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What is This?

American Missionaries and the Introduction of Western Science and Medicine in Thailand, 1830-1900

RICHARD L. POPP

Thailand offers a unique vantage point in studying 19th century missions in Asia. A small territory that served as a buffer state between the British and French empires in Southeast Asia, Thailand was an expanding regional empire in its own right in the 1800s. It was in a central position both geographically and culturally, and could be spoken of both as "farther India" and as a back door into China.

Although influenced by the pressures of colonialism and imperialism, Thailand remained independent. Thailand experienced peace through most of the 19th century. It is possible to view missionary programs and strategies there more clearly than in other places where Western powers intervened by force.

Thailand is unusual among Asian nations in that the missionaries there encountered less opposition, and less success, than their co-workers in other countries. Generally they were welcomed and encouraged by the leaders of the country and were allowed to preach with great freedom. Even so, few joined the church outside of the missionaries' own servants and employees.

The major problem the missionaries faced was not direct opposition but a wall of indifference to the gospel message. People listened to preaching and read tracts, but were not moved. Although missionaries thought there could be no real substitute for the Word of God, they had to develop other methods to reach their audience. These included the use of healing and teaching to

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garner friendship and goodwill among the populace and the spreading of new ideas to break down pagan superstitions and religious beliefs.

In spite of the small numbers of people who became Christians, the missionaries had a tremendous impact on the country in terms of introducing Western medicine and science. Many of the best schools and hospitals in Thailand were established by Christian churches and became models for government-sponsored institutions. The missionaries could claim some great accomplishments in the role they played in transforming and uplifting Thailand, but they usually did so with a sense of apology, as a consolation for their failure in terms of what mattered most. American missionaries in 19th century Thailand were single minded — to save the “poor benighted heathen” by bringing them to Christ. Evangelism was the only sort of service to mankind that could have any lasting value. Argued was the question whether civilization should precede Christianity or whether it followed as a result, but for the missionaries, “civilization” meant Christian civilization.

What I hope to show is how the missionaries used schools, hospitals, science and technology as tools in their project of converting people to Christianity. Seeing the rapid acceptance of Western ideas and modern conveniences by the Thais, the missionaries thought it inevitable that they would accept Christianity also. This was a reasonable inference, but it failed to take into account the possibility of active involvement by Thai leaders who had their own ideas. They let the missionaries preach in order to get improvements for their country and used Western scientific knowledge to rationalize Buddhist teachings. The missionaries were, in a sense, beaten at their own game, unwittingly responsible for bringing Thailand into the 20th century with a government and society based on a revitalized Buddhist ideology.

American mission boards first became interested in Siam after receiving letters from Charles Gützlaff and Jacob Tomlin, who had made exploratory visits there and found it a promising field. Both the American Board of Commissioners for Foreign Missions and the American Baptist mission in Burma responded to the appeal. The ABCFM sent David Abeel to Bangkok in 1831, and two more families in 1834, one to learn the Siamese language and the other, Chinese. The Baptists sent one of their missionary families from Burma to Bangkok in 1833.

The time was propitious. Though still small, American foreign mission efforts were beyond their infancy, having been operating for nearly twenty years. Stations had been planted in India, Ceylon, Burma, Canton, the Sandwich Islands, Palestine and Liberia. Systems were in place to recruit and train new missionaries, collect funds and to disseminate missionary news to supporters at home and workers in the field. A program of proselytizing had been developed based on tested methods. Programs included learning local languages, translating and printing the Bible and other tracts, preaching and setting up schools and dispensaries.

No better location than Siam could have been chosen for a new station. Trade treaties had recently been concluded with Britain and the United States. Bangkok was in a good location for commerce and communications with Singapore and Canton. It was a gateway to a prosperous area which included populations of Thais, Chinese, Malays, Peguans and Laos. Unlike China and Japan, Siam was open to foreigners.

