

NOTES AND QUERIES.

I

ON TAI POTTERY.

It was with a sense of a very real loss that I learnt of the death of my old friend, Phya Nakhon Phra Ram, at the end of May last. I spent such happy days with him, both at Sawank'alok and Pitsanulok, and he used to write to me so fully and enthusiastically on the subject which he had so eagerly pursued, that it is, indeed, with a heavy heart that I sit down to write these notes on the lengthy paper on Tai pottery which he contributed to Vol. XXIX, Part 1 of the Journal.

Our friendly discussions and arguments were always stimulating and, having studied his paper carefully, I realise that some, though by no means all, of our difficulties were due to misunderstandings, largely because the Chao K'un did not understand English well. Peace be to his ashes, and may I express the earnest hope that the magnificent collection which he made will not be lost to students of Tai ceramics. I only wish it were here for me to consult in these notes. And now to the paper itself.

In the first paragraph Phya Nakhon Phra Ram lays it down that all authorities uphold the belief that Sank'alok⁽¹⁾ pottery was first manufactured after the return of Rama Kambheng as King of Sukhot'ai from China, where history says he went in 1294 A.D. or 1300 A.D. and brought back some 300 or 500 Chinese potters. I, too, accepted the truth of this belief. Taking the term *Sank'alok* in its ordinary sense, I dare say that this was so in the past before any serious study had been made of these wares, but the Chao K'un, who was writing late in 1935 and who had seen my articles in the *Burlington Magazine* published in October and November 1933 (Vol. LXIII, Nos. 367 and 368),

(1) sic.

is hardly doing me justice in stating that *all* authorities uphold the theory that the Tai made no pottery before the Chinese came, seeing that in the first of those articles I stated clearly that from historical evidence there is good reason to believe that there were Tai immigrants from the Northern Chiengsen region settled at a very early date, possibly as early as the tenth century (A. D.), at Chaliang, which is the oldest name known for old Sawank'alok, and that they established kilns for making pottery and stoneware on the site of the present so-called *Chaliang* kilns. In no other way can one account for the presence of certain types of ware which show no Khmer and very little Chinese influence.

There is little doubt in my mind that pottery, i. e. earthenware pure and simple, was made in different centres in Siam from very early times. This is borne out by Phya Nakhon Phra Ram himself on page 16 where he says that the lowest levels excavated at Suk'-ot'ai revealed only pottery of *ordinary baked clay* and that it was not until they came to the middle layers that Chaliang wares were found.

I myself once examined the banks of the river some distance from the town of Pitsanulok and at the lowest levels found only earthenware.

However, every race has made its own earthenware utensils from pre-historic times, and the question is not likely to occasion dispute.

But the *Chaliang* wares to which I referred in my article are much harder than ordinary earthenware and are always glazed, on one side at least, and, their features being almost wholly Tai, I felt that we had run to earth a type of ware produced by the Tai, possibly after contact with the Khmer (who also glazed their stoneware), but before any Chinese potters had arrived to alter their methods or styles of potting.

I had arrived at this conclusion after extensive visits to the kilns themselves, after an exhaustive study of my own collection (which is on loan to the South Kensington Museum) and that of Phya Nakhon Phra Ram, and after visits to Dr. Otley Beyer in the Philippines and to Mr. Van Orsay de Flines in Batavia, the latter of whom has presented to the Dutch Government Museum at that city a splendid collection of Chinese and Siamese wares found in the Dutch East Indies.

Phya Nakhon Phra Ram does not appear to be altogether consistent, throughout his monograph, in his use of place-names to describe the different types of ware produced in Siam, but on page 16 he states as follows:—

I have already mentioned the C'alieng and the Sukhot'ai factories. It seems to me that when work ceased at the C'alieng kilns, potters from Sukhot'ai established themselves at the C'alieng site, and these latter works are what I shall call the kilns of Sate'analai, which is the name of an old state which we now call Sawank'alok. This gives us as regards date the following sequence: first C'alieng, then Suk'ot'ai, followed later by Sate'analai.

With this sequence I am in agreement, but Phya Nakhon Phra Ram is at some pains to prove that the potters established at Suk'ot'ai were of Tai race (see pages 24/25), and this is where I have to part company with him. To make the matter clear, the intention of his paper is to show that, throughout the course of their career, the Tai potters were under no debt to their Chinese brother potters, and were alone responsible in every sense for the output of all the types of ware produced in Siam. I will say at once that I disagree with this view. On pages 17 to 20, Phya Nakhon Phra Ram describes the new kilns which he discovered at Kalong, a deserted city near Wieng Papao, in the north of Siam, and which he considers as established prior to the ancient city of Chiengsen; but, before discussing this problem, it will be as well to deal first with the Chaliang and Suk'ot'ai kiln-sites and productions.

To take the Chalieng kilns first. In the Burlington Magazine I showed illustrations of wares which were certainly not derived from any Chinese origin or influence (Pl. I, B, C, D & E, and Pl. II, A & B similar to the jar on his Pl. VI). They represent a thin stoneware glazed green or brown on the exterior (except the dish seen in Pl. I, C & E where the interior only is glazed), with a flat base and many bubbles in the glaze. The shapes are expressively Tai, and I classed them as Chaliang (old Sawank'alok pre-Chinese). Tai kilns, possibly XIth, XIIth and XIIIth centuries. Usually no decoration, but sometimes incised lines on dishes. Pl. I, C & E, and Pl. II, A & B are from my own collection, while Pl. I, B & D are from the collection of Phya Nakhon Phra Ram.

These wares were baked on large flat pontils, the marks of which can be seen on the wares near the rim of the base. They have almost nothing in common with Chinese wares, and their approximate date is fixed by Phya Nakhon Phra Ram, who found only Chalieng wares in the lowest levels of the river bank at the Monastery of the Great Relic at old Sawank'alok (cf. his Pl. XXVII).

Now appears an entirely new decorated type of ware, which is a product of the Suk'ot'ai kilns alone, as witnessed by examination both by Phya Nakhon Phra Ram and myself. The ware itself is hard, thick and coarse, full of impurities, but its singular quality lies in the technique applied. The ware is first covered with a coat of white slip, then the decorative motive is painted on it, and finally it is dipped in a thin straw-coloured glaze. For the first time in Siam we have decorated wares in black and brown, and the technique described is exactly parallel to that used in the Sung Chinese wares of Tzu-chou, a well-known centre of pottery from Sung times in the Chihli province south of Peking; indeed, a certain bowl in the collection of Mr. Van Orsay de Flines could easily pass as a product of Tzu-chou to anyone not intimately acquainted with both types of ware. Moreover, the Suk'ot'ai wares were baked in a manner hitherto unknown in Siam. The bowls were placed on small flat round earthen discs, with five pointed projections on the bottom, and stood inside one another in the kiln so that on the bottom of the interior of each bowl except the lowest will be found five spur marks where the pontil was broken off (cf. *Burlington Magazine* Pl. III, A & B). The decorative motives usually found on Suk'ot'ai wares, i.e. on the interior, are either a fish, a *chakra* (weapon of Vishnu), a spray of flowers, or a series of circular rays.

How are we to account for the sudden appearance of this type of ware?

Phya Nakhon Phra Ram is of the opinion that the potters of Kalong and other places in the vicinity were brought down to Suk'ot'ai about the year 1359 A. D. by the King of Suk'ot'ai, who at this time is reported to have marched to Chieng Rai and brought the inhabitants of that district down to Suk'ot'ai. He adds:

Furthermore, the kilns, the design, the enamel, and the shape of Suk'ot'ai pottery have *some* ⁽²⁾ resemblance to those of Kalong.

Now this is clearly pure conjecture, but even if the two wares bear some resemblance to one another and Kalong ante-dates Suk'ot'ai (which I personally doubt for reasons given later), how do the Kalong wares themselves come to be made with the same technique as those of Tzu-chou, a technique hitherto unknown in Siam? Facts are stubborn things, whatever our hopes and beliefs may be, and this

(2) The italics are mine.

question has to be answered. Phya Nakhon Phra Ram believes that Chiengsen was built in the VIIIth century A. D. and that Kalong (with its kilns) is older than Chiengsen. If this were so, Kalong wares would long ante-date those of Tzu-chou itself. Throughout his monograph Phya Nakhon Phra Ram makes no allusion whatever to the possibility of Chinese potters coming to Siam—in fact his whole argument appears to be to prove that they did not—but, looking at the matter from the standpoint of the evidence alone, I cannot believe that the potters of Kalong in northern Siam taught the potters of Tzu-chou in northern China their special technique of potting, and I am forced to conclude that some time during the Sung or, more likely, Yüan dynasty of China, Chinese potters were brought down, introducing new forms and new materials of potting, as well as new methods of decoration. I cannot account for these new wares in any other way, and this being so, I believe there is some ground for the truth of the tradition in Siam that Rām K'am-heng did go to the court of the Mongol Emperor, that he saw the decorated Tzu-chou wares on the occasion of his visit, and that he obtained permission from the Chinese Emperor to take back Tzu-chou potters to Siam to teach the Siamese potters the art of making decorated wares. It is hardly conceivable that potters would come all the way to Siam from Tzu-chou in the province of Chihli of their own volition.

The historical problem of the coming of the Tai to Siam is still not entirely resolved, but, until further and more detailed evidence is forthcoming, I am prepared to accept the conclusion arrived at both by the *Pongsāwādān Yōnok* and by Prince Damrong, that the first Tai prince to settle on the Southern bank of the Mek'ōng was Brahma (or Prom) and that he founded the city of Jaya Prakār in the district of Chieng Rai early in the second half of the IXth century.

I have not found any evidence as yet to contradict this, and it tallies admirably with the rise of the Tai in Yunnan during the VIIth to IXth centuries A. D. It is quite possible that the city of Chiengsen was founded before that time, but, if it was, then it was a Lawā and not a Tai city. Even as late as 1239 A. D. it is recounted in the *Pongsāwādān Yōnok* that Lao Meng, the 23rd Lawā Chief of Chiengsen, married the daughter of the Tai chief of Chiengrung in south-western Yunnan and that the famous Meng Rai was their son. There can be no question, therefore, in my mind, of any particularly Tai kilns in the north of Siam before the 10th century A. D. at the earliest.

