

SEVENTEENTH-CENTURY LATIN ACCOUNTS OF ACUPUNCTURE AND MOXIBUSTION

BY

ROBERT W. CARRUBBA

Oriental and Western Medicine

The Yellow Emperor said: "The principle of Yin and Yang [the male and female elements in nature] is the basic principle of the entire universe. It is the principle of everything in creation. It brings about the transformation to parenthood; it is the root and source of life and death; and it is also found within the temples of the gods. In order to treat and cure diseases one must search into their origin. . . . Yin and Yang, the negative and positive principles in nature, are responsible for diseases which befall those who are rebellious to the laws of nature as well as those who conform to them."

These statements by the Yellow Emperor begin book two of the Chinese classic text on corporeal medicine.¹ At once, the Oriental philosophy of the universe embodied in them strikes our Western ears as thoroughly alien. And we are further astonished to learn that the cosmology of Yin and Yang furnished what must appear as a singularly irrational basis for traditional Chinese medicine, Chung-i. Philosophies and philosophers may be granted the indulgence to float and soar, but medicine, we insist, belongs to the realm of rational science where feet touch the ground and where reason and demonstrated fact are the measure of all things. Like us, the seventeenth-century physicians who visited the Orient

¹ *Huang Ti Nei Ching Su Wên: The Yellow Emperor's Classic of Internal Medicine* translated by Ilza Veith (Berkeley and Los Angeles, 1966) p. 115. The *Nei Ching*, termed the oldest and most important Chinese book on medicine, reports the discussions of the legendary emperor Huang Ti.

and published reports on its medicine were impressed by reason and verified facts but, unlike us, they were steeped in the medical philosophy of Greece and Rome which prevailed in Europe until the sixteenth century and whose influence was felt in clinical practice until the nineteenth century. The gap they perceived to exist between Oriental and Western medicine was not the unbridgeable one observed by Western physicians during the first half and more of the twentieth century.

In our century, the major attempts to bridge the gap between Oriental medicine and Western medicine occurred predominantly in the East at the urging of the Chinese communists in the 1940's. The solution to the shortage of Western-trained physicians in rural areas, Mao Tse-tung concluded, was to fuse Oriental and Western medicine. During the subsequent decade of the 1950's, however, it became clear that the fusion would result in the supremacy of Western medicine and, since there were not nearly enough trained physicians to care for the rural population, the disappearance of traditional medicine would leave the vast majority of the people with no medical care at all. Hence, a policy was formulated that Oriental medicine should be joined with, but not overwhelmed by Western medicine—the focus was “red and rural.”²

In the West, the two major Oriental surgical techniques of acupuncture and moxibustion have occupied the attention of researchers and practitioners since the latter half of the seventeenth century.³ This phenomenon, though amply documented, was little studied and largely ignored because Western scientific medicine had achieved impressive, demonstrable progress and on the whole felt it had little or nothing to learn from the traditional pseudomedicine of the Orient. This Western attitude, in turn, found support in the Orient from the Chinese of the 1930's and early 1940's who sought to embrace Western medicine and to reject their own. Glowing reports of spectacular results with acupuncture flowed from China during the 1950's and 1960's⁴

² On this policy, see *People's Daily*, Peking, July 8, 1969.

³ The author is currently working on a book about the introduction of Oriental medicine in the West with emphasis on acupuncture and moxibustion.

⁴ See, for example, *China's Medicine* 10, October, 1968 (success in cases con-

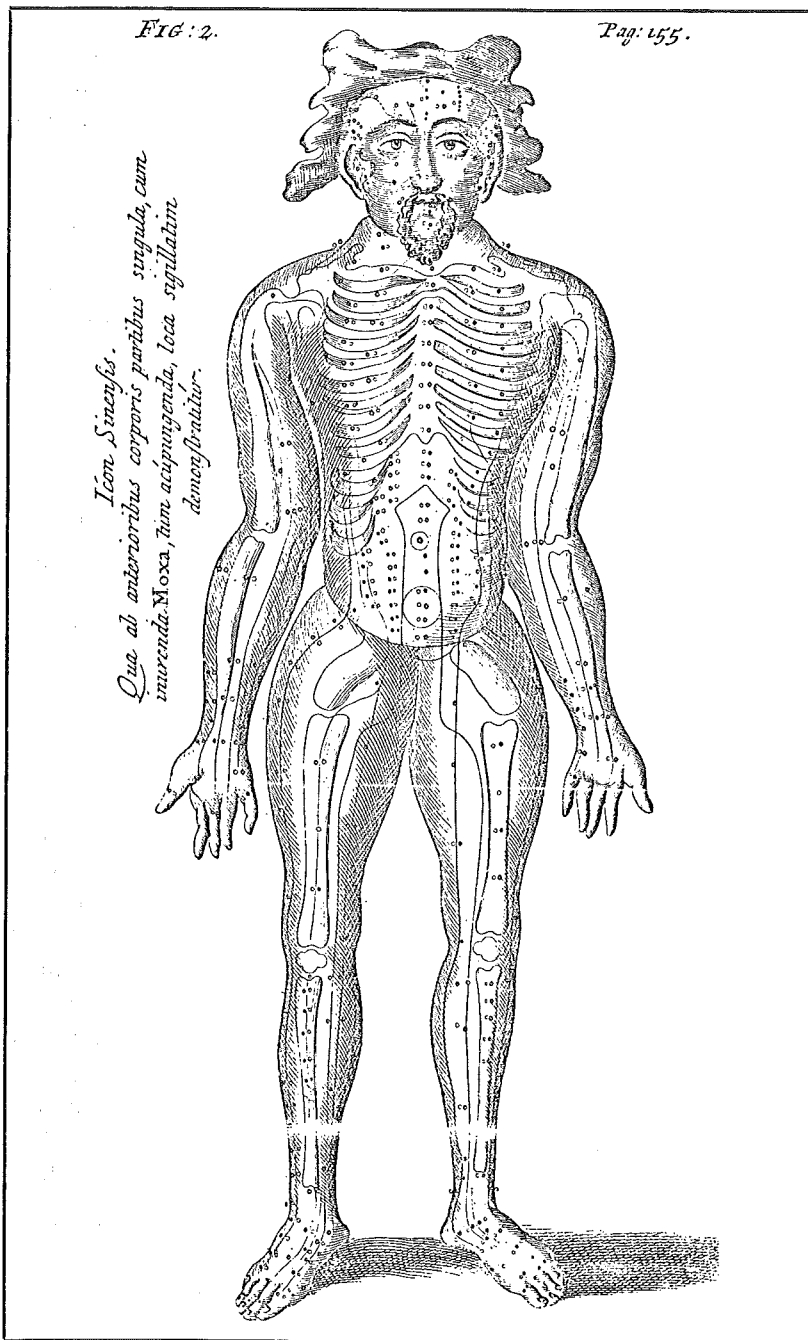


Figure 1. Chinese figure showing points for acupuncture and moxibustion on the anterior of the body.

but in the Western world these were on the whole viewed as orchestrated propaganda designed to increase the prestige of Communist China, or more charitably and less politically, as unscientific wishful thinking. As contact, however, between China and the United States grew, reports⁵ by Westerners of successful treatments with acupuncture and moxibustion created an awareness and interest among the public and the scientific community. Now one could respectably speculate about the *possible* values of Oriental medicine. Articles in popular journals such as *Time* and *Life* appeared along with diagrams showing strange lines and points quite inconsistent with established anatomy.