The missionaries were welcomed initially by a number of important men who were anxious to learn English, astronomy and geography. Nationals wanted to see the latest developments in medical techniques, printing, shipbuilding and just about anything else the West had to offer. This was a source of great hope for the missionaries, who thought that these interests would lead naturally to acceptance of Christianity as a superior religion over Buddhism; and, if one or two influential nobles could be converted, the rest of the country would not be far behind. It also became a source of continual frustration, for the missionaries never quite realized that interest in Western civilization did not imply interest in Christianity.

Medicine

Medical practice was so firmly associated with missionaries in Thailand that the Thai word for doctor, *mo*, was applied to any missionary, whether a physician or not. Indeed, many missionaries who had no formal training dispensed medicines. The first Protestant missionaries in Thailand, Gützlaff and Tomlin, mainly engaged themselves by handing out tracts and medicines. They reported being thronged for both. Others followed this practice, using whatever medical knowledge they had in treating patients until trained doctors were available (*Missionary Herald* 29[1833]:16-17, 31[1835]:184).

The precedent for medical work was Christ's own ministry, as explained by Dr. Ernest A. Sturge in an annual report of the Petchaburi station:

Medical mission work is as old as the Gospel dispensation. Our Saviour himself was the first medical missionary, and the early disciples followed closely in His footsteps, holding in their divinely-joined relationship preaching and healing. Statistics prove that where these two agencies are properly combined the work is most successful (Cort 1886:314).

Sturge went on to explain the utility of medical service to the missionary enterprise:

In establishing a hospital in Petchaburee our object was not only to give bodily healing to the people, but also to bring the life-giving gospel to many who would not otherwise be reached; to break down any opposition which might exist, and raise the company of missionaries in the estimation of the natives, who appreciate the services of a physician more than the preaching of the Gospel (Cort 1886:321).

It might be well to remember that medicine practiced by American physicians in the 1800's was not very scientific or effective. Until late in the century when bacteriology began to be developed, notions of causes of diseases and treatment were hardly better than those of the Siamese doctors

Americans berated. One could say that the Americans at least were on the right track because they believed that diseases had natural causes rather than coming from evil demons. The therapeutic value of their treatments, however, was not substantially different. The missionary doctors scorned Thai potions made of the bones, teeth, blood and gall of various wild animals (Cheek 1884:513), but their own prescriptions containing poisonous compounds of mercury for use as powerful emetics and cathartics could be just as useless and dangerous (Rothstein 1972:41-62).

There were three major exceptions to this. One was smallpox vaccination. American doctors did not understand how it worked, but developed procedures which were effective in producing immunity to a very deadly disease. The second was surgery. Although techniques in the West had not advanced for centuries, surgery was not practiced at all by the Thais. The missionary doctors' ability to remove surface tumors and sew up wounds won many friends. Thirdly, missionaries brought quinine with them. Although applied indiscriminately to "fevers" of many sorts, quinine was only effective against the symptoms of malaria which had not yet been distinguished as a separate disease. It was one of the few items in their *materia medica* that had real therapeutic effects.

The first missionary physician in Thailand was Dan Beach Bradley, who arrived in 1835 under the sponsorship of the ABCFM. A dispensary was established where patients could be seen and treated in an orderly fashion, and Bradley saw 40 to 50 patients a day. A waiting room was set up where native employees read scriptures and tracts to the captive audience. In addition, Bradley gave a tract to each new patient he met (*Missionary Herald* 32[1836]:179, 205-206).

Bradley is credited with introducing several medical innovations into Thailand, including surgery, smallpox vaccine and Western obstetrical practices. Aware that a failure could easily ruin his reputation with the many attending onlookers, Bradley removed tumors, cataracts, lip cancers and even limbs. Fortunately, his early efforts were successful and did much to win him acclaim (Lord 1969:83-84).