All the detailed historical statements made by Phya Nakhon Phra Ram I must leave to Professor Cœdès to deal with, should he see fit to do so, but the danger of putting forward legends as historical facts is well exemplified on page 20 where it is stated that in B.E. 1111 (568 A.D.) King Sinhanavati built the city of Yonok Nakanakon, and three years later drove the Khmer out of Khmer cities in the north. As a matter of historical fact there were no Khmer cities in the north at that, or, I believe, at any other time. Actually, in the VIth century, the Khmer, as a national entity, had only just begun to exist.

To return now to the Kalong wares and pottery, which is our particular theme. Phya Nakhon Phra Ram is to be congratulated on making the discovery of these kilns and of a new type of ware, and his drawings of the different kinds of kilns used at Kalong, Suk'ot'ai and Sawank'alok are very valuable. It remains to come to some conclusion where the Kalong kilns fit in with the whole scheme of pottery in Siam.

Phya Nakhon Phra Ram would have us believe that the kilns at Kalong were founded either in the VIth (or VIIIth) century (page 27) and were producing their wares for a period of 600 to 800 years, that they ante-date the founding of Chiengsen, and that it was from Kalong that potters were brought to, and set up, in Suk'ot'ai in the XIVth century.

I have now had the opportunity of discussing the Kalong wares with both Mr. Hobson of the British Museum and Mr. Bernard Rackham of the Victoria and Albert Museum. Phya Nakhon Phra Ram very kindly sent me a bottle, as well as fragments of a large dish and other utensils, so that it has been possible to study the make of the ware closely. It is a thin ware and rather brittle. Though lightly fired, it is undoubtedly of a porcellaneous substance, and much finer in quality than the Suk'ot'ai ware. The fragment of a small dish-stand sent was not decorated but covered with a light green celadon crackled glaze (cf. Plate XXXIX a), but the other wares were all decorated wares, with the white slip first applied, then the black or brown painted motive and then the thin straw-coloured glaze, exactly in the Tzu Chou manner, (cf. Pl. XXVIII).

The glaze itself appears on the fragments to be much more vitreous and polished than in the Suk'ot'ai wares.

The decoration, on the large dish fragments, is very bold and pleasing. I have presented the major portion of the fragments sent me to the British Museum.

Now it has already been shown that either the Tzu Chou potters must have come to Siam, or the Tai potters went to Tzu Chou. Both Mr. Rackham and Mr. Hobson inform me that there is no evidence of the Tzu Chou type of pottery being made at Tzu Chou before the Sung dynasty of China, i. e. before the end of the Xth or beginning of the XIth century, but that from the Sung dynasty onwards the ware was turned out of Tzu Chou continuously for many hundreds of years. Can it be seriously contended that potters went all the way from Kalong to Tzu Chou in the Xth century to teach the Chinese potters their special technique? I cannot believe that Phya Nakhon Phra Rām himself, if he had considered the evidence more closely, could possibly have sustained that conclusion. Yet no other is feasible, if we are to accept his views as to the dating of the Kalong kilns.

There is another interesting point to consider, and that is the pontil used in baking the wares. The Chalieng potters used the long tubular support of fire-clay, and so did the Kalong potters (according to Phya Nakhon Phra Ram) but the Suk'ot'ai potters used an entirely different kind, such as I have already described. This flat round disc with five projecting spurs on the base is not known elsewhere in Siam but *it is known in China*. Mr. Hobson tells me that they have not been able as yet to obtain any evidence of the type of pontil used at Tzu Chou, but the Suk'ot'ai type was definitely used at Hang-chou, where the famous Kuan ware was produced during the Sung dynasty. So here is a definite link between Suk'ot'ai and China.

On stylistic and material grounds Mr. Rackham places the Kalong ware as of late Sung or Yüan type, i. e. XIIIth century, and Mr. Hobson cannot place it as earlier than Sung. This date of Mr. Rackham's is corroborated in a very unexpected way, by evidence shown by Phya Nakhon Phra Ram himself. On Plate XX he shows specimens of porcelain Buddha images from Kalong, the centre one with an inscription which has been pronounced to be in Tai Lü characters, and from the context, he appears to consider these Buddha figures as evidence of the great age of Kalong. Actually they prove almost the exact opposite. It can be clearly seen that the centre Buddha image has a *Ketumala* (flame-top) proceeding from the centre of the *usnisa*, which makes it certain that this particular image could

not have been produced before the XIVth century, since the flame-top, which came from Ceylon, was not introduced into Siam itself until the middle of the XIIIth century and did not spread from Suk'ot'ai into the north of Siam until the XIVth century. Even the other two figures, with lotus-buds on their *usnisas*, cannot be earlier than the late XIIth or XIIIth century, as this style was not introduced into Siam from Burma until that period.

So, on all grounds, historical, material and incidental, we cannot place the kilns at Kalong earlier than the XIIIth or XIVth century. My own belief is that, owing to their superiority over Suk'ot'ai wares, the Kalong kilns are later than Suk'ot'ai, and that *possibly*, instead of the King of Suk'ot'ai bringing potters back from Kalong to Suk'ot'ai, potters accompanied him on his journey northwards. The question will probably never be resolved now, but, considering all the circumstances, it seems much more likely that potters should go *from* a capital city to an outlying district than that the reverse move should take place.

Before I close my remarks on the Suk'ot'ai-Kalong-Tzu Chou wares, it is of interest to note that I have presented to the British Museum a beautiful fragment of undoubted Tzu Chou Sung ware, painted with a bird, which was found in the district of old Suk'ot'ai. So it was known there!

It remains for me to deal with those wares which Phya Nakhon Phra Ram refers to as *Sate'analai*.

According to him, the kilns of Chalieng, i.e. I presume, those which turned out purely Tai pottery, went on producing until about the year 1359, when the pottery from Suk'ot'ai began to compete in foreign markets with that from Chalieng and finally, as it sold at a lower price than that of its competitor, caused the Chalieng kilns to be closed down. Suk'ot'ai kilns only produced their wares for fifteen years, and then their place was taken by the kilns of Sate'analai which first began to produce in 1374 A. D. and continued to put out pottery until 1446 A. D., when P'ya Yut'itsacieng took all the population to Chiangmai. His reason for giving only 15 years of life to the Suk'ot'ai kilns is 'because it would seem that Suk'ot'ai was conquered by Ayuthya about that time'.

As I have said already, I am in agreement with the sequence, first Chalieng, then Suk'ot'ai and finally Sate'analai (or Sawank'alok). The difference between us is that Phya Nakhon Phra Ram believed

that Tai potters were brought from Kalong to establish the kilns at Suk'ot'ai, whereas I believe that Chinese potters were brought from the north of China for this purpose. I cannot therefore entirely agree with the dates proposed, though the difference is not very great. My date for the establishment of the Suk'ot'ai kilns would be about 1300 A. D. at the beginning of the Yüan (Mongol) dynasty of China against his 1359 which marks the end of that dynasty (the Ming dynasty dates from 1368). I do not feel so confident about the export either of Suk'ot'ai wares or of Chalieng products. I saw a few specimens of Suk'ot'ai ware in the Batavia Museum, but they were rare compared with those from Sawank'alok, and I cannot recall, at this period of time, seeing any in Manila, though here again Professor Beyer may have unearthed a few pieces. Of real, genuine Chalieng wares I know of none abroad, and I should have thought that it was not until the Tai dynasty of Suk'ot'ai had been firmly established under Ram K'anheng that any wares would have been exported at all via Martaban, which was their port of exportation. It seems likely that the products of the Chalieng kilns had only a local sale, and that it was the Chinese potters of Suk'ot'ai who first thought of exporting their wares. As these latter are so rare, even in Siam, I agree with Phya Nakhon Phra Ram that their life was a short one, and when we consider the comparison made by him on page 26 between the clay of Suk'ot'ai and that of Chalieng, it seems reasonable to suppose that the Suk'ot'ai potters became dissatisfied with their materials at that centre and eventually took over the Chalieng kilns. I have discussed this matter at some length in the *Burlington Magazine* on p. 165.

Why I personally feel confident about the coming of the Chinese potters and their absorption of the Chalieng (now to become Sate'analai) kilns is not only because the Suk'ot'ai kilns turned out a purely Chinese type of ware, but because the earlier products of Sate'analai (or Sawank'alok) are also imbued with a strong Chinese influence.

On Pl. III in the *Burlington Magazine* of October 1933,⁽³⁾ I showed three illustrations of fragments which I myself picked up in the Sawank'alok kilns and which show clearly, first a freely-drawn Chinese Sung design, then formal Chinese designs, and finally Indo-Tai designs, and I said that this, to my mind, means that the original potters of (what I called) China-Sawank'alok wares were Chinese, who were possi-

(3) First published in the *Journal of the Siam Society* Vol. XIX, pt. 2 issued in September 1925.

bly followed by others, as many Chinese embassies came to Siam in the 14th century, but that in the course of time the Chinese potter married Tai wives, and their children and successors gradually became Tai in heart and feeling. This opinion of mine was corroborated by Dr. Beyer who said in his report, 'As le May has already surmised, our sites confirm his ideas of the evolution of designs in Sawank'alok wares, gradually changing from purely Sung Chinese patterns step by step to purely Siamese (Tai) ones before the end of the fifteenth century.'

But, quite apart from this evidence, a novice has only to look at the shapes and designs on Sawank'alok (Sate'analai) wares to recognise their affinity with contemporary Chinese wares, particularly among the celadons, and how unlike they are to the earlier Chalieng wares. Dishes, Bottles, Potiches are all clearly Chinese in type, and though many of the products of Sawank'alok have a subtle difference in their make-up which is recognizable by the initiated, still I defy anyone acquainted with both Chinese and Siamese wares to gainsay the fact that the influence seen in most of the earlier household wares made at Sachanalai came from China.

The later wares, especially the finials, subjects for temples, lions, angels, devotees, as well as animals and toys and the like are, of course, of purely Tai inspiration.

Phya Nakhon Phra Ram's comparisons between Chinese and Tai ceramics is most interesting and a valuable contribution to the general subject of technique, but it would lead me into too much detail to discuss them here. I am rather concerned to fix, as far as we can, the main facts regarding the period covered by the kilns established in central and northern Siam and the kind of wares they produced. In passing, I may mention that Mr. Hobson is rather inclined to think that the Sate'analai kilns went on producing their wares up to the XVIIIth century. I am of opinion that they stopped some time in the XVIth century and Dr. Beyer agrees with this view. We shall probably never know definitely.