This revival of lay and professional concern with Chinese traditional medicine curiously parallels the events of the late seventeenth century. In both cases, Westerners visited the Orient during a period of closure or very restricted contact. The Westerners observed cures with acupuncture and moxibustion. They reported these along with a strange medical philosophy accompanied by exotic charts. Whether the parallel will be extended by a repetition of a period of intense interest followed by general disenchantment and the relegation of Oriental medicine to a limited group removed from the main stream of accepted practice is a question, the answer of which lies in the future.

While noting the parallel we must not overlook a significant difference indicated earlier. Let us examine the theoretical basis of Chinese medicine called Chung-i. In Oriental thought, both the universe and man are governed by the principle of Yin and Yang. Yin may be described as the dark or shadowy side, negative and female. Yang is the bright or sunny side, positive and male. On the level of the macrocosm, the harmony of these forces produces the orderly succession of seasons and is responsible for the alternation of day and night. When Yin and Yang fall into a state of imbalance, they cause disturbances in nature such as earthquakes, floods and droughts. On the level of the microcosm or nature's tiny image, man, the proper balance of Yin and Yang maintains a state of physical health. Illness and disease are the results of

sidered incurable by "bourgeois doctors"); and *China Reconstructs*, September, 1969 (cures for deaf-mutes).

⁵ See, for example, *The New York Times*, July 26, 1971, pp. 1, 6.

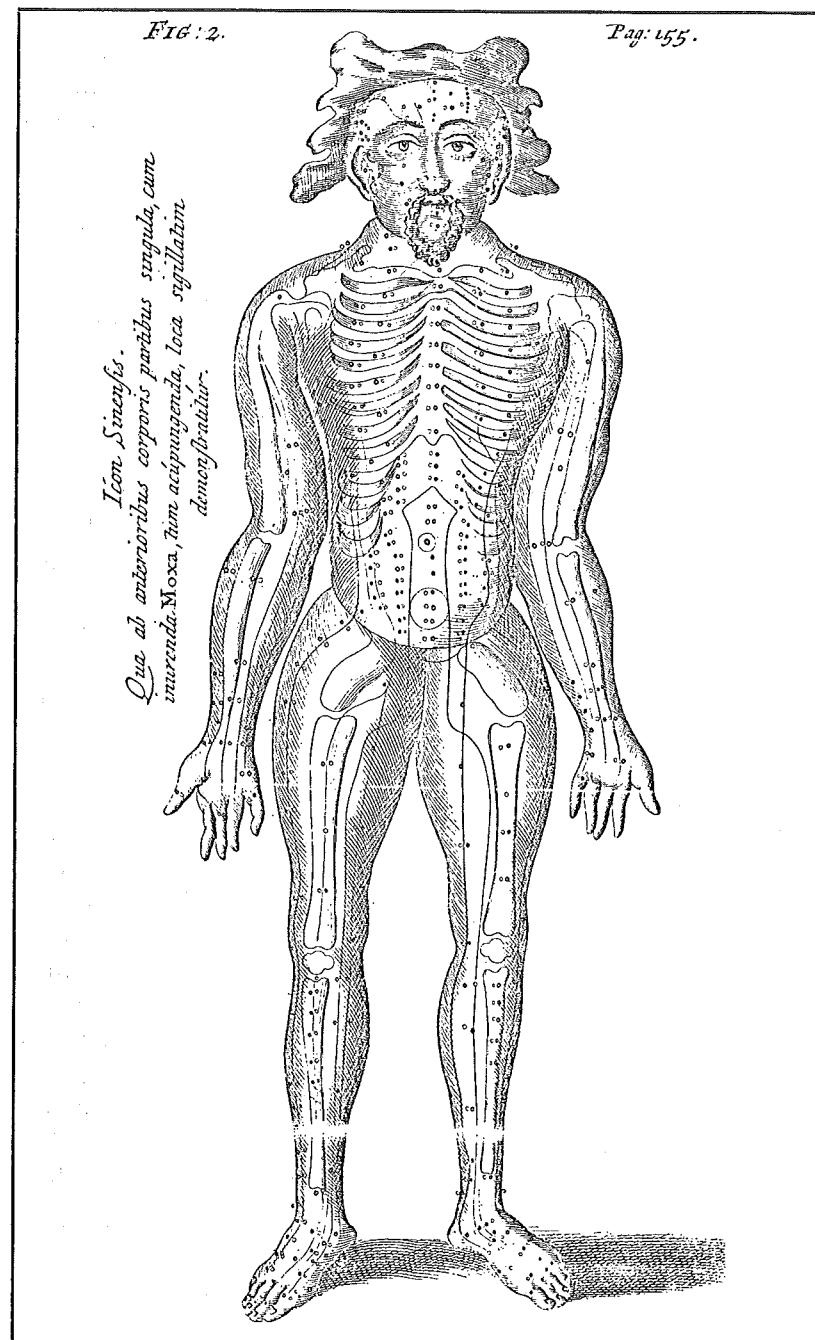


Figure 1. Chinese figure showing points for acupuncture and moxibustion on the anterior of the body.

but in the Western world these were on the whole viewed as orchestrated propaganda designed to increase the prestige of Communist China, or more charitably and less politically, as unscientific wishful thinking. As contact, however, between China and the United States grew, reports⁵ by Westerners of successful treatments with acupuncture and moxibustion created an awareness and interest among the public and the scientific community. Now one could respectably speculate about the *possible* values of Oriental medicine. Articles in popular journals such as *Time* and *Life* appeared along with diagrams showing strange lines and points quite inconsistent with established anatomy.

This revival of lay and professional concern with Chinese traditional medicine curiously parallels the events of the late seventeenth century. In both cases, Westerners visited the Orient during a period of closure or very restricted contact. The Westerners observed cures with acupuncture and moxibustion. They reported these along with a strange medical philosophy accompanied by exotic charts. Whether the parallel will be extended by a repetition of a period of intense interest followed by general disenchantment and the relegation of Oriental medicine to a limited group removed from the main stream of accepted practice is a question, the answer of which lies in the future.