His attempts to immunize against smallpox met with more difficulties, but eventually Bradley was able to establish a regular vaccination clinic. The main problem was getting live vaccine, which had to be shipped from Boston. It often expired before arriving in Bangkok. Many experiments were tried to preserve and stretch supplies of the valuable vaccine. When none was available Bradley tried inoculating with pus obtained from local smallpox victims. This carried the added danger of infecting otherwise healthy persons. The vaccinations did not always take, and some patients died who received the vaccine too late. Strong reactions could have resulted against the foreign doctor in such a situation, but the king and other nobles showed their full support of Bradley by giving him their slaves and in several instances their own children to practice on, feeling that even the glimmer of hope Bradley offered against the disease was worth the risks (Lord 1969:85-87).

Bradley also worked to change obstetrical practices in Thailand, although it took longer for his teaching in that area to take hold. Specifically, he inveighed against the custom of making women who had given birth lie on a hard wooden couch close to a hot charcoal fire, in order to “dry away” any post-natal diseases. Several of the nobles were convinced that European methods were superior, but were afraid to adopt them because they might draw disfavor from the queen and others at court (Lord 1969:89-90, Cowan 1967:41-59).

Although demands for Bradley’s medical services continued to increase, he began curtailing his hours at the dispensary after his second year in Bangkok. The annual report of the mission for 1837 gave for a reason that

the medical and surgical treatment of the sick among the heathen, however much interest it may excite, and however much good it may seem to accomplish, is not to be compared with the humble and noiseless work of enlightening souls (*Missionary Herald* 34[1838]:415).

In other words, medical work was interfering with the real purpose of Bradley being in Siam — converting the heathen. Bradley spent more and more of his time in writing, printing and distributing tracts.

Samuel Reynolds House was the next physician to come. He arrived in 1847 just as Bradley’s ship was leaving port to take him back to the U.S. for a furlough. House was directly out of medical school, had never actually practiced medicine on his own, and was hoping to learn the ropes from Bradley. As it was, people came with urgent needs for treatment and he was obliged to reopen Bradley’s dispensary by himself.

George Haws Feltus noted House’s sympathy for the suffering he saw and his attempts to alleviate it. During an outbreak of smallpox “he roamed about the city in his free hours soliciting patients for vaccination, explaining, entreating, warning and almost hiring parents to permit him to inoculate their children.” Having read of the recent discovery of ether as an anesthetic, he devised an inhaling apparatus to use it for an 84-year-old woman who needed an 8-inch piece of bamboo extracted from her flesh (Feltus 1924:67, 87-88).

House devoted long hours to the care of his patients, although he tried to divide his time between the dispensary and language study. Feltus discovered, however, where his true motivations lay:

All through his journal in these early years it appears that his heart was more occupied with the healing of souls than of bodies. To him the hospital was a means of gaining intimate contact with people that he might tell them about Jesus (Feltus 1924:87).

After about four years House gave up most of his medical practice in favor of preaching. His reasons for doing so indicate both his frustration with the ineffectiveness of medicine to cure the physical ailments he encountered daily, and his realization that the direct work of saving souls was really more important to him. Feltus concludes:

. . . the medical profession proved to be depressing to him because the sense of responsibility in decisions coincided too closely with his natural diffidence; and there was a slow but constant ebbing of self-confidence. Continuance in the medical work

was liable to have lessened his general effectiveness for missions for this reason. But the more direct Gospel work of colportage, touring and teaching seemed to harmonise better with his mind so that he was buoyed up with hope and inspired with a courage that knew no obstacles (Feltus 1924:89-90).