To sum up, I reproduce the conclusions I came to in the *Burlington Magazine* (p. 165) where I divided the early ceramic productions of Central Siam as follows:—

1. Pitsanulok and elsewhere—Tai kilns. Unglazed earthenware. From early times,

2. Chaliang (old Sawank'alok—Pre-Chinese)—Tai kilns. Thin, glazed stoneware, green and brown. Possibly XIth, XIIth and XIIIth centuries.
Usually no decoration, but sometimes incised lines on dishes.
3. Suk'ot'ai—Chinese kilns. Hard, thick stoneware painted with white slip and decoration in black or brown with thin covering of glaze.
First years of XIVth century.
4. Sawank'alok—Chino-Siamese kilns. Hard, thick stoneware, rising to porcellaneous ware, with incised and painted decoration, as well as undecorated monochromes, covered with various coloured glazes.
Early XIVth to end of XVth century.

To this list must now be added the kilns of Kalong, which I myself date in the XIVth and XVth centuries.

Finally, I would like to say, and I only wish my dear old friend were alive to hear it, that I tried to impress upon Phya Nakhon Phra Ram the essential necessity of treating this most interesting subject objectively and scientifically and of not allowing ourselves to be led astray by legendary histories or by pre-conceived ideas. The historian, they say, is never impartial: he would not be worth reading if he were. Well, the reader must make his choice between the cold facts of science and the emotional warmth of history.

(Sgd.) REGINALD LE MAY.

Wimbledon,
January, 27th, 1938.

II

ON THE COINS OF NORTHERN SIAM.

I have been so busy with my new work on *Buddhist Art in Siam* that it is only now that I find time to deal with the above article in Vol. XXIX, pt. 1 of the *Journal*, issued in August 1936, which was of great interest to me. It is, indeed, agreeable to find another enthusiast, especially a young enthusiast, for the coinage of Siam, even if his present studies are confined to the North.

Dr. Kneedler has certainly been at great pains to fill in the outline of northern coinage which I gave in the *Coinage of Siam*, and his twelve plates appear to me to be thoroughly illustrative of all types at present known. I congratulate him on his success in discovering and bringing together so many specimens of each type. His two additional plates showing all the inscriptions and marks on the coins are very valuable and constitute an important part of his work.

As regards the text which accompanies these plates and which I have studied carefully, I am sorry to say that I cannot be equally appreciative. Dr. Kneedler calls me in question in so many places, and is evidently in disagreement with me on so many points, that I feel it necessary to make the following observations.

With regard to the *Flower*, *Leaf* or *Line*, *Tok*, *Horsehoof*, and *Pigmouth* moneys, Dr. Kneedler's statements are purely descriptive and I have no particular comment to make upon them.

As regards the *Bar* (or *Leech*), *O'iang* (Chieng) and *Bullet* moneys, Dr. Kneedler, apart from his descriptive remarks, either credits me with statements which I have not made, or deals with my deductions in such a manner, that I find it rather difficult to answer him critically.

For instance, in speaking of the *Bar* money, Dr. Kneedler says: *Mr. le May attributes them to the principality of Wieng Čăn*, whereas, if the reader will turn to page 13 of *The Coinage of Siam* (which is cited) he will find these words: I was told⁽¹⁾ in the North that this coin (cf. his plate VI, nos. 2, 3, 4, & 5) was an issue of the ancient Kingdom of Wieng Chan on the Mekhong, *but I have as yet no evidence to prove this assertion*⁽¹⁾! So except for the fact that it seems reasonable to believe that this type (and all the other types) of *Bar* money originated in the valley of the Mekhong, Dr. Kneedler and I are exactly in the same position of knowing nothing whatever about them. Yet I, in my turn, must ask Dr. Kneedler one question. He stated that the *Bar* money was made in olden times by people of the *Siamese*⁽¹⁾ race living in the valley of the Mekhong river, in the region known a few hundred ago as Lan C'ang. This may possibly be true, but would he be kind enough to produce the evidence he has at the present moment for the assertion that the people were of *Siamese* race?

C'IENTG (CHIENG) MONEY.

Dr. Kneedler has performed a good service for all students of Siam's coinage with his drawings of all the names and marks found on the *C'ientg* (*Chieng*) money, but I must definitely cross swords with him when he states: typically this money is a silver bar, the ends of which were curved and also when, in speaking of the *bracelet* type of coinage depicted in my book, he says: "all that which he pictures, however, appears to me to be merely widely open *C'ientg* money."

Furthermore, his statement that he has not heard of any actual *bracelet* coins, nor has the National Museum, when he actually illustrates two obvious *bracelets* in his plate IX, nos. 1 and 2, is not particularly flattering to my powers of description. Lastly, he states: Mr. le May cites an old (sic) reference to the effect that "*bracelet* money was used in the North of Siam at a very remote date."

On page 12 of my volume I tried to show the difference, in origin, between the *C'ientg* (*Chieng*) money and the *bullet* coinage. It is quite clear, to my mind and eye, that the *Chieng* money is derived, *not* from a *bar* but from a *bracelet*, while it is well known from demonstration (cf. pages 63-65 of the *Coinage of Siam*) that the *bullet* coin is a short elliptical bar of silver of which both ends have been turned inwards.

(1) The italics are mine.

There is, in my opinion, a fundamental difference between the two types of coinage, and, as I said in my work, the *bullet* coin has more in common with the *bar* money used in the Mekhong valley.

Now, as regards the *Chieng* money, it should be clear to a student of early coinage, that no issuing authority which had evolved such a well defined shape as this type of money is, stamped with the name of the principality and bearing a figure of value, would be likely to revert to the more primitive *bracelet* form with *no* name and *no* value. Everyone must admit that the *Chieng* type is a peculiar one and I at any rate, was, and am convinced that it is derived from something older; and, in searching for clues to its evolution, I happily came upon the 'old' reference to which Dr. Kneedler so vaguely and contemptuously refers, though why an 'old' reference should be of less value than a new one I cannot understand, provided it rests on a firm basis.

If the reader will consult Harvey's *History of Burma*, page 13, he will find the 'old' reference in full, a very valuable reference which gives a concise and exact description of the extinct Pyu race in Burma as the Chinese found them at Prome in the VIIIth century A.D. It would be irrelevant to give the text in full here, but I repeat that I found in it a reference to the fact that the Pyu were in the habit of using gold and silver as money, the shapes of which are crescent-like.

Now the Pyu and the Tai came into close contact during the VIIIth and IXth centuries, at the time when the Tai race were entering the North of Siam, and I suggested, as a high probability, that the Tai became acquainted with this crescent-like type of coinage which, to my mind, was clearly the kind of *bracelet* type such as the one we are considering.

I see no reason to doubt that probability at this later time, and there is very little doubt in my mind that the Tai type of *Chieng* coinage was derived from this earlier type of money. Whether the actual coins which Dr. Kneedler depicts (plate IX, nos. 1 & 2) or those which I showed in the *Coinage of Siam* (plate III, nos. 5 & 7) date back as far as the VIIIth or IXth century, I have no means of telling but I am reasonably convinced that they antedate the *Chieng* money and were the source of its shape. Finally, a study of the marks on the two types of coinage tends to reinforce in my mind the belief that they do not belong to the same period. If I am later proved to be wrong, I will gladly admit it, but Dr. Kneedler's vague statements that they seem to him to be merely widely open *Chieng* money and that

he has never heard of any *bracelet* money neither advance the study of Siam's coinage systems one whit further.

The three *entirely unique* coins or tokens depicted on plate IX, nos. 4, 5 & 6 have sent my mind back to a passage from *An Asian Arcady* which I may well quote here (p. 248). In speaking of the *Chieng* money I said: It may be stated frankly that in the North of Siam to-day these two coins (i. e. the examples illustrated) are supposed to have been used in pairs, and to represent the male and female genital organs, *by which they are known.*⁽²⁾ But I am now satisfied that this is not so, and that probably the coins in question are of a similar type, issued by different principalities. We know now, of course that a number of principalities did issue similar coins, varying slightly in weight and shape, and with different names stamped upon them. But when I was in the North, the old ladies who used to bring me coins for sale, always referred to the *Chieng* type in the outspoken 'vulgar' way referred to above, and I am left wondering whether somebody has not been playing a trick on Dr. Kneedler and, perhaps, on the owner of the 'unique coins,' Nai Leng. Dr. Kneedler does not say of what metal the 'coins' are made, and, as I have not seen them, I cannot express any opinion, but I have always held, and still hold, the view that all *Chieng* coins which are not of silver are gravely suspect.

In the photograph, in comparison with nos. 1, 2, & 3 on the same plate, they do not appear to be of silver, while the shape of the *Chieng* coins (no. 5) is definitely bad.

LUMP OR 'BULLET' MONEY.

Dr. Kneedler quotes me as believing that this type of coinage, long the official and common type of Siam, originated in the North of the country and, though he does not definitely say so, the whole tone of his paragraph appears to be opposed to this belief. Well, I cannot gainsay him his views, but to any one interested in the subject, I can only refer him to pages 21-23 of my work, where he will find my deductions and views clearly set out. That Mr. Kneedler has not found any old coinage of the *bullet* type in the North of Siam is, no doubt, regrettable, but it does not alter the fact that *I have* (and as far north as Chiengsen) or the fact that these *bullet* coins are of lighter weight than, and of different *build* from, the coinage of Ayudhya. Those he illustrates on plate XI (nos. 1, 3, 5 & 6) are

(2) The italics are mine.

quite irrelevant to the point at issue: those to which I refer may be seen in the *Coinage of Siam* plate IV, no. 6 and in *An Asian Arcady*, plate I, nos. 15 & 16, opposite page 246, where I have also discussed them at some little length. There is no disputing the fact (1) that *bullet* coins were at certain times in current use in the North of Siam, and (2) that these northern *bullet* coins were lighter in weight and lower in value than the coins of Ayudhya. These facts have to be accounted for, and I have endeavoured to shed some light upon them. Dr. Kneedler, however, gets over the difficulty by the simple method of saying that he has never seen any; therefore, presumably, they do not exist.

