About Siamese Medicine.

BY DR. C. BEYER.

The medicine of the Siamese has been treated in an exhaustive and clear manner by Dr. Bradley, in the Bangkok Calendar of 1865. If I venture, nevertheless, to speak about the subject in this meeting, it is because I myself, when I commenced the study, was not acquainted with this essay, and I believe that his publication has fallen into oblivion. The later publications which treat on medicine in Siam, such as Bastian's Reisen in Siam, principally go back to this source, and I myself have to refer to his work constantly. It is further of interest and due to science once more to investigate these first reports, and for this purpose Dr. Frankfurter and myself have examined some Siamese works which have been added to the National Library and which contain treatises on Siamese medicine. They were copied in 1871 from the original manuscripts kept in the Royal Scribe Department. Amongst these we more carefully examined the Roganidan, namely, about diseases. We found the views of Dr. Bradley mainly confirmed, and I was able to get some additional information. It remains to be seen how far European medicine has found its way into Siam since the year 1865. In compiling this paper I made use of Chamberlain (H. St. Ch.) Grundlagen des 19. Jahrhunderts, Pagel "Geschichte der Medizin," Balfour Encyclopaedia of India, Bastian, Reisen in Siam, La Loubère ambassador of Louis XIV., Du Royaume de Siam, appeared 1691.

Siamese medicine has its origin in Indian medicine. Siamese tradition says it was first taught by Komarabhacca, who lived at the time of Buddha. As the name implies, he was the son of a courtesan and was put away by his mother, and was adopted by King Bimbisara. He fled from Bimbisara, and studied medicine for seven years with a teacher in Taxila. After seven years he was sent out by his teacher to collect plants which had

medical properties. He came back with the answer that all plants could be used in medicine, upon which his teacher declared that he had completed the studies. Komarabhacca is the author of the old Indian writings on medicine, which are considered as sacred, and which even to this day are kept translated into Siamese in temples. Thus, both Indian and Siamese medicine show the characteristics of Indian culture; I mean the culture of the mind, not that which we have got by technical development, which in my opinion cannot satisfy mankind, who have higher and nobler aspirations.

The culture of India was from the very beginning an abstract culture, directed towards philosophical speculations. against which the study of the concrete, the observation of nature and practical utility were kept in the background, and it was the characteristic of Indian culture that the study of the concrete was neglected. Indian philosophy, and mathematics, Indian religious symbolism are so abstract that it is difficult for the Western mind to follow them entirely to their highest aspirations; but this splendid talent for speculative philosophy, this talent for getting familiar with the most abstract things, caused the more positive side of the human mind to be absolutely neglected. Indian science is a philosophic, theoretical science; instead of sober observations, the collecting of facts, of experiments, we find, as we shall see presently, in Indo-Siamese medicine speculative ideas which, starting from a preconceived idea, tried to adapt it to medicine and its therapeutics.

In Indo-Siamese medicine we have the notion that the human body, as all other things in the visible world, consists of four elements, namely, wind, water, fire and earth; and illnesses are caused if these elements in their mixture and proportion to each other get out of order. This, as it is well known, is also the idea of Plato, whose philosophic medical ideas are probably based on Indian culture, and to be found as a leading theory in the works of Hippocrates, the father of medicine, and of Aristoteles. As in all external things these four elements, namely, water, fire, earth and wind, are contained in different compositions,