More doctors were sent in the 1870s and 1880s as the Presbyterian Board attempted to place a physician in each missionary station. Permanent hospitals were established in several locations. Medical work received increased emphasis through the years, but it still remained subservient to the main goal of conversions. Numbers of converts were a part of hospital statistics just as much as numbers of patients treated (Cort 1886:322). Hospitals were not benevolent institutions, strictly speaking; although the poor would not be turned away, doctors were expected to meet their expenses by charging for drugs and operations whenever possible. This would, in fact, teach people the Christian principle of paying for services rendered (McFarland 1928:199). One doctor who had worked in Thailand for 14 years was released from mission service in 1908, ostensibly because he recognized some good in Buddhist teachings and did not have his heart into converting the natives. Although he was well liked and respected in the community he served, he was not contributing to the missionary cause (Maen Pongudom 1979:44-45).

Science

Scientific knowledge of many sorts was used by the missionaries in the course of their work. Information and gadgets could be passed out as a way to make friends or to gain a sympathetic audience. They could be used in direct attacks on Buddhist teachings or as extra leverage to convince someone of the missionaries' truthfulness. Science, technology and other aspects of Western civilization were seen as fruits of Christianity that could not be taken without acknowledging their source.

The missionaries were encouraged from the beginning by the contacts they had with some of the nobles. Gützlaff reported that one of the crown princes "speaks the English, can write a little; can imitate the works of European artisans; and is a decided friend of European sciences, and of Christianity" (*Missionary Herald* 29[1833]:31). Members of the royal family and important government officials called regularly at the missionaries' homes to request medicines, books, conversation in English, and demonstrations of chemistry and electricity. As language facility increased on both sides, religious discussions were requested. Realizing that a few well-placed friends could be of immense help to their cause, the missionaries energetically cultivated these relationships.

John Taylor Jones, the first Baptist missionary in Thailand, was quizzed concerning astronomy and the earth's rotation. He procured a globe and orrery to help explain the concepts (*Baptist Missionary Magazine* 18[1838]:49). In 1841 Jesse Caswell gave lectures on the cycles of the sun and moon, eclipses, earthquakes, winds and the shape of the earth (*Missionary*

Herald 38[1842]:147). A few years later Caswell and Dr. House conducted a series of lectures for the servants and employees on the mission compounds. The lectures eventually drew a wider audience, including the two crown princes. As Caswell did the talking, House performed demonstrations with the aid of chemicals, a magnetic machine, a globe, a set of physiological and hygienic charts, a skeleton and other equipment. The subjects included the digestion of food, phases of the moon and their effect on tides, generation of hydrogen and oxygen gases, the barometer, electricity and the telegraph (Feltus 1924:57-58).

Several of the nobles became amateur scientists and built their own laboratories and workshops. Noteworthy was Prince Chuthamani, the younger of the crown princes, who repaired watches as a hobby and built his own machine shop. In 1848 he constructed a miniature steamboat and sailed it on the Chao Phraya River (Cowan 1967:41-48). The missionaries often served as purchasing agents in acquiring machinery and instruments for these men. They also wrote and translated scientific treatises and textbooks which they printed on the mission presses.

The introduction of the printing press, in fact, was one of the major impacts of the missionaries. Dan Bradley brought the first press with him to Bangkok in 1835. Along with publishing the Bible and large numbers of Christian tracts, the missionaries also printed dictionaries, grammars, schoolbooks, almanacs and newspapers, in English and Siamese. Several missionaries, including Bradley, were able to support themselves by printing government documents and private jobs.

Caswell found that giving scientific lectures provided "excellent opportunities for demonstrating the falseness of the sacred books of the Siamese." A knowledge of the world could, he said, "contribute much to the enlargement of their minds and a preparation for the reception of the gospel. Truth of any kind is food for the soul" (*Missionary Herald* 38[1842]:147, 280). House's rationale for teaching science was similar, and is explained in his biography:

Observation early disclosed to him, what other educators had discerned elsewhere, that the chief obstacle to the consideration of the spiritual message of Christianity was the false cosmogony as held by the people . . . They were so obsessed with fallacies about natural phenomena that there was but small common basis of physical knowledge upon which the missionaries could build an argument to dispose of these grotesque ideas . . . First he sought to remove some of these false ideas by pointing out common facts of nature which the natives had never observed. Next he sought to explain the conception of God as Creator. From this he led on to the love and mercy of God as revealed by Jesus (Feltus 1924:65-66).