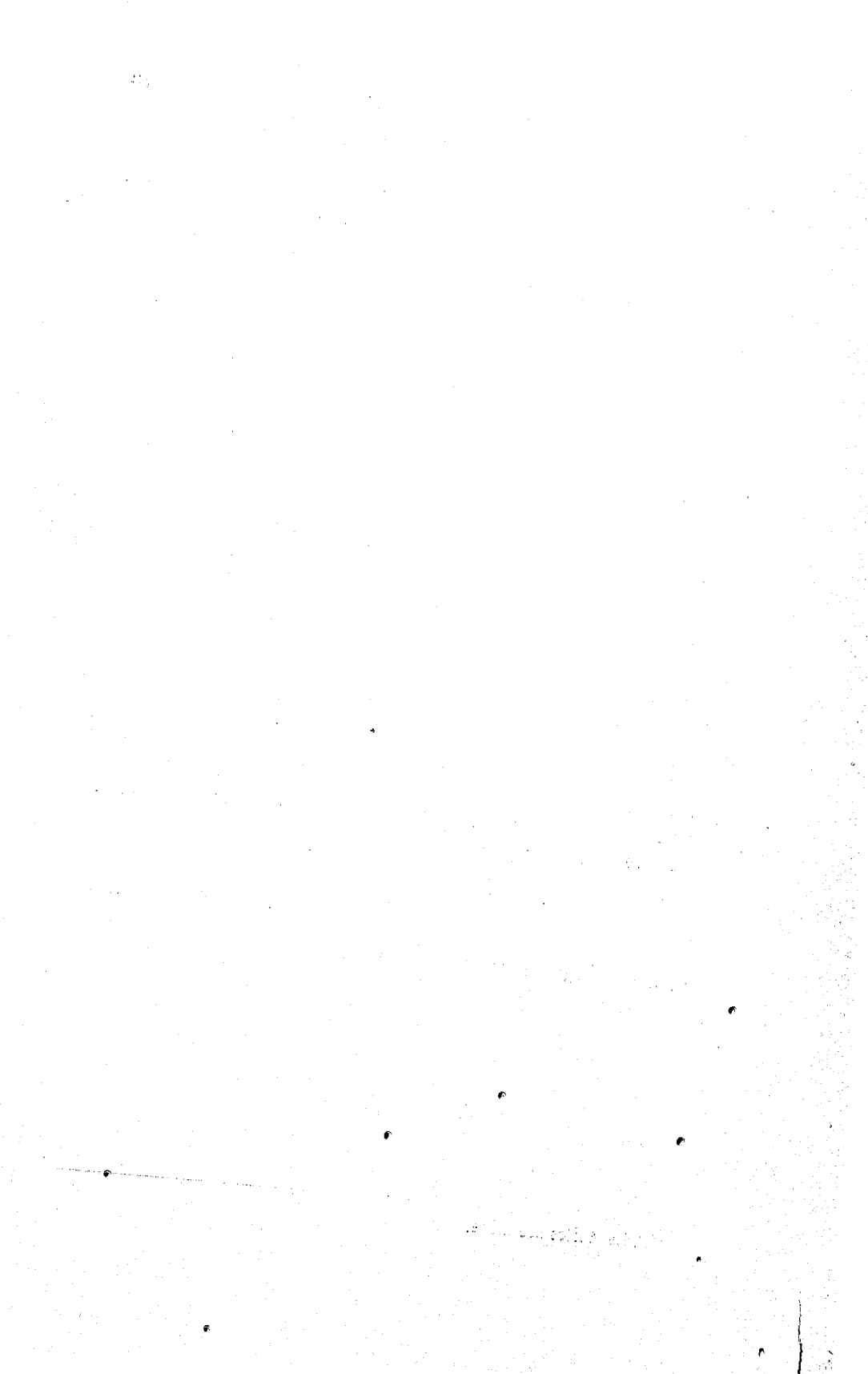
One last example of Dr. Kneedler's method of critical writing and I have done. He says that (in 1615) Chiengmai was under the rule of Burma then, and it seems likely that what the writer of the letter, [Lucas Antheunis, the agent to the East India Company at Ayudhya] referred to was the standard coinage of Burma, "*whatever that may have been, if indeed there was any.*"⁽³⁾ Dr. Kneedler had only to refer to page 4 of the *Coinage of Siam* to find it stated, on the best authority (Sir Arthur Phayre) that *there wasn't any*!

I hope Dr. Kneedler will not think from this reply to his monograph, that I appreciate any less the work that he has done in helping to elucidate the different coinage of the North or that I object to my own work being criticised. But I prefer such criticism to rest upon rather more substantial foundations. I am as anxious as he is to solve the problems presented by the forms of Siam's coinage, but I do not feel that his present criticisms are helpful.

REGINALD LE MAY.

Wimbledon, October 1937.

(3) The italics are mine.



III

ON SYMBOLS OF SOVEREIGNTY IN INDIA.

In the first number of *Indian Art and Letters*, Vol. XII, is published the text of a lecture delivered by Mlle. Jeannine Auboyer before the India Society on *The Symbolism of Sovereignty in India according to Iconography*. The lecturer chose as her subject that aspect of the question which referred to parasols and thrones. She begins with an explanation of the symbolism of the *parasol* by referring to the legend of Asoka in which the monarch expressed his intention of sheltering the entire world beneath his parasol. Hence it became the symbol of universal sovereignty. As regards *the throne*, Indian tradition has it that it confers on him who sits upon it the attitude and character of a *cakravartin* or universal sovereign. In the rituals of consecrating a *cakravartin* (the Vājapeya ritual), the king does not proclaim himself endowed with royal power until he is seated upon the throne.

The author goes on then to examine the decorative motifs at the backs of thrones of the Buddha on sculpture and sets down the results of her study and a comparison of the animal figures on either side of the backs of thrones. The usual motif is that of the *makara*, and below it the lion, and lower still the elephant. In this she sees representation of the three principal elements of ancient Indian cosmology, namely: ocean, heaven and earth. The whole frame, she thinks, might represent a synthesis of the universe over which reigns the *cakravartin*, whose figure is seated upon the throne. By studying their posture and the backs of thrones she comes to the conclusion that the Buddha-figures seated upon such thrones are not those of the Buddha Sakyamuni but Maitreya on account of his connection with the solar myth which shows its traces on the throne-backs,

Although it seems that the main point of Mlle. Auboyer's article is the identification of the figure seated upon the throne of the Buddha King (an evolution in Art from the Buddha monk) with Maitreya, who by the way is traced to the Indo-Iranian Mithra—an issue which I have no intention of refuting or supporting without a good deal more study—I feel tempted to set down certain facts, some corroborating perhaps many of the author's statements or even deductions. My point, however, is not so concerned with the works of ancient Indian art and iconography as with their development in what the author calls the Indianized countries, especially Siam.

Taking first the parasols, it will be remembered that the author pointed out that the simple and habitual form in India developed in outer India into a symbol. It only remains to be added that this development was not only in form but also in number. In the old Khmer empire the king went about with several parasols of state at the same time, not over the head but all round him, as can be still seen on the bas-reliefs of Ankor Wat.⁽¹⁾ In Siam, however, the numerous parasols are again united in one by putting each on top of another, forming one parasol of so many tiers, the number of which became—doubtless later—stipulated for different ranks. Thus, nine is ordained for a consecrated monarch, seven for the heir to the throne and five for the queen and the head of the Buddhist Church. In the light of Mlle. Auboyer's explanation of the significance of the parasol, it might seem that the Siamese monarch was prepared to rule over so many more earths than his ancient Indian counterparts. It is, however, more likely that this is a case of the conception of the *earth* deteriorating into a *realm*, such a process of deterioration being possible of detection in so many other cases where a conception has been imported far from its original home and setting. By way of an instance it might be pointed out that the rituals of consecrating a *cakravartin* as ordained in the *Śatapatha Brāhmaṇas* have to a great extent been adopted for the Siamese ceremony of coronation, with however a different conception of an important feature. A Siamese king commences the ritual of his coronation by an anointment—locally spoken of as a ceremonial bath—and then sits on an octagonal seat, where, by turning around, he accepts on each of the eight sides of the seat, representing the four cardinal points of the compass and their in-

(1) Where Sūryavarman II. is represented in two places, with fifteen state-parasols in both,

intermediate points, an invitation from a deputy of the people (a part now taken by a *rājapandit* of the Court) to rule over them in the respective sector of the Kingdom. He then receives from the chief of the deputies a combined invitation from all of them. The number of invitations is then nine, exactly the number of tiers of the royal white parasol of state, and, one might presume, a number signifying the large extent of the responsibility over his realm. This being over, the king proceeds to the throne proper called the Phatrabiṭh (Sk. Bhadrapiṭha), where he receives the crown and other articles of the regalia from the chief Brahmin of the Court as well as the nine-tiered parasol of state. The latter then formally invites him to reign over the Kingdom, to which the king signifies his assent and commands the people through the Brahmin to go on as before with their livelihood and their work. The Brahmin then adds: *I do receive the first command of Your Majesty*. The above description will show us that in Siam too the king is not theoretically invested with royal power until he seats himself upon the throne, for here for the first time does he receive and wear the crown and give his *first* royal command. It should, however, be noted that while the Indian celebrant of the Vājapeya aims at raising himself from the status of the head of a state to that of a universal sovereign, the Siamese monarch merely aims at becoming crowned as the head of his state. Here again can be detected the process of the former conception being reduced to smaller proportions.

Finally the author raises an interesting question: Is the personage on the throne exclusively one of a divine character, or is it to be admitted that the statue represents also, over and above the divine person of Maitreya or Vishnu, a temporal sovereign to whom its erection is due? With her conclusion along the line of the second alternative I am inclined to fall in for reasons already set forth in my article in the current number of this Journal entitled *The World of Jetavan in old Siamese* (p. 49). In further support of this I might cite another article in *Indian Art and Letters* Vol. IX, 2, by Monsieur P. Mus, entitled *Ankor in the Time of Jayavarman VII.*; and, though it is a modern piece of statuary, I might point to an effigy of the Buddha placed in the cloisters of Wat Makut in Bangkok over the remains of His late Royal Highness Prince Adisorn, whose exact countenance the effigy resembles.

D. .

Bangkok, 12th January 1939.