thus all things are influenced by the composition of these elements in the human body and are producing health or illness. Thus we can account for the answer, given by Komarabhacca to the question as to what plants are useful in medicine, namely, all, If, for instance, the element fire, enters in abnormal proportions the human body through nourishment, air or other influences, the equal proportion of the elements is disturbed, and the consequence will be one of the illnesses caused by fire, such as malaria, typhoid, measles, small-pox. Each element has its special season in which it is prevailing; for instance, in the rainy season it is the element of water, in the dry season the earth, in the hot season the fire, and in the autumn the wind. Thus we find in the Roganidan the common phrase: 'In these months it is the wind which produces illnesses, in that fire,' and so on with the other elements, as Dr. Bradley rightly puts it. Each element is supposed to have its season of peculiar diseased influence, as the fruits of the earth have their seasons. If one of the elements is affected, it can influence the others. The human body is composed of these elements, and thus we find the element earth in twenty constituent parts of the human body, namely, hair, nails, teeth, skin, muscles, nerves or veins, bones, marrow, spleen, heart, liver, tissues, diaphragm, bowels, and stomach; the element of water in twelve parts constituent, namely, bile, saliva, serum, transpiration, fat, tears, mucus, and urine, etc.; the element of wind contains necessarily breathing and is contained in six constituent parts of the body; the element of fire is made manifest in our own temperature and a sort of vis vitalis, and is prominent in four parts of the body. The wind blows constantly in our bodies. By it the blood is put in motion, for the heart is considered, not a motive organ, but a thinking organ, as is shown by such expressions as djai di, sia djai, po-djai. They could not overlook that in opening an artery the blood flows, but the beating of the pulse, and the flowing of the blood are produced by the wind in our body. apoplexy and epilepsy are produced by the wind blowing towards the heart and towards the brain; or what we call failure of the heart is caused by wind blowing into the heart, thus tearing it open and producing instantaneous death. Cr again the wind, which blows in six different directions, blows too much downwards and causes

flatulence, pains in the stomach, etc. It is particularly the wind which causes illnesses and the usual answer received to the question, What is the matter? is: pen lom. The idea is not particularly clear, as I have often found that when the patient had difficulty in expressing himself he was glad to answer my question whether it was the wind-pen lom-in the affirmative. Nowhere do we find a systematic description of diseases; they are satisfied to give the names of diseases without symptomatic or diagnostical remarks. Besides the movement of the blood, the wind is responsible for the movement of the bile, bowels, transpiration,—lom pikan, i. e. the wind is out of order, is an explanation which meets all sorts of illnesses. Pain in the stomach, and rheumatism in the legs, are caused by the wind blowing too much downwards. Dropsy is an illness due to the element of water, in which, however, fire is also implicated, as this is not sufficiently present and the water cannot evaporate. the hot season illnesses prevail which are caused by the element of fire; in the rainy season too much water enters the human body by absorption and causes many illnesses, all falling under the designation of Ah Po.

The earth produces illnesses by its invisible mist and evaporation, and cholera is produced in this way.

Besides this the Siamese believe that good and evil spirits have a certain power over the elements in and outside the body, and thus produce illnesses.

It is the ever recurring thought that illnesses are the consequences of our own doings, and just as in Europe many people try to conciliate God by pilgrimages, so the Siamese by "tam boon" tries to acquire merit and health.

It is characteristic of the Rogānidān that anatomy and physiology are not mentioned at all. Siamese medicine has no knowledge of anatomy and physiology. Indications with regard thereto, as I found them in Bradley and from some other information, appear absurd. They know, of course, that there are bones, but besides the fact that they believe there are 300 in the body I could not get any further details. The muscles are for them

only an undifferentiated mass of flesh. There are ten large blood vessels which are distributed in 2,700 small, and two principal vessels: summa and amopriik. How they arrive at these figures they cannot explain. The Siamese have not the slightest knowledge of anatomy. and therefore there does not exist any surgery at all. Like the Burmese they employ neither knives nor any other instrument for operations. With regard to fractures they simply state that if the bones are in disorder they must be cautiously treated, without guarantee for success. Some of the superficial veins are known to them, as Bradley already states, but they have no knowledge of nerves, in fact the word for nerve and blood vessel is the same (sen). They know the large organs, heart, liver, stomach, spleen, and pretend that the spleen serves for the grinding of food. They believe that the liver is so loose that it can easily move from its place, and that by its sinking mental disorders are produced. The Siamese books appear to know nothing about the treatment of wounds; they are satisfied with wrapping up the broken limb in cotton wool, dipped in coconut oil.