One of the best examples of this strategy working is the case of Nan Inta, the first convert baptized in Chiang Mai. In recounting the incident, Daniel McGilvary reveals how he used science to convince people of the truth of Christianity:

We had some arguments, also, on the science of geography, on the shape of the earth,

on the nature of eclipses, and the like. What he heard was as foreign to all his preconceived ideas as was the doctrine of salvation from sin by the death of Christ. Just before the great eclipse was to occur I told him of it, naming the day and the hour when it was to occur. I pointed out that the eclipse could not be caused by a monster which attacked the sun, as he had been taught. If that were the cause, no one could foretell the day when the monster would be moved to make the attack. He at once caught that idea. If the eclipse came off as I said, he would have to admit that his teaching was wrong on a point perfectly capable of being tested by the senses. There would then be a strong presumption that we were right in religion as well as in eclipses. He waited with intense interest for the day to come. The sky was clear, and everything was favourable. He watched, with a smoked glass that we had furnished, the reflection of the sun in a bucket of water. He followed the coming of the eclipse, its progress, and its passing off, as anxiously as the wise men of old followed the star of Bethlehem — and like them, he, too, was led to the Saviour (McGilvary 1912:97-98).

The missionaries consistently used science as a way to prove the existence of God and creation, to shake belief in Buddhist writings and to break down traditional ways of thought that they felt hindered the acceptance of Christ. The annual report for the Baptist mission in 1847 declared, "We think it is a good omen that so many of the Siamese are becoming sensible of the value of the mechanical and scientific improvements of Christian nations. Their attachment to their old superstitions is almost invariably weakened by the light they thus receive" (*Baptist Missionary Magazine* 27[1848]:77). Accepting anything new from the West was a step toward recognizing the truth of the Gospel. When the princess of Chiang Mai told McGilvary that she believed what he taught but could not forsake custom, he pointed out that:

You do daily forsake old customs, and adopt new ones which your ancestors never knew. The whole method of government is changing. This foreign cloth, which your maidens are sewing for priests' robes, was all unknown to your forefathers. These things all come from lands where the people worship neither the Buddha nor the spirits. These are only some of the fruits that grow on the tree (McGilvary 1912:186).

In summarizing the progress Siam had made in the 50 years since the American missionaries had arrived, Mary L. Cort pointed not only to crowded chapels but also to the customs house, the royal mint, telegraph and telephone offices, uniformed soldiers, the post office and the new palace with electric lights. Government schools had been established by the king where young men could learn English. Although care was taken not to have religion taught, it was, she said, "impossible to separate Christianity from the English language, and the very schoolbooks furnished by the king are full of its sublime teachings" (Cort 1886:378-382).

In mission histories the process of modernization in Thailand is usually described in terms of the missionaries bringing Western ideas and inventions, and the Thais accepting them. This is not really a fair construction, nor does the chronology of events bear it out. First of all, Thailand had a legacy of relations with the West going back to the 16th century. The destruction of the capital at Ayuthaya by the Burmese in 1765 and subsequent disruptions caused by a change in dynasties broke off most of these connections. But as

the Chakri kings established a new government in Bangkok, diplomatic and trade contacts were resumed. Portugal opened a consulate in 1818, and a treaty was concluded with Britain in 1824. Also in 1824, a new group of Catholic missionaries began arriving from France. By the time the American missionaries came on the scene in the mid-1830s, foreign trade was increasing steadily and a treaty had also been made with the United States. Thais were already aware of what the West had to offer.

