results considering the level of development in their respective cultures. Taking the best level of attainment in the practice of internal medicine to the 16th century into consideration, it would be a safe conclusion that there was not much difference. But to ignore the implications of the speculations of Girolamo Fracastoro (1484-1553) concerning the "seeds of contagion" as an antecedent to

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[1] Ranzaburō Ōtori, "The Acceptance of Western Medicine in Japan," in Acceptance of Western Cultures in Japan (Tokyo: The Center for East Asian Cultural Studies, 1964), pp. 20-24.

[2] Namban (lit.: "southern barbarians") refers to the Portuguese.

[3] Ōtori, p. 24.

the germ theory; the pioneering attitude of Antonio Benivieni (ca. 1440-1502) toward the importance of post-mortems in the development of etiological theory; the early ideas of Michael Servetus (1509-1553), Realdo Colombo (1516?-1559), Giambattista Canano (1515-1579), Fallopius (1523-1562), Fabricius (1537-1619), all forerunners of Harvey; the chemical ideas of Paracelsus (1493-1541), who presaged the Iatrochemical school of van Helmont (1577-1644) as well as the physiological chemistry of Sylvius (1614-1672), is to ignore major advances in Western medicine and a level of progress that surpassed any semblance in Japan.

Particularly in the area of anatomy and surgery was the West most clearly advanced. The Alexandrian anatomists and the anatomical tradition from Mondino (ca. 1275-1290) through Berengario di Carpi (1470-1550), and Da Vinci (1452-1519) to Vesalius (1514-1564) had no parallel either in Japan or China. Aside from advances through the specific identifications of anatomical parts, e.g., differentiation between veins and arteries, or between motor and sensory nerves, cranial nerves, etc., Vesalius was the epitome of the resurgence of the scientific spirit of the West. His emphasis on direct observation, the necessity of using many dissections and the repeatability of observations, the need for a precise vocabulary, all contributed to the formation of a method of science in anatomy in particular, and in the natural sciences in general. His lectures on this subject at the University of Padua were pioneering in the methods of science.[1]

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[1]C. D. O'Malley, lecturer, History 107B, UCLA, California, April 20, 1967.

In the West, surgery had developed alongside of anatomy and had reached a fair degree of technical skill by the time the Portuguese had reached Japan (ca. 1542-1543). It was clearly more advanced than the surgical knowledge and skill of Japanese physicians. The techniques of ligation, cauterization, suturing, setting of fractures and dislocations, as well as operations for hairlips, fistulas, hernias, cataracts, and the performance of lithotomies, tracheotomies, amputations were maintained in the best tradition of men like Theodoric (ca. 1205-98), Saliceto (1210-77), Lanfranc (d. 1315) Henri de Mondeville (1260-1320), Guy de Chauliac (1300-67), Gasparo Tagliacozzi (1545-99) and Ambroise Paré (1510-1590). Too, the idea of experimentation was growing and being practiced particularly in anatomy, whereas in Japan, such a concept was nonexistent at this time.

If, then, we accept Ōtori's statement mentioned earlier, how can these inconsistencies be explained? It may be useful to see what the second part of his statement was:

> On the whole, it can be said that the influence of namban medicine was not considerable, mainly due to the fact that 16th century Europeans had very little of value to teach either in internal medicine or in surgery.[1]

This statement raises some interesting issues concerning the nature of the interaction between the Japanese and the Portuguese. Through a consideration of these issues, the statements of Jirō Numata, whose opposite views are expressed in such statements as,

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[1] Ōtori, p. 24.

> "The greatest contribution of Namban bunka was made in the fields of medicine, astronomy, navigation and shipbuilding."[1]
>
> "All in all, the contribution of Namban bunka to Japanese scientific growth was indeed momentous."[2]

can be brought into accord with those of Ōtori's.

As both Ōtori and Veith have so competently indicated, the Portuguese presence in Japan was primarily due to their interest in missionary activities as well as their zeal for profit through trade. It was primarily the Jesuit missionaries who were responsible for the introduction of Western medicine into Japan. They provided medical care to the indigent as part of their missionary work finding that their proselytizing activities were enhanced by this. Thus, medical knowledge was not disseminated by physicians per se, although men like Luis de Almeida (1525-1584) were exceptions. Almeida was trained in medicine and surgery under a two-year apprentice system at the Real de Todos-os-Santos Hospital in Lisbon. Having been certified in 1546, he embarked on a life at sea as a merchant.[3] In 1555 Almeida entered the Society of Jesus to begin his medical missionary work in Japan.

In 1593,[4] Spanish Franciscan friars entered Japan, soon followed by members of the Dominican order. All engaged in medical missionary work as

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[1] Jirō Numata, "The Acceptance of Western Culture in Japan: General Observation, in Acceptance of Western Culture in Japan, (Tokyo: The Center for East Asian Cultural Studies, 1964) p. 1

[2] Ibid., p. 2

[3] Bowers, 1970, p. 12.

[4] Ibid., p. 14.

part of their evanglical activities. A number of medical clinics for the indigent were established, which also served the purpose of missions. Nambanji in Kyoto was among the most well-known.

Because the language barrier presented problems in communication, the government interpreters were the first to have direct access to knowledge concerning Western culture. It was no accident that the introduction of Western medicine centered primarily around a nuclear group of interpreters who took up medicine as an avocation, some of whom resigned their official positions after a time to take up the practice of medicine full time. As a result of Japanese interest in the medicine practiced by both the Portuguese and Spanish, a number of Japanese individuals who had received medical instructions from these Western visitors formed distinct schools of their own that represented what became known collectively as the Namban Ryū Geka.[1] They usually took the name of the founder. Such schools as:

Nishi Ryū 西流	(Nishi, Kichibei 吉兵衛 d. 1666)
Yoshida Ryū 吉田流	(Yoshida, Ansai 安斎 d. 1694)
Kurisaki Ryū 栗崎流	(Kurisaki, Dōki 道喜 1566-1651)**

were found to be teaching and practicing medicine at the opening of the Tokugawa period. In addition to this method of introduction and dissemination,

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[1] Namban Ryū Geka 南蠻流外科 (lit.: Southern Barbarians School of Surgery, referring to what the Japanese believed was the Portuguese school of medicine.

** See Appendix 1 for further discussion concerning the identification of Kurisaki Dōki.

two Japanese individuals traveled abroad to receive training in Western surgery. Kurisaki Dōki, mentioned earlier, left Japan as a boy for Luzon taking up medical studies from the resident Spanish. He returned to Nagasaki during his early thirties to become a well known teacher and physician. Handa Jun'an 半田順庵 (fl. ca. early seventeenth century) first learned medicine in Japan from the apostate Portuguese priest Christavao Ferreira (b. 1590), who was known in Japan under his Japanese name Sawano Chūan 沢野忠庵. Jun'an then traveled to Macao sometime during the period 1596 to 1623 to further his studies of medicine. Upon his return to Japan, he too enjoyed wide recognition as a practitioner of the Namban Ryū Geka.[1]

Fujikawa notes that in the books produced as the result of the Portuguese occupation of Japan, those sections dealing with the methods of treatment of boils and skin lesions in the Namban school did not differ considerably from the methods used in the Takatori school.[2]

In the area of wound treatment, there were innovative changes for which the Portuguese and Spanish were responsible. The use of sutures to close wounds were introduced, as were the cleaning of wounds with alcoholic beverages. It would appear that the use of a modified dry method of wound closure was transmitted and favored over the use of a cautery. Once the wound was cleaned with wine, sutured, then washed again with wine, a piece of cloth dipped in a mixture of wine and egg-white was placed over the wound, and then wrapped

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[1]Fujikawa, 1944, p. 265.

[2]Ibid.

with cotton cloth.[1] In the case of bullet wounds, removal of the bullet was made a primary consideration, but it would appear that the Japanese were spared the use of boiling oils favored by Guy de Chauliac in cleaning wounds.

In cases of bleeding, powered medicines were recommended together with suturing. In severe cases, pressure was recommended. Cotton cloth soaked in vinegar and water was placed over the wound. Next, a thick piece of cotton was recommended on top of the wound presumably to apply pressure to further aid in stopping the bleeding when bandaging was wrapped around it. The drugs which were recommended by the Portuguese were generally all new drugs unknown to the Japanese. Availability was a primary concern and often Chinese drugs found in Japan were substituted. Shortly after the founding of Nambanji in 1568, an area of land on Ibuki yama 伊吹山 mountain in Ōmi 近江 near Kyoto was given to the Portuguese for planting medicinal herbs. This source probably supplied the Kyoto area but not much more.

Many of these surgical techniques were new to Japan and formed part of the reason for the preponderance of the formation of schools of surgery rather than internal medicine. Based on Japanese accounts, it would appear that the medicine entering Japan with the Portuguese was not representative of the best Europe had to offer. The reasons were many. Western medicine in Japan, for the most part was not represented by physicians but by men engaged primarily in missionary work. Evangelical activities took up much of their time. Medical education was an indirect benefit.

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[1] Ibid., p. 267.

A glance at a representative sample of the foreign missionaries in Japan before 1615 indicates that the majority were from Spain and Portugal and that the largest group were Jesuit priests from Portugal followed by Jesuits, Dominicans, Franciscans, and some Augustinians from Spain. Although their educational backgrounds can not be generalized as a whole, a good background can be cited. All of the early founders of the Jesuits order were university educated, and later history indicates that the Jesuits enjoyed a wide reputation for learning. In Portugal, the University of Coimbra is well known and the Jesuits carried on active teaching programs there. While the centers of medical thought were primarily in Italy, France, and England, so were the better theological centers of Europe, and provincial restrictions among the university educated was not an especially significant fault. Thus proximity was not necessarily a function of geography. Even those whose primary interest was in religion nonetheless had access to medical education. Spain can in fact be cited as one of the earliest outisde of Italy to recognize Vesalian anatomy when a chair of anatomy was first established at the University of Valencia in 1549. Pedro Jimeno, an anatomist who was the first to hold that chair, had even studied under Vesalius at Padua.[1] Thus educational opportunity should not be considered a factor influencing the outcome of the transmission of medical knowledge. Nonetheless a student of theology is not motivated by the same educational objectives as a medical student, hence the nature of the competency and extent of medical knowledge is open to question.

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[1]O'Malley, 1972, p. 69.

Another related factor was the time delay between the point of introduction and general acceptance of new discoveries. In the case of Vesalian anatomy, it was almost ten years before any new editions were published. His own teacher, Sylvius, harshly denounced him. Even with medical training, these men were recruited primarily for missionary work and not to establish programs in scientific enlightenment.

The last link in the chain were the Japanese themselves. And here again, the situation was an interesting one. Language was the most obvious barrier. It may have contributed considerably to the quality and content of medical knowledge transmitted. Another was the always present problem of the comprehensibility and relevance of an entirely foreign conceptual approach to medical thought and practice. This may have been the main contributory factor in the popularity and acceptance of Western surgical technique in contrast to internal medicine.

The government policy toward Christians indirectly affected the nature of the influence of Namban medicine in Japan. The periodic censorship and persecutions arising out of expulsion edicts decreed by the government left the Christian community in a very unsettled state. Guilt by association was the fear among the practitioners of Namban Ryū Geka, and quite often this association was real. In 1588, Hideyoshi put to death Shimada Seian 島田清庵 and Ichihashi Shōsuke 市橋庄助 for practicing medicine as Christians.[1]

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[1]Quoted from Nanbanji Kohaiki 南蛮寺興廢記 as found in Fujikawa, 1944, p. 262-263 et passim.

There was another barrier which influenced the acceptance of Western culture in Japan. Japan's limited contact with foreign countries fostered the belief that all that was of value flowed from China. This took the form of an ethnocentrism rationalized in Chu Hsi philosophy. Even the name given to the Portuguese indicated this attitude. They were called the "barbarians who come from the south." As trade continued and medical missionary work expanded, there were those Japanese who began to actively seek Western knowledge and techniques. Religion, military techniques, weaponry, astronomy, and surgery were particularly noteworthy areas of interest. However, in terms of a general consensus among the orthodox intelligentsia the feeling was that this knowledge was merely a curiosity and not of value within the Chu Hsi framework.

By the seventeenth century, the increasing interest in Christianity, as well as other domestic changes, brought about varying degrees of reaction toward Western knowledge. The Battle of Sekigahara was a decisive one for Tokugawa Ieyasu and in the following years, he was successful in establishing the groundwork for the Tokugawa Bakufu which was to last until 1868. The Dutch first arrived in Japan in 1600 when one of their ships, the de Liefde, shipwrecked off the coast of Bungo on the eastern shore of Kyushu.[1] In 1605, Ieyasu issued a license to the Dutch for trade with Japan, and four years later, the Dutch were granted permission to open a trading port at Hirado 平戸 .[2]

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[1] Grant Kohn Goodman, The Dutch Impact on Japan (1640-1853), Monographies du T'oung Pao, Vol. 5 (Leiden: E. J. Brill, 1967), p. 8.

[2] Ibid., p. 10.

The missionary activities of the Portuguese and Spanish, which had always concerned the central government and was tolerated with varying degrees of reaction ranging from benign neglect to issuing edicts of expulsion, cautiously maintained itself into the seventeenth century. In the end, it was the phobia over the consequences of a wholesale defection on the part of Christian converts, particularly among the daimyos of Kyushu as a threat to the stability of the shogunate that caused Ieyasu to take definite measures against them by issuing a series of promulgations to control and eventually rid the country of Christians.[1] It has been acknowledged that the motivating impetus behind this policy was the strengthening and centralization of the Bakufu to a position of unchallenged authority and power.[2]

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[1]An enterprise that was never entirely one hundred percent effective since many converts merely went underground.

[2]Nihon Rekishi Daijiten (Tokyo: Kawada Shobō Shinsha, 1964), s.v. "kirishitan kinsei," by Ebisawa Yūdō, Vol. 6, p. 135.

In this respect, the story of a Portuguese Jesuit named Christovao Ferreira (1580-1650) who arrived in Japan ca. 1611-12 1643 [1,2,3] may be particularly relevant. Ferreira's arrival coincided with about the time Tokugawa Ieyasu had renewed his efforts through his son to rid the country of all Christians. The Christian presence in Japan was not always a welcomed one, and his treatment mirrored this attitude.

The earliest such decree was in 1565[4] although never enforced. The Jesuits were welcomed under the rule of Oda Nobunaga 織田信長 (1534-1582) (Shogun from 1568-1582), but with the death of Oda and the rise of Toyotomi Hideyoshi 豊臣秀吉 (1536-1598) (in power from 1585-1598), the Jesuits suffered his disfavor and under a decree in 1587 were ordered to leave Japan.

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[1]Otori, p. 23.

[2]Shigeru Nakayama, A History of Japanese Astronomy, Harvard-Yenching Institute Monograph Series Vol. 18 (Cambridge: Harvard University Press, 1969), p. 89.

[3]Tadashi Inoue, Kaibara Ekken, Jimbutsu Sōsho, no. 103 (Tokyo: Yoshikawa Kōbunkan, 1969), p. 344.

There is some confusion regarding the date of Ferreira's arrival in Japan. Depending on the source, any of the following can be seen: ca. 1604, 1610, 1611, 1612, 1643. This may be do to the fact that Ferreira arrived in Japan during a period when Christian persecution was common, and he himself may have attempted to cover up the exact date. I personally feel that Ferreira arrived sometime about 1611. It is the date given by Ishihara, p. 98; Otori, p. 23; Koga, 1944, p. 42; and Daijimmei Jiten, v. 3-4, pp. 178-79. Daijimmei Jiten is considered to be the authority concerning personal dates of historical figures both in Japan and here in the U.S. It is used by the Library of Congress to check dates. My opinion is based on other historical evidence which indicates that Ferreira was in Japan at least as early as 1633.

[4]Bowers, 1970, p. 14.

This edict was not enforced but the unwelcome was felt. Hideyoshi was primarily interested in the Portuguese trade. In 1593, Spanish Franciscans arrived in Japan to engage in missionary activities and add more fuel to the growing disdain for missionary activities in Japan. In the midst of governmental concerns over the Christian presence, Hideyoshi had ulterior motives of his own in hoping for increased commercial ties, and for a time supported the Spanish. In 1597, Hideyoshi reversed himself, feeling a concern over the possibility of foreign military aggression against Japan. He ordered the deaths of nine European Franciscans and 17 Japanese converts as an example of his policy.[1] Hideyoshi died in 1598 to be succeeded by Ieyasu, the first of the Tokugawa shoguns 徳川家康 (1542-1616) (Shogun from 1603-1605). For a time, Ieyasu maintained a status quo in his attitude toward the Christians. His attention was occupied with more pressing affairs of state. However about this time the Bakufu changed its posture in regard to the continued Christian presence and felt that it no longer had to tolerate the Catholic religion in order to maintain Portuguese trade. The Dutch had arrived in Japan in 1600, and by 1609 had established a trading factory at Hirado 平戸 , an island off the northwestern coast of present day Kyushu. Realizing the sensitivity of the Japanese to the Christian religion, the Dutch maintained a policy of making no outward sign of religious practice. Thus the Bakufu favored the Dutch over the Portuguese. Beginning in 1612, Ieyasu, through his figurehead son Hidetada, who had succeeded him, initiated an active program to expell all Christians from

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[1]Bowers, 1970, p. 16.

Japan. By 1626, Christianity had either been expelled or driven underground.[1] In 1637, the Shimabara massacre was the culmination of the policy of Sakoku 鎖国 or "closed country" in which the shogunate attempted to maintain an international policy of isolationism. Some 37,000 individuals were recorded as being killed at Shimabara for their association with Christianity.[2] The Spanish were expelled in 1627 and by 1638 the Portuguese were gone.[3]

Thus Ferreira's welcome was imprisonment. As the story goes, he was tortured by hanging upside down with his head in a pit of excreta. In 1633, he apostatized and shortly thereafter took the name, Sawano Chūan . Chūan was active in the scientific and medical community, having had training in medicine, and an interest in astronomy. Chūan was responsible for several books on Western science, three of which were on medicine and surgery.

Namban Geka Hidensho 南蛮外科秘伝書 (The Secret Tradition of Namban Surgery)

Namban Chūan Geka Hidensho 南蛮忠庵外科秘伝書 (The Secret Tradition of Chūan's Namban Surgery)

Namban Gekashu 南蛮外科集 (A Miscellany on Namban Surgery)

As would be expected, the medicine contained in these works were Hippocratic in the Galenic tradition. The following is quoted from Namban Geka Hidensho.

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[1]George B. Sansom, Japan: A Short Cultural History. (New York: Appleton-Century-Crofts, 1962), p. 449.

[2]Ibid., p. 449-50 et passim.

[3]Ibid., p. 251.

> The human body contains four kinds of blood 血 called "umoru" ウモル ["humors"]. One is "sangi" サンキ ["sanguis"]; the second is "korera" コレラ ["cholera"]; the third is "herema" ヘレマ ["phlegm"]; the fourth is "marenkonya" マレンコンヤ ["melancholia"].
>
> Sangi means good blood 能血. Its nature is hot and wet. Korera is the clear upper part of blood, and it is a thin blood. Its nature is hot and dry. Herema is the water within the blood. Its nature is cold and wet. The wet type of boil starts from this. Marenkonya is the slow "sludge" of blood おり ["sediment"]. Its nature is cold and dry. But these blood [types] mentioned previously are all extant in the body, and when they are in harmony and equality, there is no disease. But when these four blood [types] are harmed by wind, cold, heat, wetness, food and drink, or excess sexual intercourse, wounds, internal bleeding or damage, or excess in doing anything, the consequence is that the person's blood and ch'i does not circulate well and causes boils and various other illnesses to start.[1,2]

It is immediately obvious that something has happened to the Hippocratic humors and Galenic pathology. It has been drawn into the medical concepts of Rishu medicine. This mixing is significant in itself for it provides some insights into how Western medical knowledge was integrated into Japanese medicine. It appears that this kind of Namban theory was drawn into established Japanese modes of thought. It is obvious that Japanese medical theory is not being sacrificed by this integrative process. This is of tremendous theoretical importance, for heretofore, it was thought that the main effect of Namban Igaku was on surgery only. This initial excitement must be contained however, for statistically it did not have the kind of impact which would truly make this significant. Instead the process here begun was a slow, torturous route toward recognition.

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[1] Meijizen, vol. 3, p. 207-8, 214.

[2] Fujikawa, 1944, p. 263.

This very same passage appears verbatim in 1696 in the book Oranda Geka Shinan 阿蘭陀外科指南 (Dutch Surgical Instruction), and holds a very important meaning to the transmission pattern of Western knowledge. The Portuguese tradition must be considered as part of a continuous history of Western thought in Japan. The distinction of Dutch versus Portuguese is not tenable. It is obvious that the intellectual tradition carried by the Portuguese was the same as, and continuous with that of the Dutch. The difference may have been only one of quality. And even here, one must concede the length of time the Dutch were in Japan compared to the Portuguese as an advantage in determining that quality. Another consideration is that the Dutch enjoyed the fruits of the initial impact of the Portuguese. One must also consider that the impact of the early Dutch physicians from 1600-1650 was not any more significant than the 50 years from 1543 to 1600 that the Portuguese were able to attain in medicine.

The effect of this initial contact and integration is important to our topic of conceptual change. Aside from the practical inroads made by Western medicine into Japanese medical practice, this specific fact holds considerable significance to its effect on the mode of thinking during this period. What is being sacrificed is the relationship and value the Japanese intellectual community willingly conceded in the relationship of Western knowledge to Chu Hsi metaphysics and epistemology. This change is expressed by Mukai Genshō (1609-1677), in a book which appeared shortly after 1650. Although the author is given as Mukai Genshō, a physician and ardent scholar of

the Shushi Neo Confucian school, he relates that the content of the book was a verbatim transcription of Sawano Chūan's account, written in Japanese romanization as read aloud by Nishi Kichibei 西吉兵衛 (d. 1666) an interpreter, which he rewrote himself. This book Kenkon Bensetsu 乾坤辨說 (Explanation of Heaven and Earth) contained an early explanation of astronomy according to Aristotelian theory, but was intended as a criticism of Western knowledge. It was part of the growing awareness of the scholastic tradition of the West. The reaction was typical of its type. Throughout this work, Genshō has inserted his commentaries on what Chūan has stated. Like a true Confucianist he criticized the knowledge of the West as "barbarian." He says:

> The scholars of barbarian learning do not know the li of yin and yang; therefore, they do not know why Heaven is Heaven.[1]
>
> Bangaku 蠻学 [literally means "barbarian studies"] simply states that it rejects the idea that Heaven is the origin of all things and that only the four elements are the source of all things. This is equivalent to knowing the mother and not the father.[2] Those who know only their mother and not the father are like animals.[2]

Genshō has conceded the knowledge of the West to be primarily concerned with ch'i, that is, with form, and that barbarian learning had no idea of li, that is, the reason for that form. Thus, the negative reaction of the

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[1]Genshō Mukai, Kenkon Bensetsu, in Bummei Genryū Sōsho, Vol. 2 (Tokyo: Kokusho Kankokai, 1969), p. 54.

[2]Ibid., p. 11.

Confucian community had given birth to a phenomenon which resembled the Hegelian process of change, a process whose resemblance to this form of dialectic became clearer in the latter period of the Tokugawa jidai. Unconsciously, Mukai Genshō had internalized Western learning as the philosophical antithesis of Shushigaku, from something not worth bothering about into a body of knowledge which was acceptable as objective knowledge within the Shushi framework. At the same time, he took a foreign body of knowledge and put it into the terminology of Shushi. This simple operation moved Western knowledge from outside the epistemological bounds of what the Japanese considered "knowledge" to a position where it was attributed the definitional trappings of familiarity with which it could be discussed in terms of normative Confucian concepts. It remained for Kaibara Ekken 貝原益軒 (1630-1714) to further differentiate the areas of "form" versus "reason" and Arai Hakuseki 新井白石 (1657-1725) to unequivocally state the value of Western knowledge as ch'i. The reaction to the importation of Western knowledge made possible by the Portuguese was a continuous process affecting Japanese thought in general and medical thought tangentially. This process of catalysis was passed on historically to the Dutch after the influence of the Portuguese ended.

The statement by Ōtori which initiated this line of inquiry can now be seen in some degree of perspective; what can be considered "considerable" or not, depends on the focus of evaluation. The influence of Namban medicine was "considerable" in that it initiated Japan's interest in Western medicine. The exact degree of "influence," or effect in terms of the specific body of knowledge

that was actually transmitted and understood by Japanese physicians, can be considered "not considerable," in internal medicine. Internal medicine was a highly theoretically supported practice in Japan and the underlying philosophical conflicts between Rishu theory and Western humoral pathology could not be resolved completely so quickly. A good initial contact was accomplished in view of the fact that there were those who also felt that the Japanese were inherently different biologically from the Westerners, and that Western medicine could not be effective on Japanese. Surgery was an area of medicine where the West surpassed the Japanese, but here again Portuguese and Spanish "influence" was not what might have been expected considering the state of European anatomy and surgery at the end of the sixteenth and beginning of the seventeenth century. Despite the admonition of Xavier Francis to Ignacius Loyola, vicar-general:

> Priests who intend to come to Japan must be well prepared with learning in order to meet the countless questions about which the Japanese are eagerly curious. First of all, they are to be competent philosophers [that is, physicists as well as metaphysicists] . . . All explanations of natural phenomena greatly engage that people's mind.[1]

The knowledge as recorded by the Japanese did not show the fruits of sixteenth century Western medicine. Thus, the specificity of medical knowledge transmitted to the medical world of sixteenth century Japan cannot be considered great in quantity but must be viewed as significant.

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[1]Nakayama, 1969, p. 81.

The second part of Ōtori's statement is not entirely correct if he is to have us believe that sixteenth century Europe had little of value which the Japanese did not know or have need of. I feel my rather terse description of the state-of-the-art in Europe during the sixteenth century more than adequately demonstrates this point when compared to the level of attainment in Japan during the comparable period. If Ōtori is referring specifically to the caliber of men who were carrying medical knowledge to Japan, his statement would probably be closer to the truth.

To conclude this discussion, we must now resolve Jirō Numata's statement in view of the influence of Namban medicine in Japan. It is clear that Numata is concerned with the broader significance of the impact of Namban culture on "Japanese scientific growth." Although the specificity of medical knowledge did not significantly influence the practice of traditional Japanese medicine, the overall effect was to change the epistemological base of Western scientific knowledge from "insignificance" to a level of "consideration." Mukai Genshō, in his attempt to explain Western concepts, moved Western knowledge into the language of Shushigaku and thereby took one step in its integrative process. This was the broader meaning of Numata's statement.

Kōmō Geka 紅毛外科 or Oranda Ryū Geka 和蘭流外科

As mentioned, Western surgery and anatomy surpassed anything which the Japanese had to offer during the sixteenth and early seventeenth centuries. However, due in part to the Japanese political situation of the seventeenth century and the continued effects of those factors discussed earlier, the influence of this Western tradition remained restricted and the effective channels for importing this knowledge impeded. As the situation between the Bakufu and Christian elements grew worse, so too did the opportunities for maintaining public contact and communication between the carriers of Western culture and a general category of those whose initial curiosity had led to continued inquiry.

As early as 1630, written materials thought to contain Christian teachings were ordered censored. Particularly suspect were the writings of Matteo Ricci, a Jesuit priest who was active in China. Some 32 separate items by him and other authors were prohibited in an attempt to curb the spread of Christian teaching.[1] Although many of Ricci's works were of a scientific nature, primarily on Western astronomy translated into Chinese, because the source was Jesuit, the association was enough for condemnation. Curiously enough, even

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[1]Nakayama, 1969, p. 83.

though there was no official prohibition against the importation of Western books,[1,2] the general effect of this policy accomplished essentially the same result.

The immediate impact of this censorship is difficult to assess in view of two significant facts. First, the Dutch and Portuguese trade was primarily between Japan and countries of East Asia.[3] European books were not ordinarily part of this trade, hence the availability was not significant to begin with. Most affected were those Chinese translations of Western books that were available about this time. Second there were very few who had a reading knowledge of European languages,[4] and the fear of guilt by association for Christian activities was sufficient deterrent to prevent free inquiry. On the other hand, the long term results were obvious. It made the task of learning language difficult, and prolonged the process of a rapid propagation to a larger audience. Also blocked was the effective importation of Western knowledge on a broad scale until 1720 when Shogun Yoshimune rescinded the edict. However this generalization should not be carried too far as we shall see later.

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[1]C.R. Boxer, Jan Compagnie in Japan: 1600-1817 (Tokyo: Oxford University Press, 1968), pp. 61-62.

[2]Nakayama, 1969, p. 82.

[3]Ibid., p. 83.

[4]Ibid.

In 1638, the Tokugawa government issued its famous Sakoku Edict 鎖国, forever forbidding entry into Japan by the Portuguese or any other foreign country, leaving the Dutch the only Western country permitted to enter Japan. In 1641, they were moved from the island of Hirado to Deshima, a fan-shaped man-made island in Nagasaki harbor.[1]

To a large extent, the growth of Western knowledge in Japan was a function of progress in linguistic skills. With the expulsion of the Portuguese and their discredit by the Tokugawa government, the succession passed on to the Dutch as the channel through which the Western medical tradition was to pass into Japan during the Tokugawa period. As the result of the political climate and the policy of general domestic regulation, the official government interpreters were initially the only ones charged with the necessary training to communicate with the Dutch, and for a time retained an effective monopoly on its knowledge and use. These interpreters were stationed at Nagasaki and were engaged to facilitate trade. The irony of the situation was that from the time the Dutch settled on Hirado in 1609, and for about thirty years after the Dutch were moved to Deshima, Portuguese continued to be the language of communication for the Japanese.[2,3] Because normal intercourse could be carried

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[1] See Goodman, pp. 19-26 for a good description of the island itself.

[2] Boxer, p. 58.

[3] Jirō Numata, "The Introduction of Dutch Language," in Acceptance of Western Cultures in Japan, ed. [Seiichi Iwao] (Tokyo: The Center for East Asian Cultural Studies, 1964), p. 9

on in Portuguese, there was no acute pressure to quickly learn Dutch. Thus early Dutch language training was not based on formal studies but gained incidently during the conduct of everyday matters as well as during the course of business transactions.[1] As late as in 1641, when the Dutch factory was relocated on Deshima, few Japanese could speak fluent Dutch.[2,3] With time an apprentice system evolved for learning Dutch. In 1673, mention is made in the Dutch factory's daily records that several youths were sent by the Governor of Nagasaki to be taught Dutch by members of the Dutch factory.[4]

Language was one of the principal barriers to the importation of Western learning throughout most of the Tokugawa period. According to contemporary Dutch accounts, it was not until the end of the seventeenth century that proficiency in Dutch had attained acceptable levels to replace Portuguese.[5] However, even so, the adverse comments that were periodically leveled at the inadequacy of some of the Japanese interpreters in various Dutch sources appear to indicate that competency was not uniformly good and often barely minimal for communication. Carl Peter Thunberg's (1743-1828) favorable observations on

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[1] Ibid.

[2] Boxer, p. 59.

[3] Toshirō Hattori, Edo Jidai Igakushi no Kenkyū (Tokyo: Yoshikawa Kobunkan, 1978), p. 321.

[4] Takeo Itazawa, Rangaku no Hattatsu, Iwanami Koza Nippon Rekishi, Vol. 7 (Tokyo: Iwanami Shoten, 1935), p. 27.

[5] Numata, "The Introduction of Dutch Language," pp. 9-10.

the general ability of the interpreters during his stay in Japan from 1775 to 1776 reveals a period of about 165 years during which gradual improvement occurred.[1] This attitude was also mirrored by Isaac Titsingh (1745-1812) who spent a total of some three and a half years in Japan during three separate occasions in the five year period between August, 1779 to November, 1784.[2] During his tenure, he met with some of the more notable Dutch scholars of the day including Katsuragawa Hoshū 桂川甫周 (1751-1809), a Bakufu physician who aided Sugita Gempaku in the translation necessary for the completion of Kaitai Shinsho; and Nakagawa Jun-an 中川淳庵 (1739-1784), who also participated in the translation work under Sugita Gempaku and Maeno Ryotaku. Titsingh, as well as Thunberg, continued to maintain correspondence in Dutch with many of his acquaintances even after his final departure from Japan.

Some of the better known and more competent interpreters of this period were:

1)	Kobayashi Yoshinobu 小林義信	(1601-1684)
2)	Arashiyama Hoan 嵐山甫安	(1633-1693)
3)	Narabayashi Chinzan 楢林鎮山	(1648-1711)
4)	Nishi Gempo 西玄甫	(d. 1684)
5)	Yoshio Kōgyū 吉雄耕牛	(1724-1800)
6)	Motoki Ryōei 本木良永	(1735-1794)

The majority of the earliest practitioners of Western-styled medicine during the Dutch period were invariably all associated with the interpreter profession. In

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[1] Ibid., p. 10.

[2] Boxer, pp. 63, 135-170.

general, by virtue of their role as interpreters, these men were among the first to have direct access to and first hand knowledge of Western culture as transmitted through the Western languages. Because of their rather privileged position, those who developed interests in medicine took advantage of their access to Western sources. Without any previous experience other than what they were able to haphazardly gain from their Western mentors, many began to teach and practice medicine as an avocation, or quit their position as interpreters and enter the medical profession.