While noting the parallel we must not overlook a significant difference indicated earlier. Let us examine the theoretical basis of Chinese medicine called Chung-i. In Oriental thought, both the universe and man are governed by the principle of Yin and Yang. Yin may be described as the dark or shadowy side, negative and female. Yang is the bright or sunny side, positive and male. On the level of the macrocosm, the harmony of these forces produces the orderly succession of seasons and is responsible for the alternation of day and night. When Yin and Yang fall into a state of imbalance, they cause disturbances in nature such as earthquakes, floods and droughts. On the level of the microcosm or nature's tiny image, man, the proper balance of Yin and Yang maintains a state of physical health. Illness and disease are the results of

sidered incurable by "bourgeois doctors"); and *China Reconstructs*, September, 1969 (cures for deaf-mutes).

⁵ See, for example, *The New York Times*, July 26, 1971, pp. 1, 6.

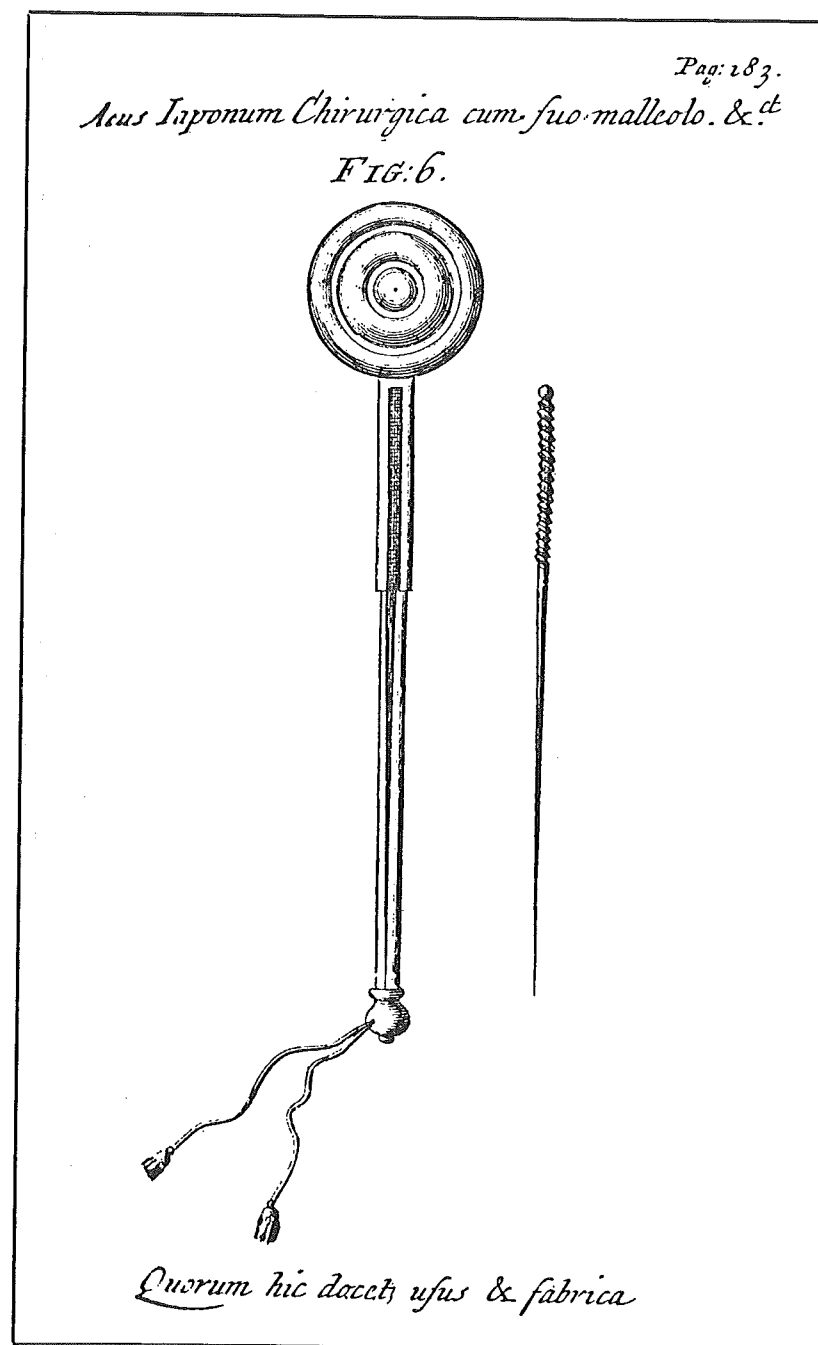


Figure 2. Hammer and needle.

disproportionate amounts of Yin and Yang, too much of one and too little of the other. The object of Chung-i is then to restore the correct balance of Yin and Yang. According to the traditional theory, the forces of Yin and Yang operate through twelve meridians or channels in the body. Along these channels are located three hundred and sixty five points which have a direct connection to specific organs of the body. The numbers twelve and three hundred and sixty five correspond to the numbers of months and days in a year.⁶ By the insertion of slender needles or by burning cones of dried *Artemisia vulgaris* (wormwood) at these points on the body the flow of Yin and Yang can be adjusted. Apparently, the two techniques permit the entry or exit of what is called breath of which there are six types: cold and heat, wind and rain, light and darkness.⁷

Although the Chinese doctrines and surgical remedies differ considerably from the medicine of Greece and Rome, there are nonetheless parallels which our two seventeenth-century physicians, Doctors Ten Rhijne and Kaempfer, and others have cited. Ten Rhijne relates how the Japanese attempt to rid the body of noxious winds which are the main sources and masters of all occurrences in the human body, and then footnotes this with a reference to the treatise of Hippocrates, *On Winds* 4.⁸ Kaempfer says that the Chinese, when asked about the causes of illnesses, appear to imitate Hippocrates in alleging winds and vapors as the causes of almost all ailments of the human body, particularly

⁶ The accepted number of points has been enlarged over the centuries; about 800 or 1,000 are often cited.

⁷ Of the numerous books intended to explain theory and techniques we may cite two works by Felix Mann, the first intended for "the non-medical reader, who wants a grasp of acupuncture in a few hours," and the second written "from the point of view of doctors and others having a greater interest in Far Eastern philosophy and medicine": *Acupuncture - Cure for Many Diseases*; and *Acupuncture: The Ancient Chinese Art of Healing* (London, 1971).

⁸ Willem Ten Rhijne, *Dissertatio de arthritide: mantissa schematica: de acupunctura: et orationes tres I. de chymiae et botaniae antiquitate et dignitate. II. de physiologia. III. de monstris* (Londini 1683). See Robert W. Carrubba and John Z. Bowers, "The Western World's First Detailed Treatise on Acupuncture: Willem Ten Rhijne's *De Acupunctura*," *Journal of the History of Medicine*, volume 29, October, 1974, pp. 371-398.