With regard to obstetrics the case is scarcely better. The midwife, or in rare cases the Moh, by pressure on the uterus tries to press out the child at the end of the birth. But they do not know of any correction in the position of the child. However you know all about the barbarous custom of the lying at the fire, which we also find in Burma, Cambodia and Annam. According to this, from the highest to the lowest rank, the young mother must expose herself to the fire, all except those who are treated by European methods. She lies on a small bed before the fire, the room is dark, the smoke is not allowed to escape; and to be there is more than awful. The time is different; after the the first baby generally thirty days, the second fifteen, the third ten, and later on five days. Besides that she gets purgatives. As a reason for lying at the fire, it is said that the discharge which normally follows the birth should be dried up as soon as possible. As the Siamese themselves consider this lying at the fire a torment, they ought to be able to convince themselves, from the treatment of European ladies and the fact that in cases where the doctor forbade the lying at the

fire the patient recovers, that this treatment is unnecessary. So it is scarcely conceivable why they should stick to this custom. It appears, however, that besides old tradition female vanity has something to do with it, as it is said that the lying at the fire gives them a nice yellowish complexion (nang nuen), and the beauty of a Siamese lady consists in her complexion. The custom is to be repudiated inasmuch as the mother through this treatment frequently does not have enough milk for the baby, and the excessive mortality of children may be accounted for by this maltreatment.

Some few words about Siamese medicines. Dr. Bradley states that the Siamese doctors are not acquainted with the factthat in each illness the body has a natural tendency to expel the cause of the illness, and that the treatment of the doctor should be simply confined to assisting this process. Their medicines, which are taken from minerals, plants and animals, have the purpose of opposing the elements of fire, water, earth, and air, which are either in excess, or deficient. How this is done is not stated. Besides they alleviate the storm raging in the interior by cupping, plasters and poultices. The prescriptions contain any amount of medicines, but they all follow the principle of Galenus: an illness which has been produced by an excess of fire should be treated by a medicine which has the contrary properties. Prescriptions regarding diet are given by the Siamese Mohs, but I could not find any particulars.

Among the ingredients there may possibly be some which are useful; only it is difficult to know, as a Siamese prescription consists of many ingredients, sometimes even as many as one hundred. Practically most likely all the plants of the country enter into their pharmacopaea. Besides other medicines they prescribe also the Bael fruit (ma tum) against dysentery. As a rule they use those medicines as decoctions, which the patient takes by pots—one pot contains two or three quarts. The mixing of the ingredients takes place in a mortar before the eyes of the patient, as the Siamese Moh as a rule does not leave the patient during his illness; but to this rule there are now already exceptions. Besides they

give medicines in the form of pills. Siamese medicines are used generally besides Chinese medicines, and such is the force of tradition that the Siamese, from the highest to the lowest, resort in the first instance to their national medicine. Besides that European medicines, such as quinine, potash of sodium, castor oil, antipyrin, phenactin, are used and may be had in all Siamese drug stores. Vaccination is general now in Siam, and it seems that a pure vaccine is manufactured now in Siam. European medicine-I do not say medicines-has undoubtedly gained ground in Siam, even if slowly. An important step could be taken by the Wang Lang medical college, where Siamese Mohs are instructed, in scientific medicine. The great majority of the pupils of the college are educated for the military and civil departments, but they are allowed private practice. One must not expect too much of an institution which is still in its infancy; scientific training cannot be acquired so quickly as technicalities. A great disadvantage is that the pupils do not know English, and as the scientific works translated into Siamese are few-I mention there especially the translations of Dr. McFarland—the students have not much opportunity to make further studies after having passed Nowhere more than in medicine stopping the examinations. means retrogression. Nevertheless, although it may be said of these Mohs that a little knowledge is a dangerous thing, it is a sign of progress, and these Mohs will in due course eventually propagate sound ideas on medicine among the people.

Siamese Mohs are generally divided into moh luang, or royal physicians, and moh ratsadon, moh tjalöi, the physicians of the people, that is physicians who have not studied the sacred books on medicine. The moh luang are the servants of the King, and attend to the Royal Palace. The highest of them are the King's own doctors, and the rest are distributed among six grades. Promotion is generally granted on the proposition of the chief physician. There are always Mohs in attendance in the palace, taking their turns.

The moh ratsadon are innumerable, as nearly every Siamese believes he knows something of the art of healing, but he exchanges his profession easily with another one. Most of the Mohs have a

speciality; Siam is the country of specialities. They are educated by reading Siamese writings on medicine, besides attending perhaps a Moh as pupil; such teaching generally only lasts for a few weeks. As known to you, priests also prescribe medicines and in difficulties employ sacred water.