However, as during the Portuguese period, the introduction to medicine as provided by the Dutch centered initially around surgery. There were many elements that favored this tendency. The most apparent was that the continued interest to develop what was initiated by the Portuguese, but also the acknowledged archaic and undeveloped state of Japanese surgery in comparison to Western surgery. Equally important in the actual predilective process was the nature of the relationship between the interpreters and their Western wards. Communication was primarily oral and not uniformly very good. Very few could read Dutch with any degree of competency. Although communication in Portuguese was an alternative, a new generation of interpreters without the advantage of knowing Portuguese were coming of age. Thus direct observation was an extremely important method. Complicated and detailed explanations of medical theory was virtually impossible for the first Japanese students. Thus surgery lent itself well to the restricted circumstances where nonverbal communication and lack of highly theoretically supported explanations of therapy helped in comprehension. The most effective testimony to the merits of Western medicine was the empirical nature of surgical intervention and

successful treatment. It appears to have avoided the theoretical justifications of the kind required in the integration of internal medicine.

During the sixteenth and seventeenth centuries, the authority of Chinese medicine remained unchallenged in questions of internal medicine. Because of the adverse opinion and disdainful attitude the general medical community held in regard to surgery, it remained outside of the formal constraints imposed on the teaching and practice of internal medicine. During the Tokugawa period the term "medicine" was applied to indicate the practice of internal medicine. The term used today for internal medicine, naika 内科, was known during this period as hondō 本道 or "the original way." Thus the regulative controls and undoubtedly fierce opposition that might have prevented any development of surgical knowledge was largely absent, except on a much more general level of ethnocentrically derived attitudes concerning the superiority of sinological institutions, traditions, and thought systems. But these were easily overlooked by those individuals whose primary interest was captivated by the empirically demonstrable advantages of Western surgery.

Although referring to the importation of firearms, Sugimoto and Swain make a generalization that is equally applicable to the earliest introduction of Western medicine.[1] It helps to understand another contributory element accounting for the relative ease with which individuals of the interpreter profession were able to accept the techniques of Western medicine. The identity of the individuals who eventually entered the interpreter profession were

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[1] Sugimoto and Swain, p. 170.

initially outside the medical profession. Hence they had no vested interest in the existing Chinese medical tradition. Because of the advantage of naivete, they also did not have to confront a learned tradition of Chinese dogma. Their motivation was one of learning a practical skill, and because they owed no allegiance to the established medical community, they did not have to account to this group for their interest.

Geography also played an important role in the relatively confrontation-free atmosphere with which the interpreters were able to pursue Western techniques in surgery. Nagasaki was quite distant from Kyoto and Edo which were the centers of learning during this period. The reception to Western learning in these two cities would probably have been quite different.

The surgical tradition entering Japan through the Dutch was continuous with the Namban Ryū Geka, although a distinctive name change occurred. With the Dutch, Western surgery came to be known as Kōmō Geka 紅毛外科 (literally, "surgery of the red hairs") or Oranda Ryū Geka 和蘭流外科 (literally, "the Dutch school of surgery"). The name change avoided connotative associations with Christianity, since the Catholic religion was responsible for the first introduction of Western surgery.[1]

The Dutch period of Tokugawa medical history brought some significant changes to the mode of historical influence. The most prominent was the presence of a medical officer attached to the factory staff at Deshima. The earliest mention of a medical officer occurs in the Dutch factory records

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[1] Sugimoto and Swain, p. 264.

(Dagh-Register in Dutch, Rankan Nikki 蘭館日記 in Japanese) in the year 1630 while the Dutch factory was still located at Hirado 平戸 . He was identified as Hermanus Kerkenaar.[1] However, during the entire 32 years the Dutch resided at Hirado, there is mention of only one Dutch physician who took up temporary residence there.[2] As with Kerkenaar, most physicians mentioned prior to 1641 were medical officers aboard Dutch ships who were specifically requested for medical advice and aid by the Japanese. Japanese interest in Western medicine imposed on these foreign physicians to assume the center of interest for not only the Japanese interpreter-surgeons but also for the medical community in general. Although many were no more than barber-surgeons, there were also individuals of exceptional talent who were able to leave lasting impressions on the Japanese medical community. As early as 1631, a surgeon named Pieter Stamper, who was stationed aboard a ship identified by the Japanese as the "Furēde" フレーデ is recorded as being dispatched to treat the Edo Machi Bugyō[3] Shimada Toshimasa 江戸町奉行島田利正.[4] The

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[1]Hattori, p. 323.

[2]Koga, 1944, p. 53.

[3]The Machi Bugyō was a Bakufu appointed position that served as the head administrator for municipal governments. He may be likened to a governor but his powers were much broader, retaining the final authority and power in matters under his jurisdiction. Machi Bugyō's were appointed for important towns in Japan during the Edo period. The Edo Machi Bugyō was the most important of these. Others were appointed for Osaka (which included Settsu, Kochi, Izumi, and Harima at that time), Kyoto, Sumpu (Shizuoka), Nikko, Sakai, Otsu (an area near Biwa-ko), Fushimi, Nagasaki, Nara, Uji-Yamada. See Nihon Rekishi Daijiten (Tokyo: Kawade Shobō, 1964), s.v. "Machi Bugyō."

[4]Hattori, p. 323.

relative importance of Shimada Toshimasa as an official of the Bakufu and the fact that a Western physician was called to treat him indicates the respect some Japanese had for Western medicine.

Again in 1637, the physician Marten Wesselingh is recorded as having treated the Nagasaki Machi Bugyō Sakakibara Hizen 長崎町奉行榊原飛驒 and an individual named Suetsugu Heizō 末次平蔵, as well as instructing the personal physician to Hizen .[1] Hereafter it appears that the factory physician was called upon to treat various governmental functionaries frequently.

One of the earliest to exert considerable influence on Japanese medicine was Caspar Schambergen who arrived in Japan in 1649.[2] Establishing a precedent by accompanying the factory captain on their annual trip to Edo to have audience with the Shogun, they left Nagasaki on November 25 of the same year. On that occasion, the response to Schambergen's presence was gratifying to the Bakufu, and consequently was requested by the Shogun to remain in Edo to instruct Japanese physicians on Western medicine. Consenting, Schambergen taught and practiced medicine in Edo an additional ten months before he returned to Nagasaki. During that time, he was able to accomplish much toward increasing the interest in and the acceptance of Western medicine among physicians in Edo, as well as among many of the Bakufu officials. It appears from contemporary accounts that Inoue Chikugo 井上筑後, who was then

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[1]Ibid., p. 324.

[2]Koga, 1944, pp. 61, 58-65.

head of the Tokugawa surveillance network with the title Ometsuke 大目付, took special interest in Schambergen opening many opportunities for him to practice medicine among the higher ranks of Bakufu officials.[1]

Caspar Schambergen's influence was greatly extended by his students, and although he himself left Japan in 1651, his school of thought extended well into the nineteenth century. These physicians came to be known as the Kasuparu Ryū カスパル流. Some of the better known were: Inomata Dembei 猪股傳兵衛(d. 1664), Kawaguchi Ryōan 河口良庵 (1670-1746), Yamaguchi Saburōzaemon 山口三郎左衛門.

Inomata Dembei was a Portuguese interpreter who accompanied Schambergen in 1649 to Edo. He soon took up the study of European medicine under Schambergen and later began to teach himself.[2] He is one of the best known of Caspar's students and his written works influenced many. There were still very few members of the medical community who could read European medical works directly, and therefore relied heavily on the intermediation of interpreters for their information.[3] Consequently his books were very popular and read widely. Among the best known of his works were Kasupā Ryū Isho カスパー流医書 and Kōmō Geka 紅毛外科. Those who were familiar with and influenced by the works of Dembei were: Nishi Gempo 西玄甫 (d. 1684), an interpreter-surgeon and founder of the school of Nishi within the

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[1]Hattori, p. 327.

[2]Koga, 1944, p. 60.

[3]Hattori, p. 16.

Kōmō Ryū Geka; Arashiyama Hoan 嵐山甫安 (1633-1693), who at the request of the daimyo of Hirado, Lord Matsuura also went to study European medicine under Hermann Katz (in Japan 1661-1662),[1] Daniel Busch (in Japan 1662-1663, 1664-1665, 1666?),[2,3,4] "Harumu"ハルム(in Japan 1663-1664)--perhaps the individual identified by Goodman as Daniel Palm,[5,6] although Meijizen gives the spelling "Halm;"[7] and Katsuragawa Hochiku 桂川甫筑 (1661-1747), who was a student of Arashiyama Hoan and later became a Bakufu physician. Dembei also influenced Yoshida Jian 吉田自庵 (1644-1713), who also entered the Bakufu service; Sugimoto Chūtoku 杉本忠篤 ; Hatono Soha 鳩野宗巴 (1641-1697); and Mukai Genshō 向井元升 (1609-1677).[8]

Yamaguchi Saburōzaemon had originally opened a school for military training in Edo. He met Schambergen during his first visit to Edo. Impressed with his knowledge of surgery, Saburōzaemon studied under him until his departure for Nagasaki. Western surgery was passed on as a family profession

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[1]Goodman, p. 45.

[2]Ibid.

[3]Koga, 1944, p. 75.

[4]See Appendix 2.

[5]Koga, 1944, p. 76.

[6]Goodman, p. 45.

[7]Meijizen, Vol. 5, p. 403.

[8]Hattori, p. 16.

until well into the eighteenth century in the Yamaguchi family.[1]

There are some secondary sources that attribute Caspar Schambergen as the origin of Irako Dōgyū's伊良子道牛 (1671-1734) knowledge of European medicine. This may have occurred as the result of a statement made by Irako Dōgyū's grandson, Irako Kōken (Mitsuaki)伊良子光顕 (1737-1798) who wrote that his grandfather had studied under Schambergen. The quote is attributed by Koga to a work by Kōken entitled Kinsō Hiju Geka Kummō Zui 金瘡秘授外科訓蒙圖.[2] It is perhaps the source of the error in the diagram given on page 134 of Edo Jidai no Kagaku. Both Koga[3] and Meijizen[4] state that Dōgyū learned medicine at Nagasaki at the age of seventeen making it sometime about the year 1688. Both insist that he learned it from a factory physician. This unidentified physician may have been Jan Bartitsz who was the factory physician at Deshima from 1687-1689. That Dōgyū studied directly under Schambergen is not possible since he was born twenty years after Schambergen had already left Japan, but this does not rule out Dōgyū's affiliation with the Kasupā Ryū. Irako Dōgyū was the founding ancestor of a family of physicians who practiced medicine in both Fushimi and Kyoto throughout the nineteenth century. In addition he was also the source, via his

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[1]Ibid., p. 327.

[2]Koga, 1944, p. 101.

[3]Ibid., 1944, pp. 99, 100.

[4]Meijizen, Vol. 5, p. 407.

student Yamato Kensui 大和見永 (d. 1780) and Yamato Kenritsu 大和見立 (1750-1827), Kensui's son, of Hanaoka Seishu's 華岡青洲 (1760-1835), medical education. Seishu was undoubtedly the foremost surgeon of the Tokugawa period. Thus Seishu's knowledge of European surgery can be traced back through Dōgyū to the factory physicians at Deshima.

Kawaguchi Ryōan is another whose affiliation is questioned in relation to Schambergen; however, most historians recognize Ryōan as his student. Ryōan was a prolific writer as well as a teacher. Among his writings are: Oranda Ryū Geka Shōden 阿蘭陀流外科正伝, Oranda Gairyōshu 阿蘭陀外科集, and Geka Yōketsu Zensho 外科要訣全書.

Caspar Schambergen left Japan in 1651 ending a remarkable period of fruitful intercourse initiating Japanese physicians into the Dutch period of Western influence in Japanese medical history.

As Kōmō surgery began to gain in popularity, a number of schools of practice appeared. Besides the Kasuparu Ryū カスパル流, schools such as the Narabayashi Ryū 楢林流, Nishi Ryū 西流, Yoshida Ryū 吉田流, and Yoshio Ryū 吉雄流 to name a few, were formed which collectively constituted the Kōmō Ryū Geka. All were organized independently and little or no efforts were made at cooperative activities. To some extent, it was common practice to guard the secrets of one's school.

Though generally identified with the Rangaku movement, translation activity, as well as interest in anatomy, did not begin with Sugita Gempaku in 1771. It is true that the publication of the Kaitai Shinsho in 1774 marked a watershed in the history of medicine, and represented a tremendously important event in the history of Japan; but as viewed from the historical continuum of the

period, this event was but one manifestation of the constant series of changes occurring at the conceptual base of medical thought that can be considered an outgrowth of the Kōmō Ryū Geka tradition. This specific inclination had already developed during the early part of the eighteenth century with Narabayashi Chinzan 楢林鎮山 (1648-1711),[1] although Motoki Ryōi 本木良意 (1628-1697)[2] had already completed before the end of the seventeenth century what is often overlooked as the first translation of a Dutch text in Japan. These early endeavors are a testament to the contributions of the Kōmō school of surgery.

Motoki Ryōi was a Dutch interpreter by profession, at first stationed at Hirado. In 1641, he moved with the Dutch factory to Deshima and remained at Deshima until 1659 when he returned to Hirado. Being promoted to interpreter junior grade 小通詞, he was again recalled to Deshima, this time from 1664 until his resignation in 1695. He was promoted to senior interpreter, Ōtsūji 大通詞 in 1668. He was known to have studied under Engelbert Kaempfer (1651-1716) who was in Japan two years, 1690-1692, even making the journey with Kaempfor to Edo in 1692. As with all his Japanese students, the relationship between Motoki and Kaempfer was symbiotic. Motoki provided Kaempfer with much knowledge about Japan, while gaining the benefits of Kaempfer's own medical training. Further, Motoki's dates of residency at

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[1]Also known as Shingobei 勘吾兵衛, Eikyū 榮休 or 榮久, and Tokitoshi 時敏.

[2]Also known as Eikyū 榮久 or Shōtaifū 庄太夫.

Deshima coincide with the presence of two other well known physicians, Caspar Schambergen (in Japan from 1649 to 1651) and Willem Ten Rhijne (in Japan 1676), and some form of contact can certainly be surmised. According to Ogawa Teizō, it was Motoki who provided Ten Rhijne with his knowledge of Japanese medicine[1] and who in turn introduced the techniques of acupuncture and moxibustion into Europe.

Ryōi devoted the better part of his life to the study of Western surgery. Toward the end of his life, he put into writing what has come to be acknowledged as the earliest known translation of a Western book in Japan.[2] Because it was never published, the exact date of completion or the original title are not known. Ogawa Teizō has advanced the date 1681 or 1682, but notes that it is open to question.[3] In 1772, Suzuki Sōden 鈴木宗云 (fl. 1772) published this work under the title Oranda Zenku Naigaibungōzu 和蘭躰内外分合圖, a title which he gave himself since the work may have been untitled by Ryoi. This work was a partial translation and anatomical atlas taken from the 1667 Dutch edition of Johann Remmelin's Pinax Microcosmographicus translated from German by Justus Grantianus.[4]

Motoki's book had found its way into the hands of Suzuki Sōden quite accidently sometime during the latter part of the eighteenth century. Lacking

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[1]Teizō Ogawa and Shizu Sakai, "Motoki Shōtaifū no Igaku," Nihon Ishigaku Zasshi, Vol. 21, No. 2 (April 30, 1975): 32.

[2]Meijizen, Vol. 4, p. 597.

[3]Ogawa and Sakai, p. 32.

[4]Koga, 1944, p. 134.

its anatomical notes and part of some of the illustrations, the anonymous copy Suzuki found was in a bad state of preservation. However, upon showing it to several Nagasaki interpreters, knowledge of its identity still lingered despite the passage of some seventy-odd years. Slowly compiling information as to its identity, Suzuki contacted Yoshio Kōgyū 吉雄耕牛 (1724-1800), Motoki Einoshin 本木榮之進 (1735-1794), Shinoda Genryū 篠田玄龍 (fl. ca. 1770) in an effort to locate the missing anatomical notes. He then went to Chōshū 長州 or Nagato 長門 (today part of Yamaguchi prefecture) and finally found a copy of the manuscript in its entirety, which he then had published in 1772.

There is record of the existence and availability of this work in the Nagasaki area and even outside the medical community located there while Motoki Ryōi was still alive. Therefore it has generally been accepted that he had completed it before 1697.

Its influence is difficult to assess. Ishihara Akira's description of it seems typical of most characterizations of its significance.[1] He notes that because the book was never published, it was available in manuscript form only. It was not openly used and was considered a book only furtively attainable. Because of the few copies circulating, Ishihara considered the book to have had little or no influence during its early appearance. Yet conversely nearly seventy-five years later, interpreters of Nagasaki still either owned or remembered it. Thus in this case, sheer lack of quantity did not have to

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[1] Ishihara, p. 147.

indicate significance. And since the book circulated secretly, documentation of its circulation would be hard to determine. It would appear that the atlas section circulated more freely, anonymously. Oranda Zenku Naigaibungōzu is not often mentioned in secondary sources; however, this book must be viewed as an early forerunner of a distinctive change in the direction of Japanese medicine that was based on equally significant changes in the mode of thought initiating this change. Whether it affected the noticeably slow development of interest in anatomy during the late seventeenth century and early eighteenth century can not be properly evaluated at this point. An anatomical basis for the study of medicine was not properly understood by practitioners of traditional medicine of the period. In terms of the kinds of therapeutic methods available to practicing physicians of the period, a knowledge of anatomy was not necessary. When also viewed in terms of the adverse social and traditional medical prohibitions against human dissection, knowledge of human antomy was not a particularly common subject of conversation. However Motoki was not an isolated instance of interest in anatomy, rather he marks the early beginnings of such a movement among the practitioners of surgery.

Although the slow development in the recognition of the importance of the study of anatomy can be observed from about the time of Motoki Ryōi to the time of Sugita Gempaku (1770's), a period of approximately 90 years, the work of Narabayashi Chinzan in 1706 definitely shows a trend of an anatomical perspective infiltrating into the practice of surgery. In Geka Sōden and the subsequent variant copies of it, anatomy is discussed within the context of a structure-function relationship with surgery, where specific peculiarities of given anatomical areas of the body are incorporated into surgical technique.

The layout of the anatomical illustrations in Motoki's work was rather unusual in that each page contained an overlayed two dimensional model of the parts depicted, so that one lifted the outer layer to observe the more internal parts. This system was used throughout. From the illustrations of Remmelin, it would appear that Motoki was attempting to better the reproductions found in it. The pictorial presentation does give the appearance of a peeling-of-layers look.

Philipp Franz von Siebold was able to procure a copy and returned to Europe with it. That his copy reached Europe is verified by the entry number 493 in:

> Catalogus librorum et Manuscriptorum Japonicorum a Ph. Fr. de Siebold collectorum, annexa enumrationes illorum, qui in museo regio Hagano servantur, 1845, by J. Hoffman.[1]

Ignoring some of the factual errors, the entry reads:

> 493. Walan zenku naigwai bun no dsu, adumbrationes anatomicae omnium corpolis humani partium. Opus origine Batavum, japonice vertit Motoki sii, interpres Nagasakiensis, edidit Suzuki Soun, medicus provinciae Suwo. 1774, 2 voll. in 80.[1]

In passing, I will mention a work reported by Gordon Mestler to have been completed in 1682 by Motoki Ryōi.[2] He describes it as a single volume work containing anatomical nomenclature with the title Shokai Naikeishō (no characters given). Mestler maintains that the original European source for this work had not yet been identified as of 1957, when he wrote the article. I have checked the catalog of books in the medical collection at Kyoto University

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[1]Koga, 1944, p. 129.

[2]Gordon E. Mestler, "A Galaxy of Old Medical Books," Bulletin of the Medical Library Association, Vol. 45, No. 2 (1957): 204.

(which incidently now owns a significant part of the Fujikawa Yū collection; the catalog is only current to 1944) as well as the union catalog of all indigenously written and published works in Japan (that is, the Kokusho Sōmokuroku), but have not been able to find a listing for this work. It is quite possible that this work was never published and was known only in a manuscript form that exists today in someone's private collection, thus never cataloged.

Kure Shūzō lists an anatomical text titled Shokai Naikeisho 詳解内景鈔 by Motoki Shōtaifū with a completion date of 1682.[1] It is described as a manuscript and was important to the introduction of Western anatomy in Japan. This citation or the actual text may have been Mestler's source for his entry. The manuscript mentioned by Kure is currently in the private collection of Okada Nobutoshi 岡田信利.

It may not be entirely inappropriate at this point to take a brief moment to look at the development of anatomy during the hundred year or so period from 1650 to 1750. The traditional historical posture has been to attribute the development of anatomy to Yamawaki Tōyō during the 1750's and Sugita Gempaku in the 1770's because of their activities in human dissection. But in truth, the Kōmō surgeons were responsible for much of the early work in anatomy. Its study was looked upon more in terms of an applied body of knowledge rather than an academic discipline. This interest was the natural outcome of their contacts with Western physicians. Their sources originally began in the oral tradition of the interpreters; however, in a relatively short

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[1] Shūzō Kure, Nihon Igaku Rekishi Shiryō Mokuroku, n.p. [1925, preface date], Item 62, p. 11.

period of time some of them were beginning to draw their knowledge directly from books brought to Japan by the Dutch.

About the same period as Motoki Ryōi was Nakamura Sōyo 中村宗璵 (fl. ca. 1684). Although Sōyo was not among the better known authors of the period, he published three works on Kōmō surgery from 1684 to 1698: Kōmō Hiden Geka Ryōjishū 紅毛秘伝外科療治集[1] (Geka Ryōjishū 外科療治集 in Fujikawa[2]), Geka Hiden 外科秘傳, and Geka Zensho 外科全書. Although the contents of Kōmō Hiden Geka Ryōjishū is originally derived from the oral tradition of the Dutch interpreters, it nonetheless gives us an idea of what was being understood by the early Japanese physicians of the Nagasaki area in regard to anatomy. Below is a translation of several passages excerpted from Sōyo's Kōmō Hiden Geka Ryōjishū, 1684.[3,4]

Keiryaku 経絡

The skin of everyone's bodies is composed of a combination of three kinds of suji 筋 [originally the character, which is chin in Chinese, was

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[1]Meijizen, Vol. 1, p. 74.

[2]Fujikawa, 1944, p. 666.

[3]Sōyo Nakamura, Geka Ryōjishū (Kyoto: Yamamoto Chōbei, printer, 1684).

[4]The title Geka Ryōjishū is the title written on the cover of the book in question, and the one used on the temporary shelf list card in the Oriental Medical Collection at the University of California, San Francisco. This work can also be found under the following titles: Kōmō Hiden Geka Ryōjishu 紅毛秘伝外科療治集 and Kōmō Geka Ryōjishū 紅毛外科療治集. The former is one that is found on the table of contents page and other chapter heading pages in the particular edition I was working with, while the latter is the title entry to Kokusho Sōmokuroku.

given the meaning "sinews" and "muscles," but there is difficulty in attempting a definition of the isolated character because in some contexts it could also refer to "blood vessels" or "nerves." Rather than attempting a translation, it would be more accurate to use the original Japanese pronunciation and identify the specific contextual meaning]. The function of the skin is to protect the body from things which are not good for it, feel pain and communicate it all over the body, and brush off the [intruding] evil elements. The nature of skin is cold, hot, wet, dry, and all are combined in the skin. The three kinds of suji are:

1) One kind carries blood from the liver throughout the body. The nature of this suji is cold and dry and has one layer [reference here is made to the tissue layer composing the structure being described].

2) Another kind of suji carries blood from the heart to the entire body. This kind has two layers of skin [that is, "covering"]. It is harder than the suji that exits from the liver [and radiates to the entire body]. When they occur and travel together, its position is internal [to the suji from the liver].

3) The third kind of suji is round and has no internal contents, not even blood. It is through the mediation of this suji that one feels the movement of the body. It is the suji that exits from the marrow [illegible] of the head ["head" here should be read "brain", and the reference is to the cranial nerves], and from between the joints of the backbone [referring to the spinal nerves]. The nature of this suji is cold and dry. It is the same as the bone marrow of the spinal column [that is, the spinal cord] and the skull [that is, the brain].[1,2]

It is interesting to observe how the author's bias has entered this explanation. He has used Chinese terms which have been modified by Japanese physicians and applied them to Western anatomical descriptions. What results is

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[1]Nakamura, Chapter 2, leaf 22-23.

[2]In Meijizen, Vol. 1, pp. 74-77, similar excerpts are quoted from Nakamura. However, there are significant differences in the text between it and the edition with which I worked. These differences must have resulted from the usage of different editions.

a peculiar combination of Western anatomy in the guise of Japanese terms and concepts. Nakamura has lumped all of these anatomical structures, that is, the arterial vessels, venous vessels, and nerves under the general term keiryaku 経絡, which was originally used in Chinese medicine (known as ching luo) to describe the primary energy distributing system, a system that is often referred to as meridians and what Porkert calls "sinarteriae," or "sinarteries."[1].

> From between the joints of the spinal column dōkotsu 胴骨 pass pairs of suji. They number 61 in total. However, on one side there are 30. Further from the tail of the turtle[2] passes a large single suji.[3]
>
> The heart lies within the chest. There are three things which resemble ears. These function to draw in purifying air. The heart also has two pouches or bags. These bags receive blood that passes from the liver to the heart. Blood that has been rendered pure [nōketsu 能血] exits from the left bag of the heart through the suji found there and passes to the entire body. The nature of the heart is hot and damp.[4]
>
> The color of the lung is white and its nature is hot and damp. Each time it receives air from the nose and mouth, it cools the heart. There is a suji that exists the lung and enters the left bag of the heart.[5] It is through this suji that air enters the heart.
>
> The kidneys receive the water of the blood and is the place where it is turned into urine. This organ is located on the left [side of the body]. It is attached at the level of the 14th vertebra. The left is a bit lower

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[1]Porkert, p. 198-199.

[2]Japanese of the period thought that the "tailbone" or the coccyx looked like the tail of a turtle and hence the term. See Kōjien, s.v. "kame no o," かめのお--亀の尾.

[3]Nakamura, Chapter 2, leaf 23.

[4]Ibid., Chapter 2, leaf 26.

[5]Ibid.

while the right one is a bit higher attached. There are two suji which are large. The water of the blood pass through these and from the water the urine made and pass into the urinary bladder. One suji is used for the overflow and this passes into the marrow.[1]

Among the more prominent Kōmō surgeons, Narabayashi Chinzan 椙林鎖山 (1648-1711) must be mentioned as an extraordinary individual for his time. He began studies in the Dutch language at an early age to become one of the interpreters stationed at Nagasaki. Chinzan had expressed interests in medicine as a young man and was able to study under the following factory physicians:

	IN JAPAN
Daniel Busch	1662-1663, 1664-1665
Arnold Dirckz	1667, 1668
Aernout Dirksen	
Willem Hoffman[2]	1672, 1674, 1675
Wilhelm Ten Rhijne	1676
Engelbert Kaempfer	1691, 1692
Pieter Kesteloot[3,4]	1702, 1703, 1704, 1705

Having been promoted to senior interpreter in 1685, by 1692 his ambitions in medicine dominated his aspirations and he resigned his position to become a practitioner and teacher of Kōmō Ryū Geka. Chinzan is best known in Japanese medical history for a work introducing the surgery of Ambroise Paré.

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[1] Ibid., Chapter 2, leaf 27-28.

[2] Sugimoto and Swain, p. 284.

[3] Koga, 1944, p. 138.

[4] Hattori, pp. 331-333.

Having purchased a copy of De Chirurgie in 1688,[1] his work entitled Geka Sōden 外科宗伝 [2] appeared in 1706; it was not a literal translation of Paré's De Chirurgie, rather it was a condensation in the form of an abstract.[3] The work

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[1]Janet Doe, A Bibliography of the Works of Ambroise Paré (Chicago: University of Chicago Press, 1937), p. 205.

[2]Geka Sōden can be found under many different names--particularly ubiquitous is the title Kōi Geka Sōden 紅夷外科宗伝 . When checking bibliographic sources, all the titles given below should be considered. This phenomenon is not uncommon to Japanese works of this period. Because many sources were only available as handwritten manuscripts, they were copied by students many times over. Often the original title was disregarded or bastardized, or frequently a functional title was given by the copier. The work entitled Geka Sōden Kinsō Tetsuboku Bu is just such an example. It is a handwritten manuscript copied from Geka Sōden but was given another title. A copy exists in the Kyoto University Medical Library, Fujikawa Collection, and also a 2 volume copy is in the Nagasaki Medical College Library (See J. Doe, p. 205). In addition, an alternate title is found in Doe, given as Oranda Geka Sōden. For a number of reasons, this practice of copying continued despite the availability of printed copies. Most common was that printed copies may have been scarce or too expensive. This phenomenon was also an indication of the popularity of a given work. Thus judging from the list below, Narabayashi's work was a very popular work.

Geka Sōden	外科宗伝
Kōi Geka Sōden	紅夷外科宗伝
Kōmō Geka Sōden	紅毛外科宗伝
Oranda Geka Sōden	和蘭外科宗伝
	阿蘭陀外科宗伝
Geka Sōden Kinsō Tetsuboku Bu	外科宗伝金瘡跌撲部
Namban Geka Sōden	南蛮外科宗伝

In the early medical histories, the Hirado physician Arashiyama Hoan is given as the author. It was not until 1915 that Mutō Chōhei 武藤長平 correctly identified Narabayashi Chinzan as the author. Thus even Fujikawa Yū cites Hoan as the author in his Nihon Igakushi.

[3]Mestler, Part III, Vol. 44, No. 2, 1956: 144.

also contained Chinzan's personal commentaries. In the strictest sense, this work together with that of Motoki Ryōi must be considered the two earliest known Western medical translations, both predating Kaitai Shinsho. In the case of Geka Sōden, some doubt has been cast by Achiwa Gorō, an extremely well read medical historian. He alone strenuously maintains that Narabayashi did not translate any of Paré. Rather, Achiwa argues that what Chinzan had recorded were the teachings of his Western mentors that coincidentally happen to represent for the most Paré's ideas.[1] Because the original complete copy of Geka Sōden is no longer extant, it would be difficult to make a judgemental decision as to its source. I therefore mention Achiwa for the sake of completeness in view of available materials. However, a copy of Paré's De Chirurgie was owned by Narabayashi Chinzan and was passed on as a family inheritance until 1891 when the Narabayashi family presented it to the Tokyo University Library. Record of it shows that it was lost in the earthquake and fire of 1923.[2]

The preface to the Geka Sōden was written by none other than Kaibara Ekken. There is no doubt that this work was never published,[3] but it appears to have been extremely popular, being copied many times by various students, and its influence can be seen in later works which contained major segments of Chinzan's work.

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[1]Gorō Achiwa, Kindai Nihon Gekagaku no Seiritsu (Tokyo: Nihon Ishigakkai, 1967), p. 65.

[2]Doe, p. 205.

[3]Ibid., p. 192.

In 1735 Nishi Gentetsu 西玄哲 (1680-1760) completed Kinsō Tetsuboku Ryōjisho[1] 金瘡跌撲療治書 .[2] Nishi Gentetsu was the nephew of Nishi Gempo, a well known interpreter-surgeon of Nagasaki, and lived in Edo. In 1747 Gentetsu's medical talent was recognized by the Bakufu and was honored by an appointment as a Bakufu physician. Gentetsu was the teacher from whom Sugita Gempaku learned Western surgery.

This work, the Kinsō Tetsuboku Rȳojisho, which was never published, resembled a sizable portion of Geka Sōden. Gordon Mestler appears to voice the consensus opinion among historians when he attributes Nishi's work as a copy of Geka Sōden.[3] In addition, it apears that Nishi Gentetsu revised and added much of his own experience thus making it a much valued work during that period.[4,5]

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[1]The title can also be read Kinsō Fuboku Ryōjisho, or the last word can be found as a variant Ryōji no Sho (see Kure, Item 113, p. 19). The Fu is an alternate reading of the character 跌 . These variations occur often and care should be taken in identifying these.

[2]There is an error, either typographic or in the process of converting the Japanese dating system into the western system, in Fujikawa Yū's Geschichte der Medizin in Japan, 1911, p. 54, and in his Japanese Medicine, Clio Medica series, translated by John Ruhrah, 1934, p. 43. The Japanese date given to the year of publication of Kinsō Tetsuboku Ryōji as the twentieth year of Kyōhō is correct, but the given western equivalent is incorrectly given in both copies as 1713. Kyōhō 20 is in fact 1735. In addition, the English edition contains a typographic error in the spelling of Kinsō which is given incorrectly as Kunsō, and Nishi Gentetsu's name is incorrectly spelled as "Gentelsu." Unfortunately, these errors are not mentioned on the errata sheet. The error in the date is the probably source of Dr. John Bowers' dating of Kinsō Tetsuboku Ryōji as 1713 (Bowers, 1970, p. 29), as I have not been able to verify the existence of a 1713 edition.

[3]Mestler, Part V, Vol. 45, No. 2, 1957: 193.

[4]Idem., Part III, Vol. 44, No. 2, 1956: 145.

[5]Nihon Ishigakkai, comp., Shiryōde Miru Kindai Nihon Igaku no Akebono (Kyoto: Benrido, 1959), p. 16.

Its contents dealt mainly with fractures, dislocations, and wounds in various locations of the body and their treatment.

Nishi's work also contains scattered anatomical and very basic physiological observations. This might be expected since it was an indirect product of Pare's influence. Because Pare was pro-Vesalian in his anatomical perspective, one might consider him as an early representative of Vesalian anatomy in Japan. However, better works dealing exclusively with anatomy will later enter Japan that will formally introduce Vesalian anatomy. An example of Nishi's anatomy will be given very shortly.

After Yamawaki Tōyō's famous 1759 account of an anatomical dissection of an executed criminal in Kyoto in 1754 that was published as Zōshi 蔵志, human dissection began to be performed sporadically although in increasing numbers. In 1758, May 27, Irako Kōken, a member of the Kasuparu Ryū, attended a dissection in Kyoto. He was said to have had in his possession a copy of Johann Remmelin's 1667 Dutch edition of Pinax Microcosmographicus. This work was the very same that formed the basis of Motoki Shōtaifū's work Oranda Zenku Naigaibungōzu.