Secondly, Thai nobles were not passive receivers of Western goods and ideas that found their way to Bangkok, but were actively seeking at the moment the American missionaries arrived. Robert Hunter, an independent British merchant, was a ready supplier of guns and European-style furniture, but the missionaries were recognized as a better source for information on medicine, science, technology and English grammar. Missionaries often wondered at the excellent treatment they received from the leaders of the religious and social institutions they openly attacked, but it is not hard to understand when one realizes that the desire for Western knowledge predated the missionaries' coming. The Thais' motives for obtaining it were completely different from those of the missionaries in giving.

Mongkut, who became king in 1851, was a close friend and genial adversary of the Christian missionaries. Since becoming a Buddhist monk in 1824, he had established himself as a Pali scholar, was knowledgeable about many other Asian languages, had learned Latin from a Catholic priest and considerable English from the merchant Hunter. In 1845 Mongkut engaged Jesse Caswell to teach him English on a regular basis, and in return allowed Caswell to use a room at his temple to preach and distribute tracts. Mongkut was the first Thai to run his own printing press, and devised his own font of type to print books in Pali. He was particularly interested in astronomy, and prided himself on his ability to calculate eclipses. In 1868, when he found out a total eclipse of the sun would be visible in southern Thailand, he arranged a grand expedition. He invited a French astronomical team, the court astrologers and as many of the foreigners in Bangkok as were willing to attend. He was delighted when his calculations proved to be more correct than those of the French scientists by two seconds (Moffat 1961:169-172).

Not only was Mongkut the *de facto* head of Buddhism in Thailand, he was also the leader of a reform sect. He repudiated many of the practices of Thai priests in favor of the Mon discipline of Burma which he felt was more orthodox. He also worked to purify the canon of Buddhist writings by weeding out the books which were based on superstition or accretions to the teachings of the Buddha. Much of his interest in astronomy and geography came from his desire to rationalize Buddhist thought by discrediting astrology, fanciful cosmologies and other mythical tales. Missionaries read Mongkut's attacks on the Buddhist establishment as a sign of internal decay and dissension, and thought that his acceptance of the truth of Western science and the "modern" ideas of the "Thammayut" movement were indications that Buddhism was crumbling (Reynolds 1973:84-96).

Mongkut and other leaders wanted certain kinds of information from the West, which the missionaries could give them. The missionaries wanted freedom to preach their religion. Mongkut, believing that the missionaries would find few people to join their churches, considered it a bargain to let them travel, hold meetings and distribute tracts. He would listen patiently to their criticisms of Buddhism in order to get them to teach him English and astronomy, and fill him in on political affairs. The missionaries, assuming that these interests would lead him towards the Gospel, were more than willing to oblige, thinking they had the best of the deal. The results of this cooperation were (1) a small native Christian church in Thailand, and (2) a modern, Westernized, Buddhist nation-state.

Missionaries usually assumed that since they were the ones who felt the drive to go to other countries that the momentum for change came from them. Their failure to convert more people in Thailand had to be explained, then, in terms of what they had done wrong, such as lack of personal piety, not using the right strategies or not being patient enough. They continued to view Thai cordiality to Western ideas as evidence that the country would have to turn Christian sooner or later. Arthur Judson Brown, writing in 1925, stated that the efforts of the Thai king to "fasten the fruits of Christian civilization to the dead tree of Buddhism" were well intended but would never fully succeed (Brown 1925:55). "Buddhist civilization" was to him an impossibility.

Another way to look at it, however, is that the Thai leaders knew exactly what they wanted and got it. Mongkut's reforms, which appeared to the missionaries to be inherently destructive to Buddhism, strengthened and purified it. Buddhism emerged more orthodox, yet fully responsive to the modern world. The adoption of Western modes of education, government and commerce made it possible for Thailand to retain its status as an independent nation. Christians were incorporated into Thai society in much the same way as other small groups who provided certain important functions. Brahmins conducted court rituals, Chinese did the tax farming and Moslems slaughtered meat for the Buddhists to eat; Christians ran schools and hospitals. By attaining a niche in the system Christian missionaries were simultaneously legitimized and rendered harmless.

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