Besides those medical men there is another class of practitioners who prescribe no medicine whatever but exercise their healing powers wholly in the line of shampooing. They are denominated moh nuet. In Wat Poh a great many reliefs are found which illustrate the art of shampooing, which is highly considered by the people. According to these figures shampooing is not combined with pleasure. We also find there marble tablets containing prescriptions for certain illnesses, and it may be noted that the prescriptions are different according to the day on which the illness arose, and are also dependent on the day on which the patient was born.

Moh pi occupy themselves with exorcism, in expelling from the body by incantations and holy water the evil spirits.

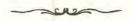
All these things are interesting for any one living in Siam who takes an interest in the country and its people, but after all they only present an archæological interest.

But is it not strange that Indian culture—and everything in Siam is Indian culture—Indian culture which in philosophy, religion, and folk lore, as well as in architecture has attained a high standard, should have been with regard to the science of medicine practically useless? In the first instance transcendental philosophy and medicine are difficult to reconcile. Medicine is occupied in collecting facts by objective observation and by experiment. It must not put aside those facts for vain speculations if it will continue its victorious course through centuries. This fact has not been recognised by Indian medicine; it has thus done nothing for the progress of medicine. A physician may be a philosopher, but medicine has nothing to do with philosophy.

It must not be forgotton that the easy way of life enjoyed by people in the tropics is not favourable to serious scientific investigations. The Indian race being brought into constant contact with nature has little opportunity for empiric observations.

Finally religion is also responsible. It is one of the first tenets of Buddhism not to take life, not even that of an animal. How should he then approve of experimenting on animals? But as he contended that his doctrine contained all science, he simply based all science on religious philosophy. This is the reason why Indian and consequently Siamese medicine did not enter into details about anatomy. The nature of illness was based on phantastic and wrong ideas and consequently misunderstood. Indo-Siamese medicine is, it may be said, in some regards in a similar state to medical science in Greece in the time of Hippocrates—who lived some two thousand four hundred years ago, about 450 B. C.—especially with regard to this idea of the four elements. But we must do justice to Hippocrates whose ethics, whose knowledge of anatomy and surgery was far superior to anything which I have found in the Siamese books of medicine.

Before I finish this essay, I beg to thank Dr Frankfurter most heartily for the kind support he gave to it from the beginning. He devoted a great deal of his time to the translations from the Siamese, and I am sure that without his very kind assistance this paper would and could not have appeared.



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ORDINARY GENERAL MEETING, 7TH FEBRUARY, 1907.

DISCUSSION ON DR. BEYER'S PAPER.

An ordinary meeting of the Society took place in the rooms of the Engineering Society of Siam on the evening of Thursday the 7th February, 1907. The President, Dr. O. Frankfurter was in the chair.

At the outset the President said:—Before proceeding with the business which has brought us together to-night, I trust you will allow me to put on record, in the name of our Society, our deep-felt regret and sympathy at the untimely death of Mr. Bourke.

Untimely, indeed, the death has been in more than one sense. He was full of life and everything predicted for him a career of usefulness, happiness and honour. He had in the office which he occupied great success, and he had gained the confidence of all with whom he was brought into contact..

Our own Society owes to him a masterly paper on Archæoogical Researches in Monthon Puket, and when he was elected
only the other day a Member of the Council, we had hoped that
through his eminently sympathetic nature he would have greatly assisted us in our endeavours, for besides being a keen observer he
brought to all he took in hand congenial sympathy and industry.

I would now propose that an expression of our sense of the sad loss the Society has sustained be recorded in our Proceedings, together with the Society's deepest condolence to Mrs. Bourke on the terrible affliction which has befallen her.

Dr. H. Campbell Higher: I second that, and personally deeply regret the occasion for doing so.

The motion was adopted in silence.

The President then said:—The subject Dr. Beyer has chosen "The Theory of Siamese Medicine" is one that appeals to every one who takes an interest in the development and evolution of the human mind, the study of which is the source and origin of all human aspirations. The theory of Siamese Medicine is a subject which has not been seriously approached in any of the books treating on Siam, and I am sure we must be thankful to Dr. Beyer for drawing attention to it. Just a year ago we were favoured by Dr. Highet with a paper on the health and climate of Bangkok from the Western standpoint, so that Dr. Beyer's paper will to a certain extent, be a necessary complement to it.

Dr. Beyer then read his paper.

THE PRESIDENT invited the medical men present to open the discussion.