In 1770, Kawaguchi Nobutō 河口信任 (1736-1811), a Kōmō surgeon, attended and actually dissected himself the headless cadavers of two executed criminals, as well as the decapitated head of one, at the execution grounds in western Kyoto.[1] In 1772, he published his observations as Kaishihen 解屍編. This work can be considered the second printed account of a human anatomical

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[1]Nihon Ishigakkai, comp., Shiryō de Miru Kindai Nihon Igaku no Akeboni, p. 22.

dissection--although a student of Yamawaki Tōyō named Kuriyama Kōan 栗山孝庵 (1728-1791) arranged and witnessed two dissections, one in 1758 and another the following year--Yamawaki Tōyō's Zoshi being the first. The quality of the illustrations and textual contents are far better than those of Tōyō's.[1] He was said to have had in possession at the time, Western anatomical illustrations that he used for reference, but their source has not been identified.

Without drawing emphasis to a comparison of the impact of Vesalius' anatomical work, Nobutō nonetheless exhibited the same kind of dedication to the value of knowledge based on empirical investigation when he defied social proscriptions against the touching of flesh in order to do the dissections himself. It indicates the kind of changes in value structure brought about by studies in Western medicine. Under any other circumstances, this kind of act would have been unheard of. It also reflects the kind of firm commitment to a Western system of medicine that was beginning to be noticeable about this time.

In 1769, Irako Kōken published a two volume work of partial translations of Pare under the title Geka Kummō Zui 外科訓蒙図 .[2] The contents of

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[1]Ibid.

[2]One will often find either 1767 or 1769 given as the publication date of this work. The confusion results from the nature of the various editions of this book. There were three known editions of this work. Two included publication dates and a third was published without a publication date or publisher's name. Only the preface date was present in this missing-publication-date edition. The preface date in all these editions is 1767. Hence, historians who had access to only the missing-publication-date edition naturally used the preface date, 1767, to identify this edition. I have seen this date appear often without explanation as to its origin, misleading the reader into believing that the date of publication was 1767, when it was only the date the preface was written. In the case of Meijizen, Vol. 5, p. 414, the error is obvious for they quote the preface date as the date of publication. Ordinarily when the date of publication is missing from a given work, the use of the preface date would be a safe procedure, but in this case it is an error. See Kokusho Sōmokuroku, s.v. "Geka Kummō Zui."

this work are the same as that of Chinzan's, as are the illustration sequence,[1] and is generally accepted to be a copy of Chinzan's Geka Sōden.

Irako Kōken also executed a picture scroll entitled Irako-shi Kinsō Tetsuboku Ryōji no Maki (n.d.)[2]伊良子氏金瘡跌撲療治之巻 . Surgical technique and orthopedic manipulations in use in the Nagasaki area constitute the theme of the illustrations that closely resemble those found in Geka Sōden.[3,4]

Both Nishi and Kōken wrote in Japanese whereas Geka Sōden was written in Kambun, that is, in the classical Chinese style. When comparing Nishi's Kinsō Tetsuboku Ryōjisho and Kōken's Geka Kummō Zui, Kōken's style is more lucid and appears to contain more factual material thus making comprehension easier. Below are two excerpts, one from Nishi's Kinsō Tetsuboku Ryōjisho and the equivalent passage from Kōken's Geka Kummō Zui. It leaves little doubt that both are related. Either both authors copied from the same source, or Kōken copied from Nishi. But because of the content and finished style of Kōken, which contrasts markedly from Nishi's style, it would appear that Kōken's source was definitely not Nishi. Thus exegetically, the consensus that both copied from Narabayashi's Geka Sōden would appear to hold.

The following is from Chapter seven of the work Kinsō Tetsuboku

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[1]Mestler, Part III, Vol. 44, No. 2, 1956: 144.

[2]The title is incorrectly given in Mestler, Part III, Vol. 44, No. 2, 1956: 145--Chiryō should be Ryōji. See Kure, item 117, p. 20.

[3]Mestler, Part III, Vol. 44, No. 2, 1956: 145-146.

[4]Kure, Item 117, p. 20.

Ryōjisho, 1735, by Nishi Gentetsu.[1]

In general there are routes[2] called seinun[3] in the human body and these form the basis or origin of the twelve routes. These superintend the function of the arms and legs, as well as the nine orifices of the body.[4] However, even if an injury to the seinun is small, the suji will not recover by reuniting and returning to its original condition . . . There are 74 seinun. At the very tips of the filaments[5] their number is so enormous that no one knows how many there are. If there is an injury to the 74 filaments, the condition is extremely serious. Of course, if one of the filaments [at the branching ends of the 74 main trunks] are cut, the condition is not serious.

The 74 seinun routes

Fourteen [of the 74] seinun routes exits through the three joints of the skull and superintends the upper seven orifices [that is, the ears, eyes, nose and mouth]. The function of the eyes is to see, the function of the ears is to hear. These functions are all facilitated by the seinun. There are thirty [pairs of seinun] that run along the back from the daisui 大椎[6] to the chōkyō 長強.[7] Each vertebra gives rise to two filaments

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[1] Meijizen, Vol. 2, p. 79.

[2] "Routes" is probably as close as one will come to the translation of the character kei as used in this passage. The definition of this character is changing from the original ancient Chinese usage, meaning "meridian," to the more modern term which will become associated with the Western concept of "nerves."

[3] Seinun セイヌン is the Japanese phonetization of the Dutch word zenuw meaning "nerve."

[4] Kyūkyō 九竅 refers to the nine orifices of the human body which are the ears, eyes, nostrils, mouth, anus, and urethral opening. In women, the vaginal opening was considered part of the urethral opening in a vague manner according to this classification. Thus it was made functionally and structurally similar to that of the male's urethral opening.

[5] "Filaments" is my own translation. Literally the original characters 糸経 means "string" or "thread" routes.

[6] Daisui 大椎 is an acupuncture point between the first and second thoracic vertebra in the median line. See Chung I Yen Chiu Yuan, p. 49.

[7] Chōkyō 長強 is an acupuncture point just below the tip of the coccyx in the median line. See Chung I Yen Chiu Yuan, p. 49.

and these two separate to both [opposite] sides [of the body]. Thus from the thirty vertebrae arise sixty seinun. From the sixty [seinun] the upper thirty superintends the five organs and six viscera[1] and the movement of the arms. The lower thirty superintends the function of the hips, the anus and urethra and the legs. This is a general summary.

The following is from Chapter Nine of the work Geka Kummō Zui, 1769, by Irako Kōken.[2]

Chapter 9: Sōshin no Bu 摠身之部 ("Section concerning the entire body.")

In general there are routes[3] called seinun[4] in the human body and these are the basis of the twelve routes. The twelve routes control the function of the arms and legs and the nine orifices.[5] However, it is very difficult to effect a cure when even a small injury is sustained by the seinun. When the surface of the route is [injured by a small] cut, and you treat this injury by using the method and prescription which I will mention later, then the flesh from both sides of the cut will grow [together] and the ch'i and blood will pass through [once again] thus restoring good health. When the injury occurs at the end of the seinun, using a pair of scissors, cut the injured seinun away and apply the treatment I will relate later. If you attempt a cure without cutting [the injured seinun away], in a very short while, the corrupted or rotten material will enter the bone marrow and an incurable situation will result. This condition is to be feared. Further, should a physician who does not know this method hastily cut the flesh, the situation will become hopeless.

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[1]The five organs and six viscera or the Gōzō Roppu 五臟六腑 is the Chinese classification of the body organs. See footnotes 3 and 4 on page 47.

[2]Kōken Kohaku Rō [Irako], Geka Kummō Zui, n.p., 1767, preface date , Vol. 2, leaf 22 and 23.

[3]See footnote 2 on the previous page.

[4]See footnote 3 on the previous page.

[5]See footnote 4 on the previous page.

> Should the bones and joints of the arms, legs, and fingers become corrupted or rotten, one should amputate above the joint itself. If you amputate at the joint, the flesh [mends] slowly. Therefore it is better to cut a little above the joint.
>
> The total number of seinun equals 74. The branches of these routes are numerous. Injuries to the 74 routes are the hardest to cure. Injuries to the other branch routes are not hard to cure.
>
> According to Dutch explanations of bones, fourteen seinun routes exits the three joints of the skull and superintend the upper seven orifices [that is, the eyes, ears, nose, and mouth]. The lower sixty [spinal nerves] travel from the daisui 大椎[1] to the tail bone or coccyx.[2] They divide [and are distributed] to both sides [of the body]. The middle thirty routes superintend the five organs and six viscera,[3] and the movement of the arms. The lower thirty routes superintend the movements of the hips and both legs. The total is 74 routes. This is the general condition [of the body].

The explanation of the cranial and spinal nerves can be easily identified despite the camouflage of errors contained in both passages. The method of presentation is significant in that the subject of anatomy is formatted into surgical anatomy with simple explanations of physiological function and not in the academic approach Sugita Gempaku used in the Kaitai Shinsho. The difference serves to point out the practical criteria that underlay initial interest in Western medicine. However, this is in no way a criticism of an academic attitude. Nor is it to say that Gempaku's point of view was not practical. Surgical utility and academic utility simply imply differences in the applicative

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[1] See footnote 6 on page 129.

[2] Bitei 尾骶 as used here in the original text means "tailbone."

[3] Gozō Roppu 五臟六腑. See footnotes 3 and 4 on page 47.

objective motivating the work. A simple glance at the table of contents of Geka Ryōjishu or Geka Kummō Zui will convince the reader of that intent. The didactic element of academic pursuit is present in both works but the applicative aspects of surgical technique is obviously different from the method used by Gempaku that took the form of didacticism with dialectic intent.

The descriptive and factual errors of both works were the natural results of translation and interpretive difficulties that may have originated from errors Narabayashi initiated, but because I do not have access to a copy of this rather rare manuscript, it is difficult to tell at this time. However, aside from these errors, there are several interesting aspects to these excerpts that are worth pointing out because they indicate general trends occurring in medicine during this period.

This interest in Western surgical technique was accompanied by parallel changes in the use of terms originating in Chinese medicine. This phenomenon was also observed in the work of Nakamura Sōyo. The identification of nerves and their function had just such an impact. The use of the term kei 経 , which ordinarily was associated with the meridian system used in acupuncture, in describing the nervous system is characteristic of the adaptive phenomenon. Thus, the peculiar juxtaposition of Chinese anatomical structures and Western anatomy should not be completely dismissed as resulting from misinterpretations. It may have been an intentional attempt to bridge existing concepts with the newer and unfamiliar Western concepts of structure and function. The idea of function as explained within the context of surgical anatomy and simple physiology was an important element that lent support as

evidence to the importance of a knowledge of structure. For example, the admonitions that injuries to the 74 main nerves (normally derived from 31 pairs of spinal nerves and 12 cranial nerves by Nishi; and, although Kōken correctly identified the 12 cranial nerves initially, at the end of the section, he grouped an additional pair of nerves as exiting the skull along with the cranial nerves and records only thirty spinal nerves) as extremely dangerous and very difficult to effect cures are important therapeutic observations based on the peculiar characteristic of these nerves. This stress on the relationship between function (physiology), structure (anatomy), and therapy is an important approach emphasized by Western surgery that Japanese surgeons found useful in their principal concern on the successful application of surgical technique. This recognition may be looked upon as a crucial phase in the integration of Western medicine. It represents a progressive step from the simple imitation of technique without the knowledge of the reasons behind the methods.

Another noteworthy aspect of these writings was the absence of any specific challenge or repudiation of Chinese medicine as found in the Zōshi, 1759, of Yamawaki Tōyō. Upon the discovery of the validity of Western anatomy in 1754, Yamawaki Tōyō questioned the authority of the Nei Ching and cast doubt on the reliability and validity of its contents. On the contrary, this attitude was not visibly present in the early writings of the Kōmō surgeons. The kind of recognition accorded by Mukai Genshō in Kenkon Bensetsu appears to represent the general attitude of the Kōmō surgeons at least before 1700. As stated earlier, it is obvious that the intent of these early surgical works was simply to explain the therapeutic application of Western surgical method. Even

when dealing with such an academic subject as anatomy, it was presented in a form that emphasized the direct relationship and importance to therapy.

Finally, in concluding the story of Narabayashi Chinzan, in 1708,[1] Shogun Tsunayoshi 綱吉 (1646-1709; reigned from 1680-1709) invited Chinzan to become a medical officer within the shogunate, but the invitation was declined. Chinzan preferred to practice amid the people among whom he enjoyed extraordinary popularity. He was said to have had several hundred students.[2]

Although Chinzan declined his invitation, there were a number of individuals who entered the Bakufu service, some who went on to enjoy additional distinctions by being awarded Buddhist titles resulting from their noteworthy service as Bakufu physicians. In addition to Nishi Gentetsu, whom we mentioned earlier, other well known Kōmō Ryū physicians who accepted shogunate positions in the Tokugawa government were Yoshida Jian 吉田自庵 (1644-1713), Nishi Gempo 西玄甫 (1653-1684), Kurisaki Seiha 栗崎正羽 (1664-1726),[3] Murayama Jihaku 村山自伯 (1647-1706), Katsuragawa Hochiku 桂川甫筑 (1661-1747), and Katsuragawa Hoshū 桂川甫周 (1751-1809), to name a few.

As the result of Japan's contact with the Western surgical tradition, a distinct change in what had been defined as surgery occurred. As mentioned

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[1]Fujikawa, 1944, p. 304. The date given by Fujikawa contains a typographic error. Kan-ei 寛永 should be Ho-ei 寶永.

[2]Ibid.

[3]Also known as Dōyu 道有, and Dōsen 道仙.

earlier, surgery was primarily the treatment of superficial skin lesions and eruptions. Then, as the result of the Warring States period (1482-1558) at the end of the Muromachi era (1392-1568), techniques in wound treatment were advanced to care for the realities of warfare. The development of this form of treatment called kinsōi, occurred as a separate process distinct from surgery itself. It was eventually associated with surgery because of the physical contact required in treatment. The idea of surgery as a therapeutic procedure requiring aggressive mechanical intervention to manually correct organic dysfunction was not clearly understood outside of kinsōi. It was a concept that developed slowly. Its greatest exponent in Japanese medicine was Hanaoka Seishu 華岡青州 (1760-1835).[1] Seishu utilized the best of Kampō and Western surgery. His surgical education can be traced back through his teacher Yamato Kenritsu 大和見立 (1749-1827), a Kyoto physician of the Kasuparu Ryū, to Irako Dōgyū伊良子道牛 (1671-1734) to Irako Kōken who was the author of the Geka Kummō Zui, 1767, that contained the surgical writings of Paré.[2] He also studied under Yoshimasu Nangai 吉益南涯 (1750-1813).[3] Thus Seishu's educational background involved schools in the vanguard of movement away from traditional Japanese medicine (Rishu tradition).

Hanaoka Seishu made significant contributions to surgical progress by reintroducing the use of drugs to induce anaesthesia. The existence of such

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[1] Also known as Zuiken 隨賢 .

[2] Meijizen, Vol. 5, p. 379.

[3] Ibid., p. 384.

drugs had been known in China due to its use by the great Chinese surgeon Hua T'o 華佗 during the second century A.D. Seishu spent the greater part of ten years from about 1785 in search of the right formula.[1] About the year 1795, he records finding a combination that provided the degree of anaesthesia useful for surgical operations with minimal adverse side effects. Calling it Tsūsensan 通仙散, he began using it clinically, and from about 1805 he employed it to do mastectomies for cancer of the breast.[2] He reports approximately 150 such cases. In addition, he used it in cases involving a broad range of conditions requiring surgical treatment such as wounds, tumors, malformations, ulcers, compound fractures, amputations, lithotomies and the like.[3,4]

The conceptual idea of experimentation is another very important element found in the practice of Hanaoka Seishu. The ten years spent searching for the correct combination of drugs and dosages to induce anaesthesia is a monumental testament to the development of experimental medicine. After using cats for his initial experiments, he used his wife and mother as human subjects for many of his dosage experiments, ultimately causing his wife's blindness.

Although Hanaoka Seishu's medical practice represents the best example of the ideas of surgical intervention, the basis for a surgical perspective has

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[1]Tomio Ogata, "Seishu Hanaoka and his anesthesiology and surgery," Anaesthesiology (Proceedings of the Fifth World Congress of Anaesthesiologists) September 19-23, 1972: 2.

[2]Ibid.

[3]Ibid., p. 6.

[4]Sugimoto and Swain, p. 388.

generally been a latent possibility in Chinese medicine. After the disappearance of a surgical tradition following Hua T'o, Chinese medicine in general elected to treat all infirmities of organic dysfunction mainly by drug therapy, massage, acupuncture, and moxibustion. The idea of a regional pathological phenomenon characterized by defined dysfunction at specific sites of the body has had a strong history in Chinese medicine. During the Sung period, Li Tung Yuan further reinforced this idea of pathology stating that all disease phenomena arose from dysfunctions of the stomach and spleen. However, the doctrines of this school were based on a complicated etiological theory that best served a system of nonsurgical medical therapy. Japan inherited this medical tradition and retained the disdain for surgery found in China. Thus the development of Western surgery was not associated with the traditional medical community. Rather, men who were responsible for the early introduction and dissemination of Western medicine came from outside the traditional medical community. These men were the Dutch interpreters attached to the Dutch factory at Deshima and whose main task was to facilitate commercial transactions. Because these men did not have the traditional training in Chinese medicine and did not have the vested interest and thus the inclination or obligation to defend traditional doctrines, the methods of Western surgery appears to have been accepted without confronting Chinese theories of medicine. Eclecticism appears to have been the dominant process. The three previous excerpts indicate that integration on a semantic level occurred by taking Western surgical knowledge and placing it into a framework of sinologically derived medical terminology but denuded of the complicated supporting theories.

Concluding Remarks

The assessment of the contributions of the Dutch interpreters and Kōmō surgeons, including the Namban medical tradition can only be viewed positively. It was in the field of surgery that evidence of early integration of Western medicine first appeared. The surgeons were also the ones who introduced the subject of anatomy as an important field of study to the understanding of Western medicine. In the end, it was in the field of anatomy that the generation of evidence that would finally and successfully challenge Chinese medicine was produced during the last half of the eighteenth century. But because of the status of surgery in relation to traditional medical practice, its impact only took an intermediary, albeit an extremely important, role. Changes which were to affect the entire direction of medical thought occurred within traditional medicine or what might be called today the practice of internal medicine.

The corps of interpreters served a dual function. Their privileged position gave them access to Western medical learning which few had. They served as dissemination sources through whom flowed the necessary skills in language as well as the factual aspects of Western medicine. Bearing in mind that the annual trips to Edo by the factory representatives gave the physicians of the Edo area a chance to receive the benefits of the knowledge being transmitted by the Dutch factory physicians, the interpreters continued to play a major role since Edo physicians of the seventeenth century for the most part did not have the skills to communicate directly. Those who excelled as teachers and practicing surgeons of the Kōmō Ryū Geka were often honored by Bakufu appointments as medical officers. This seemingly rather inconsistent act

revealed the attitude of the Tokugawa government toward the study of Western medicine. It placed a favorable value judgement on its knowledge. The persecutions of the early seventeenth century might have misled many into believing that the study of Western medicine was objected to. In view of the fact that pre-Dutch Western medical knowledge had been promoted primarily by the missionary orders of the Catholic Church, government policy after 1612 strictly forbade the presence and practice of the Catholic religion, putting the status of Western medicine in a rather awkward position since the association was the cause for anxiety. The geographical distance of Nagasaki from Edo provided a degree of shelter for the Namban Ryū Geka, thus conferring a feeling of some degree of security for Japanese practitioners.

The Dutch on the contrary, did not represent a threat to national security because of any avowed intention to promote the Christian religion. They attempted at great lengths to demonstrate their purely commercial interests, to the criticism of those who maintain that the Dutch were blasphemous in their actions and were guilty of crimes against God and man in their endeavor to prove their point. Thus, it was not considered to be disfavorable to be known as a practitioner of Kōmō Ryū Geka. On the contrary, it was often an asset.

This favorable attitude of the Tokugawa government toward Western medicine appeared to be paradoxical in view of other considerations. The seemingly inconsistent patronage by retaining Western trained physicians ran counter to the implications raised by the State supported philosophy of Shushigaku. This conflict appears and reappears throughout the entire Edo period. This apparent contradiction indicates that while the Tokugawa

government supported Shushigaku to philosophically reinforce its political policy, it acted in different ways, however inconsistent theoretically, to utilize all that it felt would contribute materially to the betterment of its envisioned society. This attitude certainly manifested itself in the policies of Shogun Yoshimune. Although adopting the idea of improving State and society by returning to the ways of Ieyasu, it was he who did the most to introduce and integrate the Western scientific tradition in Japan. Using the theme of "practical knowledge" or Jitsugaku 実学 he was instrumental in lowering the legal barriers so that only language and Shushigaku itself stood as the remaining obstacles to the integration of Western medicine. However peculiar or unexplainable, this practice continued throughout the Tokugawa period.

To what degree the restrictions on the importation of certain specified books on Christianity generally affected the progress of Western medicine in Japan is moot. The validity of the opinion that the reason there was a significant delay between major developments in Europe and their appearance in Japan was due to the book embargo from about 1630 to 1720 must be questioned. The implication that until 1630 Japan heavily relied on printed material as the source for its knowledge of the West, is simply not correct. It was primarily an oral transmission.

It also implies that had there not been any restrictions on the importation of books, a significant contribution would have been made via this source to the development of medicine. The great many "what if's" and "would have's" that exist in history are a source of much debate among many individuals. This particular one appears from time to time in various guises. Whether these

kinds of questions yield any significant progress in the elucidation of history is not even worth the time to speculate. But they do raise probing questions as to circumstances and nature of the period or incident under investigation. Rather than to take issue with the "what if" being raised here, it may prove more productive and engaging as an historical exercise to briefly look at some facts concerning the importance of written documents during the period of the book embargo.

The embargo itself, which was instituted by Shogun Iemitsu 家光 (1604-1651; reigned from 1623 to 1651), was not aimed at Western medical books, but that is not to say that they were not affected. Some indirect influence limiting importation must be considered. But this did not altogether exclude the influx of Western medical texts. Recall the early work of Motoki Ryōi's work on the translation of Pinax Microcosmographicus by Johann Remmelin sometime about the early 1680's. However, bear in mind that despite its popularity in manuscript form, it was not published until after the book prohibition edict was rescinded. Only after 1720 does one begin to see the publication of translations of Western books. Thus there was a definite negative influence on the publication of translations of Western texts. The implication being that a translation indicated either possession or knowledge of the whereabouts of the original Western text. This meant that unless the book was already certified by the censors that it contained no religious material, it made one amenable to investigation. The reading ability necessary to differentiate religious from nonreligious books was often questionable among the censors and the possibility of being accused of smuggling religious materials and falling

victim to charges of being a Christian were real. Often the simple appearance of the date of publication, based on the birth of Christ was enough for censorship. Because the Tokugawa government used an efficient police network to maintain knowledge of the state of affairs, unofficial possession of materials written in any Western language made one suspect of being Christian and open to detection; therefore, active solicitation of written materials was discouraged.

Of greater influence in the rapid influx of Western medicine was language ability, or better the lack of it. The works by Motoki Ryōi and Narabayashi Chinzan are among the earliest translation works, and their appearance correlates with the slow development in language skills necessary to read Dutch. Even if a greater number of Dutch books were available, there would have been very few individuals who could have read them particularly before the eighteenth century. After 1630, while Portuguese continued to be the language of choice for communication by the Japanese, lack of language skills in Dutch was more of a limiting factor than the lack of Dutch books. Because of the strength of the oral transmission route, even during the ninety year period from 1630 to 1720 when the book prohibition was in effect, Western medical knowledge flowered and even managed to change the general attitude in favor of European medicine. The changes in attitude toward the acceptance of Western medicine and the required changes in conceptual approach in order to recognize the value of Western medicine became identifiable sometime about 1700.

Early interest in Western medicine was motivated by answers to such general questions as "What can it do, and does it work?"--what might be considered practical or applied medicine. The answer to these questions formed

the basis for the establishment of the early schools of surgery. Academic or theoretical medicine was largely overlooked as too perplexing and not practical. In this respect the ability to read was only one side of the coin. Comprehension and significance are factors that cannot be ignored. Assuming that Harvey's discovery could have been understood during the seventeenth century in Japan, its significance to traditional therapy would have been lost. The role of this factor must be carefully weighed in view of what is learned and selectively propagated. The process of seeking certain materials is dictated by their relevance to usefulness. This attitude will help to understand why major advances in basic anatomy and physiology did not become important until about the middle of the eighteenth century. The kinds of works introduced by Motoki Ryōi, Nakamura Sōyo, and Narabayashi Chinzan, developed greater interest in anatomy after 1700, both among the surgeons and especially among certain practitioners of traditional medicine, that is, internal medicine. Academic medicine did not really begin until the anatomical discoveries of Yamawaki Tōyō and Sugita Gempaku. This movement was heavily dependent on written materials from the West and one might generalize by saying that the development of academic medicine was heavily dependent on the importation and availability of books.

Consider also the many discoveries or ideas in European medicine that were beginning to appear during this period that did not affect practice. Hence the ideas of Fracastoro, Borelli, van Helmont, Harvey, and the many discoveries in anatomy would not necessarily have been the topic of instruction to a Japanese student in attempting to treat a sick patient. Thus the prohibition on

books is not the final answer to the historical features of the development of Western medicine in Japan. It certainly affected the quantity and variety of books entering Japan, but this situation might also have arisen even if no book embargo existed since trade was primarily aimed at countries of East Asia and western books were not a common commodity. In short, the availability of books only became critical when language ability reached a level where they could be read. Historically, this was not reached until the eighteenth century, although I am sure there are those who will argue the nineteenth century. Yoshimune's recall of the prohibition edict coincided with about the time when not only was there an increasing interest to read written European materials by the Japanese intellectual community, but that interest in the medical community began to appear within the ranks of physicians practicing traditional medicine, or internal medicine. This group of physicians had the additional burden of dealing with the philosophical conflicts that were inherently present in attempting to rationalize their interest in Western medicine. This barrier delayed participation by members of this group until some form of conciliation was possible, and accounts for part of the delayed interest among this group.

In consideration of the reasons just discussed, Kōmō surgery and medicine were largely Hippocratic and Galenic until approximately 1706 when the ideas of Paré, and what little Vesalian anatomy Paré mentioned, were introduced. Full introduction of Vesalian anatomy did not occur until the middle of the eighteenth century when Yamawaki Tōyō managed possession of a book based on Vesalius' work entitled Anatomica Syntagma by Johann Vesling (1598-1649), a professor of anatomy at Padua. This elaboration is associated

with the early beginnings of the Rangaku movement (literally, "Dutch learning") that was represented for the most part in the early years by men who were physicians of traditional medicine.

CHAPTER V

TOKUGAWA PERIOD: PROMINENT SCHOOLS OF THOUGHT

PART I

Introduction

Medicine during the Tokugawa period was predominently a continuation of the schools previously discussed in Chapter III. By and large, the school of Rishu as represented by Manase Dōsan and his followers continued to dominate the early part of this period.

Rishu Igaku: Manase Gensaku

Manase Gensaku 曲直瀬玄朔 (1549-1631) was the adopted son of Dōsan and succeeded him as head of the Dōsan School after the latter's death. Gensaku proved a worthy successor. He continued to lead the school in its dominant position during the early Tokugawa period. This school produced the majority of the physicians who attended the emperors, members of the Imperial family, and the shoguns of Japan during the school's ascendant years. Gensaku himself served three emperors as well as Shogun Tokugawa Ieyasu and Shogun Hidetada. As the result of Gensaku's tireless teaching activities and the growing number of followers, the Dōsan Ryū was unchallenged in its dominant role in the field of medicine throughout Japan.

Gensaku continued to stress the pragmatic attitude that Dōsan initiated. Through it, he attempted to expand the theoretical foundations of the school. Although elements of Li Tung Yuan and Chu Tan Ch'i's medical thought continued to be stressed particularly in the actual practice of medicine, because of Gensaku's pragmatism, his approach to medicine resembled and perhaps foreshadowed the popularity of both the Setchū-ha 折衷派 (the eclectic school) and the Koihō 古医方 (the ancient school of medicine). Out of his principal concern that Dōsan Ryū be able to contend with the medical problems of man, Gensaku deviated further from the orthodox teachings of Li and Chu. Drawing on a Chinese work of the Ming Dynasty entitled Yu Chi Wei I 玉機微義,[1] Gensaku concludes by expressing a concern for an eclectic approach to medical thought:

> . . . if a person exclusively follows the theories of Chang Chung Ching, he will then be mainly concerned with the Shang Han Lun. A source of anxiety is that he might take internal impairments 内傷 and mistake them for exogenous diseases 外感 . If a person exclusively follows Li Tung Yuan's book as an authority, then iki 胃気 will be considered the most important factor. A source of anxiety is that he may consider exogenous diseases as endogenous diseases. The person who considers Ho Chien 河間[2] (Liu Wan Su 劉完素) as his teacher will consider fever or excessive heat as the principle causitive agent, and a source of anxiety is that he may be led to think that coldness is the cause of fever. Therefore be sure to make the Nei Ching your main source.[3]

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[1] Gyokkibigi in Japanese. The author was Liu Shun 劉純.

[2] Kakan in Japanese.

[3] Fujikawa, 1944, p. 283.

In order to avoid the pitfalls that he describes above, he elaborated a series of nine rules regarding one's direction of study.

1) Read the Nei Ching widely and also the Pen Ts'ao 本草 (the herbal).

2) Pulse diagnosis should follow Mo Ching 脉経 [脈経].

3) Compounding of prescriptions should follow Chang Chung Ching.

4) Use of prescriptions should follow Tung Yuan 東垣 (Li Kao 李杲) and also Chieh Ku 潔古[1] (Chang Yuan Su 張元素).

5) In order to understand the treatment of various diseases, one should use Tan Ch'i (Chu Chen Heng 朱震亨) as the authority, or in addition T'ien Min 天民 (Yu Po 虞摶).

6) For illnesses that are caused by exogenous sources, one should use Chang Chung Ching as the reference.

7) Illnesses arising out of endogenous sources should rely on Li Tung Yuan.

8) [Treatment of] fevers should follow Liu Wan Su.

9) Miscellaneous other diseases should follow Tan Ch'i 丹溪 .[2]

This kind of broad, diverse view of medicine characterized Gensaku and necessitates careful consideration before simply characterizing him as a strict practitioner of Rishu Igaku. The successive stepwise progression from Li Tung Yuan and Chu Tan Ch'i to Tashiro Sanki, to Manase Dōsan, and finally to Manase

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[1]Kekko in Japanese.

[2]Fujikawa, 1944, pp. 282-283.

Gensaku marks a progressive departure from the original teachings of Li and Chu toward a more pragmatic and eclectic school of thought. This tendency reaches a peak in the writings of Gensaku, and thereafter loses much of its dynamic nature falling into pockets of dogma.

In his practice of medicine, Gensaku relied heavily on the ideas of Chu Tan Ch'i. He felt that yin deficiencies were the principal cause of disease. Accordingly he advocated the following five methods as general rules of therapy.

1. Supplement the blood 補血
2. Nourish the yin 養陰
3. Moisten dryness 潤燥
4. Settle the stomach 和胃
5. Examine the central organs, particularly the spleen and stomach. 調中

His treatment method emphasized the use of herbal prescriptions rather than the methods of acupuncture and moxibustion[1] in contradistinction to Dōsan.[2]

Ryūchō Igaku 劉張医学

During the Meireki (1655-57) and Kambun (1661-72) eras, Aeba Tōan 饗庭東安 (1615-73) and Hayashi Ichinoshin 林市大進 (d. 1716) were responsible for the separation of another school of thought from Rishu Igaku. Tōan had studied medicine from Gensaku, and Ichinoshin from Manase Masazumi

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[1] Meijizen, Vol. 2, p 367.

[2] Meijizen, Vol. 2, p 329.

曲直瀬正純, a student of Dōsan who had married one of his daughters. Both had strong backgrounds in Rishu medicine, but their selective emphasis of doctrines, which although found generalized in Rishu medicine, nonetheless set them apart because of the contrast in their application. The significance of their school is of interest to us from the point of view of their conceptual approach to medicine rather than as a historical fact. They took specific elements from within Rishu medicine and elaborated the theoretical foundations of a separately identifiable school of thought. Thus, although they were known as the school of Ryūchō, they were also identified as the Kōsei-ha Beppa, that is, "a special school of the Kōsei-ha."[1] The term Kōsei-ha was used to refer to the Rishu school of medicine in Japan, literally meaning "the school of the latter period."[2] It was used to indicate that the Rishu school in Japan was a revival of the Chinese Li-Chu medicine of the Chin (1115-1234) and Yuan (1260-1368) dynasties. It is also quite possible that implied in its usage, Kōsei-ha retained some implications of the idea of a "modernist" school of movement in medicine, as mentioned by Sugimoto and Swain.[3]

Together, Aeba Tōan and Hayashi Ichinoshin were responsible for the formation and popularity of the Ryūchō school of medicine

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[1]The character combination 後世派 legitimately has two readings, "Gosei-ha," or "Kōsei-ha." I have preferred to use "Kōsei-ha," since it is the reading most widely found in such standard references as Nihon Rekishi Daijiten, v. 7, p. 263, s.v. "Kōsei-ka"; Daijiten, v. 10, p. 277, s.v. "Kōsei-ka"; Edo-go Daijiten, p. 379, s.v. "Kōsei-ka."

[2]Shigeru Nakayama, Nihonjin no Kagakukan, Sōgen Shinsho, no. 38 (Osaka: Sōgensha, 1977), p. 73.