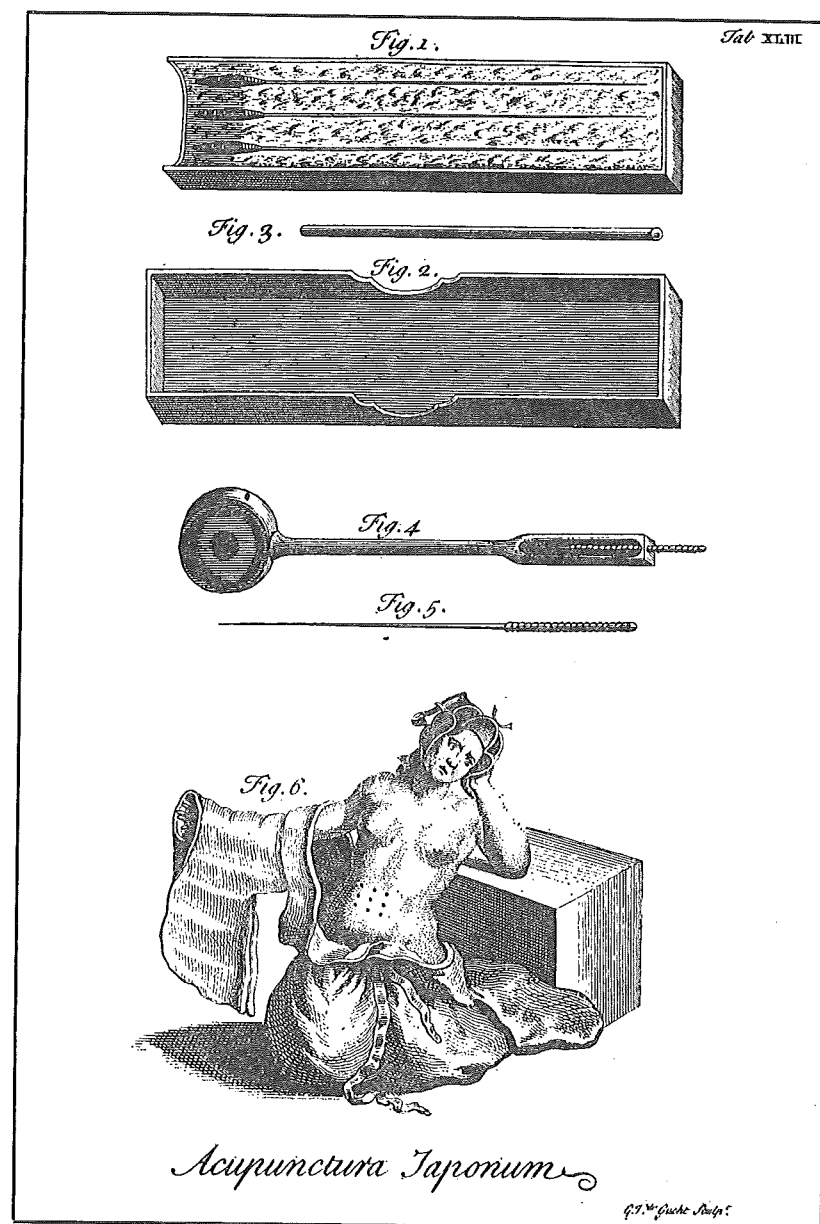


Figure 3. 1 and 2: Wooden case with three acupuncture needles. - 3: Tube used to guide the needle. - 4: Hammer used to drive the needle into the skin. - 5: Typical needle. - 6: Patient treated for colic of the epigastrium by nine punctures precisely arranged.

those accompanied by pain.⁹ Again Ten Rhijne asserts that with respect to winds, the Japanese and Chinese alike follow Hippocratic teaching about winds traveling between the skin and the muscles through tiny channels which are invisible to the human eye. And he credits the Chinese with a better knowledge of the circulatory system, the usual haunt of noxious winds.

We may continue the parallels or similarities. According to Aristotle, there are four fundamental qualities: the hot and the cold, the wet and the dry. In binary combination they constitute the four elements of non-living matter: earth, air, fire and water. Water is wet and cold; fire is hot and dry, etc. Humoural theory posited that the body is composed of the four humours or liquids (blood, phlegm, black bile and yellow bile) and that disease results from an excess or deficiency of one or another humour. In Galen's physiological scheme the principle of life is breath or spirit which travels in channels too minute for observation.

No wonder that early reports of Oriental medicine stress its similarity to Western medicine. Both systems view health and illness as the products of balance and imbalance. With respect to remedies, moxibustion is not far removed from Western cauteries and the famous maxim in the Hippocratic corpus: "What drugs fail to cure, is cured by the knife; what the knife cures not, is cured by fire; what fire fails to cure, must be called incurable." In 1669 the philosopher Leibniz allowed that Chinese medicine was at least equal to Western medicine; still others greeted early reports as presenting a system superior to that of Galen. And it is to early reports and their authors that we now turn.

William Ten Rhijne

Scant biographic data are available on Dr. William Ten Rhijne, physician and naturalist.¹⁰ Born in Deventer about 1640, he earned his M.D. at Leyden where he studied under the celebrated Dubois de le Boë. Early in 1673 Ten Rhijne sailed from Holland, bound

⁹ Engelbert Kaempfer, *Amoenitatum exoticarum politico-physico-mediciarum fasciculi V* (Lemgoviae 1712). Fascicle III contains Observation XI on acupuncture, pp. 582-589, and Observation XII on moxibustion, pp. 589-605.

¹⁰ See Michaud's *Biographie Universelle* and John Z. Bowers, *Western Medical Pioneers in Feudal Japan* (Baltimore 1970).