Dr. Higher said he had listened to the paper with much pleasure, for he had been in Siam for ten years, and he had not before known what Siamese Medicine was. It appeared to be very much what he had learned in Singapore of Malay Medicine. There seemed to have been the same impress of the Indian mind on Malay Medicine as there had been on Siamese Medicine-and by Indian he presumed Dr. Beyer meant Hindoo. He did not find, however, from what Dr. Beyer said, that there was any impress of the Arabian physicians, who had influenced Malay Medicine. The latter seemed to have employed their minds less in evolving wonderful theories; they seemed to have employed their minds and eyes more in ascertaining facts and in deducting causes from effects. But the theories they had heard with regard to the elements were the same in Malay Medicine. "Angin" played much the same part in Malay Medicine as "lom" in Siamese. Siamese Medicine seemed to be purely empirical. They had no knowledge of anatomy, physiology, pathology, or therapeutics; and therefore it was quite impossible to imagine that their knowledge could be anything but empirical. It was tradition handed down. While in practice in Singapore he had the misfortune to sprain his ankle. His wife's ayah massaged him, and he found she followed closely the different muscles and tendons. In

reply to his questions she said she had simply been taught to do it that way. She had no knowledge of any reason. Probably it was through the Persians or Arabs that the Malays got these traditions.

To come to another point. In the Medical College the students were taught in Siamese, the language they knew best. He most heartily concurred with Dr. Beyer as to the need for their being able to read medical works in a European language. Once they had left their College, it was impossible for those students to keep themselves up in the advancement of science, if they had not got the recent works and journals. There was no medical journal, so far as he knew, in Siamese to keep students up in the recent development of science. It was the business of every medical man to read the medical journals. He was very pleased Dr. Beyer had ventilated this question, for it was one of importance. Either they should teach the students English, or they should produce a proper medical journal in Siamese. Otherwise after leaving College the graduates would lapse back into the ordinary Siamese Moh. depending on empiricism and tradition.

DR. GEORGE McFARLAND said the first point he should like to refer to was the belief that there is wind in our bodies. What kind of a wind he never could find out-whether a storm or a small breeze, whether good or evil. He remembered that once, when called to see a certain person, he wanted to get a specimen of the blood. Permission was granted, and next day he went back with a microscope slide, and a needle. Then he was asked, 'Where are you going to take it from?' He explained that he would make a tiny prick in the ear. But excuses began to multiply, and in the end he was not allowed to make a pin prick, in the firm belief that through that prick some portion of wind would escape. What would happen if it did escape, he was unable to find out; but he could not make any pin prick. In this connection it might be mentioned that there are "Patu lom" in the body. Thus the webs between the fingers and the toes were "Patu lom," and certain localities in the joints. That was where the Moh Nuet came They obstructed the flow of blood at these localities, then released it and there resulted a sense of warmth, which was beneficial. It was the business of the Moh Nuet to know those localities.

As regards drugs they certainly had a good number of very, very good drugs. One in particular was "hong pan chan," the root of a certain shrub, and to his medical friends he might mention that a tincture of that was far superior to tincture of iodine. Then they had other good roots and herbs, the bale fruit, saffron, etc. It was an interesting subject to study these drugs and compare them with ours; and he had himself done a smattering in that line. But the great difficulty was that he could not find two different doctors who would tell the same story. They discriminated their drugs by the senses. A drug had a certain colour, taste, scent, and so on.

Coming next to the subject of the Medical College, Dr. McFarland asked how it would be possible for the students to get a sufficient knowledge of English before they entered the school. A graduate in any of the ordinary schools who had acquired a sufficient knowledge of English would not go to study medicine for three years when he could go plump into some office at 80 ticals a month. But suppose he spent three more years in study. Then what would he get? That was the greatest question (hear, hear) After the student graduated in medicine he fell into one of three different grades. If he stopped within a certain radius round Bangkok he got a salary of from Tcs. 60 to Tcs. 80; if he accepted a post at the farthest limits of the country he started with a salary of between Tcs. 80 and Tcs. 100. The advantage held out to these young men after they passed their examinations was not sufficient. They preferred to go into some office right here in Bangkok rather than be sent into the Interior, where life was very expensive.