[3]Sugimoto and Swain, pp. 279-280.

in Japan. Its doctrines were based on parts of the Nei Ching and Nan Ching, and their further elaborations by Liu Wan Su 劉完素 and Chang Tzu Ho 張子和. The name of the school derives from the Japanese reading of the combination of both last names of these two Chinese physicians. Although the synthesis of the component elements of their school occurred during the period from the Chou through the Tang dynasties, and were further advanced during the Sung period, early elaborations of this school found its way into Japan in books like the San Yin Fang 三因方 [1] compiled by Ch'en Yen 陳言, during the Kamakura period (1185-1392). Kajihara Shōzen 梶原性全 (1266-1337) wrote a particularly good account of the idea of goun rokki 五運六気 principally using San Yin Fang as his reference in his own work, Man-anhō 萬安方.[2]

Proponents of this school held that yin yang and the five elements were described by the goun rokki theory 五運六気 as it affected the zōfu keiraku 臓腑経絡(the five organs and six viscera and the meridian system). The relationship of man to the five elements are expressed thus:

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[1] San-in hō in Japanese. The title is an abbreviation of San Yin Chi I Ping Cheng Fang Lun 三因極一病證方論 (San-in Kyoku Ichi Byō Shō Hōron in Japanese), 18 volumes by Ch'en Yen 陳言, also known as Ch'en Wu 陳無, n.p., 1174. This work was prominent during the Kamakura and Muromachi (13921568) periods, and contained elaborations of the idea of the three causes of diseases. The specifics of the three causes differed significantly from the ideas advanced by Li Tung Yuan and Manase Dōsan. Refer to earlier discussions in Chapter III. See Daijiten (Tokyo: Heibonsha 1953-54), s.v. "San-in Kyoku Ichi Byō Shō Hōron" and "San-in hō," Vol. 12, p. 232.

[2] Yū Fujikawa, Nihon Igakushi Kōyō (Tokyo: Nihon Ishigakkai, 1933, p. 105.

> The human body follows the laws of heaven and earth [universal laws of nature][1] and the shape of yin and yang [that is, the physical manifestations of all things in the universe]. If there is yin and yang in the heaven and earth, then there is yin and yang in the human body. If the five elements exist in heaven, then there is also the five organs in the human body. The kidney belongs to wood, the heart is fire, the spleen is earth, the lung is metal, the liver is water...

The five elements themselves have circulation patterns in the world and it is the movement of these that give rise to the five un 五運 . Fujikawa refers to goun 五運 as "a sort of pneuma."[2] Porkert uses the term, "energetic configurations" and their changes within the circulation patterns. He assigns the qualities "implicit, deductive (not empirically perceptible), and therefore active and incipient aspect..." to describe un 運 , and states that the goun 五運 "...constitute five temporal periods of different quality that form a cycle." He gives the following cycle sequence.

1. Earth 土
2. Metal 金
3. Water 水
4. Wood 木
5. Fire[3] 火

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[1]The brackets are my own explanatory remarks to facilitate easier comprehension. The use of the wording "universal laws of nature" are only to indicate that the Chinese early realized that such a concept existed. But the specific informational elements, are derived from a different set of metaphysical premises and do not resemble what is alluded to in the twentieth century models of science.

[2]Yū Fujikawa, Japanese Medicine, trans. John Ruhrah. (New York: Paul B. Hoeber, 1934), p. 38.

[3]Porkert, p. 62-63.

Ishihara Akira simply states that:

> Goun is the ch'i of the movement of the five elements.
> Rokki is the ch'i of the order of the six temporal periods.[1]

The temporal aspects of this circulation occur with an annual period of 365 days. The year is then subdivided into six periods and during each period a characteristic ch'i circulates between heaven and earth. These are the six ch'i 六気. Porkert refers to these as the "six climatic or immunological situations...."[2] This patttern of the six ch'i does not differ from year to year.[3]

At this point a rather complicated system of calendrical notations are superimposed on the goun rokki according to equally complicated formulas. As mentioned earlier, this system was used as a method to determine the calendric, meteorological and climatic influences on man's health. Disease was the result of irregularities caused by disturbances in the circulation patterns of the goun rokki.

> There are five un and six ki 五運六気 in the heaven and earth, and all things are created from it. The human body also contains five organs and six viscera, and gives life to the body. The life and death of all things complies with or follows the unki 運気 [refers to 五運六気[4]] and illnesses of the human body start from the organs and viscera.

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[1] Ishihara, p. 110.

[2] Porkert, p. 64.

[3] Fujikawa, 1944, p. 290.

[4] Ibid., p. 291.

As one begins to penetrate the difficulty in the inherent complexity of Ryūchō theory, one aspect of this theory becomes more and more apparent. It is in fact based on the idea that man is a microcosmic image of the universe. It is an extremely rational idea and serves to form a solidifying connection between man and his environment. Although Fujikawa attributes this idea to Liu Wan Su of the Chin dynasty (1115-1234)[1], he does not explain that the simplest statement of this relationship is in fact found in the Nei Ching.

> Huang Ti states: From ancient times the communication with heaven gives rise to the origin of life.[2]
>
> Man consists of 365 joints[3] which are similar to [the parts of] heaven and earth [that is, the universe].[4,5]

Wang Ping 王冰 is generally the one to whom credit or criticism has been given for his interpolations on the further elaborations of this idea together with that of goun rokki.[6] The possibility that Liu Wan Su had access to Wang's

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[1]Ibid., p. 292.

[2]Ping Wang, ed., Huang Ti Nei Ching Su Wen (Taipei: Hsuan Feng Ch'u Pan She, 1973), p. 13. See also Veith, 1970, p. 105.

[3]Chieh 節, literally means "joint;" however, in Yang Wei Chieh, p. 81 (see footnote 5 below), one will find the interpretation indicating "acupuncture points." He refers to the Ling Shu for this interpretation. The usage here in the Nei Ching is in the older section and is simpler in meaning, referring to "joints." The translation of "acupunture point" is probably a newer interpretation based on the theories of goun rokki interpolated in detail later into the Nei Ching.

[4]Wang, p. 51. See also Veith, 1970, p. 134.

[5]Wei Chieh Yang, ed. Huang Ti Nei Ching Su Wen I Chieh (Taipei: Lo Ch'un Ch'u Pan Kung Szu Ch'u Pan, 1976), p. 81.

[6]Porkert, pp. 56-59 et passim.

interpolations are great, for the Wang edition enjoyed varying degrees of popularity throughout Chinese history and is considered even today as one of the standard versions of the Nei Ching.

The following is the kind of synthesis characteristic of Liu's writings on the subject:

> Yin-yang is the way of heaven and earth and is the father and mother of the order and changes of all things. Heaven and earth can be divided into yin and yang. Changes in the goun rokki 五運六氣, that is, the five un progressing in order mixed with the six ch'i gave rise to all things. In man, the yin and yang are differentiated into blood and ch'i and take the shape of the five organs and six viscera. In truth, heaven and earth are like one great person and man's body is nothing other than a small heaven and earth. Therefore, heaven and man and their li 理 are exactly the same thing.[1]

In it are expressed the ideas which form the nucleus of the Ryūchō school. The idea that disease is a function of one's environment is a rational one, and in no small way, is it implicitly found in Rishu medicine in general. But the emphasis on the calendric, meteorological, and climatic elements reveals the rudiments of an astrologic nature, and hence represents a tendency marking a movement away from the mainstream of the kinds of rationalism found in Rishu medicine as it emerged out of the Muromachi (1392-1568) and Momoyama (1568-1600) periods into the Tokugawa period. Its late flowering may coincide with the findings of Maruyama and others that the popular appeal of Shushi Neo-Confucianism during the Tokugawa period really did not occur until the

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[1] Fujikawa, 1944, p. 292.

latter half of the seventeenth century.[1] The rise of this school of thought may have been a manifestation of this popular interest in Shushigaku.

Eki-i (Divinatory Medicine) 易医

The Ryūchō school's emphasis of goun rokki led to an inevitable attempt to use a combination of astrological and divinatory interpretations in the practice of medicine. The rationale behind this approach was mediated through the idea of li. It was felt that because li was found in all things and was common to man as well as heaven and earth, the li of medicine was the same as the li of divination. As an extension of the Ryūchō school of thought, it showed many of its underlying assumptions, but the emphasis on divinations marked this school's separation from its parent school of thought. Kusakari Sanetsu 草刈三越 (ca. 1679)[2] and Terajima Ryōan 寺島良安 (ca. 1600's-ca. 1700) were the main proponents of this school. The universalistic nature of li prompted a very broad approach to the study of medicine and was the reason for the following kind of advice:

> Those who want to be a physician should know temmon 天文[normally temmon means "astronomy," but the usage here would appear to indicate more of an astrologic meaning] above, the earth 地理 [normal translation should be "geography," but this translation would appear a bit narrow here] below and human affairs in between. When you become clear in all these "three areas" 三才 ["sansai"], then you can discuss people's disease.[3]

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[1] Maruyama, pp. xxxiv-xxxv et passim

[2] Published Ikyō Sei-i 医教正意, 4 volumes in 1679.

[3] Fujikawa, 1944, p. 292.

This attitude concerning the pursuit of medical knowledge based on the importance of the recognition and study of sansai 三才 , that is, the knowledge of heaven, earth, and man 天地人 , underscored an encyclopedic approach to medicine and produced some interesting and at the same time important results.

Terajima Ryōan, a prominent physician of Osaka, in his pursuit of knowledge of sansai authored what has been recognized as Japan's first illustrated encyclopedia.[1] It was published in 1715 under the title Wakan Sansai Zue 和漢三才図会 and was composed of 105 volumes.

According to the subdivisions in sansai, knowledge of man was expressed as an explanation of his physical integrity and existence as a microcosmic image of the universe. In short, knowledge of man was knowledge of his structural appearance. This idea of man as a microcosm of the universal macrocosm was more or less acknowledged in Chinese medicine in general, but became the focus of special emphasis in Eki-i. It was a complicated system of anatomical and energetic relationships. I will attempt an abbreviated explanation of this theory. The discussion itself may appear to be simply a scholastic exercise concerning a rather esoteric theory of questionable importance to the integrity of this dissertation. However, I have included it for several reasons.

1) It provides a explanation of the foundational specifics of Eki-i

2) It will give a relatively clear idea of the morphogenetic component of ontogeny.

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[1] Ishihara, p. 110.

3) It provides insight into the then accepted view of man as an anatomical organism.

4) As one reads the account, it will be reminiscent of the kinds of descriptions found in Chinese medicine at different stages of development from the time of the Nei Ching through its transition into Japan in Rishu medicine. One will notice a continuous tradition of emphasis on the bodily organs as the seat or location of pathological phenomena regardless of the etiological factor initiating disease . . . a kind of organal pathology if you will.

5) Most of all, one should keep in mind that the universality of li is the principal underlying feature of Eki-i, and that the physical manifestation of this principle is man's image as the microcosmic twin of the universal macrocosm. At the same time, the same kinds of relational rationale that are used to legitimate this particular view of man to the universe are used to legitimate the practice of divinatory medicine.

The format of this explanation of man (hsiao i 小易)[1] is taken from Chou Lien Ch'i's explanation of cosmology that formed the foundations of Sung Confucianism and in turn was further elaborated by Chu Hsi. Its resemblance has a closer affinity to Chou Lien Ch'i than to Chu Hsi. It will be recalled that Chu Hsi modified Chou Lien Ch'i's cosmologic theory by adapting Ch'eng I Ch'uan's interpretation that t'ai chi 太極[2] was the "principle of all things" in the universe which Chu Hsi identified as the li 理 .

According to the medical theory of Ek-i, there exists an original ch'i prior to the birth of life. It is described as without form, and called t'ai chi 太極. This t'ai chi has parallel and continuous existence with the t'ai chi of

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[1] Shōeki in Japanese. It can be translated, "lesser changes" or "lesser devination."

[2] Taikyoku in Japanese. See Chapter III.

the universe, but in man it is called his innate yuan ch'i 元気 .[1] When this yuan ch'i moves (becomes active) it gives rise to shen 神 .[2] When it is quiet and inactive it becomes ching 靜 .[3] When ching and shen are created, they determine the inferior and superior, as well as the yin and yang, and give rise to the heart and kidney, which in turn comes to represent the yin and yang of the body. The yin and yang are the liang i 兩儀 [4] of the human body.[5]

"The lung stores the ch'i and the liver stores the blood."[6] Since the ch'i is yang and blood is yin, the heart and lung occupy superior positions and are arranged in the greater yang 太陽 and lesser yin 小陰 . Because the kidney and liver occupy inferior positions, they are arranged in the greater yin 太陰 and lesser yang 小陽 . These four entities are known as the szu hsiang 四象 .[7] The pa kua 八卦 [8] or eight trigrams (divination signs)

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[1] Genki in Japanese. This ch'i is an undifferentiated ontogenetic energetic potential.

[2] Shin in Japanese. This is an active directional and organizational force acting to influence the configuration and integrity of the individual. It can be likened to the idea of li 理 . See Chapter III.

[3] Sei in Japanese. This is an undifferentiated, unspecific energetic potential. It can be considered the ontological material from which specific material existence derives. It might be likened to the idea of ch'i 気 . See Chapter III.

[4] Ryōgi in Japanese.

[5] Meijizen, Vol. 2, p. 368. See also Fujikawa, 1944, p. 294.

[6] Ibid.

[7] Shishō in Japanese.

[8] Hakke in Japanese.

exerts its influence on the human body through its control of the various parts of the human body. The five elements have correspondences in the five organs. The roundness of the head is symbolic of the heaven. The legs symbolize the directive aspect of the earth. Kan 乾 [1] corresponds to the neck, consequently kan chin 乾金 [2] (the neck and the element metal) governs the skin and hair in obedience to the lung. Li 離 [a] corresponds to the eyes, therefore li huo 離火 [b] (the eyes and element fire) rules the blood vessels in accordance with the heart. K'un 坤 [c] is the stomach, therefore, k'un t'u 坤土 [d] (the stomach and the element earth) is affected by the spleen and gives nourishment to the skin (flesh). Sun 巽 [e] corresponds to the thigh, hence sun mu 巽木 [f] (the thigh and the element wood) is affected by the liver and give rise to the fascia. K'an 坎 [g] is the ear and hence k'an shui 坎水 [h] (the ear and the element water) is affected by the kidneys and gives rise to the bone and bone marrow by

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[1] Ken in Japanese.

[2] Kenkin in Japanese.

a) Ri in Japanese.

b) Rika in Japanese.

c) Kon in Japanese.

d) Kondō in Japanese.

e) Son in Japanese.

f) Sonmoku in Japanese.

g) Kan in Japanese.

h) Kansui in Japanese.

condensation. "The six meridians are considered as the rivers and the intestine and stomach are the ocean." It is thus, that the relationships of position and hierarchy are established within the structure of heaven and earth and are referred to as hsiao i 小易 (the lesser divination). The eight trigrams which corresponds to the neck, abdomen, legs, thighs, ears, eyes, hands, and mouth are united to form the human body.[1,2]

The specificity of the indicated relationships of the eight trigrams to the parts of man's body are significant as conceptual bridges through which cosmic phenomena reach out and affect man's psychic and physical condition. In this manner, practitioners of Eki-i demonstrated functional relationships. In divination, the yun 運 (fate) of heaven and earth exerts its influence through the relationship with yin-yang and the five elements. Man's fate was viewed as a function of the configuration of the eight trigrams. And in this respect, one must mention the parallel scheme for heaven and earth. This scheme is called ta i 大易 [3] (the greater divination) and forms the interconnecting relationship that describes natural phenomena. One will immediately recognize the many elements which form the elements of Chinese natural philosophy from the time of the Nei Ching.[4,5]

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[1]Ibid.

[2]Fujikawa, 1944, pp. 293-295 et passim.

[3]Tai eki in Japanese. It can also be translated "the greater changes."

[4]Meijizen, Vol. 2, p. 368.

[5]Fujikawa, 1944, p. 293-95, et passim.

T'ai ch'i 太極 was considered to be the origin of all things. Its movement gave rise to yang, and the pure yang formed the heavens. Tai ch'i's manifestation in quietness or stillness was yin, and from the impure yin arose earth. Hence t'ai ch'i gave rise to heaven and earth which were the liang i 兩儀. The liang i in turn gave rise to the four seasons and were the szu hsiang 四象. The szu hsiang gave rise to the pa kua 八卦 (eight trigrams).[1,2]

If the universal energy flow and harmony with the human body was disrupted, disease was the result. By using the changes in the eight trigrams, one was able to predict, diagnose, and recommend cure.

As this school grew in popularity, the emphasis on the importance of knowledge of the "three areas," that is, sansai 三才 (heaven, earth, and man) led to exhaustive studies, ostensibly to know more about the microcosmic-macrocosmic relationship.

By way of a proposal, I would like to isolate and discuss for a moment, an affect of one aspect of this school's doctrines. The stress placed on the importance of the knowledge of man, heaven, and earth, that is, that which constituted what was known in Japan as sansai 三才, had the effect of establishing a formal sanction to pursue various methods of accumulating knowledge among those who followed this school of thought. This statement of the similar sanction found in Shushigaku, differed in one significant point. The motivating moral justification was not invoked. Instead, the act of knowing was

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[1]Ibid.

[2]Meijizen, Vol. 2, p. 368.

made a function of competency. Although the method was framed within a theoretical construct quite foreign to the Western scientific tradition, the implied perspective of an observable and knowable "nature" was a significant development. It commended intellectual activity. In this sense, it was a perspective which when expanded, implicitly advocated the search for knowledge not just within the bounds of what was considered to be the limits of knowledge defined by Chu Hsi doctrine. It appears as a deviation from Shushigaku-derived Rishu or Ryūchō theory. It unconsciously urged individuals to engage in collecting and accumulating new knowledge by actively participating through personal activity. An example of this kind of broadly applied approach to knowledge is the work mentioned earlier by Terajima Ryōan. This mode of thought was a slowly emerging circuitous development within the Koihō 古医方 tradition, and to find its development as a part of the Ryūchō tradition is unexpected. In some small way, the implications necessary for the next step toward experimental data collecting were here developing.

One would be tempted to shrug off divinatory medicine as a strange place to find the necessary elements for a tradition of rationalism. But as Confucianists held, even in yin there is yang, so too in the irrationalism of divination are there strains of rationalism.

I would suggest an interesting explanation or interpretation of the role of Eki-i (divinatory medicine) and Rishu medicine to the development of anatomical studies which is traditionally thought to have begun about the middle of the eighteenth century. The historical consensus has been to point to the accomplishments of Yamawaki Tōyō 山脇東洋 (1705-62) and Sugita Gempaku 杉田玄白 (1733-1817) as the first important step toward the

recognition and study of anatomy in Japan. According to this point of view, the influence of Western medicine is credited with providing the necessary impetus through the importation of anatomical texts. There is no question of the importance of the work Syntagma Anatomicum by Johann Vesling on the publication of Zōshi by Yamawaki Tōyō, or the impact of Ontleedkundige Tafelen by Johan Adam Kulmus on the studies of Sugita Gempaku and its subsequent translation and publication as Kaitai Shinsho in 1774. But what of the historical background to their discoveries? It has been the generally accepted explanation that the discrepancies between the anatomical diagrams in Western books, and those found in Chinese texts prompted these physicians to inquire further into anatomy by conducting anatomical observations of actual dissections. This historical fact requires, and at the same time confirms, a change in the modes of thinking regarding the importance of anatomy within the framework of Chinese medical thought. It is also a departure in the traditional methodology of anatomical investigation. In point of fact, it can only be viewed as the signal for the eventual displacement of Chinese medicine by Western medical thought. These are tremendous historical consequences that are accepted based on the standard explanation above without the benefit of further historical accounting of related trends about this time. It can be compared to the appearance of floral blooms in the dead of winter. However, viewed within the context of the history of the period, this divergence does not appear as a sudden mutation as has been historically documented by past historians.

In the attempt to reveal the nature of man as a microcosmic phenomon by proponents of Eki-i, the stress on the ontogenetic considerations of organogenesis hold important clues to a relatively new perspective concerning

the significance of the anatomical integrity of the individual. The underscored importance of knowing man in order to understand eki (divination) contributed appreciably to this perspective.

I do not feel that the descriptive use of the term "new perspective" is inappropriate. It is true that anatomical studies were actively engaged in at one time in China, but this tradition was lost quite early in the history of Chinese medicine. In Japan, one well known postmortem examination has been described during its history, but because of the strict proscriptions against violating the integrity of the human body, anatomical investigations were prohibited and anatomy as an academic discipline was not understood until the time of Tōyō and Gempaku. However, about the turn of the century, the Namban and Kōmō schools were making significant contributions to the early development of anatomy.

The recognition and attention payed to anatomy by schools arising out of Japan's sinological cultural heritage was relatively small in comparison, but not nonexistent. The Rishu emphasis on organal pathology and the doctrine of sansai in Eki-i emerges as a single theme in altering the application of orthodox attitudes toward anatomy in certain individuals, and form the background behind the discoveries of Tōyō and Gempaku. There is no argument that the influence of the Kogaku movement, a school of thought that will be discussed later, had the effect of freeing more fully the sinologically contained and disciplined modes of Chu Hsi thought, but the importance of the theory of hsiao i 小易 in channeling the minds of physicians to pay more attention to the anatomical features cannot be ignored.

In 1713, Miyawaki Chūsaku 宮脇仲策 published his findings concerning his attempt to distinguish the shape of the stomach through palpation

in his work Dōin Kuketsushō 導引口訣鈔.

In 1722, Hattori Noritada 服部範忠 (fl. ca. 1716-35) published a work entitled Naikei Zusetsu 内景図説 in which he attempted to correct the errors in traditional Chinese anatomy, but because his work was speculative in approach and did not use anatomical observations, the specific recommendations were of little value factually. For example, he maintained that the esophagus was situated anterior to the trachea in the throat. Reminiscent of the kinds of reasoning characteristic of some of the controversies that marked scholasticism of the European Middle Ages, Noritada held that because the esophagus communicated with the stomach and formed part of the six viscera (roppu), it had to maintain an anterior position. According to traditional Sung theory the six viscera were considered yang and therefore could be no other way. Similarly, the trachea communicated with the lung, which was traditionally considered part of the five organs 五臓 (gozō), and therefore yin. It could not be situated anywhere but posterior in relation to a yang entity.

Murakami Shimpō 村上新方 published Kotsudō Seigo Zusetsu 骨度正誤図説 which contained his critical views concerning the validity of Chinese anatomy in 1744.

Takashi Gentō 高志玄登,[1] a bone setter, published an account correctly describing the movements in the joints of the bones in 1746 as Honetsugi Ryōji Chōhōki 骨継療治重宝記. Influences of Western medicine can also be seen in this work.[2]

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[1] Also known as Takashi Hōyoku 高志鳳翼.

[2] Meijizen, Vol. 1, p. 78.

Kogaku-ha 古学派

Beginning about the middle of the seventeenth century, Shushigaku became the target of a series of critical attacks by scholars like Yamaga Sokō 山鹿素行 (1627-1685), Itō Jinsai 伊東仁斎 (1627-1705) and Ogyū Sorai 荻生徂徠 (1666-1728). In advocating a return to the original spirit and learning of Confucius, they found an intellectual tradition known as the school of Kogaku 古学 (or the "school of ancient learning"). As a major school of thought in the intellectual history of Japan, it was a reactionary movement aimed at what was considered fallacious interpolations made to Confucianism during the Sung dynasty by men such as Chu Hsi. They took issue with the misrepresentations made by the Sung scholars, as well as the arbitrary emphasis of doctrine and the inability of Chu Hsi's system of practical ethics to deal on the more mundane aspects of Tokugawa economics, politics, and society.

Hayashi Razan 林羅山 (1585-1657) was probably the single most important individual instrumental in the development and maintenance of orthodox Shushigaku during the early part of the Edo period. He was an energetic scholar and a tireless writer. He set the style and tempo of Shushigaku after being accepted as official Confucian scholar and adviser to Tokugawa Ieyasu in 1607. However, Hayashi survived Ieyasu by 41 years and went on to serve under four different shoguns (Ieyasu, reigned 1603-1605; Hidetada, reigned 1605-1623; Iemitsu, reigned 1623-1651; Ietsuna, reigned 1651-1680) bringing to bear the full weight of his influence. Sometime about 1630, Razan established a private school for the study of Shushigaku. It was later moved by Shogun

Tsunayoshi to Yushima, adjacent to the Edo castle in 1690, and became an official shogunate school. From its inception as a private academy, and then in its officially recognized role as Shōheikō in 1690, this institution was extremely instrumental in the propagation of Shushigaku throughout Japan. After 1650, the number of followers in the various han[1] were considerable, and can be attributed to the influence of this school.

The relationship between Shushigaku and the Bakufu is an elusive one to understand. On the one hand, Shushigaku is termed an official philosophy, and yet the shogunate tolerated at varying times competing schools of thought. It made its opposition to heterodox studies known in dealing harshly with Yamaga Sokō and yet recognized Ogyū Sorai. It unofficially patronized Western medicine by accepting practitioners of Kōmō Ryū as medical officers in the shogunate, and after 1720 officially endorsed government advisers to study Western sources in order to revise the calendar and compile materials on Western medical botany. George Sansom's attempt to explain these contradictions by stating that the Bakufu was extremely sensitive to attacks against its policies but was willing to tolerate criticism of its ideas,[2] actually seems to raise further questions as to the relationship of ideas to policies.

In the last analysis, a rather simple answer emerges. The Bakufu, primarily concerned with its own maintenance, adopted Shushigaku for the

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[1]The word han is used to describe the feudal entities that correspond to European feudal fiefs. However, in addition to the geographical delineation, it also defined the material wealth including the resident population.

[2]George Sansom, A History of Japan: 1615-1867 (Stanford: Stanford University Press, 1966), p. 78.

purpose of setting forth philosophical justifications to reinforce its own position of authority, and provide a moral basis for the feudal social order of Tokugawa society. It used the moral reinforcements contained therein to strengthen its political doctrines as well as social mandates. In short, it was used as an instrument of expediency. But the Bakufu propagated it as something more. Its role resembling an official creed was patronized to take advantage of the sanctions that such a perspective would permit. Ieyasu used the moral prescriptions aimed at man and his social relationship contained in the idea of the Five Human Relations (between father and son, rules and subject, husband and wife, older and younger brothers, and between friends) as models to legitimate and maintain a feudal society. Between 1605 and the 1650's and 1660's it became more than just a social credo. The Bakufu, through its sponsorship, fostered the identification of its doctrines as the official philosophical line. It represented the orthodox mode of thought during the seventeenth century. In 1666, Yamaga Sokō was exiled for his outspoken criticism against certain theoretical elements of Shushigaku. There was no doubt that the shogunate would not tolerate infractions against its policies and whether or not it tolerated criticism against its ideas was more a function of relevance and often qualified by other extenuating factors. Thus, the Bakufu, in concern for its own integrity, development, and progress, did and used whatever means to accomplish its goals. Political expediency was perhaps the stronger motivation than the application of philosophic warrants for practical ethics. The argument for this line of thinking is strong in view of the fact that a number of the early criticisms of Shushigaku were aimed at the inability of the Razan school to make effective practical commitments based on the school's moral

doctrines. This was the principle point made by such scholars as Yamazaki Ansai, Yamaga Sokō, and Kaibana Ekken.

In this view then, such apparent paradoxes as the censorship of Sokō and the friendly atmosphere accorded Sorai, the receptive attitude of Ieyasu and Yoshimune to Western learning, became comprehensible over a broad historical period.

Yamaga Sokō 山鹿素行 (1627-1685):

Yamaga Sokō was one of the earliest to speak out in favor of a practical ethics based on a reinterpretation of the epistemological considerations of li and ch'i as moral objectives in the pursuit of knowledge within Shushigaku. Although Sokō did not reject the idea of li, he favored a closer identification of li to specific manifestations of ch'i in things. Knowledge and moral behavior as "the investigation of li" was replaced by an emphasis on "the investigation of things" or kakubutsu 格物. Sokō continued to acknowledge a cosmology based on yin-yang and the five elements but because of his emphasis of kakubutsu, he marks a departure from Shushigaku.

In 1666, Sokō published a book titled Seikyō Yōroku 聖教要録 (an account of the essential teachings of the sages) for which he was censured and exiled for nine years to Akō 赤穂.[1] In it, Sokō identified and attempted to rectify what, in retrospection, may be considered to have been an extremely vulnerable aspect of the Bakufu. As mentioned in the Introduction, Ieyasu gave

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[1]Known today as Hyōgō Prefecture.

official support to Chu Hsi's system of moral philosophy because of its complementary nature to the intended goals of the Bakufu. These mediating elements were emphasized to attain historical and philosophical legitimation of the shogunate as well as Tokugawa society. But to the degree that stability was achieved by the integration of Shushigaku, a constancy of form and thought made little allowance for change and led to an intolerance at attempts for reform. This rationale and its implementation was embraced in the hope that it would insure strength and perpetuity. In this role, its inability to deal with social change became more and more obvious. It really was not envisioned to provide for change. Shushigaku might have been abandoned by the intellectual community during the 18th century had it not been for continued Bakufu sponsorship. In the field of medicine, there is evidence to indicate that certain areas were progressing based on assumptions that appear to ignore the metaphysical doctrines of Shushigaku.

Sokō felt that the direction of Shushigaku led to endless academic speculations and did not address itself to what he considered to be the true spirit of Confucianism, that is, application to practical needs.

> In accordance with the teachings of the sages, I came to realize that learning was not to be treated as literature. What a person learns today can be put into practice today.[1]

He therefore criticized the moral sanctions which imparted a static character to Chu Hsi's ideas, and in doing so repudiated it.

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[1] Maruyama, p. 43.

Sokō's interpretation of the teachings of the Sages was to view enlightenment as a method of practice, not as an end in itself only to be considered the subject matter of an intellectual elite. In attempting to argue his point, Sokō began to disconnect and alter some of the internal logic in the Chu Hsi synthesis. Of particular interest was his attempt to reduce the universality of li. Sokō continued to view li as a transcendental concept but its metaphysical origin became less important. This emphasis on the material aspect of existence was further enhanced by Sokō's position on the contemplative or meditative method of knowing li. He felt that meditation was not only nonproductive, but also not a method originally intended as consistent to the spirit of pure Confucianism. Yamaga Sokō felt that the recognition of meditation as a method of learning was biased toward the quiescent motionlessness of function, and stressed that all phenomena are composed of motion and stillness. Kakubutsu meant active inquiry or learning to Sokō.

Logically, this line of thinking eventually led Sokō to question the idea of honzen no sei...the idea that man's nature was originally good because of its continuous relationship with the li of the universe, and that through introspection one could know this li. Sokō rejected the seat of the goodness of man in the honzen no sei and identified it as a function of his ch'i. He then acknowledged human passion as a primary characteristic of man and instead pointed to "misapplication or perversion" as the antagonist to goodness.

Yet despite the progressiveness of Sokō in these areas, he was not able to move beyond the limits of the Chu Hsi mode of thought in his acceptance of

the prescribed social structure. He continued to acknowledge the Five Relationships and its rationalization in natural phenomena.

> What should be the basis for the education of the people? We should adhere to the truth of heaven and earth and nature, and not pursue a different path. What is the truth of heaven and earth and nature? It is intimacy between father and son, righteousness between ruler and subject, distinctions between husband and wife, the order of elder and younger brothers, and faithfulness between friends. These are called the five teachings.[1]

Sokō's impact on Shushigaku was to make distinctions in the locus of li and ch'i through his criticism of Chu Hsi's system of practical ethics. He was instrumental in separating moral rationalism from the naturalistic aspects of Chu Hsi metaphysics. In the end, his criticism resulted in the logical untenability of Shushigaku.

Typically or atypically, Sokō has been called the earliest advocate of Kogaku 古学 because of his intellectual position and reference to a return to the original classics of Confucius. This, theme of "return" or "revival" is common to all members of the school of Kogaku. However, within the school itself, there was no such consistency as to doctrinal theory or application. One frequently finds dissension as intense as those directed at Shushigaku, even among members. Sokō's attitude was more that of a moderate. It did not appear that his primary motivation was the destruction of Shushigaku. Although his philosophical and logical position was a repudiation of Shushigaku, he appears more in the light of a reformer. Sokō's concern for the masses of unemployed

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[1] Maruyama, p. 203.

samurai eventually led him to become a leading contribution to the philosophy of Bushidō 武士道 .[1]

Itō Jinsai (1627-1705)

Although both Sokō and Jinsai are considered two of the earliest prominent proponents of Kogaku-ha, Itō Jinsai is more closely identified with its founding. He called for a return to Confucius and Mensius. Drawing heavily on such texts as the I Ching 易経 (Book of Changes)[2] and Shih Ching 詩経 (Book of Odes),[3] Jinsai distinguished and redefined the basic elements of Shushigaku destroying the continuative integrity of the system.

Like Sokō, Jinsai was concerned with the problem of ethics but was primarily interested in the philosophical aspects of ethics. In attempting to establish the originality of Confucianism, Jinsai clearly identified the Way of Heaven as a separate cognitive category in contrast to the Way of Man. Although Jinsai continued to recognize a cosmogony based on ch'i and the movement of yin and yang, he emphasized much stronger than Sokō the co-identity of li and ch'i in the manifestation of matter and natural function. Li is no longer recognized as an universal metaphysical element with continuation into all matter and phenomena. "For Jinsai, Principle [li] no longer provides the

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[1]This was a systematic statement of the code of behavior expected of a member of the warrior class.

[2]Ekikyō in Japanese.