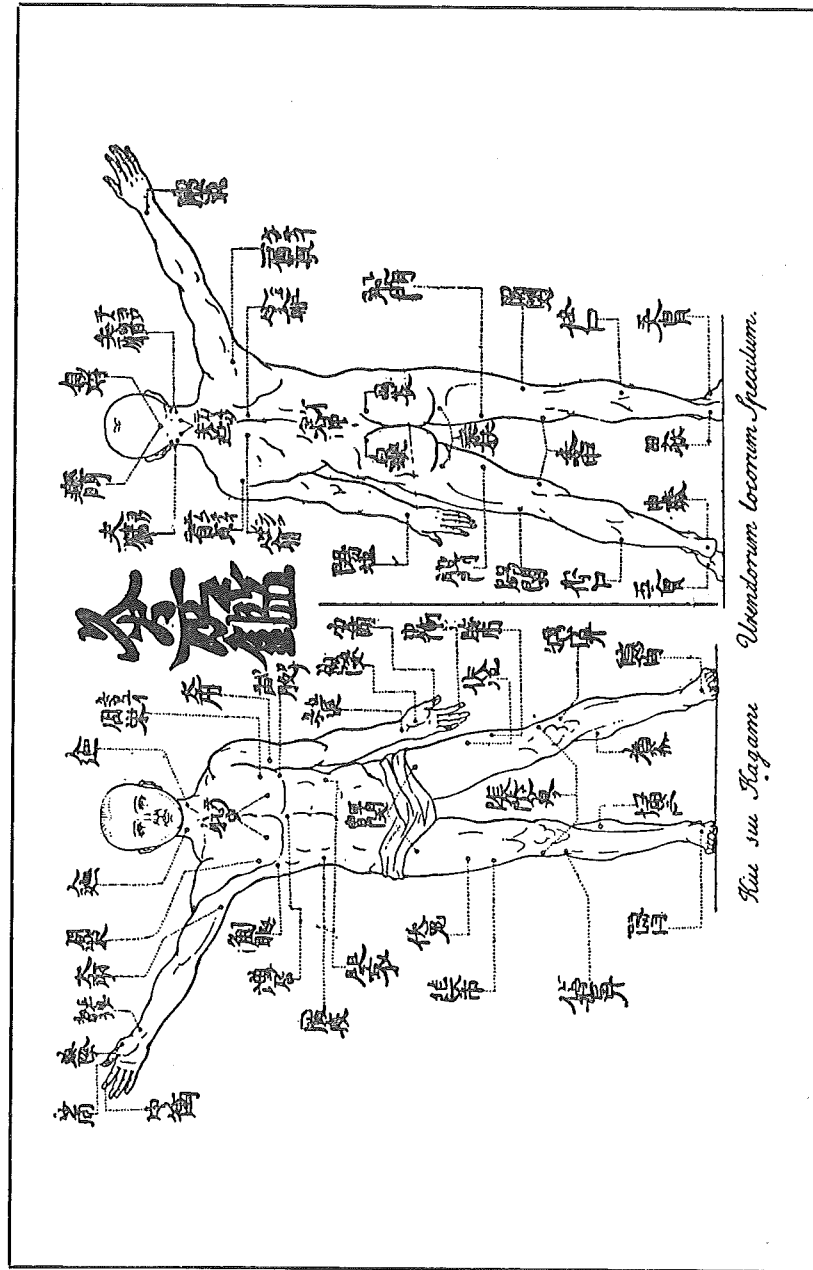


Figure 4. Points for moxibustion.

for the Dutch East Indies. As was customary, his ship, the *Ternaten*, docked at the Cape of Good Hope. While the ship lay at anchor, Ten Rhijne gathered what information he could on both the cape and the native Hottentots. His Latin treatise on the Hottentots, which furnished a considerable amount of first-hand data on this fascinating people, reflects the viewpoint of a civilized European not a little bewildered and sometimes appalled with the mores of these primitives.¹¹ Ten Rhijne marks an advance on earlier knowledge especially in the areas of mode of living, medicine, religion, and physique. His observations are not without a bite: "You might as well look for jewels in a sty as for arts in this degraded people." Again, "they resort to war at the slightest cause," and employ weapons whose tips are treated with deadly snake venom. In a final chapter, Ten Rhijne remarks on the language of the Hottentots:

If one listens to them talking, one supposes the age of Pythagoras to have returned, in which birds were fabled to have enjoyed mutual converse in speech. In sober truth it is noise, not speech, if one attends to the mode of expression of the Hottentots; for every single word is finished by a noisy click of the tongue against the echoing palate. One would not be wrong in saying that this clicking of the tongue against the palate is the main element in the sounds, but that the linking of the sounds is fetched up from their deep chests, their lips being generally rounded. The result is that they are bereft of all interchange of speech with other races; nor after all this lapse of time can one of our countrymen be found who can converse perfectly with them.

Upon arrival in Java, Ten Rhijne instructed surgeons in anatomy and medicine. His free time he gave to botanical excursions which resulted in numerous reports of unknown plants. From Java, Ten Rhijne voyaged to Japan in the capacity of physician of the Dutch East India Company.

¹¹ *Schediasma de Promontorio Bonae Spei; ejusve tractus incolis Hottentottis* (Schaffhausen 1686). Quotations in English translation are from the translation by E. Farrington in *The Early Cape Hottentots* (Cape Town, 1933).

But for Ten Rhijne the Japan of 1674 was the Japan of the period of closure. It was, in fact, for the most part what amounted to a prison on the man-made island of Deshima in Nagasaki harbor. Since 1641, some two centuries before Admiral Perry, the Japanese government had maintained a little window on the Western world via a small group of Hollanders, including a Director and physician, who were confined to Deshima for purposes of trade and information. We know a great deal about the island and conditions thereon from Ten Rhijne's later successor, Dr. Engelbert Kaempfer who called Deshima, quite simply, a prison.¹² The fan-shaped man-made island in the harbour of Nagasaki rose about 1/2 fathom above the high-water mark, measured 82 paces in width and 240 paces in length and was fenced all around. A small stone bridge, like the "handle of a fan," connected Deshima with the mainland where there stood a strong guard-house with soldiers constantly on duty. Dutch ships arrived once each year, approaching only after rigid formalities and careful search. Deshima's two-storey buildings provided storage space on the first floor and living quarters on the second floor. In addition to the small group of Dutchmen, the island was populated by large numbers of highly stratified officials, interpreters, servants and workers. Kaempfer sums up life on Deshima: "Thus we live all the year round little better than prisoners, confined within the compass of a small island, under the perpetual and narrow inspection of our keepers." The following posted regulations support his judgment:

Regulations concerning the Street Desima

Whores only, but no other Women, shall be suffer'd to go in. Only the Ecclesiasticks of the mountain Koja shall be admitted. All other Priests, and all Jammabos, shall stand excluded. All beggars, and all persons that live upon charity, shall be denied Entrance. No body shall presume, with any ship or boat, to come within the Palissadoes of Desima. Nobody shall presume, with any ship or boat, to pass under the bridge of Desima. No Hollander shall be permitted to

¹² *The History of Japan*, translated by J. G. Scheuchzer, 2 vols. (London, 1727); reprinted in 3 vols, 1906.

come out, but for weighty reasons. All the above mention'd orders shall be punctually obeyed.

The Hollanders looked forward to rare opportunities to cross the bridge to the mainland. Once or twice a year they were permitted to walk about the adjacent country and to visit the temples around Nagasaki. This liberty was more often granted to the island doctor on the pretext of searching after medical plants. But the great occasion of each year was the journey from Deshima to the Court of Edo. The Dutchmen, led by their Director and closely guarded by the Japanese, set off on a journey of hundreds of miles by land and sea to report on the state of their trade and to furnish information on other countries, especially Portugal, with whom they had contact. On one such visit to court, Ten Rhijne is reported to have successfully treated the emperor for a serious illness, but the circumstances are unclear. The Japanese spared no effort to keep the Dutch ignorant of events in Japan and to prevent the introduction of Christianity by Westerners.