IV

AN ANALYSIS OF DAS LAND DER TAI⁽¹⁾

Professor Credner, who travelled extensively and made profound studies in Siam during the years 1927-1929, has produced a very excellent book and though written now nearly three years ago it cannot be said to have lost any measure of novelty as most of the matter treated in his book is not made from material which changes from day to day. Professor Credner, who is both an expert geographer and a geomorphologist will be known to the readers of the J. S. S. from my review of his book *Yünnan Reise des Geographischen Instituts der Sun Yat Sen Universität*, Kanton 1931, J. S. S., Vol. XXVI, Part 1, 1933 and his *Kulturgeographische Beobachtungen in der Landschaft um Tali (Yünnan) mit besonderer Berücksichtigung des Nan Tsao Problems*, translated by me and published in J. S. S., Vol. XXVII, Part II, 1935. The present work does not pretend to be a history of Siam nor of the Thai in the historico-political sense though it also contains a short historical sketch. It is a thorough-going geographical study coupled with an exact description of all the physical features of this country as well as its economical structure, its resources and material culture. As such this book is to be of lasting value and will constitute the standard work for many years to come. It is a pity that it has not yet been translated into English or French, as it is just the book which should be read and absorbed by the business man, to whom it is hereby recommended by an *old timer* who, after his thirty odd years spent in Siam, can testify

(1) Professor Dr. Phil. Wilhelm Credner, *Siam, das Land der Tai*. J. Engelhorn's Nachfolger, Stuttgart, 1935, 422 pages with 70 illustrations, 12 maps and 27 drawings.

to the soundness of Professor Credner's views as expressed in this book. Mr. W. A. Graham wrote a very interesting book, *Siam*, in two volumes, published in 1923, which was a good book then (with the exception of its historical part) but it must now be considered as partly out of date, though it will always remain a very readable book.

The author calls Siam a typical Monsoon country and a land of the plough culture. Siam is the heart of Indo-China constituting as she does the central part of this sub-continent, bordered on the west by the Burmese frontier hills, called by the author the Central Cordillera, and to the east (geographically speaking) by the Annamite Cordillera. The Menam plain constitutes the heart of Siam, being economically and politically the most important part of the kingdom.

The chapter on geology is of the greatest interest, as here for the first time in all the literature on Siam one meets with a description by an expert. The dominant geological formation in South-East Asia is the Permo-carbonic limestone. From Kweichow and Yunnan in the north it stretches down through Further India to Sumatra, Timor and even as far as New Guinea. While the mountains of the North, North-west and West as well as partly in South Siam are mostly composed of limestone, the vast plateau of Khorat with its western and southern border hills are all composed of sandstones resting, however, on a substratum of permo-carbonic limestone. Granite crops up in the Khun Tăn range in North Siam and Doi Suthep is also a granite formation. The highest mountain of the kingdom, Doi Intanon, is however composed of limestone. Granite again is found in the Chantaburi hills (Khao Sabāb), in the islands of Koh Samui and Pangan, in Phuket and especially where tin mines are worked because it is granite which contains this important metal.

Koh Samui and the Khao Luang range in the South are known for their wolfram ore, a metal of importance during times of war. It has also been found (by the reviewer) in N. E. Siam in the Dong Rek range, south of Khorat town. Basalt flows are met with in Chantaburi at Khao Ploi Wen, where formerly sapphires were found, and also at Bô Ploi, 32 km. north of Kanburi, where at present mining for sapphires is going on. South of Lampang is also a broad outflow of basalt through which the railway passes. Finally, at Chieng Khong, one sees splendid column-shaped basalt formations rise in the middle of the river Mekhong itself as well as on both its banks.

Volcanoes do exist in Siam in a mild way. There are two small ones, called Phu Fai Yai and Phu Fai Noi situated to the west of Chieng Sen, which at times emit flames of fire. Hot springs are not uncommon and are met with both in North Siam and in the south east (at Bang Phra and in Chantaburi). Siam belongs to the happy countries which are exempt from earthquakes though slight tremors are of not unfrequent occurrence, especially in the North.

The extensive Menam plain is, of course, an alluvial formation and its fertility is due to the annual inundations and the silt carried down from the hills of the north which forms a thick alluvial layer. In the valleys of the hilly parts of the country the alluvial formations are of a much lesser depth and here, due to the presence of iron and aluminium hydratoxydes, one encounters the laterite. This natural concrete has from ancient times been used by the inhabitants of Indo-China for the construction of their imposing temples, their city walls, their bridges and chaussées.

In tracing the geological history of Siam, Professor Credner lays down the following succession :—

The oldest formations belong to the pre-uralic, namely clay schists and sandstone formations *not* of red colour which reach a thickness of 10,000 metres (according to Wallace Lee). Metamorphosic variants are phyllite, quartzic sandstone, quartzic schists and gneiss. These formations dominate the whole of the west side of the Siamese part of the Malayan Peninsula.

Next comes the permo-carbon, mostly of light grey limestone which reaches a thickness of up to 2,500 metres. Its greatest extension is in East Siam where, however, it is covered with a layer of red sandstone.

Third in order come the mesozoic formations consisting of older red sandstone, clay schists (folded), probably of triassic age, conglomerates with rubble stones of permo-carbonic chalk, quartz, older sandstone and clay schists and salt layers. These formations are found east of the northern Siamese hill country and on the north-western Khorat plateau. Further granitic intrusions (post-triassic) combined with rhyolite and porphyry, tin and wolfram ore, are all mostly confined to the peninsula in the southern part of the Central Cordillera. To the mesozoic formations also belong younger red sandstone and clay schist formations with conglomerates, isolated limestone and salt. These latter formations are mainly found on the Khorat plateau. Their age is probably young mesozoic.

Fourth in succession we have the tertiary, with light coloured schistic clay, sandstone and lignite, whose location is in the northern Siamese river basins and in the peninsula. Its age is still undecided.

Finally comes the pleistocene with the riverine activities; the formation of the soil and isolated volcanic eruptions.

Generally speaking the zone occupied by Siam represents a younger post-triassic folding between two older ones, a caledonian in the west and a herzynian in the east. This means that limestone and granite are chiefly found in the western and southern parts while sandstone dominates the eastern parts.

Professor Credner gives a very striking and exact description of the Khorat hills, the mighty barrier of Dong Rek, with their so characteristic terrassic formations which are often of great scenic beauty and majesty. The writer having had the opportunity of crossing and recrossing these mighty ranges many times right from the west, at a point due south of Khorat town, to their eastern extremity, not far from the mighty Mekhong river, can testify to the correctness of the picture painted by this master geographer.

It would take up too much space to give more details of the author's excellent and thoroughgoing analysis of the geology of Siam, so I shall limit myself to mention only the more outstanding traits. When speaking about the occurrence of tin ore, other than in the peninsula, the author says that tin ore is found also at Mtiang Loei and Chieng Khong, and though at present no mines are worked there, this sounds probable, as tin was used for making bronze images of the Buddha. From personal observation I think this is correct. Iron is found in many parts of Siam and I would like to add that at least formerly i. e. when I was stationed in the Udorn circle, in 1909-10, iron ore was mined in considerable quantities near Wang Sapung in Changvad Loei where there existed a big blacksmith's village. Even at a good distance from this town of smithies one could hear the clang from the many anvils where the swarthy Lāos hammered out the iron. Caravans of elephants would come laden with salt from the west, or with dried fish or rice from the east, to barter their cargoes against iron implements. Under lead it may be added that this metal is also found in the former circle of Khorat where a whole tambol is called after it. Speaking about salt manufacturing, it might be added that in the district of Nakhon Thai is a curious *Bó Klúa*. Here the salt is not won by washing the

earth or drawing the brine from a well. The source of the salt is a salt-incrusted hill. During the rainy season the water, streaming down its sides, leaving broad blood-red stripes, is collected and evaporated in large flat iron pans giving a snow white product. This salt used to be transported on elephants or pack-oxen to the plains in the east. A well known salt well with a considerable output lies between Udornthani and Nongkhai. Finally there should be mentioned Bô Phan Khan, situated in the district of Suvarnaphum, Changvad Roi Et. One sees here in the stony bed of a small stream a number of more or less square-formed enclosures with low rims. After the end of the rainy season there is a great gathering of people, Lăo, Kui and Khmer, who come here in their bullock carts from far and near in order to boil the saline waters standing in these quadrangles in the river bed. The banks of the stream are full of conical holes where the salt seekers boil the saline waters. The whole stream is salt and no pony, bullock or buffalo will touch its waters. A ruined tower in Khmer style, but no doubt built by Lăo people, and containing the image of a hunchbacked idol (Śiva?) and a *linga* stands near by—and no salt seeker omits to worship here. Evidently this salt well is of great antiquity. When one sees on the flat plains of the Khorat plateau groups of small mounds one can be sure that these represent the residue from salt washing, and generally one will also see here the rough, hollowed out tree trunks which serve as troughs for the washing. Near a village called Ban Nôn in the district of Khtiang Nai, Changvad Ubon, lie seven tall hills, now covered with grass, on one of which is built a Shan Buddhist temple. Some people told me that these hills were old fortifications but as they do not form either a line or a square or a circle this explanation seems doubtful. Another explanation is that they really represent the residue from salt washing in olden days, which sounds much more possible.

Under lignite it may be added that this combustible also occurs in Udorn in the range of hills which run west of, and nearly parallel to, the Khonkaen-Udorn road. Copper, besides at Chantuk is found in the hills at Gut Khăo in the district of Manchakiri, roughly west of Chonlabot, Changvad Khonkaen. As far as I know this metal is also found in the Amphoe Mae Hôt, somewhere in the hills to the south-west of the town of that name.

With regard to the origin of the Menam plain there can be no doubt that this plain was formerly covered with water constituting a northern extension of the Gulf of Siam. The present plain has been slowly built up by the silt carried down by the rivers of the north, a process taking several thousands of years. Sandbars like the one situated outside the mouth of the Menam are found between Bangkok and Ayudhya and one is seen even as far north as Uttaradit. (The latter is not mentioned by the author.)

On the other hand there is no doubt, either, that the whole of the present Gulf was once dry land, since submerged, as already found out by the late Russell Wallace as far back as in 1862. The author says that a rise of only 100 metres of the sea bottom would result in joining Sumatra to the Peninsula and making most of the Gulf quite dry.