[3]Shikyō in Japanese.

link between heaven and man; it is no more than a 'physical principle.'"[1] By reducing the continuative universality of li to specific material existence and recognizing the nature of man as distinct from the cosmological consideration of heaven, Jinsai set "nature" free as an independent phenomenon unrelated to the ethical and moral consideration of man. At the same time, he indicated that the proper focus of study of Confucian scholars was not in the revelations of li but in the detailed studies of the Way of Man.[2] Jinsai maintained the concept of the Will of Heaven, as an anthropomorphic personification of some deity or force that affected the ethical behavior of man. It replaced the role of li in Shushigaku. Morality was conceptualized in Jinsai's idea of the Way (道, tao) which were the universal ideals of benevolence, righteousness, propriety and wisdom.

> When man exists, his nature exist. When man does not exist, his nature does not exist. But regardless of whether or not man exists, the Way, by its very nature, has an existence of its own. It permeates Heaven and Earth, and extends throughout all known relationships. It exists at all times and in all places.[3]

Jinsai's influence was profound. His followers numbered in the thousands. Jinsai was a true Confucian scholar, and although he was primarily concerned with the theoretical aspects of Confucian ethics, he first had to deal

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[1] Maruyama, p. 52.

[2] Minamoto, p. 36.

[3] Maruyama, p. 55.

with the continuative mode of thought in Shushigaku. In disrupting the integrity of the whole, Jinsai was instrumental in philosophically isolating nature from considerations of morality. The effect of Jinsai's distinctions and reclassification of Chu Hsi concepts provided Ogyū Sorai the necessary conceptual wedges to split apart Chu Hsi rationalism.[1]

Kaibara Ekken 貝原益軒 (1630-1714)

Kaibara Ekken is probably best remembered as the founder of the discipline of medical botany in Japan and his publication of Yamato Honzō 大和本草 in 1709 is considered to be a significant contribution, both to the field of botany and to the development of science.

It is natural to question the appropriateness of including Ekken in a discussion of the development of the school of ancient studies (kogaku 古学). Yet despite the fact that he was a scholar of the Shushigaku school, he displayed an independence of thinking which marked him as anything but orthodox. The influence of Kogaku was critical to his own theoretical rationalizations used to explain his activities in botany. These in turn were contributory to the formation of nascent elements of the concept of experimentation. Thus he played an extremely important role in the genesis and statement of a crucial mode of thought that is very important to a shift in attitude facilitating the adoption of Western medicine.

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[1]Ibid., p. 54.

I have not isolated Ekken on the basis of priorism. Rather I use him because he is simply an early indication of the direction the conceptual changes initiated by the Kogaku movement induced in the fields of science and medicine. The appearance of these kinds of conceptual changes became more prominent as time passed and was restrained about this time only by the artificial prohibitions of the shogunate.

Ekken's place in history is interesting and in some aspects rather unique. He was a product of the tremendous intellectual activity that characterized the seventeenth century. What we see in Ekken's thinking is a syncretic trend that will mark the period following 1750 when the school of eclecticism 折衷派 becomes a prominent intellectual phenomenon. Although his education was grounded in the Confucianism of the Sung period, he expresses some ambiguities in his belief of the system as a whole, particularly during the latter part of his life.[1] Despite these conflicts of doubt, he appears to have managed to maintain himself as an advocate of Chu Hsi doctrines. His thought system remains within Shushigaku models. What is unique to Ekken is the juxtaposition of distinctly Kogaku-like interpretations and emphases within the Chu Hsi construct.

As the result of his theoretical distinctions, Ekken was able to philosophically justify his activities in the biological sciences. Of particular interest in this regard were his ideas on the concepts of li 理 and ch'i 気 in Shushigaku. In some respects his ideas were close to Yamaga Sokō's. Ekken drew attention to the importance of ch'i 気 and a close association between it

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[1]Maruyama, p. 61.

and li 理. Unlike Sokō, Ekken continued to recognize the ethical value of li maintaining the continuity between ethics li 理 in the world of man (known as the "Way" 道), and the li found in things "butsuri" 物理.

ethics 道 ⟷ li 理 ⟷ ch'i 気

dōri 道理 ⟷ li 理 ⟷ butsuri 物理

contemplative and meditative	actual investigation

For Ekken, the study of things was a method of knowing the li. Thus Kakubutsu Kyūri 格物窮理 meant literally "to investigate things and thoroughly know the li." "Knowledge was the cognitive recognition of things" (chi chi kaku butsu 致知格物: to arrive at knowledge by knowing things) which was possible because of the li revealed therein. This emphasis of the manifest existence of li in things and its investigation in the material world was a distinctive approach found in Ekken. Although the possible interpretation always existed within Shushigaku, it deviated from the interpretations of Hayashi Razan whose emphasis was contemplative.[1]

Despite the establishment of these thought categories, and the dissolution of the relationship between the world of nature and the world of ethics in the thought of Ito Jinsai, he strongly maintained that the task of a Confucian scholar was the elucidation and clarification of the world of ethics 道 and not the investigation of ch'i.[2] Based on this view, Jinsai opposed

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[1] Minamoto, p. 32.

[2] Ibid., p. 66.

Confucian scholars engaging in any other activities other than those defined by ethics. This objection referred to the common practice of Confucian scholars entering into the medical profession during this period in order to make a living.

Ekken's identification of li and ch'i in terms of parallel allusions to a hierarchical relationship between a king and his subjects is extremely reminiscent of traditional Shushigaku explanations; however, he emphasized the close identification of one to the other stating that a master (li)—subject (ch'i) relationship is a single entity and the units inseparable.[1] Thus, by preserving the basic thought categories and the semblance of orthodox structure, Ekken has been able to maintain his affiliation with the school of Shushigaku, but his selective emphases place him at the borders of tergiversation.

Kaibara Ekken shared another concern which Sokō also stressed. This was the idea of the practicality of knowledge. Where Sokō's interest was social, Ekken's background in medicine and his interest in medical herbs influenced his thinking greatly. This theme, which Sokō was able to integrate into his ideas, was picked up by Ekken, and was given full exposition in the policies of Shogun Yoshimune. It is the key to understanding Yoshimune's attitude and policies Known as jitsugaku 実学, its application by Ekken produced an interesting configuration whose interpretation helps account for the nascent development of an experimental attitude prior to a full development of Western thought in Japanese science and medicine. The concept of experimentation is a complicated notion because of the many elements that go into its expression. In Ekken, the combination of his medical interests, the concern over the issue of

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[1]Ibid., p. 35.

jitsugaku 実学 ("practical learning"), his idea that knowledge was based on the investigation of things (chichi kakubutsu 致知格物), and lastly the interrelationship between li and its knowledge to things, manifested itself in his activities in medical botany and were responsible for the publication of Yamato Honzō.[1] It has been given the distinction of being "...the first general flora of Japan as well as the first distinctively Japanese work on materia medica."[2] It contains 1362 entries of which 975 items have been identified in other writings, but 387 items were new entries not found elsewhere.[3]

The idea of "practical learning" 実学 as used by Ekken to compile the subject matter of Yamato Honzō can be viewed as a key element in the early expression of the concept of experimentation and objective investigation. This emphasis represents the basis for the development of a realization of the significance of the independent value of a "fact." It will eventually replace the concept of li as a transitional point of reference. In Shushigaku, everything was viewed in terms of universals. This was the central Chu Hsi rationalism as found in the orthodox position stated by Hayashi Razan, and knowledge was but a one way freeway to the attainment of morality and the stature of a sage.

The reevaluation of the significance of an independent fact in reference to jitsugaku 実学 was crucial to the later separation of the relationship between knowledge and ethics. In the case of Ekken, it added a new dimension

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[1]Ibid., p. 37.

[2]Harley Harris Bartlett and Hide Shohara, Japanese Botany (Los Angeles: Dawson's Book Shop, 1961), p. 58.

[3]Ibid., p. 58-9.

to investigations in the natural sciences. Knowledge fulfilled two objectives. The one retained its value within the Chu Hsi construct. It was related via ch'i to li and in turn to ethics. The other was its value to practical applications. In his later life, Ekken tended to emphasize the closeness of the relationship between li and ch'i and showed a propensity toward viewing his work in terms of "practical learning." The scientific aspects of his enterprise draws attention to his conception of nature, his epistemological framework, and particularly to his method. It is here that one begins to gain insight into this early statement of objective investigations in association with the concept of experimentation. Ekken explains in the preface to Yamato Honzō:

> Anyone who studies [honzōgaku[1] should] read widely, hear widely and see widely[2] and make clear your doubts. By using a wide variety of sources [lit. "references"], unless you discuss and differentiate by detailing and correcting errors, you will not be able to reach the truth. That you yourself [personally] listen and make observations is proper. And even if people's [views] are different from yours, do not consider them wrong; and not to recognize your own mistakes is not a good thing.[3]

He admonished young investigators against the following:

1) Being narrow-minded about what you hear and see and not paying attention to detail.
2) Indiscriminately believing anything you hear and see.
3) Being biased toward adhering to one's own theories only.
4) Making hasty conclusions recklessly.[4]

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[1] Honzōgaku, broadly defined, means the study of animal, plant, and mineral materials for the purpose of serving mankind's general needs. More specifically, it refers to the study of animal, plant, and mineral resources for the purpose of medical therapeutics.

[2] This refers to observations made by the investigation--actual observations.

[3] Minamoto, p. 37.

[4] Ibid.

The following quote is another indication of the uniqueness and rather unusual attitude Ekken maintained in contrast to his fellow scholars.

> Why is it that our studies do not progress quickly. It is probably because we are led by the old ways of thinking and not able to change the [present] steps. The ch'i of the universe changes every day and does not rest. It is because of change and growth that it succeeds in growth. The study of the sages should be according to the rules of the virtue of Heaven, and should be renewed every day; thereby you should be successful in becoming proficient. Scholars should brush aside the old ways of learning, and should renew [their outlook] every day and to be new every day. He should not adhere to old customs. If you are like that [hold to tradition], then you can not progress very quickly.[1]

It reveals a side of Ekken that is anachronistic to Shushigaku as it emerged out of the seventeenth century. It is a dynamic outlook showing cognizance of the elements needed to make objective observations within the context of an experimental attitude. Yet for such a crucial aspect of Western scientific development to have been contributed by a member of the Shushigaku school is another unexpected surprise. At the same time, it forms but another piece of evidence to indicate that the development of Western scientific principles as a function of medicine was a fact either preconditioned by tenets or developments in Shushigaku as an independent phenomenon, or as an unintentional mutually interactive phenomenon.

To those who maintain that medical science, whose definitional foundations include the beginnings of parallel conceptual elements essential to Western science, could not have developed within Shushigaku need only review the ideas and activities of Kaibara Ekken. However an unequivocal statement in

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[1]Ibid.

this regard is complicated by the changing nature of Shushigaku itself. The difficulty is in the characterization of Shushigaku. It involves the historical changes that Shushigaku was undergoing throughout the entire period under discussion. Though maintaining opposition to competing schools challenging its own status as an intellectual movement, there occurred internal changes that tended to disrupt the doctrinal solidarity initially present under the guidance of Hayashi Razan. This disruptive movement occurred quite early in the strength and popularity of Yamazaki Ansai's 山崎闇斎 (1618-1682) school of Shushigaku in Kyoto, who taught a slightly divergent and rather individualistic (i.e., he expressed his own personal likes and dislikes more than that expected of a disciple) doctrinal line of thought.

At the risk of oversimplification, one might attempt to identify two elements within the Shushigaku school at the opening of the eighteenth century. One was the old guard, conservative scholars who attempted to represent the orthodox line of thought emanating from Razan. For the most part, these were government functionaries. The other, whose best representatives were Kaibara Ekken and Arai Hakuseki, represented an avant-garde movement, liberal in approach and concerned primarily in practical applications of Chu Hsi rationalizations. These individuals might be characterized by their interests in the natural sciences, and some of the related technologies. The nature of their interests brought them into conflict with the basic theoretical tenets of Chu Hsi's doctrines and in many cases some theoretical attempt was made to reconcile the differences.

During the course of the eighteenth century, the incidence of these attempts are conspicuous. They stand out in contrast to the traditional ideas of

Razan whose principal concern was really outside of the natural sciences. Miura Baien 三浦梅園 (1723-1789) was another Shushigaku scholar who took up the study of medicine. Aspects of Baien's writings are far in advance of Ekken's thinking. His concept of "nature" reveals that he had been able to theorize a "nature" whose manifest existence excluded the concept of li.[1] In his work Genkiron 元烘論[2] he attempts to explain this perspective:

> [All] things and affairs exist as a manifestation of nature [自然]. [All] things and affairs exist according to nature [使然]. That man prefers goodness and abhors evil comes from the heart which is nature [自然]. The fact that man prefers goodness and abhors evil is the result of nature [使然]. Life and death, success and failure are manifestations of nature [自然]. To live and die, to succeed and fail are governed according to nature [使然]. Wealth, stature, and success, poverty and degradation are manifestations of nature [自然]. To be wealthy, have stature and succeed, to suffer from poverty and degradation is the result of nature [使然]. Take for example, the statement that "water is nature [自然]." (If we accept that water is also a manifestation of nature [自然] and exists according to nature [使然], then that it exists, I will presently explain further.) Water will

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[1] "Exclude" may in fact be a slight over-interpretation. Another possibility is that li was submerged into his idea of nature, but to such an extent that its identity was completely transformed into a concept of nature as universal law that explained its own manifest existence. That he did not completely disregard the moral implications of li can be noted in attributing human morality to nature.

[2] The characters used here follow Saigusa Hiroto's usage. It should be noted that both Kokusho Sōmokuroku and Baien Zensho use differing characters. The second of the three characters is the character in question. Saigusa uses 烘; Kokusho Sōmokuroku uses 熙; while in Volume one, p. 741 of Baien Zensho, three differing characters 熙, 熙, 熙 are used. Baien Zensho and the copy in Saigusa were published as reprints, but why they should differ is perplexing. It is possible that both copies were taken from differing originals. Saigusa mentions the copy in Baien Zensho but gives no explanation for his preference in character usage. I have followed Saigusa's usage since the character 烘 is an alternate ideograph for ch'i 氣 which is the topic of Genkiron. In the end, without the original the correct title cannot be determined. The exact date of writing is also not known, but Saigusa feels that it was written sometime after 1753 and before 1765. See Saigusa, Vol. 1, p. 73.

> always settle and pool in the lowest aspect of any collection point in relation to its point of origin . If it goes up, it is by [the expenditure of external] power. Square, round, long, short, [it takes its ultimate form] because it is a manifestation of nature [自然] and is governed according to nature [使然].[1]

Although somewhat cryptic because poised in the figurative language of literary Japanese, there is one aspect of the quote that is clear. Baien is attempting to explain natural phenomena as the result of nature 自然 as an ultimate cause. Paraphrased in modern language, one might interpret his view simply as "nature is what nature does."

In making this conclusion, I have chosen to translate shizen 使然 as "the workings of nature." This translation is not entirely definitive, but his usage syntactically and grammatically would appear to indicate this meaning. In addition, the literal classical Japanese reading as well as its meaning would also appear to confirm this. However, the margin of doubt lies in the possibility that Baien might have given the phrase a special meaning which is not entirely clear in the usage here.

The noticeable absence of references to li are the conspicuous feature of this passage. Also absent in the language is the characteristic dichotomy drawn by earlier scholars engaged in natural sciences between the concepts of ch'i and li. Baien attributes all things as a manifestation of nature 自然 and their existence according to an undefined force or directive 使然 emanating from nature 自然 . Nature 自然 is identified as the causal agent. This is a very

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[2]Baien Miura, Genkiron in Nihon Kagaku Zensho, compiled and edited by Hiroto Saigusa (Tokyo: Asahi Shimbunsha, 1944), vol. 1, p. 103.

innovative concept more closely related to our concepts of nature. But remnants of Shushigaku doctrines are present in Baien's attribution of morality to nature. Close inspection, however, reveals that Baien has not followed previous models in the particular identification of morality, nature as an ontological force, and natural phenomena. Baien's concept of nature transcends both morality and natural phenomena, and appears to have the conceptual characteristic of being the ontological origin of the universe, as well as representing natural or universal law.

This characterization is very similar to Ōtsuki Gentaku's 大槻玄沢 (1757-1827) perspective of nature that appears in a series of scrolls after 1799. As will be explained more fully later, Gentaku's view of the expression of nature constitutes strong evidence that elements of the type of a philosophical base that composed a Western scientific view of nature within medicine was understood by certain members of the medical community during the eighteenth century. The spirit of this understanding within the context of Western medicine was in evidence as early as 1754 in the work of Yamawaki Tōyō 山脇東洋 (1705-1762) and in the undertaking of Sugita Gempaku 杉田玄白 (1738-1818) and Maeno Ryōtaku 前野良沢 (1723-1803) to translate a Western anatomical text in 1771.

If one were to accept these changes in conceptual rationalizations as an integral part of the historical character of Shushigaku, one would naturally conclude that Shushigaku was able to integrate nascent Western conceptual elements, and in fact contribute to a degree of development. That this mechanism occurred for certain can be demonstrated in the works of a number

of Shushigaku scholars. The logical contradictions contained in the older forms of doctrines emanating from Razan were overcome by the kinds of rationalizations found in these later scholars.

The accuracy of this line of thought must be conditioned by additional considerations. By using Ekken and Baien as examples, we find a peculiar juxtaposition or intermix of ideas. To refer to these individuals as transitional as a logical inference must be accompanied by the stipulation that the term be limited to their ideas only. To consider their ideas as transitional within the Shushigaku school raises the question, transitional to what? That the historical events that led to the acceptance of Western medical theory did not occur in the Rishu or Ryūchō medical tradition is not open to question. This contradiction brings us to a second alternative that is based on another characterization of Shushigaku. This view perceives Shushigaku as institutionally singular, but its theoretical integrity fragmented. However, doctrinal deviation or fragmentation in this context should not be equated to disintegration, dissolution, or destruction. What was known as Shushigaku under the guidance of Hayashi Razan had become reinterpreted and modified to such a degree during the eighteenth century by physicians and scholars engaged in the natural sciences that if considered as a whole its resemblance would be that of a cousin rather than sibling. The temptation to attempt an autonomous characterization of these individuals within Shushigaku by virtue of their scientific interests and associated alterations in their philosophical rationalizations is great. In the end, the validity of this generalization becomes a function of the exact interpretation of what constituted the historical character of Shushigaku during the period. A

complicated analysis of the degree of fragmentation and its meaning to individual affiliation is too lengthy to raise here, and really not necessary in view of the logical contradiction just discussed.

In view of the limitations required to remain within the bounds of this dissertation, and the magnitude of the question just encountered, we might better profit by summarizing the evidence presented thus far in this regard. Although Ekken, Hakuseki, and Baien are historically accepted as members of Shushigaku, it is clear that some of their modes of thought are not. Whether we accept these differences as indicative of historical changes within Shushigaku, or phenomena that signified the greater problem of the fragmented nature of Shushigaku are tangential issues. That members of the Shushigaku school contributed to the development of Western medicine can not be denied. This relationship was not intentional. The changes in theoretical rationalizations were motivated by and directed to alleviate internal doctrinal stress originating in conflicts between doctrinal purity and practical applications.

It is not true that the development of a Western-thought oriented science occurred solely within the conceptual distinctions of the type first declared by the Kogaku school, or that medical science during the Tokugawa period developed only within the Kogaku tradition, but the influence of the Kogaku movement on Shushigaku was critical. Parallel development was most certainly in evidence.

Ekken's and Baien's contributions reinforces my thesis that although the medical sciences matured and fully developed out of the Koihō tradition, its foundations are firmly rooted in the conceptual framework and in the ongoing

theoretical exchanges with Shushigaku and its expressions in Rishu medicine. This seemingly contradictory explanation will form the final chapter of this dissertation. This conceptual continuity and change form the primary motif in elucidating the question of change described in the opening introductory paragraph of this dissertation.

Ogyū Sorai 荻生徂徠 (1666-1728)

Ogyū Sorai's school of Kogaku was probably the most influential to appear during the Tokugawa period. Yet ironically, despite the fact that he is credited with the most emphatic opposition to the doctrines of Chu Hsi, his point of view regarding "nature" must also be considered antithetical to the development of Western science and medicine. Emphasizing his method of the "study of old phrases and syntax" (Kobunjigaku 古文辞学), he engaged in a critical analysis of the six classics--

	Japanese Title	Chinese Title
Book of History	Shokyō	Shu Ching
Book of Odes	Shikyō	Shih Ching
Book of Music	Raiki	Li Chi [1]
Book of Changes	Ekikyō	I Ching
Spring and Autumn Annals	Shunjū	Ch'un Ch'iu
Rite of Chou	Shurai	Chou Li

[1] de Bary points out that a specific text titled Book of Music does not exist today although such a text is often referred to in early writings. An essay on music is found in the Li Chi. See de Bary, Sources of Chinese Tradition, p. 5.

which formed the basis of his thinking. Sorai was primarily interested in political philosophy and attacked Chu Hsi from this point of view. In the process, he categorically opposed "nature" as a cognitive classification amenable to investigation and able to yield meaningful knowledge for the common man. For Sorai, "knowledge" was defined as the study of the classics, and formed the basis for political action.[1] "Nature" formed the ultimate justification for man's political institutions in Shushigaku. For Sorai, this view precluded the possibility of change or reform in society because of the supposed constancy of natural law. In order to create the possibility for change, Sorai rejected natural law, stating that classical references to natural law in terms of the Way of Heaven or the Principles of Heaven were made as literary allusions for the sake of comprehension. Sorai acknowledged the existence of "nature" and generally accepted the Chu Hsi conceptualization, but referred to specific allusions and metaphors in reference to social and political entities as "symbolic categories" invented to facilitate "enumeration and arrangement."[2] One should note that by recognizing "nature" as an orderly system inviting consideration by the sages for classification purposes, Sorai is merely stating that "nature" and its study are useless for purposes of pursuing political theory. This view is evident in the following from Sorai's writings.

> Yin and yang were established when the Sages invented the principles of divination. They were made the Heavenly Way, that is, the ultimate

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[1]Craig, 1965, p. 159.

[2]Maruyama, p. 209.

[2]Ibid., p. 208.

> principles. When scholars use yin and yang as conceptual standards in the analysis of the cause of the Heavenly Way and of natural phenomenon, they may achieve some understanding in such matters. But where human affairs are concerned, this is not the case. For the Sages did not establish yin and yang as the Way of man. Only by loose thinking and loose use of words have the latter-day advocates of yin and yang imposed these ideas on the Way of man.[1]

Sorai retained the Shushigaku concept of li and its association with ch'i, but as he indicates in the above passage, these associations in "nature" have no relationship to the Way of man. Thus, although accomplished in a slightly different manner, Sorai maintained the same attitude toward "nature" as Jinsai. Jinsai's cognitive interest in "nature" was accomplished by establishing the world of man and its ethical considerations in the Way 道 as a separate conceptual entity severing its continuity with li. In Jinsai, li was identified as a coterminous manifestation of ch'i. By using differing conceptual perspectives, both Jinsai and Sorai managed to isolate the concept of "nature" and then turned their backs on it, stating that their own interests in specific aspects of scholarship were the proper focus of study for a scholar of the Kogaku school--political theory and ethics for Sorai and moral cultivation for Jinsai.

In the emphasis of these two leading scholars of the Kogaku school, it is logical to consider "nature" not relevant to the real focus of their interests. As used by members of the Razan tradition, the concept of "nature" was detrimental to both Sorai and Jinsai, and hence each altered the meaning and emphasis appropriately. However, it is important to recognize that the distinctions and differentiations of "nature" as made by Sokō, Jinsai, and Sorai as extremely important to the continued development of a scientific tradition in medicine. This is one of the significant conceptual changes to occur in medicine. The degree of intellectual freedom achieved by the skepticism and disbelief

produced by the Kogaku tradition provided alternate avenues of intellectual inquiry unencumbered by the narrow, confining cosmological and ethical theories of Shushigaku. In this manner, the Kogaku movement was able to lend unintentional indirect support to Koihō 古医方 . It provided the conceptual framework, as a by-product of their concerns in other areas of thought.

We are now confronted with an interesting paradox. I have carefully pointed out the essential unscientific elements, or more properly anti-scientific elements, in Shushigaku. Then, by investigating the works of various physicians whose differing schools of thought originated out of the Shushigaku tradition, it became obvious that many of them altered the conceptual purity of the original Chinese models and were able to develop the methods of science beyond the limits permitted by orthodox theory. But there was a limit to this kind of development in medicine. For in order to preserve their affiliation and loyalty to the basic modes of thought that formed the foundations of their school, a real barrier stood in the way of continued progress toward a non-dogmatic science. Strong evidence of this kind of development was seen in Eki-i, but because of the supernatural elements of divination that pervaded this system of medicine, it was a self-limiting development.

I next discussed the Kogaku reaction to Shushigaku but as it turned out this reaction was directed at the ethical and moral elements within Chu Hsi's doctrines, and although it appeared that the concept of science as a function of the Kogaku differentiation of "nature" was unequivocally established, scholars of the Jinsai and Sorai schools rejected the study of "nature" as relevant to learning. What then becomes of the development of science and medicine? That both the natural sciences and medicine made considerable progress during the

eighteenth century is undeniable. In order to continue, we must now make a marked distinction in the development of medicine and the development of the natural sciences.

A major line of scientific development--in techniques, the discovery of new facts, theory and methodology--occurred within the Chu Hsi construct. But this construct was markedly different from that advocated by Hayashi Razan. A series of metamorphoses occurred sometime during the seventeenth century that affected both the meanings and emphases of Chu Hsi concepts to permit a major developmental effort in the natural sciences as well as in medicine during the late seventeenth and early eighteenth centuries. This general trend was reinforced during the eighteenth century by the greater acceptance and inclusion of knowledge from Western sources into Japanese culture, as well as by the greater number of individuals educated under the rather permissive trend of the times who were now coming of age and whose interests were captured by the natural sciences. Specialization and the appearance of private learning academies led to the appearance of professional scientists whose livelihoods were not dependent necessarily on shogunate appointments.

Throughout this period of transformation, one must note the marked influence of Kogaku on the Chu Hsi rationalizations and the foci of emphases in Chu Hsi concepts in the various attempts to accomodate scientific activities. This presence must mitigate the conclusions of Albert Craig[1] and Shigeru Nakayama[2] that scholars of the Kogaku school were responsible for a terminal

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[1]Craig, 1965, p. 159.

[2]Shigeru Nakayama, Nihonjin no Kagakukan, Sōgen Shinsho, no. 38 (Osaka: Sōgensha, 1977), p. 36-37.

classification of "nature" after establishing an independent identification for its understanding; and the implication that Kogaku spelled the premature death of science as a function of their attitude to their classification of "nature"--at least as expressed with their theoretical system. For scholars like Jinsai and Sorai, it is both natural and logical that they would not have taken interest in "nature" or science simply because their interests were elsewhere. The potentials for the development of science and medicine as created by the Kogaku movement, disbursed into the thinking of scholars regardless of their scholastic associations, and where interest in the subjects of science or medicine existed, were used to further their progress in investigation. Craig conceded this point, saying:

> They [referring to Nakae Tōju 中江藤樹 (1608-1648) and Kumazawa Banzan 熊沢蕃山 (1619-1691) in the Wang Yang Ming tradition, and Yamaga Sokō, Itō Jinsai, and Ogyū Sorai in the school of ancient learning] did, however, alter the structure of Chu Hsi Confucian thought metaphysically and socially, creating potentials that had not existed in the earlier period.

However he does not draw attention to the content or degree of influence Kogaku had on Shushigaku. Instead he draws attention to the affinity of the rationalizations of scholars (as related to the problem of "nature" or science) to Chu Hsi models. Craig's analysis of the theoretical position of "nature" is acute, but historically, should be modified to account for the dissemination. It also does not account for the tremendous contributions of the Koihō 古医方 about whom we will presently speak.

The effect of the Koihō on the course of medicine characterizes its development during the late seventeenth century and eighteenth century.

Whereas the general scientific community continued to develop within the traditional theoretical framework by modifying the basic Shushigaku definitions and altering the internal connections, Koihō medicine on the other hand, rejected the Sung doctrines of the Rishu and Ryūchō medical systems. After 1650, the impact of the Koihō school of thought on medicine manifested itself in the emphasis of the empirical aspects of medicine, drawing attention to observationally verifiable data, and a movement away from the theoretical and speculative characteristics of Rishu medicine.

Kaibara Ekken and Miura Baien effectively used Kogaku distinctions in the delineation of "nature" to give theoretical sanction to their activities while at the same time remaining a Shushigaku scholar. The ideas of both can indeed be considered typical of the kinds of transitional rationalizations found during this period. Their ideas show a marked transformation from the ideas of Razan. Yet among scholars of the Shushigaku, their transformations appear to show the general trend in thought for those interested in the natural sciences during the early eighteenth century.

In many respects, this accommodative aspect of Shushigaku permitted the development of the sciences within itself for a considerable amount of time slowly changing and altering the meanings of Chu Hsi concepts.[1] This particular fact distinguishes the development of the natural sciences from medicine.

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[1]Albert M. Craig, "Fukuzawa Yukichi: The Philosophical Foundation of Meiji Nationalism," in Political Development in Modern Japan, ed. Robert E. Ward (Princeton: Princeton University Press, 1973), p. 113.

CHAPTER VI

TOKUGAWA PERIOD: PROMINENT SCHOOLS OF THOUGHT

PART 2

Koihō 古医方 "The School of Ancient Medicine": Introduction

Just about the time the school of Ryūchō was beginning to separate from Rishu medicine, another school of thought was just beginning to take form. Its proponents took issue with the abstract, theoretical, and speculative nature of seirisetsu in Rishu medicine. It was a reactionary movement to a degree, but from an historical point of view its contributions to the progress of medicine were more innovative and revolutionary than reactionary. This inconsistency only begins to reveal the deeper contradictions within this school; however, for the moment some introductory remarks and background information may be of some use.

Having introduced the movement known as Kogaku 古学 or the "School of Ancient Studies," the order of presentation might lead one to assume that a parallel movement in medicine originated from it. On the contrary, Koihō 古医方 was originally introduced into Japan by the medical community some ten years prior to Yamaga Sokō's and Itō Jinsai's divergence from Shushigaku. This movement was not peculiar to Japan. The impetus for its adoption came from China. From the middle of the Ming dynasty (1368-1644), opposition to the scholastic tradition emanating from the Chin (1126-1234) and Yuan (1280-1368)

dynasties had already begun to appear. The opening of the Ch'ing dynasty (1644-1912) witnessed the publication of two medical works that formed the catalyst for this change of view in medicine in Japan. The Shang Han Shang Lun 傷寒尚論[1] (sometimes referred to as Shang Lun P'ien 尚論篇[2]) and I Men Fa Lu 医門法律[3] by Yu Chia Yen 喩嘉言 (fl. ca. 1648)[4] were used by Nagoya Gen'i 名古屋玄医 (1628-1696) in Japan to form the basis of the Koihō movement.

Yu Chia Yen took issue with the interpolations made by Wang Shu Ho 王淑和 to the writings of Chang Chung Ching, and advocated a return to the use of the Shang Han Lun in its original form. This point of view formed the theme of a return to ancient medical ideas from which the school of Koihō took its name. It is also the source of much confusion concerning this school of medicine. Despite the implied meaning in the name of this school, certain members were responsible for marked departures from a resemblance to the medicine of the classical period and contributed to most of the innovation and vitality in medical thought during the Tokugawa period.

The reactionary nature of Koihō was not necessarily in the emphasis of an exact reproduction of doctrines of the ancient classics of Chinese medicine.

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[1] Shōkan Shōron in Japanese.

[2] Shōronhen in Japanese.

[3] Imon Hōritsu in Japanese.

[4] Yu Ka Gen in Japanese. He was also known as Yu Ch'ang 喩昌 or Yu Shō in Japanese.

Koihō arose as a reaction calling for a return to the medicine of the Nei Ching period, but the expression of this position took on modernistic interpretations suited to the needs of physicians of the Tokugawa period. The degree of sophistication already attained through over 1000 years of experience with Chinese medicine would not permit a simple replication.

The principal contribution characterizing this school is seen in the innovative ways classical medical doctrines and concepts were reinterpreted and juxtaposed to form new relationships. This mode of thought emphasized experience over theory, and the theory so detested was the seirisetsu of Chu Hsi as it was incorporated into the practice of medicine. In renouncing the complexity and relevance of seirisetsu, the preference was for simplicity of theory or doctrine. Theory per se was not objected to. The stress was simply placed on the practice of medicine based on empirically demonstrated effectiveness. However, the extremes of this perspective were also extant in the thought of Kagawa Shutoku, who advocated a complete rejection of all theory to the extent of denying the usefulness of the Nei Ching itself.

Nagoya Gen'i 名古屋玄医 (1628-1696)

Nagoya Gen'i was a Kyoto physician who originally had been trained during his youth in Eki-i by Hashū Sōjun 羽州宗純. His first exposure to this anti-Rishu movement from China occurred as the result of Yu Chia Yen's ideas in his 1648 publication of Shang Han Shang Lun. Gen'i was immediately convinced of its validity and began to advocate its tenets in Japan. Thus Gen'i came to follow the teachings of Chang Chung Ching and Tsao Yuan Fang 巢元方 (fl. ca. 610 A.D.).[1] Fang was an important physician of the seventh

century who took special interest in the cause and symptoms of diseases. Although his conceptualization of disease continued to stress the importance of symptoms, his close affinity to the tradition of Chang Chung Ching in recognizing symptom-complexes was an important contribution to Chinese medicine. He was said to have described some 1,072 cases of diseases in his work Chu Ping Yuan Hou Lun 諸病源候論, 610 A.D.[2] Among those described were, smallpox 天花, cholera 霍亂, tuberculosis (pulmonary consumption) 肺結核, intermittent fevers 瘧疾, dysentery 痢疾, dropsy 水腫, jaundice 黃疸, diabetes 糖尿病, strangury 淋病, leprosy 大風 or 天刑病, etc.[3]

Nagoya Gen'i's use of the syllogistic form of argument is easily recognizable in the following passage in his endeavor to popularize Koihō. In it, he attempts to prove logically that Chang Chung Ching represented the ultimate source of medical wisdom and truth. In doing so he also displays knowledge of the various medical theories prevalent during his period indicating him to be a well read physician. His method of disputation is a practical application of medical history. It should be noted that while he criticizes the medical theory of the Rishu and Ryuchō schools, the opposition to these schools is based on his recognition of the insufficiency of their system to meet the reality of medical practice.