Then there was the other phase of this question. There were no text books in Siamese, and he did not think that ever would be any unless more inducement was offered. He himself could and would prepare more text books in Siamese; but one's ardour died out; encouragement, assistance, support was lacking. The teaching done in the Medical College was done in Siamese, and the difficulty was that words did not exist to express all the necessary ideas. They did not even have names for all the different parts of the body. Thus the word for nerve was the same as the word for artery. New words had to be coined. It might be asked why the students should

not be taught the English names to begin with. Some did do so, but he had himself generally adopted the plan of finding some equivalent in Siamese. They hoped, however, that some time in the future these difficulties would be overcome.

Then there was no medical magazine. There had been a medical magazine started by the graduates of the Medical College, but it had an existence of only five or six months. It contained articles and reports from different sections and from graduates in different localities, but owing to some difficulty in management, it went the way of the world. Possibly it might be started again, and personally he would be very willing to offer his support.

THE REV JOHN CARRINGTON said that a dozen years ago or more he had come across a copy of a book on Physiology published by Dr. Bradley. It was in a pawnshop near Tapan Han, and he had always regretted not buying it, for he had never seen another copy.

Siamese materia medica was a wonderful thing. If one went into a Siamese apothecary's shop, one found he had all sorts of leaves, wood, bones, horns, and everything in that line. After all there were only a few ways of making medicine. They would put various things into a pot with water, and stew and boil till they got a decoction, which they drank of copiously. But it touched the spot. Another way was to take leaves and tender wood, and pound it up, and then roll it up into a pill. Siamese pills were as big as marbles. Then they had powders; also they were fond of making poultices. Sometimes one saw a little child with a great bunch on the top of its head, or on a sore tied up with an old dirty rag. Was it any wonder they had running sores and blood poisoning? Then there was the febrifuge, in the line of medicines for fevers. Generally it The Siamese really knew nothing about tinctures. was bitter. they were making them now, it was because they had learned from the medical school. In that way they had come to know of spirit of camphor, etc. On the other hand they really had a notion of tonics, or vitalizers. That was the reason why they used horns and bones, which contained phosphorus and lime. Again they understood astringents; one of the things they used was the bark of the mangrove tree. In the province of Takua Tung there was a heap of that wood in the boat on which he travelled, and he found it was used for diarrhea. It was a good bark for tanning also. The bale fruit had been mentioned, and the rind of the mangosteen was used by the Siamese as an astringent medicine. Then under the heading of "counter-action" came poultices and the Moh Nuet. Poultices were intended as counter-action for head the, rheumatism, pain in the bowels, etc., and no doubt were good sometimes.

For diseases there were several general terms, such as cheb, puet, rohk, etc. There was a whole list of these, and there was a whole list also in the line of medicines. The Siamese had a few little superstitions about medicine. They never allowed it to remain in the presence of anyone while he died; otherwise it would lose all its virtues.

Personally he had seen only one Siamese doctor who could be called a surgeon. That doctor lived at Ayuthia, and had died a few months previously. He saw this doctor perform an operation for a deep seated tumour; and for this he had a knife, a syringe, some acid, and some wine in a bottle. The surgeon had to gothrough at least half an inch of flesh to reach the tumour, and he started by cutting across it. Then he cut inwards, and put the acid on to keep it from bleeding. There was a flow of pus, and he syringed it with the wine.

Replying on the discussion, Dr. Beyer said there was absolutely no trace of the influence of Arabian medicine here. But Siamese medicine was not entirely empirical. It had a theory or science, only it was based on wrong ideas. Siam had no real national medicine; what it had was an Indo-Siamese medicine.

On the motion of the President a very interesting evening was brought to a close by a vote of thanks to Dr. Beyer for his able paper and to the gentlemen who had taken part in the discussion.

CORRESPONDENCE.

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The paper, "About Siamese Medicine," which Dr Beyer has been kind enough to contribute to our Journal plainly shows to us the laudable efforts which the Siamese have made in order to bring medicine, its study and practice, into line with the general development of the country.

The discussion thereon, by professional men competent to judge, leads us however to the belief that but little progress has so far been achieved and that little more could be expected under present conditions.

However that may be, for the lay reader, the paper might have been made more interesting had some details of Siamese methods and practice in the art of healing been given. Details of this kind are, of necessity, not easily accessible to foreigners, especially when the native "moh" sees in the inquisitive stranger a possible competitor.