On page 39 Professor Credner says that *Chieng* means a fortified town. So it does, but it should be added that its full meaning is a fortified town lying on a hill (see Colonel G. E. Gerini *Researches on Ptolemy's Geography* p. 118, line 7 from bottom). But this is by the way.

The Khorat plateau, which covers an area of 160,000 square kilometres, is on the whole flat, sloping down from heights in the south and the west of 1,300 and 800 metres respectively towards the Mekong river where the height is only from 100 to 200 metres above sea level. This plateau is bordered to the west by the long Dong Phraya Yen range, running from north to south, and in the south by the San Kampheng and Dong Rek ranges running roughly from west to north-east. At their junction in the south-west their highest point is reached in Khao Lem, which thus forms the south-western angle of the plateau, soaring up to a height of 1,328 metres. The Phu Phān range should be mentioned as characteristic of the eastern part of the Khorat plateau. Its main part runs in a north-western to south-eastern direction from a point south of the large inland lake, Nong Hān Sakol Nakhon, in the north to the mouth of the Mūn river in the south. At its northern extremity it branches off into two shorter branches—one to the west and another to the east. Their highest points reach, according to the author, only to a little over 500 metres. The true mountain land is, of course, North Siam, the former Monthons Pāk Payab, which consist of five more or less parallel mountain ranges between which lie the fertile valley plains,

called aptly by the author *intramontane plains*. The level of these plains varies from 450 metres above sea level at M̄iang Fang to only 160 metres at M̄iang Phrae.

When speaking about the isolated, often sugarloaf-shaped, hills so characteristic of the landscape in western and southern Siam, Professor Credner does away with the theory that such hills represent former islands now landlocked. The correct explanation is that they are the remains of former limestone ranges worn down by erosion during long periods.

Of special interest are the remains of ancient plateaux which have escaped the wear and tear of rivers. Such an old plateau is found in western Siam in the Meklong hill country between the sources of the Kwaē Yai and Kwaē Noi. It lies at a height of 600 metres. The Bō Luang plateau on the divide of the Mae Ping and the Salwin, the land of Karens and Lawā, at a height of from 900 to 1,000 metres, is another example of such ancient plateaux. Other remains of ancient plateaux are found on the east slope of Doi Suthep, at a height of 800 metres and west of M̄iang Fāng, at a height of 1,300 metres, as well as between Chieng Kham and Bō Kl̄ua in N. N. E. Siam. Many large plateaux are found in French Indo-China, as for instance the Nām H̄uang plateau south of Paklai bordering our Changvad Loei (Amphoes Dansai and Tali), the extensive Chieng Kwang (by the French wrongly called 'Tranh Ninh) and the long series of plateaux in the Annamite Cordillera so well known for their excellent climate, such as Djarai, Darlac, Boloven and others. The author says that the Boloven plateau is in Cambodia: this is a lapsus as it really lies in French Laos in the commissariat of Paksé, to the north of the river of the same name.

The author gives a very striking and instructive description of what he calls the Central Cordillera of Further India (the Arakan hills forming the Western, and the Annamite, the Eastern Cordilleras) which he divides into eleven *wings* (*coulissen*) as wings on a stage, beginning with the Den Lao range in the extreme north which reaches heights of over 2,000 metres. The height of Chieng Dao is given as 2,185 metres, that of Doi Suthep 1,670 metres, and of Doi Angka or Intanon 2,570 metres. Next follows the Tanon Thung Chai which goes as far south as 15° north, its highest point being Khao Mong Kotchu with 1,964 metres. Then comes the Tavai range with such peaks as Khao Chang Ph̄tiak (1,231 m.) and Khao Song

Kwae (1,328 m.). The fourth wing is represented by the Tenasserim range with peaks at heights from 1,000 to 1,500 metres. As an isolated group the Khao Sam Roi Yot is mentioned.

From 12° north begins the fifth wing which, running from N. N. E. to S. S. W., ends in Victoria Point. This range begins with peaks reaching up to 1,247 metres in height but subsides by and by until at Chumporn, it has been reduced to less than 100 metres. The sixth wing is the Phuket range, the seventh is the Khao Panom Benchana in the Krabi district and the eighth the Nakhon Sri Thammarat range. As belonging to this range are also considered the islands of Tao, Pangan and Samui. The highest points in this range are Khao Nong (1,400 m.) and the majestic Khao Luang (1,786 m.). The ninth, tenth and eleventh wings are represented by the Singora, Pattani and Telubin ranges. South of the Telubin range are other wings, but as these are situated in British Malaya they do not come in for a description here. The question whether these wings represent remains of a cretaceous fold or a later anticlinal upheaval is not yet solved. The valleys of North Siam are enclosed by ranges of greater height than those of the central Cordillera. The eastern border of the extensive Chieng Mai plain is thus closed by the long range of hills called Khun Tăn which towers up to the north-east of Chieng Mai in the peak of Khao Pachô (ป่าจ้อ, and not Pa Dyok as the author writes) to a height of 2,012 metres. The divide between the Mae Wang and the Mae Yom reaches seldom more than 1,000 metres, as the mountains here consist of the soft permo-carbon limestone. Between the Phrae and Nān valleys runs a long limestone range called Phi Pan Nam whose highest peak is the picturesque Khao Padeng (1,100 m.). East of Nān, however, greater heights are again reached in Doi Phukha and Doi Phulanka (1,700 and 1,600 m.) and in the frontier hills (towards French Laos) there are peaks exceeding 2,000 metres in height. As belonging to the hill countries of Siam must also be considered the Nakhon Thai and Loei districts the greatest heights of which, however, do not exceed 1,000 metres. The Khao Sam Mūn and Khao Son Keo hills to the south-east of Phitsanuloke reach about 1,200 metres in height. The writer would add that the hill countries of Nakhon Thai and Loei and the northern part of the Sak Valley are very little explored and a detailed mapping and study of them would certainly be worth while. The writer, who has travelled widely in these regions can certainly testify that some of the most

extensive and picturesque scenery in Siam is met with here; and then to every peak or queerly shaped hill a legend or folk tale is attached. It is a land of mystery and charm.

When summing up the description of the hilly parts of Siam, as already mentioned above, the author arrives at the conclusion that they, i. e. the Central Cordillera and North Siam ranges, represent an older Himalayan folding of the earth's crust.

The author ends his description of Siam's hilly parts with the south-east, the Chantaburi and Banthat ranges, the former reaching a height of 1,650 metres. As already mentioned, granite forms the core of Khao Sabāb and Khao Krāt (the author writes Khao Krāt: the correct name is Trat, ตราด). The Chantaburi mountains are of course an extension of the Cardemom range (Pnom Kravanh) in Cambodia, and one may say that their western extremity is represented by the Mütang Phanatsanikom plateau and the imposing Khao Khiu which soars up to a height of 700 metres, being clearly visible from Koh Si Chang. The rocky islands lying as a screen along the coast of Chantaburi, Rayong and Choburi represent a relief of the submerged land (of the present Gulf of Siam).

When treating the river systems of Siam the author says that the Mekhong is the oldest of all the rivers of Further India, together with the Salwin, and its course must have come into existence during the time following the last period when the sea covered the earth i. e. the upper Triassic. It must have been in being during the later triassic folding and also during the terrestrial stratifications of the younger Mesozoic age, when it may have assisted in a large measure to form the said stratifications. The Mekhong would also have witnessed the mighty volcanic eruption which created the Plateau des Bolovens. The most important tributary to the Mekhong from Siam is the Si-Mun or Mun-Chi, the river system of which waters the main part of eastern Siam, i. e. the three former Monthon of Nakhon Rajasima, Roi Et and Ubon and a part of Udorn.

It has formerly been supposed that the Mekhong once upon a time had its course from Chieng Sen southwards, Menam-wise, but Professor Credner says that the nature of the ground south of Chieng Sen goes against such a theory.

Our Menam Chao Phraya is, like the Irrawady, a younger river, but must formerly have had its mouth far to the south of Paknam at a place long since submerged in the sea. At that distant time the

rivers Meklong, Petchaburi and Bangpakong were tributaries to the Menam (and may become so again in the distant future if the present silting and slow rise of the land level continues).

The climatic conditions of Siam and what the author calls *water economics* are treated in an expert manner, including the river system of the Menam with all its branches. Here are just a few corrections: Menam Chao Phraya means *Her Excellency the mother of the waters* and is not a *royal* title. Menam Me Klong does not mean River-River. The correct spelling of its name should be Me Glong which means the Drum River. However, after consulting several Siamese language experts, it seems that the true meaning of this name is still uncertain.

On page 93 under the Khorat plateau the author mentions a Nam Tam. We suppose that it should be Nam Gam, the river which, draining the Nong Hân Sakol Nakhon, falls into the Mekong south of the famous That Phanom monument. The other large fresh water lake, also called Nong Hân (or Rahân), at Kumpavapi in Udorn, which is the source of Nam Pão, a northern tributary of Nam Chi, should have been mentioned too.

The different soils of the kingdom are next treated by the author, who says that all the silt soils are grey in colour while those of the hill slopes and mountains are of yellow, brown or reddish colour. Eroded laterite plays, because of its chemical composition, a great rôle in Further India. The author speaks of the famous basaltic red earth in Chantaburi and says that this kind of soil is eagerly sought for especially in French Indo-China for plantations. It might here be added that such red earth is found over a wide tract in the southern part of Changvad Ubon (south of the Mûn River) as well as in Changvad Srisaket. As far as I have been able to find out, this tract, which forms a kind of low broad ridge, stretches in a northeast-southwesterly direction from Amphoe Detudom to Khukhan, thus lying mostly in the districts occupied by the Kui people. This ridge is covered with high forest—the undergrowth being mostly dwarf palms (*kracheng*) whose leaves are used for making rice bags. In this red earth are also found the gigantic elephant yams which, during bad harvest periods, constitutes an important article of food. Whether this red earth of Ubon is of basaltic origin⁽²⁾ or is composed

(2) Dr. Pendleton tells me that the substance is of basaltic origin.

of eroded red permo-carbon lime, I am not able to say. The latter constitutes the soil where teak trees grow, by preference on the hills in north Siam.