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[1]Su Gempō in Japanese.

[2]Shobyō Genkōron in Japanese.

[3]Chan Yuen Ch'en, Chung Kuo I Hsueh Shih (Hong Kong: Chinese Medical Institute, 1969), pp. 60-61.

The argument that Chang Chung Ching represents the origin of medical practice is an interesting one. It probably derives from the fact that his work, the Shang Han Lun was one of the earliest medical works to provide specific methods of medical therapy including prescriptions for treatment rather than abstract theory. All previous works mainly dealt with medical theory and some intimation of therapeutics but nothing as concrete as the Shang Han Lun.

> If you go back to the origin of medicine, from the time of Hsien Ch'i 軒岐[1] there have been many schools [of medical thought]. During the Han dynasty [206 B.C.-220 A.D.], Chang Chung Ching, 張仲景 began a method and his words were such that if a person was not intelligent, it was difficult to understand. After that, Tsao Yuan Fang 巢元方 of the Sui [581 A.D.-618A.D.] dynasty [appeared and taught that] all disease arose as the result of the weakness of chen yang 眞陽.[2] The cold evil 寒邪 causes harm to it so one should eliminate the coldness and build up the functional energy 精気. Therefore Yuan Fang of the Sui dynasty mainly used [the method of administering warmth and heat].
>
> During the Yuan period [1280-1368], Liu Shou Chen 劉守眞 [appeared and taught that if the body] lacks water, then fire starts and all [abnormal] changes will begin. One should help the symptoms of hsien shui 賢水[3] and control the fire; therefore, those who follow Ho Chien 河澗[4] mainly went to the cooling method.
>
> Those who followed Li Ming Chih 李明之 established the theory of supplementing the spleen 補脾 and respected the moderate way 平和.

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[1] Kengi in Japanese. He was known in the Su Wen as Ch'i Pai 岐伯, the person with whom Huang Ti converses.

[2] Chen yang is pure yang, the great yang, or the yang within yang.

[3] Jinsui in Japanese. The symptoms generally associated with a sick person such as bloated stomach area, swollen naval area, anuria, cold feet, drawn face. See Nishiyama, s.v. jinsui.

[4] Kakan in Japanese. It refers to Liu Shou Chen since he was from Ho Chien.

> Those who thought that Chu Yen Hsiu 朱彦脩 was correct treated mucous [diseases] mainly by calming the ch'i 順気.
>
> Those who use a cooling method are not [of the same school as] Tsao Yuan Fang. Those who use [the method of administering] warmth and heat, are not [of the same school as] Ho Chien. Those who use the method of calming the ch'i are not like Li Tung Yuan. Those who are moderate are not like Chu Tan Ch'i. Therefore, because I have been able to gather their works together completely, I am thus prepared for any contingency whenever the occasion arises.
>
> How can it be that each of the four physicians claims that he is the true Huang Ti? There was only one true Huang Ti, thus they must be frauds. If you group yourself with these pretentious physicians and attempt to practice medicine, you will surely kill your patients. This will quickly dispell any doubts you may have about their deception.
>
> The basis or origin 本 of disease is like the one original ch'i of heaven and earth, and from this stem the ten thousand variations. Diseases are like the ten thousand things. The four physicians are like the ten thousand variations. Chang Chung Ching is the basis or origin, and the four physicians should know or understand their origin.[1,2]

The following passage illustrates the dynamic nature of Nagoya Gen'i's approach to medicine. It is the kind of thinking that is characteristic of the Koihō as a whole. Gen'i argues that disease is an ever changing dynamic entity and that no single form of therapy will suffice to meet the necessities of therapeutics. He uses this point of view to drive home the point that Rishu medicine does not provide flexibility necessary for meeting the demands of medical practice.

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[1]Fujikawa, 1944, p. 297.

[2]Note that Nagoya Gen'i uses the alternate names of the four physicians in this passage indiscriminately. The alternate names of these four individuals are given in Chapter III.

> Present day physicians follow Li Ming Chih and Chu Yen Hsiu, and their medical prescriptions do not deviate from [the use of drugs like] tsan 参 and shu 朮.[1] These physicians considered it to be the way of the Emperor[2] and believed him to be the origin. But disease is a derivative of change[3] and those who use just these drugs are not able to cure effectively. If you use these drugs [according to the Rishu school] you also will not be able to obtain [efficacy], [and be ignorant of the dynamic nature of the disease process], and will only be able to helplessly watch as your patients die.[4]

Despite the fact that he criticizes the method of each physician individually, he does not take issue with the broad application of the combination of all four methods. In the first passage, he states his ability to deal with any medical emergency based on the teachings of the four physicians. Yet, this point of view is a marked contrast to what he provides as his own method of practice. The initial response one concludes about Nagoya Gen'i's own medical theory is that he is a victim of the very same pitfalls that he criticizes. Despite his basic argument that a broad and flexible approach be used to practice medicine, it appears that he simply repeats the same errors of his predecessors. To some extent this is true. He is principally an advocate of the type of medicine advanced by Chang Chung Ching. The Shang Han Lun was an important text to the doctrinal formation of the Rishu school and thus common to both schools. Although it appears that he loses sight of the doctrinal flexibility that he

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[1] These two characters are abbreviations for two broad classes of drugs which are both hot and warm in character.

[2] "Emperor" here refers to Huang Ti, the Yellow Emperor.

[3] Here Nagoya implies the idea that disease is a dynamic process and is not a static entity.

[4] Fujikawa, 1944, p. 297.

stresses in the passage previously quoted, the important difference in his medical thought is that the emphasis of his methodological approach to therapeutics is empirical rather than theoretical. The rejection of seirisetsu is the important feature of his theoretical outlook.

Gen'i used the Chu Ping Yuan Hou Lun or Shobyō Genkōron as it was known in Japan, as a model to form his own medical ideas. He mainly stressed the exogenous origins of disease drawing attention to intrusions of wind, cold, and dampness. He particularly emphasized the dangerous effects of cold as the most harmful to man. The influence of Chang Chung Ching are quite evident in this line of thinking. Cold principally affected the wei ch'i 衛気[1] by weakening its influence in health maintenance. He therefore advised the use of drugs that were characterized as warm or heat generating to help the wei ch'i 衛気.[2] This approach was very similar to the ideas and principal forms of therapy advocated by Tsao Yuan Fang whom he criticized. These ideas were summarized in his publication Ihōmonyo 医方問方, 1679.

Another important contribution to the Koihō that Nagoya Gen'i made was the emphasis on symptomatic criteria for the administration of medical prescriptions. This single trait consistently distinguishes the Koihō despite other resemblances to Rishu medicine. Theoretical considerations based on seirisetsu were excluded in an attempt to avoid imaginative and subjective parameters. In the last analysis, his practice of medicine did not deviate drastically from the very same ideas that he criticized. However, this appraisal does not do justice

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[1] See Appendix 3.

[2] Fujikawa, 1944, p. 298.

to the positive mode of thought that he initiated. A mode that proved extremely fruitful in bringing about the development of a school of medicine that contributed immensely to conceptual changes in Japanese medicine.

Gotō Gonzan 後藤艮山 (1659-1733)

Although Nagoya Gen'i was an extremely prolific writer and a very popular teacher, it was really Gotō Gonzan who popularized Koihō. Gonzan was exceptionally bright as a child. His education was based on the Confucian classics and he studied medical treatment out of personal interest in his spare time from Makimura Bokufu 牧村卜壽 (fl. ca. 1679). As a young man, he had applied to study under Nagoya Gen'i but was rejected because of an insufficient sum of money presented as an act of obeisance. Determined more than ever to become a physician, Gonzan embarked on a diligent plan to study medicine on his own. He used mainly the Nei Ching and Shang Han Lun[1] and in time, he began to practice among the poor. His concern and compassion for his patients brought him considerable fame among the people of Kyoto and he soon became well known throughout Japan.

Gonzan's medical thought was a contrast to the complexity of Rishu medical theory. Every where in Gonzan's medical practice, he tended to simplify and rely heavily on his own clinical experience. Although not adverse to using drugs, Gonzan's clinical practice indicated that he preferred other methods.

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[1] Meijizen Vol. 3, p. 51.

He was often accused of being a moxibustionist for his advocation and rigorous use of mogusa[1] moxibustion. During this period of the Tokugawa era, Gonzan was the main proponent of moxibustion. He maintained that it was effective in restoring movement and activity in the taiyō meridian 太陽, thus countering the harm of various forms of coldness 沉寒涸冷.[2] In the case of stomach cramps, he maintained that it restored motility in the meridians, and a redistribution of warmth throughout the body.[3] Gonzan's use of particularly large amounts of mogusa compared to physicians in the past, characterized his use of this method. He prescribed the use of mogusa in amounts the size of mouse droppings or the size of barley grains.[4]

Gonzan also liked to prescribe the use of bear's bile. This form of treatment was never really popular. It was only as the result of Gonzan's emphasis that it gained popularity during this period. He theorized that in times of social and political upheaval, the ch'i of man's body was in a state of constant activity and there was little likelihood of the ch'i of man's bile becoming sluggish. However, in periods of dynastic peace, the ch'i in man became torpid and prone to stagnation leading to the stagnation of his liver bile ch'i. In these situations, he advocated the use of bear's bile to stimulate and clear any extant

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[1]Better known as Artemesia vulgaris, the principal plant material used in moxibustion.

[2]Meijizen, Vol. 3, p. 356.

[3]Ibid., Vol. 3, p. 355.

[4]Ibid.

obstructions of man's bile ch'i.[1] He also prescribed bear's bile in cases of stroke and sudden illnesses. Ordinarily he compounded it in the form of a pill and dispense it under the name Kumamorigan 熊膽丸. This prescription is still popular in the rural areas of Japan.

In addition to his propensity to prescribe the bile of bears, he also favored the medicinal use of hot mineral baths afforded by the many hot springs found in Japan. He maintained that the effects of these baths would revive the motility in the energy flow in the meridians, restore motility of the blood, and in general aid in the recovery of chronic illnesses. As the result of his use of these three methods of therapy, he was often called Yukumakyūan 湯熊灸庵 (literally meaning "one who uses hot springs, bear bile, and moxibustion").

Red peppers or togarashi 蕃椒 was also a favorite prescription in his materia medica. He prescribed it to relax stomach cramps, to aid appetite, restore blood motility in cases of sluggishness, and restore energy flow in cases of general lethargy and torpidity.

Gonzan viewed drugs essentially as poisons. He undoubtedly derived this view from the logical inference that since drugs were given to dispell pathogenetic intrusions from the body, they must exhibit toxicity of some sort. In certain cases, he felt that food was a better curative therapy than was the administration of drugs.

> Medicine is a poison. It is [generally] acknowledged that it is something administered when you are harmed by the intrusions of a pathogenetic element 邪. When the principal complaint is emptiness where the skin

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[1] Ibid., Vol. 3, p. 51.

> and blood passages are dried up and weakened, how can you give poisonous herbs to improve the situation. However, all the physicians since the Sung Dynasty do not understand this reasoning and so they say to supplement the deficiency [using drugs]. To only administer drugs to those people who are [emaciated from want] and prohibit them from nature's bounty of meat and delicious foods because they were [considered] too strong is extremely unfortunate, for you only have one life to live not a hundred. Therefore, those who are [emaciated from want and lacking energy] should be allowed to eat meat from which can [life restoring energy] be derived. Contemporary physicians on the contrary, think that this is wrong. How wrong they are! [Their error] is because they practice the medicine of the Kōsei school simply so that they could gain monetary profit from it. For this reason they adorned their ideas with empty sentences and superficial theories. They simply administered drugs and were ignorant of their crime of [not paying attention to the] suffering and loss of life. This tendency is extremely strong among contemporary physicians in Japan.[1]

This passage not only expresses Gonzan's ideas on therapeutics but forms a strong diatribe against what he considered was a major abuse practiced by the Rishu school. This emphasis on the importance of proper nutrition explains his admonitions concerning the importance of knowing the teachings of Shen Nung 神農.[2] Thus Gonzan cautions:

> Those who desire to study medicine should investigate the beginnings of medicine from the [earliest Chinese] emperors to Shen Nung who took rice and vegetables and meat and knew that in these [foods] existed nourishment and the essence [that could supply energy to the people].
>
> In order to attack illnesses, food is primary and the taking of drugs secondary. Practice [medicine as found in the] Su Wen, Ling Shu, and Nan Ching and abandon empty theories and miscellaneous explanations.[3]

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[1]Fujikawa, 1944, p. 345.

[2]Shinnō in Japanese. Literally, his name translates "the deity of agriculture," although he was also considered one of the three founders of Chinese medicine. Shen Nung was a mythical figure, said to have lived during the fourth millenium B.C. Chen Chan Yuen puts forth the date 3494 B.C. See Chen, p. 18-19.

[3]Ibid.

Gonzan's therapy was a function of the symptomatic manifestations of an etiological concept of disease based on stagnation within the body. This idea was not new to Japanese medicine. Both Manase Dōsan and Nagata Tokuhon also conceived of a pathogenetic process involving stagnation. Dōsan viewed stagnation as the chronic state of a disease; whereas, Tokuhon viewed stagnation as the etiological process of disease but limited its effect primarily to the gastrointestinal tract. Gonzan's etiological concept of disease was significantly different from both of his predecessors. Known as ikki ryūtairon 一気留滞論 (literally meaning "the theory of the stagnation of one ch'i"), Gonzan maintained by his theory that all disease was the result of the stagnation of the one ch'i. The major innovation in his theory came from his reintroduction of a definition for his "one ch'i" that had originated in the Han dynasty with Wang Ch'ung 王充 (27 A.D.-97 A.D.). In his work Lun Heng 論衡 , Wang Ch'ung rejected the attempts to explain existence in terms of the classical animistic approach of his predecessors.[1] Instead, he explained existence on the basis of yuan ch'i 元気 (genki in Japanese) that functioned as the primary ontological principle. Gonzan used this interpretation of genki 元気 to explain his notion of "one ch'i."

He identified this ch'i as the universal ch'i found in man as well as in all things. He considered it to be the structural unit of existence as well as the essence of life, growth, and all change. This definition of genki is much broader than that commonly found in Chinese philosophy. Porkert's definition of

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[1]Nakayama and Sivin, p. 80-81.

identifying it as "undifferentiated structure potential"[1] is just a part of Gonzan's interpretation. Gonzan's conceptualization has incorporated the concept of li into genki 元気 . Thus, genki is much more comprehensive than the Rishu concept of ch'i. Gonzan has thus greatly modified past theories and in the process has simplified the complex system of cosmological influences on man and his health.

> The entire body of man, superior and inferior, front and back, left and right, external and internal is filled with this ch'i.
>
> Ch'i gives rise to everything in the universe. It makes it grow, changes it, and exists in it. The thing that fills our empty spaces is a kind of ch'i of this one ch'i. It pervades the entire body and is the genki 元気 .
>
> The four limbs and one hundred bones of the body will not move without this ch'i. That is, yin-yang, water and fire, ch'i and blood, yung and wei 榮衛 all these together constitute the one genki 元気 .[2]

In much the same way past physicians recognized the pathogenetic characteristics of certain natural phenomena, Gonzan also identified particular elements that induced stagnation. He relates:

> When illness arises, and is caused by wind and cold, it causes the ch'i to stagnate. If it is caused by food, the ch'i will stagnate. If it is caused by the seven feelings 七情, the ch'i will stagnate. These are all caused by the stagnation of the one ch'i. Therefore that which sustains [life] in man is varied and different, [the cause of illness] is the stagnation of genki 元気 . Thus if the stagnation should occur in the meridians or in the skin, the results enter the abdomen.[3]

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[1] Porkert, p. 173.

[2] Fujikawa, 1944, p. 345.

[3] Ibid., p. 346.

The influence of Chang Chung Ching can be seen in Gonzan's emphasis of the exogenous elements of wind and cold as primary pathogenetic factors in inducing disease via the effects of stagnation. This relationship is fairly clear in the last passage. Because they were primarily interested in therapeutics and rejected the seirisetsu of Rishu medicine, both Nagoya Gen'i and Gotō Gonzan's ideas tend to be rather broad and general.

Gonzan's son, Gotō Chin'an 後藤椿庵 (1696-1738) succeeded his father as head of the Gotō school and was responsible for further expansion to the theory of this school's basis for practice. He elaborated on the condition of the diseased state in terms of the location of the stagnation. Chin'an established correlations between certain symptoms and the supposed location of the stagnation. The presence or absence of fever was a primary symptomatic criterion, but it took on additional meaning in juxtaposition with other symptoms like, location and nature of pain; condition of the urine; mental state; presence or absence of sweating, chills, stiffness in the various body parts; vomiting; condition of the tongue; and other symptomatic considerations.

In this respect, the method of diagnostic examination formed an important element to the practice of medicine in the Gotō school, consequently important contributions to medicine were made in this area. Pulse diagnosis had been the main method of diagnosis in the Chinese system of medicine. Together with the neglected techniques of general visual inspection, questioning, and listening, these methods were known as the four methods of diagnosis and had been known since ancient times. The Gotō school was responsible for a revival in the usage of the four methods as well as introducing manual inspection of the stomach area, back, hands and feet. The use of smell was also stressed by the Gotō school.

Quite early in his career, Gotō Gonzan expressed strong opposition to the custom of physicians of that period respecting the traditional mandate to don the robe of a Buddhist priest and to shave one's head. When this custom was initiated is not known for certain but there is record of its practice as early as 1433.[1] During the Muromachi period 室町 (1392-1568) it was common for Buddhist priests to have practiced medicine. Undoubtedly the practice originated out of this tradition, but when lay practitioners began to practice this custom is uncertain. In Yamato Kotohajime 大和事如 , 1617, by Kaibara Koko 貝原好古 is a reference to the Wake family geneology 和気系図 indicating that Wake no Masatada 和気雅忠 became a physician by shaving his head.[2] This appears to be one of the earliest such instances but is by no means definitive evidence of its first appearance. Gotō Gonzan advocated a rejection of these standards and asserted that physicians of the Koihō should hence wear normal clothes and wear hair as they so chose. Thus as the Gotō school of Koihō grew in popularity, evidence of that popularity also grew in the number of physicians who wore hair and dressed in normal clothes.

Gonzan's popularity was propagated by his students who numbered somewhere around 200.[3] Among these were some individuals who made significant contributions to the progress of medicine. Yamawaki Tōyō, of whom

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[1]Ibid., p. 341.

[2]Ibid.

[3]Ibid., p. 343.

much has already been said was one, Kagawa Shūtoku 香川修徳 (1683-1755) was another.

Kagawa Shūtoku 香川修徳 (1683-1755)

The break with Rishu medicine was in full bloom at the opening of the eighteenth century, but the basis of Koihō medicine was still fundamentally sinological. Using the basic concepts of Chinese medicine, Japanese physicians were consciously manipulating these ideas into distinct models that expressed individuality and marked departures from the Chinese models from which they took origin. The greatest of these peregrinations into the realm of innovation came with the doctrines set down by Kagawa Shūtoku.[1] He voiced a strong rejection of the medical doctrines of the Su Wen and Ling Shu which made up the Nei Ching. This view was nothing short of revolutionary. The fact that his school attracted such a strong following gives us an indication of the strength of innovative thinking and the diversification in intellectual loyalties occurring about the turn of the century. Instead of cementing loyalties to the ancient methods of Chinese medicine, a contrary movement was afoot in the Kagawa school of Koihō.

Like Gonzan, Kagawa Shūtoku demonstrated extraordinary intellectual talent as a youth. At the age of 18, he went to Kyoto to study under Gotō Gonzan. Gonzan set him on a course of study that sent Shūtoku to Itō Jinsai for

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[1]He was also known as Shūan 修庵 .

five years of study. Shūtoku then commenced his study of medicine. This combination of study produced a profound effect on the medical doctrines of Shūtoku. In rejecting the very foundations of Chinese medicne, he turned to the Confucian teachings of Itō Jinsai. This is in itself an interesting departure since Jinsai was opposed to the idea that the study of medicine was consistent with the Kogaku type of Confucianism that he taught. But Kagawa Shūtoku was not alone in this combination of study, for Gotō Gonzan himself was at one time a student of Itō Jinsai before entering the medical profession. Namikawa Temmin 並河天民 (1679-1718), another student of Itō Jinsai who turned to medicine, gives us a rather practical explanation for this combination of professions despite Jinsai's opposition.

> Confucian scholars of today are not quite able to make a living being just Confucian scholars. So attempt to make a living by being a physician at the same time. This does not go against the Confucian way. Furthermore, if you attempt to be only a Confucian scholar, you can not make a living. In the end you will not be able to complete what you want to do.[1]

In an attempt to ameliorate this conflict in the differing points of view, Kagawa Shūtoku established a theory that maintained that the study of medicine and Confucianism are the same thing. He called his idea Ju'i Ipponron 儒醫一本論 .

> The way of the sages and medicine are one and the same thing and are not two different things.[2]

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[1]Ibid., p. 349-350.

[2]Ibid., p. 350.

There may have been an additional motive for Shūtoku to take this posture. The practice of medicine was not accorded a high regard about this period and physicians were considered socially lower than the artisans in Tokugawa social structure.[1] The orthodox social structure was maintained with the farmers at the top, then, samurai, next the artisans, and at the bottom the merchants. Shūtoku may have been attempting to raise the social status of physicians by identifying them with the Confucian scholars.

Shūtoku's approach to medicine was the essence of empiricism during this period. Having rejected the Su Wen, Ling Shu, and Nan Ching as erroneous in its theoretical approach, the Shang Han Lun was all that remained as the last bastion of Chinese medicine whose main theme was clinical medicine. However, Shūtoku even expressed doubt over the reliability of even this venerable book of clinical practice stating that it was based on the theories of the Nei Ching. Having categorically rejected what amounted to the foundations of Chinese medicine, Shūtoku took the ultimate step backwards stating that one should start at the essence of medicine by basing the practice of medicine with only those prescriptions and cures that have been empirically demonstrated to one's own satisfaction.

> The daily care of one's health, the treatment of [disease] and in addition [moral cultivation] are all found in the Analects of Confucius and in Mensius. One can imagine all four corners based on one corner. A righteous man looking at these [words] would call it right. A scholar looking at it would call it knowledge. If, for example, Confucius and Mensius were physicians, they would not follow the wrong ideas in the theories of the Su Wen and Ling Shu . . . Thus without the Su Wen and Ling Shu, is it possible to practice medicine? Yes, it is. This is the most

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[1] Ibid., p. 351.

> important principle. If you have this one main principle and then read other good books like the herbals, and investigate medicines and their effects by selecting and investigating yourself [specific cures and drugs], then you can go to the medical classics and take only that which is correct. Look at the old books and take only the correct portions.[1]

In marked contrast, Kagawa Shutoku appears as an anomaly to his mentor Gotō Gonzan and to the Koihō movement as a whole. His emphasis of empirical observation to the exclusion of the Nei Ching, Nan Ching, and Shang Han Lun is by far the most extreme point of view in medicine. This perspective was mellowed by his willingness to acknowledge those teachings in the classics that were consistent with empirical facts. Yet despite the revolutionary posture of Shūtoku, he attracted some four hundred students who were responsible for laying the groundwork that would catapult the Koihō into the position of representing the mainstream of medicine after 1750.[2]

The appearance of Kagawa Shūtoku raises some questions regarding the nature of the Koihō movement. The historical qualifying elements of the Koihō school was the emphasis for a return to the teachings of the medical classics of the Chou and Han dynasties. Shūtoku, on the other hand, accepted as the first principles of his school, skepticism and mistrust of these early teachings. This attitude was the result of his emphasis on the practicality and applicability of medicine. He felt that the theoretical complexity that characterized the medical tradition emanating from the post-Sung period was more concerned with theoretical harmony than the practice of medicine. In taking this posture, he

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[1]Ibid., p. 350-351.

[2]Sugimoto and Swain, p. 283.

went further than any previous physician in calling into question the abstract theories used to explain the practice of medicine. In much the same tradition as Sydenham, all that was claimed to be important was the clinical practice of medicine. Yet Shūtoku's position did not all together reject the medical classics so long held in reverence by all physicians both in China and Japan. He felt that a student first learning medicine should not use these classical writings as a foundation to medical knowledge. The essential point made by Shūtoku was that the first principles of medical practice should come from actual experience rather than from some theoretical instruction book. Thus he conceded that once a physician had been able to benefit from his own experience, it was permissible for him to read the classics and take what coincided with actual experience. He felt that that point could not be reached until the physician had actually established some norms for practice based on actual observational experience.

Although Shūtoku ostensibly appears anomalous to the other members of the Koihō, in fact, he merely followed the line of thought that had given impetus to the Koihō to the logical conclusion. That was the objection to the theoretical interpolations of the post-Sung physicians. Thus, the essence of the Koihō movement was much more complex than the simple characterization of this school's emphasis on a return to the medical classics of the pre-Sung period. This may have been recommended as a responsible method, but the response originated from other considerations principal among which was the concern for a medical practice suited to the actualities of pain and sickness, and supportive of recovery. To simply state that the Koihō movement expressed a return to the classics would make this point of view not too dissimilar from the practitioners of the Rishu school. After all the origins of Rishu medicine are based on the very same classics that the Koihō extolled.

Ishihara Akira draws attention to another aspect of this characterization by pointing out that the Koihō was in essence a mandate for a return to the methods of the medical sages of the Han and pre-Han periods. This point of view draws attention to a very important and often neglected historical fact of Chinese medicine. The Nei Ching and pre-Nei Ching periods represented an age when theory was less of a consideration of practice than was the emphasis on the observational powers of medical practitioners. Human anatomy and other extremely empirical activities were being carried on during this era. The portent of the close of this period is represented by the composition of the Nei Ching itself in which an attempt was made to circumscribe all of the observational data into a theoretical framework. It was reviewed in spirit by Chang Chung Ching in the Shang Han Lun but thereafter became subordinated to a deductive process. Thus, in Koihō are the beginnings of a genuine reemphasis on the value of observational data based on its own possible utilitarian merits. The independent value of a fact and its recognition are the foundations of an experimental perspective, and although this trend can not really be identified until Yamawaki Tōyō and Sugita Gempaku, at least this elemental beginning can be identified in the Koihō tradition quite early.

The theoretical interface between Koihō and Kogaku tended to reinforce the importance of empiricism and an emphasis on the significance of knowledge revealed by direct observation. This recognition was not the sole property of Koihō as we saw in the case of Rishu medicine and its association with Chu Hsi doctrines about the beginning of the eighteenth century. Kaibara Ekken was actively engaged in his work in medical botany indicating that parallel changes were occurring at least among certain members of Shushigaku as well.

Yoshimasu Tōdō 吉益東洞 (1702-1773)

Yoshimasu Tōdō was known as one of the four great physicians of the Koihō along with Gotō Gonzan, Kagawa Shūtoku, and Yamawaki Tōyō. However, his medical doctrines were distinctively individualistic and serves to indicate the marked variance in the medical theory of all four of these physicians. Tōdō believed in a single source as the cause or pathogenetic agent in disease phenomena--a theory that he termed manbyō ichidokuron 萬病一毒論.

> All diseases come from one poison 一毒, while all medicines retain the toxicity of poisons. Thus, in medical practice, one attacks [disease causing] poisons with poisons. By eliminating the [disease inducing] poisons from the body, the body will recover [normal health].[1]

Yoshimasu Tōdō began the study of medicine at the age of nineteen under Tsu Yūjun 津枯順 (fl. ca. 1721) from whom he learned techniques in the practice of kinsōi as well as traditional internal medicine. He concluded early in his career that the highly theoretically supported practice of Rishu medicine was not the correct method of medicine and vigorously stressed an empirical and highly pragmatic approach to medical practice. After years struggling to maintain a source of living and literally living in poverty, his medical practice was suddenly helped as the result of an introduction to Yamawaki Tōyō. Tōyō, who was a well known and respected physician of this period took a liking to Yoshimasu Tōdō and recommended him to all he knew. Thus at about the age of 45, Tōdō suddenly found his medical practice consuming all of his time. Success came quickly as did the number of students seeking his teaching. In a

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[1]Fujikawa, 1944, p. 353.

short period of time, Yoshimasu Tōdō and his students published a large number of books that greatly propagated and disseminated his teachings. Among the most widely known was Idan 医断,[1] 1759, that was written by his student Tsuruoki Gen'itsu 鶴沖元逸 (ca. 1759). This work contained an exposition of Tōdō's theory of pathology. It caused an enormous controversy within the medical community, even causing adverse reactions among his own colleagues within the Koihō itself. In 1762, Hata Kōzan 畑黄山 (1721-1804), another Koihōphysician, responded with the publication of Seki Idan 戒医断 in which he vehemently criticized Yoshimasu Tōdō's views in Idan.

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[1]Many bibliographies and authoritative secondary source materials attribute this work to either Tsuru Gen'itsu or Yoshimasu Tōdō. The work itself is written in kambun and bears some relevance to some of the anomalies in the identification of the author. According to the Preface, Tsuru Gen'itsu was a student of Yoshimasu Tōdō. Gen'itsu wrote the manuscript for Idan in close association with Tōdō. However, Gen'itsu died before the work could be published, thus Tōdō went ahead and had it published. Although Gen'itsu is cited as the author in the work itself, one will see the work listed under the authorship of Tōdō from time to time in some secondary sources and bibliographies.

The discrepancies in the proper spelling of Gen'itsu's surname is not as easy to determine. The first page of text gives the name Tsuruoki Gen'itsu 鶴沖玄逸 as the author. But there is another interpretation to the sequence of characters. In the Chinese fashion, the character 沖 may be read as a given name in the order given. Whether the surname is read as Tsuru 鶴 or Tsuruoki 鶴沖, both are rather unusual names, as is the name Oki if interpreted as a given name. It is common for Chinese surnames to be a single character, and many Japanese scholars of the Tokugawa period emulated this phenomenon by substituting a single character of their surname. In the Preface and Postscript, Gen'itsu's name is given as simply Tsuru 鶴 or Tsuru'shi 鶴子 (the shi 子 is a designation of respect). But because of the general style of the work in the Chinese tradition of printing and writing, it is uncertain what this author's real surname was. In addition to textual citations to this author, there is a publication announcement by the printer, Hayashi Sōbei, at the end of the book announcing recent publications from his publishing house. Idan is listed citing Tsuru Gen'itsu as the author. These are some of the considerations one must keep in mind when searching this particular work. I have chosen to cite Idan under the authorship of Tsuruoki in my bibliography following the example of Kokusho Sōmokuroku.

In 1764, Tōdō published Ruijūhō 類聚方 , a work that contained his recommendations on the use of drugs. In it he identified 220 prescriptions from the Shang Han Lun and Chin Kuei Yao Lueh 金匱要略 by Chang Chung Ching that he maintained demonstrated usefulness based on empirical observations. Ruijūho was an extremely popular work that was reprinted many times after its original printing.

Although Tōdō caused the medical community to sit up and take notice of his school of thought, his ideas are not radically heteroclite as is often described. Many of the basic elements of his thought can be found occurring historically in his predecessors. His idea that all medicines are poisons comes directly from Gotō Gonzan. In fact, Gonzan appears to have provided Tōdō with many conceptual ideas that were incorporated into Tōdō's thinking. Despite Tōdō's strong opposition to considerations of theoretical import concerning the origins of disease, he reluctantly expressed his opinion when pressed:

> All diseases are caused by one poison 一毒 . How that poison arises we do not know. Further we do not know what causes it to move [thus causing disease]. Simply look at where the poison exists and treat; do not [waste your time and] discuss the etiology of the disease. If you do discuss the etiology of disease, you are straying from the reality of disease and merely discussing supposition. However, if you must and dare discuss it, there are two causes of disease. The exogenous intrusions, and eating and drinking are these two causes. When food and drink enter through the mouth and then stagnates [within the body], it then becomes poison [doku, 毒] and all disease arises from this, thus causing the various symptoms to appear.[1]

In explaining the formation of doku or poison in terms of stagnation, Tōdō draws on the central idea of Gonzan's theory of disease. Whereas Gonzan

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[1]Fujikawa, 1944, p. 356.

had held that "all diseases arose from the stagnation of one ch'i," Tōdō maintained that although the origin of the "one poison arose from stagnation, it was the stimulation or aggravation of this poison that caused disease.

> Stagnation causes [the formation of] poison. Poison is caused by the unclear ch'i of food. When the poison moves, the 10,000 illnesses begin. If you do not have poison, then you will not feel the harmful effects of exogenous influences. Therefore although everyone is blown upon by the same wind, there are some who are harmed and some who are not affected. Even if you eat the same thing, some will be harmed by the food and some will not. Thus, not all people are harmed alike. When the body feels the ch'i of the heaven, the poison within the abdomen 腹中 moves and then [one becomes ill].[1]

It thus appears that Tōdō has elaborated Gonzan's theory of pathology calling what Gonzan identifies as ikki 一気, doku 毒 or "poison," and transformed it into a theory that accounts for the observed selectivity of disease in affecting some individuals and not others. He attempts to explain this propensity in some by the presence of doku that makes one susceptible to disease when aggravated by adverse environmental influences. Tōdō does not reject the ideas of yin-yang and the five elements. He does deny their validity in medical practice.