In a learned book, recently published in Hanoi 1, are to be found some interesting details of sorcery and medical methods as practised by the "Thos," a Thai tribe scattered, to the number of 146,000, over the stretch of country between Kwang-Toung and the left bank of the Song Gam river, upper Tongking. We are there told that whenever sickness appears, the turban or headgear of the patient is brought to the doctor—"pu tao"—who immediately proceeds to place himself in front of a bowl containing rice and and three lighted joss sticks. The turban is held three times over the smoke of these joss sticks, after which three handfuls of rice are likewise exposed to the smoke and then thrown one to the right, the other to the left and the third on the turban. This done, a small bamboo vase containing 100 small sticks is agitated over the

^{1.} Ethnographie du Tonkin Septentrional, par le Commandant E. Lunet de Lajonquière.

bowl until one of the small sticks falls out. On it will be found inscribed a reference number to a list of sentences such as the following:

1.—"The complaint has been caused by the "tho cong" who has taken the soul of the child and sent him fever. The patient will be cured in 6 days, but a sacrifice must be offered at the "tho cong's" altar."

Or, again:

2.—"The complaint should not be ascribed to a "phi" to but the patient has gone out walking over the low lands and his soul has fallen; in five days he will be cured."

Should recovery not come within the specified period the "pu-tao" is recalled and, apparently, will have to try again. In case the number points to a sentence ascribing the disease to the "phi", the following method is resorted to:

Two coins, "heads" downwards, are placed on a small wooden spatula, lacquered in red and containing three gilt dots triangularly disposed. Then, the "pu-tao", kneeling before the patient's ancestral altar, drops these coins into a small copper saucer with a rattan handle. It is essential, while so doing, that the "pu-tao" should think of the special evil spirit which, in his opinion, is the cause of the trouble. His suspicion will be confirmed if the coins drop into the saucer "tails" upwards. He will have to try again, by thinking of another "evil spirit", in case the coins do not drop as prescribed above. And now, supposing the real "phi" has been discovered, it shall become necessary to drive him away. It being assumed that this special "phi" is tired, he is invited, by the "pu-tao", to a banquet at which rice, sugar cane, fowls and roast pork are offered up to him. The meal over, the "phi" must quench his thirst out of a bowl full of water, with a silver coin dropped into it. On the edge of the bowl, the "pu-tao" cunningly fastens a round piece of bamboo, and blesses the water with a rectangular piece of wood, lacquered red and bearing, on its four sides, the following inscriptions:

^{1°-&}quot;Tho cong"-" phi": mysterious spirits.

1st. and 3rd. face: "royal order conferring the right to master the power of the murderous spirit;"

2nd. face: "the right side sends forth the great mysterious one;"

4th. face: "the left side sends forth the great force."

The water having been blessed, the "pu-tao" invites the evil Spirit to come and quench his thirst. It would seem that the "phi" is not credited with much distrust and expected to at once answer to this invitation by alighting on the small round stick (in bird-like fashion). The "pu-tao" is, on the other hand, credited with the intuition of the proper moment of this occurrence, when he abruptly upsets the bowl; its contents and evil spirit, together, being thrown out and escaping through the holes in the flooring. The inquisitive reader might here enquire after the silver coin which had been thrown into the bowl. It was meant to be taken away by the evil spirit in order to defray its travelling expenses on its way elsewhere, but, in reality, remains in the hands of the "pu-tao."

The operation does not, however, end here, for the "pu-tao" further searches the patient's clothing and effects for straggling or obdurate "phi" which he collects, by the handful, and throws out into the air, through the window or over the verandah railings.

So much for the spiritual treatment of diseases; if now we come to the material remedies, we find that:

Headache is supposed to be cured by:

1.—The application, on the forehead, of cups made with a mufflon horn in which a piece of paper, or some charcoal, is burning; 2.—By rubbing the temples with garlic; 3.—by affixing to the temples sticking plaster made with opium.

Eyesores necessitate washings with a decoction of "athamantha" leaves, or the application of various other plants in. sachets. Earaches will be treated with a paste made of pumpkin cinders, pulverised and mixed with oil and cold water.

An application of powdered pepper and water is also used; or, in some cases, pieces of red chillies are placed in the ears, for two to three days, or until the pain grows unbearable.