It is well known that in former times the Khorat plateau had a much greater population than now,—a fact proved by the great number of temple ruins and deserted fortified villages, and even towns, which are found scattered especially in the big forest to the south of the Mūn river. The decrease in the population may be partly due to the long and cruel wars, which raged between Siam and Cambodia in the 14th and 15th centuries, accompanied by the deportation of the population of whole districts, but it is also due, no doubt, to a chemical process which takes place in the subsoil and which, according to Professor Credner, results in the formation of a ferruginous layer that prevents the ground water from rising to the surface, thereby making agriculture more or less impossible. The problem of finding new arable land for a considerable proportion of the peasant population of Khorat had in part become so acute that the Government, some time before the Constitution came into being, thought seriously of settling large communities of Thai Khorat on vacant land in the Nakhon Savan circle. One should think that the boring of artesian wells might be a good remedy for this state of affairs.

Siam is mainly a land of forests. To the tourist who only knows lower and central Siam this statement sounds strange, but it is a fact that 65% of the area of Siam is covered with forests. The ever-green rain forest is not only found in the Malay Peninsula but also in the south-east, on the banks of rivers and streams and on the humid slopes of the valleys. It grows luxuriously on the Khorat hills and on the mountains of the north where these are exposed to the monsoon rains. The true monsoon forest is, however, the dominating form of forest in North Siam. Though not so rich in species, especially of the palms and lianas, it is still a mighty forest with large trees, among them the giant teak, but it sheds its leaves during the dry season. In eastern and north-eastern as well as western Siam one meets the dry monsoon forest, by the French characteristically called *forêt claireière*. Here the species are few and the trees only reach a height of from 10 to 15 metres. This poverty is due to the poorer soil consisting of sand and laterite. The so-called savannahs of south Siam are the result of destruction of

former forests by the hand of man or by cyclones. To the forest types of Siam must be added the extensive mangrove forests which are found especially along the northern shores of the Gulf of Siam, now in part replaced by the *nipa* palms which have been partly planted by man. Professor Credner gives an excellent description of the evergreen rain forests of Siam which in majesty and luxuriant growth can compete with those of the Insulinde, the Congo and the Amazon. The king of these forests is the mai yāng, *Dipterocarpus alatus*, which may reach a height of 200 feet. Another giant is the mai takien, *Balanocarpus maximus*, which reaches the same height as the mai yāng. The evergreen rain forest contains a legion of other mighty trees besides pandanus and bamboos. Of the latter there are many species, among them the splendid *Dendrocalamus Hamiltonii* that towers up to a height of 25 metres. Of other important trees of the rain forest Professor Credner mentions the durian, the ipoh (both in the south) and the chaulmoogra oil tree, so important for the treatment of leprosy. Dr. Kerr estimates that the forests of Dong Phraya Yen contain about 200,000 of these useful trees. In the evergreen rain forests are also found many kinds of lianas, among them the rattan, and a host of beautiful orchids. Add to this gigantic ferns and many kinds of wild palms and still the picture of the giant forest is not complete. It constitutes a world of itself, mysterious and intensely living. Though by day absolute calm often reigns in its lofty halls—an almost painful calm—still one feels as if one hears, yea, sees the growth of life. One feels here the mighty, limitless, reproductive forces latent in Mother Nature's womb and the eternal circle of birth and death and birth again being made manifest before one's very eyes. When one has so often been travelling for weeks through these great forests an indelible impression of their grandeur and beauty is left in the memory for ever. At other times the forest may ring with the rhythmic but enervating chorus of the cicadas, while during early morning hours the halloos of the gibbons are heard. At night many queer sounds are heard, among them, at times, the roar of the royal tiger, and from outside the circle of one's watch fires the fiery eyes of some savage beast may be seen. The author gives a good description of the distribution of the teak trees in North Siam. He might have added that teak is also found on Phu Phăn to the south of Mueang Sakol Nakhon, though the trees found there do not reach the height and dimensions of those in North Siam. Space

forbids us to enlarge on the author's description of the true monsoon forests and the dry, monotonous, monsoon forests of north-east Siam. One notes, however, the author's extraordinary gift of true observation when treating these matters.

His treatment of the various forms of forest or vegetation in the Upper Meklong region, where he made a prolonged stay, is especially good, whether of the bamboo or thorn bush jungles.

When speaking of the pine forests of Siam Professor Credner mentions the pine forests of Bô Luang, south-west of Chiang Mai, as well as similar growths on the hills to the west of Müang Fāng and on the crests of most of the taller mountains in north Siam. The *pinus merkusii* is also found on the Khorat plateau. The writer has several times crossed an extensive forest of these pine trees which clothe a sandy ridge lying between the town of Surin and Amphoe Sangkha.

Professor Credner treats briefly the animal world of Siam and says here that Schomburghk's deer is probably now quite exterminated—a fact which is confirmed by the thorough researches made by Phya Indra Montri (F. H. Giles) published in his *Riddle of Cervus Schomburgki*, J.S.S., N.H. Sup. Vol. XI, No. 1, 1937. He thinks that the *Bos sundaicus*, our Wua daeng, with its well proportioned limbs, splendid coloured skin and beautiful head is the finest of all wild oxen. We agree, though the kating, *Bos gaurus*, seems to us to be the most majestic of them. Professor Credner also thinks that the Siamese domesticated ox is in near family relation with *Bos sundaicus* and goes even so far as to opine that it has besides inherited various qualities from *Bos gaurus*, *Bos indicus* and *Bos frontalis*.

It is well known that cross breeds between the domesticated ox and the wild one, *Bos sundaicus*, are frequent—the tame cows meeting the bulls of the wild species when out grazing in the open forests. In this connection we remember seeing, when conveying and escorting the late Chao Phraya Aphai Phubesr and his retinue in 1907 from Battambang to Krabin, a cross between a kating and a tame cow. It was a magnificent specimen! It might not be a bad idea if such crossings both with kating and wua daeng were undertaken rationally, as this might produce a superior race of animal, larger and stronger, and thereby better suited for agricultural work and draught purposes, besides giving more and better meat.

With regard to the wild buffaloes Professor Credner doubts if these are really wild but thinks, as so many others do, that they are tame buffaloes *become* wild.

Such a herd of *wild* buffaloes existed formerly at Phimai, in Changrad Khorat, and they were certainly very wild, as they often chased people whether on foot or mounted. This herd was finally broken up, some of the animals being shot (some by H. R. H. Prince William of Sweden in 1912) and the remainder recaptured and re-tamed. Wild buffaloes *do* occur, however, in the forest on the slopes of the Dong Rek hills south of Kukhan, Nam Om, and Detudom, and as far as I have been able to find out, these buffaloes were never tame. It seems that the wild ones are not larger than the tame, but of a more slender though equally powerful build.

Professor Credner's chapter on the population of Siam is very well written. Indo-China represents, as he rightly says, one of the most motley and picturesque associations and mixtures of races anywhere to be found on the surface of this planet. All the various degrees of human development and culture are met with here, from the most primitive jungle folks, the Khā dong liang and the Negritos, to the highly civilized Siamese.

The population may be roughly divided into those of the plains, the plough people, and those of the hills who use the digging stick (though the Lawā and Karen of N. W. Siam also use the plough for tilling their irrigated terraced paddy fields on the Bô Luang plateau and elsewhere).

The author seems to be too sweeping in his statement when he says that all the various groups of humanity living in Indochina belong to the Mongoloids or Mongolids, with exception of the Semang (Negritos). The Môn-Khmer people are at any rate not pure Mongoloids. His observations on what he calls *das Rassenbild*, the racial complex, are very accurate and much to the point. Common for all is the black lank hair, a true Mongoloid characteristic (the Lawā show, however, a tendency to be wavy-haired). Another Mongoloid characteristic, the oblique eye, is not very marked and is not met with among the Môn-Khmer or the purer Thai (or Malays). Professor Credner thinks that the oblique eye is not of a primitive Mongoloid origin but represents a later development.

The author speaks about Palaemongoloids and Younger Mongoloids and places the Thai between these two groups. The Môn-Khmer,

Lawā and some Khā people, like the Khamu(k), Chaobon, Tin and Chong are all included in the Palaemongoloids. The Lissu or Lissaw, the Mussö, Kô or Lahu as well as the white Karen are East Tibetan *Europide* people, while the Miao and Yao people represent the Younger Mongoloids.

The author also points out that the Thai of Siam are much mixed, in the north with Lawā, in the east with Kui, and in central Siam with Môn and Khmer, which of course, by now, is a well-known fact.

The author agrees with the French savants and Dr. Fritz Sarasin that the original population of Indochina was Negroid, but is less precise as regards the Austroloid influence, which no doubt was very important. All theories on the origin and history of the races of Indochina must be based on the finds made by M. Mansui and Mlle. Dr. Colani in the limestone caves of Annam and Tongking as well as the discoveries of the late Dr. van Stein Callenfels, and Messrs. Evans and Noone in the caves of Malaya. These finds establish the fact that prior to the arrival of the Proto-Malays, Indonesians, Austronesians or Austroasiatics or whatever we call them there were Negroids represented by Melanesians or Melanoids and Negritos besides Proto-Australoids or Weddids, as Professor Baron von Eickstedt prefers to call them.

Who were the real aborigines of Indo-China? That is a question very difficult to reply to. However, apart from the possible existence of a cross between *Homo pekinensis* and *Pithecanthropus erectus* (the Java man) we should say that the original population was Negroid, i. e. Melanoid and Negrito. In spite of Professor Credner's doubts about emigrations from the west we hold that these Negroids came from the west (ultimately from Africa, which may perhaps now be considered as the true cradle of humanity and as such also of the black race) followed by a wave of Proto-Australoids also from the west. A third wave coming from the north were the Proto-Malays or Indonesians. Finally we have the invasions of the Thai, Ananites and Burmese which are of quite recent date, i. e. less than 1500 years ago.

In view of Professor Baron von Eickstedt's racial theories concerning the origin of the various peoples of ancient India it seems that the theory of the Môn-Khmer being emigrants from India would have to be given up. The Môn-Khmer originated in Indo-China and therefore represent a mixture of Melanoids, Proto-Austra-

loids and Indonesians. We think that, while the Môn of the hinterland of Lower Burma, the Lawā and the Northern and Central Khā represent a mixture *less* influenced by Negroid elements, the southern Môn, the ancient Môn of the so-called Dvaravati, and the Khmer and Kui are strongly influenced by such a strain of Negroid blood. The inhabitants of Indochina are, says Professor Credner, *meso- to brachycephalics* with the exception of the Malays among whom *dolicocephalics* are met with. (The Red Karens also show long-headedness). This tendency to long-headedness may be ascribed to Australoid influence though it must be remembered that the Negroes of Africa are also *dolicocephalics*.