> Yin and yang are the ch'i of Heaven and earth; they do not belong to the realm of medicine.[2]

His emphasis was instead on the value of experience. He greatly praised the ancient sages for their wisdom that they gained from experience.

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[1] Ibid., p. 355.

[2] Nakayama, 1977, p. 76.

> The Sages first [gained from experience] and then later [attempted to explain their observations]. Therefore their wisdom can be trusted. However, after the Han dynasty and later, Confucian scholars all differed among themselves and freely attempted to reinterpret the Sages without previous experience. These works contain empty words .... The way of the Sages is hidden in these writings ... what they practiced and their experiential method is missing.[1]

Using another line of reasoning, Tōdō further attempted to argue in favor of an empirical standard, in contrast to the theoretical considerations of yin-yang and the five elements ideas of seirisetsu, for the practice of medicine. In doing so, Tōdō reemphasized another other important aspect in the changing concepts of disease. Some 200 years earlier, Manase Dōsan had used Yu T'uan's distinction between the cause or etiology of disease and symptoms in formulating his basis of treatment on etiology. He also advocated a nosological identification of diseases based on symptoms. Later Tokuhon used this model of disease in delineating his conception of disease based on utsu, but followed symptomatic criteria when formulating and prescribing a regimen of therapy. Tōdō's disease concept closely followed that of Tokuhon's. He identified an etiological process, but unlike Tokuhon, Tōdō isolated a pathogenetic agent which he termed doku. The location of this doku caused the variation in disease manifestations. Tōdō used these symptoms as criteria for his medical treatment. The following is an interesting passage of Tōdō's for in it he says, "...disease have defined symptoms..."疾有定證. Out of context, he appears to be addressing a nosological issue but in fact he is merely arguing against the intrusions of

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[1]Fujikawa, 1944, p. 357.

seirisetsu into medical thought. What he means is that disease should not be viewed as some theoretical entity based on seirisetsu. Disease is a physical reality and that reality is what should be the center of interest to the physician in his practice of medicine.

> Li 理 does not have a defined fixed standard. Diseases have defined symptoms. Why should one use li 理 which does not have any standard [of activity or measurement] and [attempt to measure] disease that is characterized by standard symptoms. Therefore, the theory of our school is to discuss things that exist and not disucss nonextant or intangible matters.[1]

Related to this theme of the proper focus of medicine, Tōdō makes a very interesting statement.

> Life and death are not the concern of medicine; the cure of disease is the proper focus of medicine.[2]

According to Fujikawa,[3] Tōdō felt that the phenomena of life and death were a function Heaven--aspects of existence that were beyond the control of medicine. The cure of disease and the avoidance of death resulting from illness was the task of medicine. Nakayama provides an interesting interpretation to this short passage.[4] Like Nagata Tokuhon, Tōdō used simplified prescriptions consisting of one, two, or three ingredients that tended to be strong in action. Tōdō believed that in order for a drug compound to be effective in treatment

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[1]Fujikawa, 1944, p. 357.

[2]Ibid., p. 356.

[3]Ibid.

[4]Nakayama, 1977, pp. 89-90.

it must first cause a worsening of the condition of the patient before recovery could be achieved--an idea that resembled the Hippocratic explanation of a "crisis." Tōdō termed this drug induced "crisis" meigen 眩眩. In consideration of such statements as:

> [The school of Yoshimasu Tōdō] used such strong aggressive methods frequently making the patient vomit and have diarrhea. It is very rare that people do not die from this method of therapy,[1]

this statement of Mochizuki San'ei appears to confirm Nakayama's conclusions that many patients did not survive the meigen and that Tōdō's statement concerning life and death was an excuse for the number of iatrogenically induced deaths.

Despite the possibility raised by Nakayama, the idea of Yoshimasu Tōdō that "all diseases were the result of one poison" became the dominant medical theory of the period, eventually surpassing the popularity of Gonzan's school based on the idea of the stagnation of one ch'i. Rishu medicine also fell into decline about this period during the Hōreki era 寶曆 (1751-1763) as the onslaught of the various schools of the Koihō took its toll.

The popularity of Todo's school was indication of the success of his teaching activities, as well as the many excellent students who went on to teach themselves. Publications poured out of the manbyō ichidokuron school disseminating his teachings widely. Tōdō died at the age of 71 in 1773, but his many students carried on the teachings of his school.

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[1]This quote is attributed to Mochizuki San'ei 望月三英 (1697-1769), an early proponent of the school of eclecticism or Setchūha 折衷派. See Fujikawa, 1944, p. 361.

Tōdō's eldest son, Yoshimasu Nangai 吉益南涯 (1750-1813) succeeded his father and proceeded to continue in his father's place. Nangai expressed his own concern for his father's medical thought by attempting to fill in theoretical aspects of his father's teachings thereby increasing the doctrinal justifications for the method of medical practice based on manbyō ichidokuron. It was not very long before he became a successful physician in his own right. Like his father, Nangai continued to stress the doctrines of Chang Chung Ching, but he spoke of them in terms of a theory that has come to be known as ki (ch'i), ketsu, sui no ron 気血水の論 or the "theory of ch'i, blood, and water." By it, he attempted to explain how the "doku" of Yoshimasu Tōdō assumed symptomatic manifestation.

> There are three things 三物 known as ch'i, blood, and water. When the poison infiltrates these, symptomatic manifestations of disease arise.
>
> Drugs are all poisons. Using these poisons, attack the [disease causing] poison. This is the essential way of medicine. When the yin and yang of the body are in harmony, it is like spring. If one or the other should exhibit an excess, then this situation leads to disease which in turn causes harm to the well-being of the body. This is the so-called poison. Poison does not have shape. It exhibits its manifestation in the substrate that it affects. You can see in the condition of the illness [that is, in the symptoms] that when it affects the ch'i, the ch'i changes. When it affects the blood, the blood changes. When it affects the water, the water changes. Ch'i, blood, and water are known as the three things 三物.
>
> The sei 精 of the three things circulates and nourishes within the body. If this sei stagnates, then one becomes ill.
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> That which is responsible for illness is poison, and that which becomes diseased are the things [that is,ch'i, blood,and water].[1]

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[1]Fujikawa, 1944, p. 364.

By assuming the material composition of the human body to be ch'i, blood, and water, he theorized the interaction of these bodily substrates with doku as the origin of disease symptoms.

Although Nangai provides further elucidation of Tōdō's medical practice, he has in fact complicated the simplicity that his father attempted to maintain in medical theory. Therapeutics was practiced in accordance to Chang Chung Ching but it too became entangled in Nangai's attempts to "clarify" his father's medical ideas. Where his father attempted to avoid the ideas of seirisetsu, Nangai has reverted to using the yin-yang concept again.

Yamawaki Tōyō 山脇東洋 (1705-1762)

The last member of the four most distinguished physicians of Koihō was Yamawaki Tōyō. His affinity to the aforementioned Gotō Gonzan, Kagawa Shutoku, and Yoshimasu Tōdō can be seen in the continuity of thought common to them all, but at the same time certain aspects of his perspective towards the methods of medicine encompassed a larger more cosmopolitan application that was not confined by Chinese modes of thought. His use of empiricism was no longer pre-defined by "Chinese science." His use of anatomical observational data took on significance independently of Chinese philosophy and its associated definitions, and was interpreted and respected as objective knowledge capable of revealing insight into a reality outside of Chinese cosmography. Tōyō was thus both typical of Koihō physicians and at the same time equally unique and innovative.

Tōyō's medical practice was strictly identifiable within Koihō tradition. As a student of Gotō Gonzan, he advocated the principle lines of therapy

consistent with the idea of stagnation that was also common to Yoshimasu Tōdō, although some differences in the theory of disease can be seen. As with all members of the Koihō, he emphasized the importance of the role of empirical observation in the practice of medicine. In these areas of medicine, he can be correctly characterized as a physician of Koihō. However, in 1754, he became one of the earliest physicians to witness and document a human dissection during the Edo period. Using the method of empirical observation that was so highly emphasized in the school of Koihō, he in essence correctly identified the source of evidence that would eventually discredit not just Rishu medicine but the theoretical basis of a Chinese system of medicine. The immediacy of this evidence, in addition to that of Sugita Gempaku's, vindicates the position long held by physicians of the Koihō that the theoretical basis of Chinese medicine as embodied in seirisetsu was a useless antiquated mass of speculations that had no basis in reality. It reinforced the Koihō contention, particularly the line of thought advocated by Kagawa Shutoku, that only empiricism could provide the necessary knowledge to correct medical practice. It is interesting to note the contrast in the way Yoshimasu Tōdō viewed the role of empiricism, exhorting its use as the basis of medical practice, and the way Yamawaki Tōyō used its application to pursue anatomical investigations. For Tōdō, it meant the sensible demonstration of methodological effectiveness to therapeutic application. Hence Tōdō found the study of anatomy unacceptable for a physician's interest. He felt that it could only produce a mass of misleading and useless information. In this opinion, one is immediately reminded of the Chinese influence that designated an irrelevant role to anatomy in medical practice. At the same time, Tōdō also rejected pulse diagnosis as useless because of the complicated theory upon which it was conceived. To Tōdō it did not demonstrate practical

usefulness. In these two opinions, Tōdō demonstrated the limits of his idea of empiricism. He could not take the final steps to break completely out of Chinese medical thought. His mode of thought based on empiricism took him very close, and he along with other Koihō physicians firmly established the importance of empiricism in medicine. Tōyō, on the other hand, was able to breach the bonds that channeled his mode of thought within the Chinese models of medical thought. The irony was that he used the very methodology that was Chinese methodology. This in itself is evidence of the strength of Chinese scientific thought albeit in its altered form as Koihō.

Good accounts of Yamawaki Tōyō's life and medical activities can be found in a wide variety of sources in both English and Japanese, so I will not duplicate that information here. However, I would like to consider for a moment the historical context in which Tōyō found himself during the second half of the eighteenth century. This discussion is particularly relevant to understanding Tōyō's "sudden interest" in anatomy. Considering the insignificance of human anatomy to the practice of traditional Chinese medicine as practiced by the Koihō, Tōyō's motivations must be attributable to other factors at work during this period. Viewed within the history of anatomy in Japan as discussed in chapters IV and V, this event can be considered part of a growing interest in anatomical studies--an interest that was not just limited to the interpreter-surgeons of the Nagasaki area. After 1700, even physicians of the Chinese-style schools of medical thought began to review and investigate anatomical phenomena. The idea of sansai in Eki-i may have provided strong enough sanctions that exerted influence on practitioners outside of its own doctrinal boundaries. Because this line of investigation had no practical bearing

on the medical practice of Yamawaki Tōyō as a member of Koihō, Tōyō's motivations based on empiricism resulted in the nascent development of what might be termed academic medicine or experimental medicine. The investigations of medically related subjects that did not bear directly on the practice of medicine. This tradition is passed on to Sugita Gempaku and Maeno Ryōtaku in their activities as part of the Rangaku movement.

Despite the devastating implications of Tōyō's findings to Chinese medicine, Koihō continued to represent the major school of medical thought. The clinical practice of medicine remained largely unchanged. It was composed mainly of Chinese modes of therapeutics but devoid of the rationalizations found in Rishu medicine.

Setchū-ha 折衷派

About the time of the decline of Rishu medicine and the ascendance of Koihō, another school of medicine was beginning to take form. This was the eclectic school of medicine or Setchū-ha that was founded by Mochizuki San'ei 望月三英 (1679-1769). However, this school was not a phenomenon peculiar to medicine. A parallel movement had begun in the academic community in an attempt to moderate the dogmatic arguments of the Kogaku scholars and Shushigaku school by salvaging the less extreme views of each school. There was a mixing of the ideas originating from the Han and Tang dynasties with those coming from the scholars of the Sung and Ming dynasties.

The importance of this school lies not so much for any significant contributions they may have made to the development of Western medical thought, as for their opposition to it. After the decline of Rishu medicine, Setchū-ha came to represent the orthodox Chinese medical tradition in Japan.

Under the guidance of the Taki 多紀 family of physicians, the Bakufu lent patronage by promoting their private academy, Seijukan 躋寿館 (established 1765), to the status of an official shogunate institution under the name of Igakkan 医学館 in 1791. Feeling the threat of Western medicine, the Igakkan was able to curtail the development of Western medicine from about 1849 to about 1854 through the jurisdictional powers of certain powerful individuals in the Bakufu. Despite this last act of self preservation, Chinese style medicine could no longer compete with the demonstrated advantages of Western medical science. Hereafter its position of eminence that it once enjoyed among the physicians could no longer be demonstrated.

Rangaku

The word Rangaku is formed from the Japanese phonetic transliteration of "Holland" which is Oranda 阿蘭陀. The second syllable, ran 蘭 , is used as the substituted abbreviation and is joined with gaku 学 , which means "studies" or "the study of" to mean "Dutch studies" or "the study of Dutch." The Rangaku movement itself was more than the simple "study of Dutch." It provided the means through which Western culture entered Japan. Another very common suffix that appeared frequently in English is the combination Rangaku with -sha 者 , which is the character that means "the agent" or "the person who..." Thus Rangakusha were Japanese who engaged in Dutch studies. These individuals devoted their intellectual pursuits to Western learning and were responsible for the greater part of the knowledge of European culture as transmitted through the Dutch language into Japanese. Although there were only two classes of people with training in the Dutch language, the term as

generally used applied to those whose primary interest was in the written Dutch language as a source for European knowledge. In time, Edo became the major intellectual center of the Rangakusha but activity was also in evidence in Osaka and Kyoto. The other group with Dutch language training were the interpreters or translators stationed at Nagasaki about whom we spoke in Chapter IV. The two groups had a common language tradition and it was only later that the one came to be known as the Rangaku tradition.[1]

Although medicine was not the only discipline affected by Rangaku, because many of the early Rangakusha were physicians, they naturally focused their activities around medical literature. This interest in Western medicine forms a continuous historical tradition with the early interpreter-surgeons of Nagasaki, but some distinguishing elements mark the Rangaku movement as distinct from the antecedent interpreters. In general, the interpreter-surgeons limited their interests mainly to surgery and anatomy, and this interest was pursued primarily based on an oral method of instruction. Reading skills appears not to have been a necessity and thus the interpreters as a group did not maintain a uniform level of competency in reading Dutch until about the time of Thunberg, although a succession of extremely competent interpreters with good reading abilities can be identified including Motoki Ryōi (1628-1697), Narabayashi Chinzan (1648-1711), Nishi Zenzaburō (d. 1768), Yoshio Kōgyū (1724-1800), Motoki Einoshin (1735-1794). Thus the accomplishments of

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[1]Minoru Watanabe, "Nihongo ni Oyobashita Orandago no Haikei," in Rangaku to Nihon Bunka, ed. Tomio Ogata (Tokyo: Tokyo Daigaku Shuppankai, 1971), p. 126.

Narabayashi Chinzan and Motoki Ryōi must be acknowledged as extraordinary for that period.

In contrast, the Rangaku movement as a whole was identified with written Dutch--the early beginnings of this movement centered around the translation activities of a growing number of scholars that originally began with the translation of the Dutch edition Ontleedkundige Tafelen, of Johann Adam Kulmus's (1689-1745) anatomical text entitled Anatomische Tabellen, 1722. As a general rule, the personal background of physicians of the Rangaku school during the eighteenth century invariably included a medical education based on traditional medicine, that is, internal medicine. Consequently, they all emerged out of the Chinese medical tradition with previous training in the various schools of Chinese medicine and philosophy; whereas, the interpreter-surgeons had no previous training in medicine. However, it should be stressed that despite the fact that the Rangaku movement was born out of the medical tradition, it developed as a general intellectual movement dedicated to the investigation and propagation of European culture.

As an intellectual or scholastic tradition, Rangaku is not recognized until the eighteenth century. A number of factors can be identified as contributing to this situation. The dominance of a Chinese intellectual tradition for example, embodied in the doctrines of Shushigaku acted as a barrier to Western culture throughout the seventeenth century. This manifested itself not only in the opposition of a group of scholars in response to a perceived intrusion of a foreign culture--at first rationalized as inconsequential, then looked upon as a competitive threat--but also in the system they sought to defend as the antithesis to a Western philosophical tradition. Only at such a time when the theoretical solidarity of Shushigaku as a doctrinal antagonist to Western thought

systems could be weakened, and in a sense dissipated, could a movement like Rangaku find the kind of intellectual atmosphere that would be conducive to its development.

One of the most significant factors that brought about this situation was the Kogaku movement that seriously challenged the philosophical integrity of Shushigaku. During the fifty or sixty year period from about 1660, a process of parallel historical development in both schools of thought was in evidence. The influence of Kogaku on Shushigaku during this period began to appear as modifications to the originality of Chu Hsi doctrines as was interpreted by Hayashi Razan. This effect was evident in the thought and activity of such Shushigaku scholars as Kaibara Ekken, Arai Hakuseki, and later Miura Baien. The result acted to level the major differences in the recognition of "nature" and brought into reasonable alignment a consistency in the conceptual foundations of science in the major schools of thought during the early eighteenth century. In the case of Kogaku, the distinctions existed within but in opposition to established doctrines. Koihō typified the methodological changes that resulted from the kinds of conceptual changes observed during this period.

The political climate involving the Christian presence during the first third of the seventeenth century, and the subsequent anti-Christian edicts imposed to rid Japan of Christianity indirectly curbed the development of intellectual inquiry into Western culture. The simple identification of Western culture with Christianity prevented many from freely expressing their interests in Western scientific learning. The book embargo instituted in 1630 by Shogun Iemitsu was clearly aimed at stopping Christian literature from entering Japan. It was specifically directed at Chinese translations of Western works that were

being produced by Jesuits working in China, but it also included all Christian texts in any European language.[1] Any mention of Christianity, whether doctrinal or merely in passing was sufficient for censorship. Possession of such materials resulted in immediate and severe punitive measures.

The actual effect of the embargo is difficult to ascertain in terms of the influence it had on medicine. That it actually prevented the development of Western medicine does not hold up to historical scrutiny since the effective period the book ban, from 1630 to 1720, saw the rise of Kōmō Ryū. The exposure to individual Dutch factory physicians and their ability to teach and demonstrate, although restricted, was the most effective channel open to the infiltration of Western knowledge during the seventeenth century. This situation prevailed despite the book embargo, and a generally poor level of competency in the Dutch language during this period. This phase of the early history of Western medicine in Japan reached a peak in the works of Narabayashi Chinzan and Motoki Ryōi. As representatives of the Kōmō Ryū, the activities of Chinzan and Ryōi and their level of competency in the Dutch language were atypical of physicians in the school of Kōmō Ryū at the beginning of the eighteenth century. They presage the activities of the Rangaku movement rather than reflect the Kōmō as a whole, although the general level of competency in the Dutch language among the interpreters and interpreter-surgeons experienced a remarkable degree of improvement during the eighteenth century. Obviously the book embargo did not prevent Dutch editions of Paré and Remmelin from entering Japan and from being studied and translated. Thus, precisely at a time

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[1]Boxer, p. 62.

when the book embargo was in effect, interest in European anatomy and surgery was initiated and experienced a period of growth. It must be conceded that the greater part of this exchange was dependent on oral communication and actual demonstrations, but as in the case of Chinzan and Ryōi, books were also important sources.

Before the first half of the eighteenth century, Nagasaki enjoyed a degree of intellectual freedom not found elsewhere in Japan in regard to the study of Western culture. This growth of interest and studies in Western learning in the Nagasaki area is attributed mainly to the activities of the interpreters who had official access to the Dutch at Deshima and the relative advantages afforded by the geographical separation from the center of political administration in Edo. However, that even significant works like those of Chinzan were not published but circulated surreptitiously in manuscript form is attributable to the government censorship exercised in an attempt to suppress Christianity and control Western learning as it entered Japan.

Although changes in the general intellectual climate were conducive to the development of Rangaku, in the end, political intervention in the way of official patronage was directly responsible for encouraging its initiation. Yoshimune, as the eighth Tokugawa shogun of Japan and perhaps one of most able since Ieyasu, was dedicated to improving the condition of the State utilizing the theme of jitsugaku or "practical learning." In an effort to utilize Western knowledge in his program, he rescinded the ban on Chinese translations emanating from Jesuit authors such as Matteo Ricci so long as the subject of Christianity was not involved. The status of foreign books of non-Christian origins remained unchanged. It would appear that this act little affected private

scholars initially, since the Bakufu did not publically announce the repeal of the prohibition.[1] Since the purpose of the elimination was to enhance the Bakufu's access to Western knowledge, only official government scholars were the initial benefactors of this event, and the group who benefitted the most were the astronomers, since the materials that were first utilized were the Western astronomical works that were translated into Chinese.[2] There was no flood of original works in the Western languages into Japan since very few Japanese had the requisite language skills to attempt serious translation work.

In 1740, Yoshimune directed Noro Genjō 野呂元丈 (1693-1761), a Bakufu physician, and Aoki Kon'yō 青木昆陽 (1698-1769), a Bakufu scholar attached to the shoguate library, to undertake in what appears as a significant contribution to the development of Edo Rangaku. By directly sanctioning two of it official scholars to study Dutch, it established a precedent for future scholarly activities in the Dutch language as a means of access to Western knowledge. This act officially gave direct recognition to the study of the Dutch language and Western knowledge as appropriate for scholarly research.

Genjō relied on interpreters to compile his findings on medical botany in Oranda Honzō Wage 阿蘭陀本草和解. He also put together an illustrated account of various animals including fish and insects based on Dutch explanations entitled Oranda Kinjūchūgyozu Wage 阿蘭陀禽獣蟲魚図和解. His experience did not leave him with any competency in the Dutch language and he does not appear to have pursued any further studies beyond the authorship of the

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[1]Nakayama, 1969, p. 165.

[2]Ibid., p. 166.

two works. On the other hand, Aoki Kon'yō embarked on an ambitious effort to gain some knowledge of the Dutch language. He may have well been one of the earliest in the Edo area to attempt such an undertaking. The degree of success in this endeavor can be seen in the relatively small amount of help he was able to give Maeno Ryōtaku 前野良沢 (1723-1803) in his attempt to gain competency in reading Dutch. What little actual help Ryōtaku received must been made up in encouragement, for Ryōtaku traveled to Nagasaki to continue his studies.

The significance of Yoshimune's decision to promote Dutch learning in this manner lay in the changing expression of this attitude. Quite early on, the Bakufu had retained physicians with training in Western surgical technique in its employ; however, Yoshimune bestowed an unmistakable value judgement in favor of the study of Dutch as befitting the work of a scholar when he directed Noro Genjō and Aoku Kon'yō to engage in its study. Although this kind of direct sponsorship did not last very long, it continued to support Western medicine indirectly. For example, it took no action against Yamawaki Tōyō's publication of Zōshi in 1759, when he openly rejected the validity of the theoretical basis of Chinese by questioning the accuracy of the Nei Ching. Again in 1774, upon the publication of the Kaitai Shinsho by Sugita Gempaku and Maeno Ryōtaku, it indirectly supported Dutch studies by permitting its printing. One of the scholars involved in the translation, Katsuragawa Hoshu 桂川甫周 (1751-1809), represented a fourth generation Bakufu Kōmō Ryū surgeon who became identified with the Rangaku movement after he participated in the translation of Kulmus and publication of Kaitai Shinsho.

The publication of the Kaitai Shinsho forms the foundations of the Rangaku movement as the final chapter in the primary conceptual shift from

Chinese medicine to Western medicine. Although previous translation work had already preceded this undertaking, and Yamawaki Tōyō and others had already performed human dissections, the significance of this work lay in its publication in the shogun's capital. It is the first published translation of a Dutch work, and it is extremely important that the reasons for its undertaking were anatomical investigations motivated by the ensuing belief that Chinese medical theory could no longer be considered invulnerable to questions of validity. The work resulted from the belief that Chinese anatomy was unequivocally incorrect. This line of thought first originated in the thinking of Yamawaki Tōyō. He mentions in the Preface to Zōshi that he had performed a dissection of a fresh water otter and noticed discrepancies between its anatomical structure and those described of human anatomy in Chinese texts. Gotō Gonzan, his teacher, had informed Tōyō that there was supposed to have been a close resemblance between the animal's anatomical structure and that of man's. This resemblance failed to materialize and was confirmed by the human dissection that he observed in 1754. Kosugi Genteki 小杉玄適 (1734-1791), a former student and member of Tōyō's group who participated in the anatomical observations of 1754, is generally identified as the one who motivated Gempaku to pursue his anatomical investigations.

From these beginnings, Rangaku grew as a new school of thought. It transcended the traditional schools of thought then popular in Japan but recruited its members from each of these very same schools. It was truly a cosmopolitan movement. Although theoretical conflicts separated the major schools of medical and philosophical thought, enough changes at the conceptual base had occurred in each of these schools by the opening of the eighteenth century to permit a degree of theoretical overlap. By the first half of the

eighteenth century a measure of resemblance or continuity among all of the differing schools could be identified. This phenomenon may have had considerable influence in permitting the school of eclecticism or Setchūha to form and theoretically integrate as it did, despite its cries of extremism leveled at competing groups. Thus it is possible to identify individuals like Miura Baien and Hoashi Banri 帆足萬里 (1778-1852) who were Shushigaku scholars, Hayashi Shihei 林子平 (1738-1793), and Sakuma Shōzan 佐久間象山 (1811-1864) who were followers of Yōmei school, Hiraga Gennai 平賀源内 (1728?-1779) and Aoki Kon'yō who were scholars of Kogaku, actively engaged in Rangaku studies.

Although historical disintegration of Shushigaku as originally maintained by Maruyama (which he later acknowledged as erroneous) can not be demonstrated, doctrinal fragmentation of the philosophical foundations of Shushigaku are certainly identifiable. That so many scholars from the various Chinese schools of philosophy could easily make the transition to Rangaku during the late eighteenth century and early nineteenth century can be attributed to the effects of changes in the conceptual make up of these schools.

By the end of the eighteenth century, evidence of the institutionalization of Western medicine occurred within the mainstream of traditional medicine with the founding of Shirandō 芝蘭堂 in 1786 by Otsuki Gentaku, a student of Sugita Gempaku. Shirandō was established as a private school for the formal instruction in and promotion of Western medicine. It represented a center where individuals with interests in Western medicine and culture could meet and exchange ideas. Very shortly after, a number of other like schools were founded in the Edo, Kyoto, Osaka, and Nagasaki areas. These centers contributed

immensely to the richness of the Rangaku movement. Most of the leading scholars of Western medicine were associated in one way or another with these schools.

The Bakufu also established the Bansho Wage Goyō 蕃書和解御用 in 1811 as a center for the cultivation and control of Western knowledge in science and technology. It was intended as a translation bureau where Western studies could be facilitated. Later, this socalled "Translation Office" was finally renamed Kaiseisho 開成所 in 1863. It was redirected to concentrate on gathering as much information on Western culture as possible with an emphasis on Western military technology.

In 1849, Otto Mohnike (fl. 1849), a Dutch factory physician, introduced viable smallpox vaccine into Japan for the first time. Nine years later, a vaccination center was established in Edo by Itō Gemboku 伊東玄朴 (1800-1871), a student of Philipp Franz Balthasar von Siebold (1796-1866). Originally named Shutōjo 種痘所, its name was changed to Seiyo Igakusho 西洋医学所 in 1861 and made an official Bakufu institution. Known as the "Center for Western Medicine," it later became the medical faculty of Tokyo University.

CHAPTER VII

POSTSCRIPT

This last chapter is presented in the form of a summary to facilitate an unification of the significant lines of evidence that relate to the theme of conceptual change in Japanese medicine. Discussions will be limited to the more important points that I have attempted to make in an effort to investigate the nature of the changes witnessed in the evolutionary, or perhaps revolutionary, appearance of Western medicine in Japan.

The premise that initiated this line of investigation is predicated on the recognition of the existence of an incompatibility between the philosophical foundations of traditional Chinese medicine as practiced in Japan and Western medicine at the onset of the Tokugawa period (1600-1868). Sometime before 1870 when the Japanese government made a commitment to develop Japanese medical education along the lines of German models, a change in medical thought occurred to permit such a commitment.

Substantial changes in medical concepts occurred within the context of Chinese medicine and philosophy that were not directly attributable to pressures resulting from the presence of Western medicine. Many different sources contributed to this transformation. The relevance and influence of the different Chinese schools of medical thought may at first not be apparent. The overwhelming presence of characteristically invariable Chinese modes of therapeutics tend to divert the investigation of changes in Japanese medicine to

later and later chronological periods. The tendency to dismiss early Japanese medicine as simply mirror images of Chinese models is a natural reaction to its ostensible immutability both in its practice, as well as in historical continuity. However, generalizations of this type tend to obscure the nature of Chinese and Japanese medicine. By using the approach used by Maruyama Masao emphasizing the technique of historical analysis based on investigation of changes in the modes of thought can we get an accurate assessment of the changes we seek to uncover. What might appear on the surface as simple changes in therapeutic technique can reveal much more complex theoretical changes in rationalizations that hold significant clues to the direction of medical thought.

Historical continuity is an axiom sometimes difficult to delineate and equally arduous to maintain. By looking at changes in the modes of thought as it relates to conceptual shifts involved in the appearance and integration of Western medicine, I have hypothesized a continuity whose definable origins are catalyzed during the middle of the seventeenth century by the appearance of the Koihō. Elements of this early beginning can be identified even earlier. They can be found in the adaptive and modificational tendencies of Japanese physicians within the Rishu-related medical schools prior to the Koihō. Physicians of the Rishu, Ryūchō, and Ek-i schools of medicine were already slowly changing the normative standards of Chinese medicine by adapting new terminology and selectively stressing elements not emphasized in the original models. This trend was a noticeable feature of Japanese medicine that continued to occur during the 250 years of the Tokugawa period. It represented one of the principal mechanisms of change in medical thought. Thus Japanese practice of Chinese medicine was not always orthodox. The impetus for divergence and change was already an emerging theme long before the appearance of Western medicine.

By thus emphasizing the contributions of the Sung schools of medicine found in Japan, it is unavoidable not to recognize the dynamic nature inherent in these schools. Far from being parochial, these schools contributed a rich intellectual heritage in the development of a broader definition of methodology in medicine than traditionally credited. This was accomplished by slowly changing the definitional nature of health and disease, thereby preparing the medical community for the more drastic changes ushered in by the Koihō. However these positive contributions were overshadowed by the more oppressive effects of seirisetsu in circumscribing the development of medicine within a cosmological world view that precluded progressive advances that would allow assessment of empirical data free of preconceived relationships defined by Sung philosophy.

Transitional or mutational exceptions to this characterization began to appear about the beginning of the eighteenth century when the influence of both Kogaku and Koihō were strongly felt not only in medicine but within the general intellectual community. The ideas of Kaibara Ekken and those who followed in his line of thought represent a conspicuous divergence in the use of Shushigaku in the rationalization of investigation in the biological sciences. However, these developments in both Rishu medicine and Shushigaku are restricted by the inherent self-limiting aspects of Chu Hsi dogma and principally serve to reinforce stronger expressions in other movements that are more directly continuous with the integration of Western medicine. That practitioners like Kaibara Ekken found it necessary to alter traditional doctrines in order to pursue rather basic investigations in the biological sciences is ample evidence to indicate the encumbering practical effects of the schools theoretical foundations.

Rishu medicine was well established by the opening of the Tokugawa period and continued to flourish throughout the seventeenth century. It represented the orthodox medical system of this period. Koihō appeared about 1650 with the teachings of Nagoya Gen'i. By 1700, Koihō had established itself as a major school of medical thought. At the same time, the logical contradictions in the philosophical foundations of Shushigaku pointed out by the school of Kogaku spilled into medical thought. The cumulative effect of the Kogaku movement and Koihō shook the theoretical foundations of Rishu medicine, fracturing its internal continuity and making its continued application theoretically untenable. Thus, together with the efforts of the Kogaku school, an identifiable influence was effected in the thought of certain Rishu physicians about this time. Kaibara Ekken, Arai Hakuseki, and Miura Baien began to advocate a line of thought that was a noticeable departure from the orthodox position of Manase Dōsan and Manase Gensaku. Their ideas also differed markedly from the orthodox ideas of Hayashi Razan. The historical presence of these individuals indicates the strength of the Kogaku and Koihō movements at the opening of the eighteenth century. By 1750, Koihō had displaced Rishu medicine as representing the mainstream of medical thought in Japanese medicine. Rishu medicine could not longer maintain its position of leadership in the face of such popularity that Koihō was able to generate as a practice of medicine and in view of the advantages it afforded in the applicability of its conceptual delineations toward investigations in the natural sciences.

The rise to prominence of the Koihō confirmed the continued strength of the Chinese cultural heritage. However, the traditionally close relationship and bias for Chinese culture became strained with the full flowering of the Koihō

during the eighteenth century. The development of individuality in the freedom to express divergent ideas that could be seen occurring to some degree in Rishu medicine blossomed with the practitioners of the Koihō.

The concomitant inclination to explore the applicability of new possibilities in thought was more pronounced than in the past, and represented a distinguishable growth in autonomous thought. A sense of individuality in intellectual endeavor is in evidence in the writings of physicians of this school. In this respect, the characterization of Koihō as "reactionary" in inappropriate, for the historical importance of Koihō is characterized by its innovative contributions in the rationalization of methodology and in expanding the application of that methodology.

These kinds of reactions are indicative of a general trend toward questioning the authoritativeness of Chinese medicine and forms the background to Yamawaki Tōyō's decision to test the anatomical accuracy of Chinese medicine. Tōyō was responsible for discrediting the credibility of the theoretical basis of Chinese medicine.