Colds are curable by stuffing the nostrils with certain leaves; by eating hashed ginger cooked with meat;

Coughs, by smoking opium or eating ginger cooked in cinders and mixed with sugar;

Toothache, by filling the cavity with some powdered roots or with the wick of a burning candle.

Wounds are treated with poultices made with certain powdered leaves, the wound being previously washed with a decoction of pomelow skin;

Bellyache and diarrhea, by drinking a decoction of sugar-cane leaves.

Constipation is cured by drinking, twice a day, salt water or a decoction of the cinders of the wings of flies, first poundered and then burned!

This much may suffice to show that medicine among this "Tho" branch of the Thai race consists of a mixture of spiritism and empirical uses of vegetable or other substances. This in no wise differs from what is known of the treatment of diseases among the Siamese themselves.

Perusal of such wonderful methods of diagnosis and treatment, may cause the superficial reader to smile. But, here, let us pause; for, the thoughtful student will doubtless remember the state of things, among the people, in Europe itself some couple of centuries, back. To recall a mere fraction of what has been transmitted to us of European medicines and beliefs in those days:

The breath of an ass, when inhaled, was supposed to expel all venom from the body.

Toothache was cured by the application of a dead person's tooth over the diseased one.

Hæmorrhage was stopped by causing the patient to bleed through the nose over two straws placed cross-wise.

Mange was cured by lying down, naked, on hay.

Coughs were stopped by spitting into the mouth of a living frog.¹

Does not this short list of treatments compare, almost unfavourably, with the one above?

And as to the evil spirits or "phis," do we not also know that the exorcising methods of the middle ages pretended to drive away the devil, or evil spirit, from the bodies of those suffering from what we call to-day nervous paroxism and epilepsy?

To mention but one famous case:

In 1398, two monks undertook, by magic, to cure the madness of Charles VI., king of France; the latter submitted but grew worse and the monks were decapitated. Two other magicians then undertook another cure by erecting an iron hoop supported by twelve iron pillars with twelve chains. Twelve persons were to be attached to these pillars, but as only eleven were found, the mayor of Dijon graciously consented to fill the vacancy under condition of certain cure for the king or death to the magicians. The proceedings lasted several weeks and as the king was found no better the promoters of this wonderful cure for lunacy were burnt alive.

Beyond all this, however, it is right to mention that, many centuries ago, the beneficial effect of various vegetable drugs, for certain diseases, was known in Europe and applied with success, just as they are, to-day, known to and used by the Siamese doctors; indeed many such were borrowed from the Arab doctors of the 10th century: Avicennius, Averhoès, &c.

^{1.} Rambaud: Histoire de la Civilisation française, Vol. 1, p. 373.

Without entering into any lengthy disquisition, it can, from the above quotations and comparisons, be inferred that the popular Siamese medicine of to-day is similar to what was practised in Europe some three hundred years ago.¹

And let it not be thought that because medical progress was so slow in Europe, the Siamese nation need not be expected to push and foster the proper study and practice of one of the most useful and most beneficial professions. Evolution and discovery are the work of ages and centuries but adoption of true and all important discoveries must not await the goodwill or prejudice of empiricism or custom. The example of Japan is there to show us what can and what ought to be done in respect of general public health, and the Russo-Japanese war statistics are an eloquent testimony to the thorough training of the up-to-date Japanese doctors.

But even granting that the present medical establishment for the training of young Siamese doctors is inadequate and superficial, a lot of good could be derived from this institution if its graduates would impress upon the people the urgent necessity of homes free from dirt and stagnant waters, of more care in the nourishment and rearing up of the very numerous infants, of whom but a very small percentage do, under present conditions, ever reach manhood. Siamese doctors of this class, however deficient in highly scientific medical training, if assiduous to this question and successful in impressing these truths upon the population, shall have done high service and deserved well of their country.

Siam needs population; her remarkable progress and the fast development of her industries will daily render this truth more and more evident; the race is prolific but the mortality is appallingly large; the remedy can only lie in proper attention to sanitary measures strictly enforced. Such measures are known, but who will intelligently impress them on her people? The answer is self-evident and it cannot be any one else but the young Siamese doctor trained on up-to-date principles and Science and earnestly imbued with the importance of his mission to his fellow countrymen.

R. BELHOMME.

Harvey's discovery of the circulation of the blood dates from 1619.