Nonetheless, an inquisitive and resourceful physician could prevail over the precautions of his jailers. Ten Rhijne's Latin treatise on acupuncture, the first detailed report to be published in the Western world, furnishes a happy example. This is the extraordinary manner in which Ten Rhijne managed to gather materials for the publication in 1683 of some fifty pages of text and five illustrations. First, Ten Rhijne acquired, from an unknown source, documents in both Chinese and Japanese. Next, it was necessary to get them translated into Dutch. And finally Ten Rhijne had to write a Latin translation along with introduction, commentary and other material. He made every effort to meet a Japanese physician who knew Chinese. Not all Japanese physicians knew Chinese; the Dutch had limited access to Japanese doctors; the Japanese were quite reluctant to share the mysteries of their medical art, especially with foreigners—these are the obstacles he lists. Ten Rhijne's efforts succeeded as he wished when Iwanango Zoko, a Japanese physician, was sent by the governor of Nagasaki to put certain medical questions¹³ to Ten Rhijne and to await his answers. Ten Rhijne seized the

¹³ Ten Rhijne calls them "bothersome trifles."

opportunity to prevail upon Zoko to translate the Chinese material into Japanese. Such persuasion usually took the forms of money and information about Western medicine. Then Mottongi Sodaio, an interpreter on Deshima, translated the Japanese into Dutch. Eventually Ten Rhijne himself turned the Dutch into Latin, the international language of the scientific community. The procedure presented problems: not all the Chinese was translated because of his interpreters' inexperience and limited vocabulary in Dutch, and Ten Rhijne indicates that what was translated was not always clear to him. The original documents in Japanese were translated by Sodaio.¹⁴

Let us first note the organization of Ten Rhijne's treatise: Part I: A) Introduction; B) Chinese illustration of the anterior with text; C) Chinese illustration of posterior and sides with text; D) Japanese illustration of the posterior and sides with text; E) Japanese illustration of the anterior with text. All four illustrations show the points for acupuncture and moxibustion. Part II: A) Preface on European surgery as contrasted with Oriental acupuncture; and B) Illustration of the needle and hammer along with description and instructions for their employment. Part II is followed by an epilogue and an appendix (see Figure 1).

We may now take as a sample the translation of page 183, the first page of text and notes immediately following the illustration of the hammer and needle (see Figure 2):

The needle must be long,(1) sharp,(2) and round.(3) It must have a spiral-grooved handle and be made of gold.(4) Occasionally the needle is made of silver, but never of any other metal.

- (1) Because sometimes it is inserted rather deep.
- (2) To allow it to penetrate more easily.
- (3) For easier rotating. For the same reason, the handle is made with spiral-grooves.

¹⁴ A curious twentieth-century parallel is worth noting. A work called "the first complete textbook of modern Chinese Acupuncture that has ever appeared in the English language" and entitled *Chinese Acupuncture* by Dr. Wu Wei-P'ing (Rustington, Sussex, 1964) was translated into English and adapted by Phillip M. Chancellor not from the Chinese original but from the French translation and adaptation by J. Lavier.

- (4) The best needles are made on the island of Korea and are sold for a high price at the Japanese emporium of Kio or Miaco, not because great skill is required to manufacture the needles but, in my opinion, because a secret process is employed in tempering the metal.

The needle must be driven into the affected part of the body with either a simple puncture or by rotating (with the tips of the index finger and the thumb), or with a gentle tap of a hammer.(1) The factors determining the method of insertion are the nature of the ailment(2) and the structure of the part of the body(3) which is to be punctured.

- (1) This hammer is made of ivory, ebony or another rather hard wood. The disk on either side of the hammer is either smooth or slightly carved with tiny apertures which are only surface deep and into which the head of the needle can be fitted. The interior of the handle is hollowed out to store the needle which must be wound with a silk cord or secured with a ring. Both needle and hammer are here pictured.
- (2) If the winds are lodged deeper in the organs, the needle must be driven in farther; the reverse is also true.
- (3) The needle does not penetrate hard skin as easily as soft skin; sinewy parts must not be punctured as deeply as fleshy parts.

What strikes one as particularly noteworthy in the original is the precision of Ten Rhijne's account and the excellence of the Latin language as a vehicle for the transmission of medical knowledge—a vehicle whose range of audience was not limited by the multiplicity of modern languages. Ten Rhijne, a Dutchman, was at once clear and intelligible to physicians and interested laymen thanks to the Latin language here employed not only as a bridge between European countries but also as a bridge between East and West.

In 1676, upon completion of his two-year tour of duty at Deshima, Ten Rhijne returned to Java where he continued to

practise medicine and to engage in research until his death around 1700. Another physician, a German, would furnish more reports from Deshima.

Engelbert Kaempfer

Dr. Engelbert Kaempfer has been called "the Humboldt of the 17th century," and the "epitome of the Renaissance man."¹⁵ His *History of Japan*, translated and published posthumously in 1727, is cited as the most thorough and widely quoted account of the period it covers. But perhaps the great botanist Linnaeus paid Kaempfer his greatest compliment in saying "No man deserved better of the Japanese." About Kaempfer, much ought to be said, but I will limit myself to a brief sketch.

Engelbert Kaempfer was born in 1651 at Lemgo in Westphalia. His father, Johannes Kaempfer, served as minister of Lemgo's Church of Saint Nicholas while Kaempfer's mother was the daughter of Joachim Drepper, former minister of the very same church. After an early liberal education, Kaempfer studied at Danzig where in 1673, at the age of twenty-two, he publicly defended his dissertation, *Exercitatio politica de majestatis divisione*. Kaempfer's studies continued at the University of Krakow for three years with emphasis on philosophy and foreign languages. Still another four years at Königsberg in Prussia were devoted to sustained studies in medicine and natural history. The combination of political science, foreign languages, medicine and natural history helped make possible Kaempfer's varied and accurate reports and discoveries.

His formal education nearly completed, Kaempfer journeyed to Sweden where he spent an additional year in study and from where his career as a cultural and scientific explorer began. Kaempfer rejected safe and prestigious offers which would have kept him in Sweden for the position of Secretary of the Swedish Embassy to the Court of Persia. In March 1683, the embassy left for the Court of Moscow and then traveled on to the Court of Persia at Isfahan. When trade negotiations were concluded in

¹⁵ See John Z. Bowers, "Engelbert Kaempfer, Physician, Explorer, Scholar, and Author," *Journal of the History of Medicine*, Vol. 21, 1966, pp. 237-59.