The basis for these changes resulted in part from the impact of the Koihō in the elimination of the metaphysical elements found in the orthodox medical theories of the Sung period. It liberated medicine from a philosophically systematic perspective that predetermined the value of observation within a static metaphysical construct that was cosmological in outlook. By so doing, medical thought entered a period of growth, expanding as an intellectual endeavor and developing its methodological strengths from an emphatic empirical perspective. Although followers of Koihō advocated a return to the ancient medical classics of the pre-Sung period, their view of those classics

expressed a subjective focal interest in the empirical knowledge derived from practical experience. There was no inherent doctrinal emphasis of practice over theory in these works with the exception of the Shang Han Lun and Nan Ching. Koihō physicians largely ignored the theoretical aspects of metaphysics. This single theme of a rejection of the medical theory of the Chin and Yuan periods, and a return to the spirit of classical medicine formed the unifying element to members of Koihō, otherwise a rich diversity of doctrinal emphasis is evident rather than a uniformity of thought.

Of particular significance was the importance of the Shang Han Lun of Chang Chung Ching to physicians of the Koihō, for it was indicative of this particular interest in the empirical aspects of therapeutics rather than complex theoretical explanations and sanctions for it. This trend was most extreme in the thought of Kagawa Shūtoku who went so far as to even reject the classics in favor of a purely empirical approach.

Many of the strengths of Chinese medicine found in Rishu medicine--elements such as rationalism, inductive and deductive thought processes, as well as such noteworthy skills as observational acumen--were liberated from the oppressive metaphysics of seirisetsu and emphasized by the Koihō within the framework of experiential medicine.

This movement of certain very important methodological features of Rishu medicine into Koihō maintains a continuity of relationship that may at first appear difficult to comprehend in view of the overwhelming ideological opposition to Rishu medicine associated with the development of Koihō. Herein lies the first glimpse of the importance of a greater problem of accurately identifying the historical, as well as the philosophical foundations of the Rishu

and Koihō schools. The theoretical nuclei for the formation of Rishu doctrines as embodied in seirisetsu derived their origins from the basic ideas contained in the Nei Ching, Nan Ching, Shang Han Lun, and other texts all originating from a period encompassing the late Chou through the Han dynasties. These older ideas were then integrated with the Chu Hsi synthesis during the Sung and Yuan dynasties by physicians like Li Tung Yuan and Chu Tan Ch'i. Hence the basis of the school of Koihō coincided with that of the Rishu school in that it advocated a return ot the purity and simplicity of the medical classics of the Nei Ching period. The difference lay in the conceptual rationalizations directing the use of the ancient methods. In the case of Rishu medicine, it was the complex metaphysical considerations of seirisetsu.

On the other hand, although Koihō represented a revival in the use of ancient Chinese thought systems, of greater significance was the selective emphasis of empirical observation as the method of investigation and its use devoid of seirisetsu. The rationalization of empiricism was in the value of knowledge gained from the observed phenomenon. The criterion for that value judgement was based on considerations of practicality or utility in interpreting objective reality. Manase Dōsan's emphasis of empirical observation has been recognized as an important development in the history of medicine but its identification or nature must be differentiated from its use by physicians of the Koihō. The resemblance between the two are close and some argument expressing a developmental continuity are not without merit to warrant further research, but its legitimation ties it closer to the theoretical framework of seirisetsu and hence must be viewed as a subordinate rather than a primary methodological element. It cannot be identified in terms of its own inherent value.

At the same time, because seirisetsu no longer provided the conceptual framework within which reference could be made, ancient terminology was quickly modified by Koihō physicians to meet contemporary needs. Like the humanistic movement of fifteenth century Europe, the emphasis was not so much of a function of content as it was method. Lacking were the highly structured and rigid rationalizations required to identify observational evidence.

The ascendency of the Koihō did not signal the disappearance of sinological classification systems in medicine. On the contrary, the basic elements of Chinese philosophy as evidence in the use of such ideas as ch'i, ja, balance or harmony in the body energy systems, etc., continued to be the language of medicine. In fact, many of these terms still remain in use not only in modern medicine but within contemporary Japanese language. The word for "sickness" or byōki 病気 literally means "a disease of the ch'i." Genki 元気 which means "vigor or healthy" literally means "the original ch'i." Ki no doku 気の毒 which literally means "poisonous ch'i" or "the poison of the ch'i," means in contemporary Japanese, "poor, miserable, or unfortunate." These and many other terms remain in modern Japanese as remnants of Japan's medical history.

The ostensible presence of these classifications should not be equated with a simple perpetuation of tradition. The Koihō altered the conceptual usage of many of these terms. Thus the significance of this institutional displacement lies in the concomitant conceptual changes that it symbolized. These changes are one of the key elements in understanding the significance of this period for the integrative phenomenon in the acceptance of Western medicine into Japanese medicine.

The most prominent development was the abandonment of a scientific ethos that was based on a philosophy that advocated an epistemological perspective of knowledge that was a function of morality. By so doing, it permitted the concept of "nature" to develop as an independent phenomenon, observable and knowable with a value structure that eventually merged with jitsugaku. Empiricism became the mainstay of this perspective. It was emphasized as a method and began to take on new dimensions as part of a developing concept of experimentation. This development was eminently responsible for the events that would formally introduce the method of human dissection and Western anatomy to the entire medical community. The idea of objective verification of natural phenomena was applied by Yamawaki Tōyō and later Japanese physicians who pioneered in the use of human dissection.

The concept of disease for the most part remained within traditional conceptualizations. The major changes occurred in the shifting emphasis of etiological differentiations and accompanying rationalizations. The basic idea of energetic imbalance or disharmony remained relatively unchanged as the principal etiological criterion. Early concepts of etiology included a recognition of an exogenous component, indicating environmental intrusions, and an endogenous component, referring to such idiopathic causes as excessive eating and drinking, emotional stresses, and sexual indulgence. These two etiological classifications remained in popularity for a considerable time in various guises. In turn, these were associated with induced changes in the body's energy centered physiologic functions, thus forming the pathogenetic process of the body. The specifics of these changes can be referred to in the text.

In general, this concept of disease bridged the schism between the Rishu and Koihō schools, thus maintaining a continuity of perspective. The abandonment of seirisetsu by the Koihō did not appreciably affect the general concept of disease as a bodily imbalance. The metaphysical relationships expressed in the environmental influences as disease causing vectors largely disappeared and what remained in the form of observable phenomena was effectively used by the Koihō school to set forth a functional concept of disease. Complex explanations of pathogenetic phenomena were discarded in favor of explaining disease processes based on simpler correspondences between hypothesized bodily functions and disease causing intrusions.

The concept of normal physiologic function had not yet been accurately identified at the opening of the Tokugawa period, and only rough inferences and hypotheses were the closest achievements. Nonetheless, at this stage of development, the emphasis of empirical rationalization produced a mode of thought whose principal features included the beginnings of this all important concept. At a point in history when the idea of "stagnation" moved out of Rishu medicine, Nagata Tokuhon distinctly hypothesized what he considered to be the normal process of food intake and digestive function. Its simplicity could be used as the basis of a model for a modern explanation of gastro-intestinal metabolism. Although physicians of Rishu medicine hypothesized bodily function, its basis was essentially metaphysical. Tokuhon's idea of function was based on observable phenomena without the necessity of resorting to philosophical rationalizations. Hereafter, disturbances to normal function become the focal issue in disease identification among physicians of the Koihō. The idea of disease became more closely associated with and delimited by man's

innate physical characteristics. The microcosmic allegories of Rishu medicine largley disappeared with the prominence of the Koihō school.

Finally, the concept of disease was advanced to very sophisticated levels in the ideas of Yoshimasu Tōdō and his son Yoshimasu Nangai . Although one can still observe very definite influences that can be traced back through their predecessors in the Koihō to Rishu medicine, both Tōdō and Nangai advocated a concept of disease that could be considered very contemporary and cosmopolitan for that period of the Tokugawa era in relation to Western medicine. While it was based on a hypothesized physiological function, it incorporated anatomical orientation and attempted to distinguish dysfunction at a level that focused on what might be identified as body substrates. Considering that physicians of that period had no concept of tissue, the identification and classification of body composition into finer distinctions and the attempt to incorporate it into disease theory was a remarkable development.

As a function of disease theory, therapeutics underwent parallel transformations. However, a definite developmental continuity is in evidence. Specific therapeutic measures in vogue over defined periods of time were replaced by other suitable practices due to changes in disease concepts. But viewed over a broad historical perspective, specific methods of medical therapy reappear with relative constancy. Only the explicit rationalizations for their dispensation changed in conformity to the specified definition of the disease process.

Within the Koihō, the single theme of restoring bodily imbalance was used to complement the various concepts of disease as a functional imbalance due to stagnation. The most significant changes occurred in relation to both

Gotō Gonzan and Yoshimasu Tōdō's interpretation of disease. The idea of stagnation was used to develop two rather unique ideas of disease. In turn, each developed his own rationalizations for the type of therapeutic regimen that characterized his school of thought. In general, the close relationship between a perspective of the patient as an individual entity rather than generalized extensions of universal phenomena and the course of treatment were in evidence. The ideas of Yoshimasu Tōdō on the incidence of disease and correlations with the presence of doku most clearly indicates this trend.

A practical consideration of therapeutics has always been the idea of nosology. This may sound rather out of place in modern Western medicine where nosology is more academic than practical. But in Chinese medicine, the specific treatment was a function of its nosological classification. Classifications were based on etiology and symptomatic manifestations. So important were these classifications that often the indices to medical works were broken down according to prominent symptomatic manifestations or etiological origins. Practitioners of the Rishu school viewed etiology as the primary indication for determining specific treatment; whereas, Koihō physicians used the nature of disease symptoms themselves as the primary criterion.

As a mode of therapy, surgery represents an exception to the general observation that the methods of medical treatment remained within traditional Chinese modes of medical delivery during the major part of the Tokugawa period. It contributed significantly to the history of conceptual change in Japan in that it was the earliest discipline to accept and practice Western medical techniques. But because surgery was regarded as outside of what was considered "medicine" by physicians of Tokugawa Japan, developments in surgery were

largely ignored by the general medical community. The separation between the two groups was more than a simple matter of definition. Social and moral implications aggravated the situation. At the same time, the center of early surgical activity, Nagasaki, was relatively isolated from Kyoto and Edo which were the principal centers of learning during the Tokugawa period. Thus, although Western medicine can be identified in Japan quite early, it did not affect the direction of traditional medicine until after the middle of the eighteenth century. The reasons for this change so late in the history of Western culture in Japan were a function of changes in the mode of thought as a part of the general history of Tokugawa Japan. In the history of medicine in general, it is unusual to see the development of medicine so influenced by political circumstances, although to some degree this is a contemporary phenomenon. This relationship cannot be understood without at least some reasonable understanding of the nature of the Tokugawa period. Chapter IV details the crucial issues involved in this change.

By thus investigating the conceptual changes in the modes of medical thought, one significant conclusion can be made concerning the integration of Western medicine in Japan. It was the result of an already ongoing process of change in medical thought. The necessary conceptual changes for the acceptance of Western medicine had already been laid out by the first decades of the eighteenth century. These had occurred both in the general Confucian community as well as in the medical community. They occurred in the redefinition and conceptual shifts that would permit enough compatability in the philosophical outlook--particularly in metaphysics--of Japanese medicine as a function of science to the philosophical aspects of Western medicine. These

changes were the necessary minimum requirements for Western medicine to enter into orthodox traditional medicine, that is, internal medicine.

By breaking the stifling dominance of Rishu metaphysics, practical interests in Western science took on greater attraction and significance. Greatly aided by the continued enigmatic Bakufu patronage and a sudden increased interest shown by Shogun Yoshimune, the half century after 1750 witnessed the rise of productive investigation into Western science and technology. Led by the medical community, the Rangaku movement was a testament to and indication of the changes that had already occurred by that date to permit such a decisive departure from traditional cultural ties. The effort of the Rangaku scholars in initially producing knowledge so amenable to objective verification caused such a positive interest in Western medicine among a nuclear group of physicians that by the opening of the nineteenth century a predictable reaction had set in on the medical community indicating the future course of Western medicine in Japan. The enthusiasm in the face of such formidable difficulties as translation work sustained the movement producing in ever increasing quantity and quality the fruits of Western medicine. This group was eminently responsible for the popularization and dissemination of Western medicine within the general medical community. With the activities of this group we see the beginnings of a definite shift from a Chinese tradition toward a Western tradition in medicine.

Yamawaki Tōyō and Sugita Gempaku are primarily responsible for initiating this period of history. Although Tōyō was a member of the Koihō, he should also be acknowledged as the progenitor of the Rangaku movement in that he initiated the line of investigation that influenced Sugita Gempaku to embark on the translation of Kulmus. The demonstrated anomalies between Chinese

anatomical concepts and empirical observations recorded in Western anatomical texts that were confirmed by actual human dissections by Japanese physicians convinced the medical community of the late eighteenth century of the value of Western medicine. Anatomy was used as a wedge to cleave the loyalties of Japanese physicians from Chinese medicine. However, Japanese medicine remained essentially based on Chinese modes of therapeutics for approximately another fifty years. The reason for this situation was due to the fact that the actual content of Western medicine that entered Japanese medicine during these early years tended to be of a non-clinical nature. The early investigations of Western medicine were centered around the translation activity of works primarily dealing with the medical sciences.

Herein can be identified the discernable beginnings of what might be termed academic medicine. What is striking about medical thought after 1774 that is distinguishably strong in the Rangaku tradition is a line of thought that will yield very productive results not necessarily in clinical medicine but in the methodology of medicine as a scientific endeavor based on Western models.

By introducing Western medicine as a function of what Castiglioni calls the "exacting sciences" the foundations of a scientific perspective of medicine were laid. This perpsective greatly influenced Japan's decision to establish German medical models as the best representatives of Western medicine during the late nineteenth, using it as the basis for establishing the medical faculty at Tokyo University.

Anatomy, physiology, medical botany or pharmacy, pathology, and botany, made up the greater part of the subject matter imported until 1823 when Philipp Franz Balthazar von Siebold arrived in Japan to begin teaching clinical

medicine in the Nagasaki area. It really remained for Pompe van Meerdervoort (1829-1908) to formally establish a teaching hospital in 1857 for formal instruction in clinical medicine. Until his departure from Japan in 1829, Siebold was a source of inspiration for many young Japanese physicians seeking instruction in Western medicine.

In 1849, Otto Mohnike imported the first viable vaccine for smallpox vaccination. The medical community's open-mindedness and receptivity toward it marks the progress of Western medicine in Japan by that date. The initial resistence in the Edo area was due to the political influence members of the Igakkan were able to exert in opposing its introduction there. But with time, the efficacy of vaccination was difficult to dispute and its use in Edo coincided with the establishment of the Shutōjo in 1858.

At the end of the eighteenth century, a series of scrolls began to appear in Japan that bears relevance to the subject of conceptual change in medical thought. The theme of these scrolls was Hippocrates, and the earliest to appear was executed in 1799 as a joint endeavor by the physician Otsuki Gentaku 大槻玄沢(1757-1827) and Ishikawa Tairō 石川大浪 (1765-1817), an artist with training in Western painting technique. These scrolls represent indications that Western medicine was moving into and integrating with Japanese culture and not just coexisting with it.

The content and artistic expression of these scrolls strongly indicates this integrating trend. These inscriptions provided the earliest historical accounts of Hippocrates known in Japan, and interpreted as a generalization of Western medicine had the effect of giving historical legitimacy to the study and practice of Western medicine in much the same way Shushigaku supplied the

historical precedence for a conceptually ideal Tokugawa society. They also provide the specifics of what was known about the Hippocratic tradition at that time.

Viewed from within the cultural importance of similar scrolls depicting the founding deities of Chinese medicine, these scrolls indicate a trend in which a foreign set of ideas are moving into the orthodoxy of Japanese culture. They are being transformed into what can be considered a repertoire of the cultural milieu. The uniqueness of these scrolls was not only found in the content but also in the method of their execution. With the exception of some of the Japanese inscriptions, the technique used in the graphics was thoroughly Western. Although the basic theme and method of execution were European, these unusual works of art utilized a typically Japanese genre to express the Western motif. This juxtaposition is itself an indication of the meaning of these scrolls. They were regarded and used within the traditional bounds of contemporary culture that was Tokugawa Japan.

The original scroll of 1799 is no longer extant. What is known about it has come from indirect sources. The artist, Ishikawa Tairō, had executed a duplicate of the portrait the same year as the original, and has survived to the present. What is known about the inscription is inferred from two tracts that Otsuki Gentaku has left, both internally dated 1799. They approximate what Gentaku knew about Hippocrates as of the completion of the original scrolls. The translation of these can be found in Appendix 4.

One should note the emphasis on the relationship of Hippocrates to anatomy. Certainly there is no evidence that Hippocrates ever did any human dissections. Hippocrates' closest contemporary who may have done human

dissections was Alcmaeon. However there is no conclusive proof to verify it. This preoccupation of the theme of Hippocrates as the founder of anatomy and his important contributions to that field may at first seem unnatural. Particularly since the importance of the Hippocratic tradition in the field of medicine does not rest on its contributions in anatomy--perhaps with the notable exception of osteology. This emphasis on anatomy is due to the new enthusiasm generated by the works of Yamawaki Tōyō and Sugita Gempaku. The field of anatomy is just beginning to develop within the medical community at this time.

As Henry Sigerist most appropriately points out in his reply to George Sarton in the Bulletin of the Institute of the History of Medicine, 1936, medicine cannot be simply dichotomized as a science or art. Although it certainly has become more dependent on its scientific resources in its contemporary practice, to attempt a singular characterization is to ignore its many important aspects that make it what it is. Medicine may be viewed as an autonomous entity when considered as a branch of learning but it uses many standards of performance when practiced--the methodology of science being simply one of these.

It was in this manner, that is, as a competing system of knowledge, that Western medicine was introduced into the Japanese medical community during the late eighteenth century by Tōyō and Gempaku. Although many of the classifications used by Thomas Kuhn appear to be functional in this history of change, in the end, "medicine" as defined by Sigerist does not lend itself to a thorough Kuhnian analysis. The ostensible resemblance is facilitated by the fact that Western medicine is introduced as a function of its scientific aspects in anatomy and other related disciplines, but it cannot be maintained when brought into the definition of medicine as an autonomous discipline.

The development of experience or empiricism as the basis of method, and the refinement of method to effectively look at experience was the specific area that provided fruitful results in the progress of Japanese medicine within the Koihō. Nascent elements were in evidence in the Rishu school, but as intimated earlier, seirisetsu proved too dogmatic for the continued progress of method. This was the distinguishing development in the transition from the Rishu school of thought to the school of Koihō. Method dissociated itself from the concepts that gave it birth. Logic, as a function of method was also freed from the bonds of seirisetsu. The Rangaku movement reinforced this process further. After 1750 "logic" and "method" provided the tools which yielded "collections" of data that provided physicians a better conception of man's physical existence based on observation and free of preconceived dogma. It was not until later that a complete exposition of the methodology of Western science entered Japanese culture.

Thus Sugita Gempaku's translation of Kulmus was not just a linguistic feat, nor was it the simple evidence marking the introduction of Western medicine, it was the culminant expression of almost two hundred years since the arrival of the Portuguese of changes in the mode of thought or conceptual change in Japanese medicine.

APPENDIX 1

Kurisaki Dōki is a rather elusive historical character. References to him in secondary sources reveals a wide variation in his description. Biographical conflicts in the primary source materials, as well as interpretational problems of these sources have caused divergent views as to who Dōki was. My purpose for including this short essay is primarily didactic as an example of the problems in determining the reasons for such obvious discrepancies. Fortunately, Koga Jūjirō had done an excellent analysis of this individual's biographical sources and I could do no more than to verify those sources that I had access to in the time frame in which I had to complete this dissertation.

Two divergent discrepancies exist in regard to Dōki. One is the identification of Dōki as the founder of the Kurisaki Ryū. The other major problem is establishing the chronology of his life. I cannot resolve these problems, but I can at least provide a better insight into these discrepancies.

According to Koga Jūjirō, one of the primary sources for biographical information regarding Dōki comes from Nagasaki Senminden by Ro Senri 盧千里, who was originally the son of Kurisaki Dōi. In the last volume under the section "Medicine" is the following passage that is the source of a common error. But the error is relative in this case because it is mainly interpretational.

栗崎正元，其先食土栗崎（在肥後州），
父道喜生七歲，與乳母避仇于崎
居二年，儲雖覓大急矣，乳母遣喜竊乘
番舶遠走呂宋。

The first line reads:

> Kurisaki Shōgen (or Seigen) was originally from Kurisaki (present day Higo Prefecture). His father was Dōki . . .

The problem is that it is not certain whether Shōgen or his father Dōki was the one who "left Kurisaki with his wet nurse at the age of seven, and fled to Nagasaki where they resided for two years."

This passage is written in a style known as Kambun. This method of writing was very popular in Tokugawa Japan and resembles classical Chinese both in grammar and syntax. However, the physical structure of the sentence was marked so that it could be read according to Japanese grammar and syntax. Strictly speaking, it was a hybridized style peculiar to Japan of this period. If read according to the rules of classical Chinese, the style that was being emulated by the Japanese, it was the father Dōki who went to Luzon 呂宋 . The interpretational problem lies in the Kambun method of reading which is used by Japanese scholars. Accuracy is a function of the exegetical marks needed to correctly order the sentence according to Japanese grammar and syntax.

The other possible meaning of the passage is that Shōgen, who was also known as Dōki, was the one who went to Luzon. This interpretation appears to be a popular one in several Japanese texts and may be due to the transcription process mentioned above.

Koga doubts the account's veracity in regard to the destination Dōki and the wet nurse fled when they left Japan. Instead of Luzon, Koga suggests Macao, but he does not provide his reasons for the suggestion. He also points out that the date given at the end of the passage refers to the date of death of Shōgen and not of his father Dōki.

There are other primary source materials collaborating the basic features of the account in Nagasaki Senminden but with discrepancies in the chronology of the events. Examples of these are Higo Kurisaki Ka no Senzozusuke and Kurisaki Ryū Namban Geka Kaikiroku both by Nakagawa Kangetsusai of Kyoto. Fujikawa Yū's short account in his Nihon Igakushi, 1944, contains a simple typographical error in the date of the death of Shōgen, which gives Keisho 4 (1599), but should be Keian 4 (1651).

The following are sources that contain varying accounts of Kurisaki Dōki that are readily available today.

1. Fujikawa Yū, Nihon Igakushi, 1944, p. 265.
2. Daijimmei Jiten, s.v. "Kurisaki Doki," Vol. 2, p. 423.
3. Koga Jūjirō, Nagasaki Yōgakushi, 1968, pp. 143-151.
4. Koga Jūjirō, Seiyō Ijutsu Denraishi, 1944, pp. 34-42.
5. Meijizen Nihon Igakushi, Vol. 5, p. 400.
6. Sugimoto and Swain, Science and Culture in Traditional Japan, 1978, p. 220.
7. Sugita Gempaku, Dawn of Western Science . . ., 1969, pp. 4-5.
8. Tachibana, Terumasa, Nihon Igaku Senjinden, 1969, pp. 50-51.
9. Ebisawa Arimichi, Kirishitan no Shakai Katsudō oyobi Namban Igaku, 1944, p. 225.
10. Goodman, Grant, The Dutch Impact on Japan, 1967, p. 47.

APPENDIX 2

Daniel Busch's dates of residence in Japan vary widely depending on the source.

1. Bowers, John, Western Medical Pioneers in Feudal Japan, p. 31: 1662-1666.
2. Edo Jidai no Kagaku, p. 132: Perhaps Busch is here given as "Danner" since Busch's first name is Daniel. In Japanese the pronunciation can be "Danneru" or "Danieru." The dates given for "Danner" are 1663-1665.
3. Hattori, Toshirō, Edo Jidai Igakushi no Kenkyū, p. 331: 1663-1665.
4. Goodman, Grant, The Dutch Impact on Japan, p. 45: 1662-1663.
5. Fujikawa Yū, Nihon Igakushi, p. 306: Fujikawa refers to two names, "Daruneru Arumansu." He is here indicating two separate names rather than a given name and a surname. "Daruneru" refers to Daniel Busch and "Arumansu" to Almanus (Hermanus) Katz. Fujikawa gives no dates.
6. Koga Jūjirō, Seiyō Ijutsu Denraishi, pp. 75-78: Koga gives by far the best account. He states that Busch arrived in Japan in 1662 and left in 1663. He then returned to Japan in 1664 and remained at least until 1665.
7. Huard, Pierre, et al., La Medicine Japonaise des Origines a Nos Jours, p. 293: 1662-1665 (?).

APPENDIX 3

Wei 衛行 and Ying 營 (similar to Yung 榮) are terms that describe two primary energy forms in man that are responsible for his physical well being.

Wei ch'i 衛行気 is an energetic form that is characterized by muddiness and roughness, and is considered unclean and impure. It resides outside of the blood vessels and is functionally involved in the body defense mechanism.

Ying ch'i 營気 is a form of energy that moves within the blood vessels and is closely associated with blood. It is considered to be refined, clear, pure, and functionally nutritional. It plays an important role in the structural aspect of man's being. In many Chinese and Japanese sources, one will see the use of an alternate character yung 榮 . Nishiyama, pp. 21-23, s.v. "eki えき ," considers ying and yung interchangeable. Porkert, on the other hand, relates the possibility of a parallel tradition in the use of these two characters. However, he give precedence to the use of ying in the Ling Shu 靈枢 and prefers this usage.

Morohashi presents alternate definitions of ying and wei. He defines ying as arterial, implying blood, although another aspect of arterial blood could be implied; and wei as venous blood, but here again another aspect of venous blood could be implied. This view can certainly be derived from the passage in the Ling Shu:

清者爲營，濁者爲衛，營在脉中，
衛行在脉外。

Literally and strictly translated this reads:

> The clean one is ying 營 , the unclean one is wei 衛 , ying resides in the pulse, wei resides outside of the pulse.

This interpretation had at one time been accepted in modern mainland China but the older energetic definition is now the accepted view.

Nagoya Gen'i's explanation of disease implies the definition of wei as energy when he says:

> If the wei ch'i 衛気 weakens, then the one hundred diseases will be initiated; therefore, medicine must be those that help the ch'i.[1] In spite of that, people simply think that when the spleen and kidney[2] become depleted the the original ch'i 元気 is weakened, illness results. They do not realize that wei ch'i is the mother of the one hundred illnesses.

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[1]During this period, as the result of Liu Wan Su of the Chin dynasty (1126-1234), wei 衛 was thought of as ch'i 気 and ying was thought of as blood . See Fujikawa, 1944, p. 290, and Meijizen, Vol. 3, p. 45.

[2]This may be a typographic error. Stomach may be the intended word since the character for stomach 胃 resembles the character for kidney 腎 .

APPENDIX 4

EPOKARATESUDEN

"THE BIOGRAPHY OF HIPPOCRATES"

Hippocrates of Cos was a Greek. In the year 432 B.C., he was 104 years of age. It was also thought that he was 109 years of age. For the first time he pioneered the field of anatomy and based medicine on it. This method became widely accepted. His doctrine tended to be the basis for those who succeeded. According to ancient precepts, if one studies and researches the teaching for a long time, the principles of medicine will become more and more clear. The master set forth the foundation for those who attain success or greatness. After all, he was the progenitor of European medicine who made it prosperous and we should respect him. In addition, it has been so stated by the Dutch physician Jikuten.[1]

In the fifth chapter of Heister's work on internal medicine, the following was written by Hippocrates. He says: 'A physician must investigate the various diseases and thoroughly investigate their fundamental truth.[2] There is a subtle natural element at work in the human body. This life force supervises the entire human body so that it moves and animates itself automatically. There is nothing which the life force cannot do as it likes.[or] The physician who clearly understands this principle and practices medical therapy according to its naturalness, will have no confusion or danger whatever. What then is the essential nature of the human body? Even though a

or: There is nothing which will not work as it should.

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[1]"Jikuten" refers to Gerard Dieten, the person responsible for the Dutch translation of Anatomisch Tabellen by J. A. Kulmus.

[2]The character given is 理 , and can be translated or interpreted as "reason," "cause," "etiology," "nature."

body is sick, there is an active mechanism[1] by which it is able to cure itself. And we call it the human body's own great natural good doctor. A doctor who practices medicine is like the retainer who obeys the command of his master. His duty is nothing other than to follow the natural essence[2] as he prescribes a good method which[or] can remove the obstruction.[3]

or: . . . as he dispenses good prescriptions . . .

Therefore, if one who is able to know beforehand the fixed principle which exists in the human body and profoundly think about them and in accordance with the natural nature achieve his objectives directly,[or] then this person is a capable doctor.'

or: For this reason it is the duty of the physician to think very closely on the principles inherent in the human body beforehand, and in obedience to the qualities of nature apply his trade directly.

Shigekata says: 'This year Kansei 11 is 1799 A.D. (by European standards) and it was in the previous 432 that he (i.e., Hippocrates) passed away. That is, it was the 44th year of the reign of Emperor Kōshō corresponding to the 9th year of reign of Emperior Kōō of the Chou Dynasty and which was 2231 years ago. Our family has studied the teachings of Shimnō and Kotei for generations and treasures a picture of these two deities. I was the first to engage in the practice of Western medicine, which I studied diligently for a number of years. I want to take advantage of the strong points of Western medicine and to supplement Kampō.[or] There are very many quotations of Hippocrates in books. In reality, he is the founding father of European medicine who made it propserous.

or: . . . and to compensate for the shortcomings or weaknesses of Kampō.

Recently I have acquired a portrait of Hippocrates the master drawn by Koruneiki 可庵涅乙吉. It is lifelike and after 2000 years and separated by 90,000 miles, it still awakens feelings of respect. Out of admiration and respect, I had Tairō[4] copy it while I translated important sayings and the

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[1]"Mechanism" can also be translated "function."

[2]"Essence" can also be translated "nature."

[3]Lit. ". . . which can break through the obstruction."

[4]"Tairō" refers to Ishikawa Tairō.

personal history and put together a short biography which I placed above the portrait and placed it with the two deities.[1]

The following is the second of the two written essays dated 1799.

SEITETSU HIPOKARATESU SHINYOZU NARABINI YOGO

or

"THE AUTHENTIC PICTURE OF THE WESTERN PHILOSOPHER HIPPOCRATES AND HIS COMMENTS"

'All those whose profession is medicine should deeply ponder and study in detail the various diseases. One should know beforehand the universal essence and the universal truth of nature.[or] Moreover, at the same time, one should investigate the desires which are manifested by the will and the spirit of the human body, and then trace the direction to which the situation and words and deeds are affecting.[2] And then if one should follow this course, and apply his method of cure, then there will be nothing which would give him misgivings. What is this essential nature? Nature is the magnificent law that makes it work properly and quickly acts to mediate its curative powers as the great workman.[or] Therefore the doctor is still the servant who performs the duty.'

or: One should know beforehand the constant principles which lie behind the basic makeup of man's nature.

or: Nature is this. It is the great law that makes it work right and quickly acts to mediate its curative powers as a good technician.

The sayings on the right are written in the work of the Western physician Heister.

The Dutch physician Jikuten says: 'The ancient wiseman Hippocrates of Cos was born in Geri-kenrandō.[3]

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[1]The two deities here are Shinnō and Kotei.

[2]or: Moreover, at the same time, one should investigate the desire of the spirit and the will, and then trace the direction to the cause of the situation or movement and the function of the words and deeds.

[3]Lit. "Greek land."

He is said to have existed prior to 432 B.C. He is the founder of our European medicine. Anatomy is the basis of medicine. Hippocrates was the first to establish anatomy. He originated this study, and willed it to later generations. That is, he left to posterity, written materials concerning the study of anatomy. From then, those who inherited this achievement gradually increased. If one obeys ancient instruction, follows the old teachings, studying anatomy in detail, and clarifying the principles of medicine, one will become prominent. By discussing new ideas every day the method in the art of healing becomes clear. Thus attaining the present level. Since Hippocrates established this technique and he began this study, he opened this new field to the people. I should be very happy to write this.[1] He lived for 104 or 109 years, it is said.'

According to Shigekata, this year is our Kansei 11. It is the same as 1799 A.D. The first year of the Western system was the 30th year of reign of the Japanese Emperior Sui nin 垂仁天皇 which also corresponds to the first year of Genshi 元始[2] during the reign of Hei-tei 平帝[3]. It is said that the master existed prior to 432 B.C. That is, this was 2231 years ago and the time he existed was the 44th year of reign of Emperor Kōshō corresponding to the 9th year of reign of Emperior Kōō of the Chou Dynasty. Our profession for generations studied Shimnō and Kotei's method. Recently I newly began to engage in Western medicine. I took the strong points and I wanted to repair our profession. I glanced through Western medical books every day. In these books are used the genuine words of the master. They are the model for medicine and are the golden words which will remain unchanged forever. The people who use the words, use them without checking the authenticity. The master can actually be said the founder of that method and the deity of medicine. Recently I read a book of Koruneiki by chance. I saw the authentic portrait of the master. Its reverent countenance is worthy of contemplation. Its spirit is worthy of respect. With the

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[1]This passage makes reference to the Hippocratic quotation he had made earlier.

[2]"Yuan Shih" in Chinese.

[3]"Ping ti" in Chinese.

reverence I had on that occasion, I therefore asked Tairō to reproduce it again. Above the picture I wrote the important words from my notes. In addition, I noted the short biography. And then I constructed a single scroll and put it together with Shinnō and Kotei, and then worshipped them together.[1]

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[1]Tomio Ogata, 1971, p. 111.

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