1685, Kaempfer declined to return to Sweden. He also received and refused a handsome offer to serve as chief physician to a Georgian prince. In the preface to his *History of Japan*, Kaempfer explains his choice in favor of what he terms "less honourable employment:"

Germany was as yet engaged in war with the Ottoman Porte and the most Christian King, when the Swedish Embassy, which I had the honour to attend as Secretary, was dismiss'd by the Persian Court. It agreed best with my inclination to undertake a farther journey, and I chose rather to lead the restless and troublesome life of a Traveler, than by coming home to subject myself to a share in that train of calamities my native Country was then involved in. Therefore I took my leave of the Ambassador, and his retinue, (who did me the honour to attend me a mile out of Isfahan) with a firm resolution to spend some years longer in seeing other Eastern Courts, Countries and Nations.

This "less honourable employment" was, in fact, that of chief surgeon of the fleet of the Dutch East India Company, but research and illness combined to detain Kaempfer in Persia until late June of 1688.

During this period of 1683–1688, from Stockholm, Sweden to Gamron in Persia, our German traveler, Engelbert Kaempfer, had already compiled sufficient materials to cover more than five hundred printed pages with reports ranging from whirlpools on the Caspian Sea to the Medina Worm which infests the human body.¹⁶ Not his least accomplishment was a description of the current State of Persia, the best account of its era. Now age 37, Kaempfer could have undertaken a lucrative and respected medical practice, free to spend his leisure hours writing his memoirs and secure in the expectation of an international reputation as a scholar, scientist and explorer. That he chose to explore further postponed marriage and a comfortable way of life, but it also paved the way for his greatest accomplishments.

Kaempfer's ship, *De Waelstroom*, sailed from the port of Gamron

¹⁶ Eventually published in his *Amoenitates exoticarum*, 1712.

for Batavia in the Dutch East Indies. The voyage lasted from June 1688 until September 1689, with stops along the way at such places as Malabar, Ceylon, the Gulf of Bengal and Sumatra. Again, cultural and scientific reports followed. We may note a few: 1) a splendid account of Persian and Indian drugs, including their fraudulent religious use and Kaempfer's personal experience of the ecstatic state coupled with a warning against the evils of addiction; 2) how Indian snake charmers actually work with fixed and trained cobras; and 3) two first-rate very early medical report on diseases endemic in Malabar.

In May 1690, Kaempfer left Batavia, bound for Japan. True to character, he contrived to sail on a ship which was scheduled to stop at Siam—an account of the Kingdom of Siam followed. Japan, however, was Kaempfer's cherished goal; the Western world knew precious little of virtually every aspect of this country, a condition Kaempfer intended to remedy. His monumental *History of Japan* recounts the information he was able to acquire during the two-year period, 1690–1692. Like Ten Rhijne, Kaempfer's everyday Japan was not the sprawling mainland cities, but the limited acres of the carefully guarded island in the harbour of Nagasaki. The boredom, loneliness and seclusion had not changed in the fourteen years since Ten Rhijne had last been there. For Kaempfer, there were two opportunities to make the annual *hofreis* to Edo, and to collect information along the way.

But day-to-day life must have been trying, though not defeating. Even as regulations had not thwarted Ten Rhijne, so too they were bent and broken even more so by Kaempfer. He says:

Ever since the Roman Catholick Religion hath been extirpated, the Dutch and Chinese Merchants in a manner imprison'd, and the whole Empire shut up to all Commerce and communication with foreign nations, the natives must be extreamly cautious and reserved in their behaviour with regard to those foreigners, who are permitted to trade and are tolerated among them. Those in particular who are more immediately concerned with our affairs, are all obliged, by a solemn oath, not to discourse with us, nor to discover any thing to us, of the condition of their Country, the Religions

therein established, the private transactions at Court and in the Empire, and other things, and they are so far necessitated to be upon their guard, as by the same oath they are tied down to watch and to betray one another. For a farther confirmation, this oath is renew'd to them every year.¹⁷

While conceding that the "difficulties . . . are great and considerable," Kaempfer adds "but not altogether insuperable." Proper management could and did overcome the formidable precautions of the Japanese government. Kaempfer recognized that oaths sworn to gods or spirits which were worshipped by few and known to none were less a hindrance than fear of detection and punishment. Again, the individual Japanese were, Kaempfer reports, civil, polite and curious; they were desirous of friendship with foreigners and especially of information about Western history, art and science. Proper management, then, took the forms of "a willingness to comply with their desire, a liberality to please their avaricious inclinations, and a submissive conduct to flatter their vanity." Kaempfer liberally assisted the Japanese interpreters with advice, medicines, information on astronomy and mathematics, and with European liquors. After the liquor no question about Japan went unanswered. One association, however, proved more useful than the others. Kaempfer was assigned a "discreet" young Japanese about twenty-four years old. The "discreet" young man was not only Kaempfer's servant but was to be instructed by Kaempfer in medicine and surgery. Kaempfer instructed and in addition paid the young man a handsome salary; in return the young man, who had learned both Chinese and Dutch, brought Kaempfer every book requested and explained whatever puzzled the doctor.

Kaempfer left Japan in 1692 and arrived at Amsterdam in October, 1693. In April 1694, he received his M.D. from the University of Leyden, the occasion for his inaugural dissertation entitled, "Ten Exotic Observations,"¹⁸ fruits of his travels. The

¹⁷ Author's Preface, *The History of Japan*.

¹⁸ See John Z. Bowers and Robert W. Carrubba, "The Doctoral Thesis of Engelbert Kaempfer on Tropical Diseases, Oriental Medicine, and Exotic Natural Phenomena," *Journal of the History of Medicine*, Vol. 25, 1970, pp. 270-310.

long-postponed return to his native land, the prestigious medical practice, and marriage finally occurred. His marriage to Maria Sophia Wilstack in 1700, when she was a youthful sixteen and Kaempfer about fifty, was less than successful. Maria Kaempfer bore three children, one son and two daughters; all died in their infancy. After a series of attacks of colic, Engelbert Kaempfer died at the age of 65 and was buried in the church of Saint Nicholas at Lemgo in 1716.

Two of Kaempfer's works deal with acupuncture and moxibustion. Observations nine and ten of his 1694 Leyden dissertation offer brief accounts which Kaempfer enlarged into observations eleven and twelve of fascicle three of his *Amoenitates exoticarum*, published in 1712. Kaempfer stresses acupuncture as a cure for colic or, to use the Japanese term, senki. So endemic is the disease that, Kaempfer asserts, scarcely one person in ten has not suffered from it. Senki is not merely any stomach pain but one which, while rending the intestines, simultaneously causes convulsions of the groin. Here are the Japanese theory of the disease and Kaempfer's interpretation:

The disease matter turns into a vapor, or as the Japanese say, a very sharp spirit, which distends, erodes and tears the membranes. Consequently, if the area, in which the eroding spirit is imprisoned, is penetrated and the spirit is set free from the confined area which it distends, the fierce sensation of pain caused by the enlargement will cease instantaneously. Westerners incorrectly term the disease *colica*, a Latin word derived from the intestine which is usually not at fault. The gymnosophists, however, in keeping with the better judgment of the Japanese and Chinese, prefer to call the ailment in their language *a spasm of the abdomen and intestines*.

The cure for senki—the affliction suffered by this well-developed patient—Kaempfer describes as follows (see Figure 3):

The Japanese employ anticolic acupuncture on the epigastrium. This requires in all nine punctures arranged in three rows in the shape of a parallelogram with a distance of two inches (for male adults) between punctures. These three rows

are distinguished from one another in acupuncture instruction by having their own names and rules. The first row, called Sjoquan, is made just below the ribs; the second row, named Tsjuquan, occupies the midpoint between the navel and the mucronate cartilage; the third row, termed Gecquan, is located one half inch above the navel. I have a number of times witnessed the employment of this method of acupuncture which is illustrated for the reader in this chapter. Usually, after the three rows of punctures had been made according to the instructions of an expert and to the proper depth, the colic pains, called Senki, ceased immediately as if by magic.

Moxa, Kaempfer relates, is soft down or tender flax. It is ash-colored, very readily catches fire, has scarcely visible sparks and a moderate heat, and burns slowly until it is entirely consumed to ashes. Moxa is made from leaves of the young *Artemisia vulgaris* which are collected under special circumstances: the first five days of the fifth Japanese month (June or the end of May). The leaves are thoroughly dried and preserved for as long as ten years—the older the leaf, the greater the potency and tenderness. The leaves are then ground in a pestle and rubbed with the hands. A small quantity of moxa is rolled with the tips of the fingers into a cone. Ordinarily, the height of the cone is one inch and the diameter of the base is slightly less than one inch. Once the cone is placed on the appropriate location, it is ignited and a tiny flame burns away the cone in a short time. Males, females, old and young are burned—with only a slight pain.

The Japanese practitioners of moxibustion were in agreement that moxibustion is necessary both as a cure and a preventive for disease. In fact, stress is laid on preventive burning—even criminals under a life sentence are permitted this surgery twice each year. What points are to be burned, how frequently they are to be burned and when and for what ailments were open questions. The skilled practitioner based his method on what he had learned from his teachers and from his own experience. If one asks, Kaempfer says, for what illnesses burning is appropriate, the Chinese as well as the Japanese will reply: Burning is appropriate

for all the various diseases in which the imprisoned vapor causes a dissolution of solids, pain and an impairment of proper functioning. The result is that moxibustion is prescribed for almost the entire list of illnesses.

The essence of the art lies in the knowledge of the proper location to be burned for a given malady. A European is likely to choose a location closest to the afflicted part. But Kaempfer warns us that the practitioner usually selects a remote location—often one not related to the troubled part by any known anatomical connection. He cites the following examples: for indigestion and loss of appetite the shoulders are burned; the adducting muscle of the thumb is burned to relieve toothache.

For the ordinary person given, by necessity or choice, to self-treatment, charts were sold in shops or hawked on the streets. Here are two such figures Kaempfer has copied along with the explanatory notes. In this age of women's liberation I quote three directions (see Figure 4):

- 1) For difficult childbirth: burn three cones on the very tip of the little toe of the left foot. This instant relief promotes delivery.
- 2) Any woman, who wishes to make herself immune to conception, will burn three cones of artemisia on the navel.
- 3) Any woman, who desires children and who wishes to prevent infertility, must burn eleven cones on each side of the twenty-first vertebra.

Assessment of Acupuncture and Moxibustion

Both Ten Rhijne and Kaempfer maintained an open-minded and generally positive view of the therapeutic values of acupuncture and moxibustion. Kaempfer asserted that he had numerous times witnessed successful cures for senki through acupuncture. Ten Rhijne has left us an even more affirmative judgment when he chose to conclude his treatise on acupuncture with a brief case history which deserves to be cited in full:

My guide for the journey to court, a garrison soldier of the Emperor of Japan, had emerged from a holocaust and, being

exceedingly hot, he drank enough cold water to quench his thirst. A terrible pain, but one which did not radiate to his flanks, seized his stomach. In addition, from eating and drinking to excess as well as from being unaccustomed to the sea, he remained ill for a number of days with frequent nausea and vomiting. At first he attempted to cure these ailments with warm Japanese wine with ginger, but this did not relieve the pain. He blamed the persistent trapped wind for which he resorted to acupuncture. In my presence he himself performed the acupuncture in the following manner (from this case, reader, form your judgment about others). Lying on his back, he drove the needle into the left side of his abdomen above the pylorus at four different locations. (For this task, he cautiously held the point of the needle with the tips of his fingers.) While he tapped the needle with a hammer (since his skin was rather tough), he held his breath. When the needle had been driven in about the width of a finger, he rotated its twisting-handle. He pressed the location punctured by the needle with his fingers. No blood, however, appeared after the extraction of the needle; only a very slight puncture mark remained. Relieved of the pain and cured by this procedure, he regained his health.

Both physicians believed what they themselves personally witnessed: sick people were treated by acupuncture and were cured. Their acceptance was based on successful results, cures effected with astonishing speed as if by magic.

On the other hand neither Ten Rhijne nor Kaempfer was a credulous or uncritical layman; each was a physician trained in Western science and medicine. And this training demanded a rational basis for claims and even for demonstrated success. Kaempfer objects that acupuncture and moxibustion points very often have no known anatomical connection with the parts of the body to which they are supposedly related. And he notes two additional problems arising from superstition and vanity: the stars are reputed to determine when treatment may be undertaken and when not; and the Orientals themselves differ on the locations of points and which points should be punctured or burned for

which ailments, so that the skilled practitioner relied on what he had learned from expert instructors and from his own experience, while the common people followed directions on charts. Kaempfer concluded that demonstrated results preclude labeling all claims as deceitful, but that sound reasoning does not permit us to accept all of them. Lastly, Kaempfer cautions that while recent Dutch experiments in the Indies indicate successful treatment of arthritis, gout and rheumatic distempers, the same results cannot reasonably be expected when treatment is undertaken in colder European climates. Impressed with centuries of experimentation and refinement by Chinese physicians of considerable acumen, Ten Rhijne is reluctant to dismiss rashly the points for acupuncture and moxibustion which do not conform to the laws of Western anatomy. In his epilogue, Ten Rhijne proclaims his own achievement of a first detailed report and gently issues a call for research by men of the Western world:

These are the materials about acupuncture, unknown to Europeans, which I was able to gather from Japanese documents and instruction, and to communicate but not without considerable expense. If you, perceptive reader, confirm them with other or better observations supported by experiment, I will rejoice very greatly at this and that the fruits of my travels contain some measure of wisdom.

After three hundred years, one is pleased to observe the scientific community responding to Ten Rhijne's summons.