While engaged in writing this analysis of Professor Credner's book, I received a letter from him stating that according to von Eickstedt's latest study of the Chông people, these are not Negroids but Weddids. It will be remembered that up till now the late Dr. Brenguës' theory, that the Chông were strongly mixed with Negritoes, has been generally accepted.

The languages of the Semang and Khā dong liang⁽³⁾ represent no doubt the eldest tongues spoken in Indo-China in prehistoric times. Dr. Bernatzik's publication on the Khā dong liang is therefore awaited with great interest.

The Môn-Khmer languages with their staccato sounds and rolling *r*'s as well as their whole vocabulary is widely different from any Mongolian language, though their syntax and grammar seem to be on the same model. A comparative study of the Australian languages and Môn-Khmer would no doubt show a certain relationship (a relationship already pointed out as we understand by Rev. Father W. Schmidt).

Space forbids us to discuss in detail the author's description of the people and their wanderings, as most of this is well known to readers of the *Journal of the Siam Society*. Suffice to say that it is well written and worth reading. Here, therefore, only a few additional remarks will be made. Speaking about the Semang, Professor Credner mentions two skull forms, the round and the long, of

(3) As the word "tong" in Khā tong liang (ท่าตองเหลือง) is often misspelt the ตอง being transliterated as *thong* and wrongly translated into *gold*, I prefer to transliterate the hard Siamese ต by *d*, thus giving this consonant its true pronunciation.

which the latter must be due to a mixture either with big bodied Negroids or with Proto-Australoids.

The Khā dong liang have recently been studied by Dr. Bernatzik, who gives their proper name as Yumbri.

The Chao nām or Mōken have also been studied (in the Mergui Archipelago) by Dr. and Mrs. Bernatzik and a paper on them written by the Doctor appears in this issue of the J.S.S. The author has, as far as memory serves, given a better and fuller description of the life and social economics of what he aptly calls the people of the hoe and digging-stick culture than any other authority so far. This category includes almost all the hill tribes of Siam, some of which, on fleeing from Chinese oppression in south China, evidently have exchanged the plough for the hoe, a seemingly retrograde step. The observation of the author that the nourishment, or rather, lack of satisfactory nourishment, among the hill folk may have a direct bearing on their bodily features, even as far as the form of their skulls, is very worthy of consideration.

The myths of the northern Khā, as communicated to the author by M. Lagrèze of Luang Phrabang, should be noted by all students of this very fascinating group of peoples. On page 160 the author says that the Lawā nowadays buy the iron from which they manufacture their implements. This statement does not agree with the reviewer's observations. The Lawā of the Bô Luang plateau thus still mine iron ore themselves.

With regard to the Karens we have already pointed out in our review of the late Sir George Scott's *Burma and beyond* (J.S.S., Vol. XXIX, Part II) that the red Karens are, anthropologically speaking, very different from the white Karens because of their queer physique with the long narrow skulls. The red Karens may therefore represent a blending of Proto-Malays and Proto-Australoids.

When speaking of the Thai the author says (on page 178) that Lamphun was founded in the 6th century by that people (according to the late Dr. Dodd). This is of course wrong. Lamphun was founded in the 7th century by Môn colonists from Lophburi. The material culture of the Thai (the Siamese) is very well treated. One feels that this chapter has been written by an expert. The village organization according to the particular kind of surrounding country is well described and so is the typical Thai house or farmstead, one of the specialities of the author being the study of house building in

Indo-China. When treating the plans and fortifications of the old Thai towns, the author says the Chinese influence is evident here. We should think that the Indian influence counts for just as much. The gate towers (as seen in Khorat town) are, however, clearly of Chinese origin.

The influence and the number of Chinese immigrants in Siam has been studied thoroughly by Professor Credner. He arrives at the conclusion that the number of the Chinese in this country has generally been much exaggerated. Though the Chinese immigrants during the years 1918-29 numbered not less than 1,041,342 persons the number who remained in Siam was only about 400,000. The total number of pure Chinese or individuals of (recent) Chinese descent the author estimates at about two millions. We should think that the correct figure is around two and a half millions. Add to this half a million Khmer, Môn and Kui; three quarters of a million Malays, and one arrives at a figure of not less than ten and a half million Thai. The author points out the latent danger of housing such a numerous alien population (Chinese) whose ideals and culture are widely different from that of the Thai and who hold almost the entire trade and industry in their hands. It is therefore readily understood that the Government is wide awake to this national danger. The introduction of a quota system is, however, not sufficient as a means of protection. It will also be necessary for the young Thai generation to take up trade as a profession and train themselves up to compete successfully with the Chinese, as pointed out in the Financial Adviser's (Mr. Doll), admirable annual report for the year 1936-37. The writer is not anti-Chinese at all: on the contrary, he harbours the greatest admiration for this great people, and all his sympathy goes out to them in their present heroic struggle. But after all this is Siam, the land of the Thai.

It might be added that a not inconsiderable percentage of these south Chinese immigrants are undoubtedly of Thai blood, as they hail from old Thai districts in Kwangtung and Kwangsi.

The remainder of the author's book occupies itself with the material culture of Siam and we are not going to discuss this part in detail but would like to stress its importance for all practical business men of this country of whatever nationality they may be.

Under landscape and means of livelihood Professor Credner says that the cultivated area occupies 19 million rai or only 6% of the

total area. This means that Siam must still be considered a land of forests. The Menam plain is, of course, the granary of the kingdom. Next in importance comes the Khorat plateau with 4.6 million rai of paddy fields or 24% of the entire cultivated area. While the Menam plain with its heavy buffaloes is the swampy rice country *par excellence*, the Khorat plateau is a country where vast forests, wide plains with excellent grazing, and sandy paddy fields intermingle. The Khorat plateau is therefore the breeding ground for buffaloes and cattle, which are exported in great numbers to the inner circles (and in case of the cattle to Singapore too). Pigs are also bred in enormous numbers on the Khorat plateau and they constitute an important export.

The north, with its intramontane plains and hills, is different again. The Menam plain has its numerous rivers and canals for transport and travel and its inhabitants are more or less amphibious. It is otherwise in the east and the north where the bullock-drawn carts and pack bullocks or pack mules respectively serve as means of transport. The north which adds teak industry to agriculture and the breeding of domestic animals is also distinguished for its great numbers of tame elephants which work in its forests.

The author's tables indicating the agricultural work carried out according to the seasons in the various parts of the kingdom are very interesting and instructive.

When speaking of irrigation the author says (on page 215) that the large bamboo norias are rarely seen. On the contrary they are widely used on the Khorat plateau. The writer remembers that during three voyages by steam launch from Ubon to Thā Chang (the "port" of Khorat), undertaken in 1911, 1917, and 1918, he counted over 200 of such gigantic water wheels. The author also says that in tropical Indo-China one does not see such grandiose constructions of dams as those made by the Chinese. May we in this connection draw the attention to the two huge "barais" situated to the east and the west of Angkor? Big water reservoirs are also met with in other parts of Cambodia as well as in east Siam, for instance at the temple of Mūang Tam (Amphoe Talung) besides many others, still filled with water, now lying unutilized near old fortified but deserted towns in the great forest covering the southern parts of the Changvads of Nakhon Rajasima, Buriram and Surin.

When treating of the modern irrigation system of lower central Siam as existing to-day it might be pointed out that the Siamese peasant of this part of the country has not yet grasped the essentials of irrigation, in contrast to his brothers in the north who are familiar from ancient times with this art.

Since the author wrote about the supplementary cultivations and the industries developing out of them, the Government of this country has established a sugar factory at Lampang and a paper mill at Kanburi, and it is possible that Siam's army officers have other plans in view for fostering new industries.

The vexatious problem of how to make an important yeoman of the Thai peasant is also treated by the author. We think that the only way is by making more use of co-operative societies and agricultural education, the latter to include agricultural model farms. This seems to be the only means by which the peasant can be liberated from the grip of the Chinese middleman and usurer who now keeps him down in economic thralldom. The Siamese peasant is one of the best fellows in the world, hardworking at times, hospitable and full of good humour *but* he must be cured of his delight in gambling and easy-going ways, in order to become the really solid backbone of the nation.

Under teak wood industry in the north Professor Credner gives the number of tame working elephants in 1929 as 4,378 animals. The total number of tame elephants in Siam was, according to the Statistical Yearbook for 2480, (1937/38) 10,061 animals. With the coming reduction (in 1940) of the areas of concessions given to foreign companies, this number may be considerably reduced.

When speaking of the Government Power Station in the capital it is curious that the author should have forgotten to mention the Siam Electric Corporation, Ltd. as the greater supplier of electric power with their electrically driven tramway lines.

We are sorry that we cannot agree when the author speaks of the clean and properly kept up rest-houses up country. Our experience is just the opposite.

On page 130 the author says that the experiment with navigation on the Mekhong river of canoes with outboard motors have failed. This is happily *not* the case. Canoes with outboard motors now run regularly between Chiengsen and Luang Prabang and between the latter place and Viengchan.

The map with indications of where the various means of transport (besides our railways and coasting vessels) are in vogue is very useful. For the Menam plain it is the canoe and buffalo cart, in east Siam the bullock cart, and in south Siam both the buffalo and bullock cart.

The Siam Society does not mix up with politics. Being a society, where members of all nationalities are equally welcome, politics are banned unless they have become more or less history. When the author therefore, on page 314 and elsewhere, says that Siam was forced into the war on the side of the Allied Powers we think he is wrong. The outcome of Siam's participation in the world war was, as is well known, the abolition of all extraterritoriality rights and her being placed on an equal footing with all other nations. To quote in German *Und dann is alles gesagt!* It must not be forgotten that in His late Siamese Majesty, King Vajiravudh, Siam was lucky to have a very clever and highly gifted statesman.

On page 331 the author speaks about Thai princes who from their fortresses in north Siam, as early as in the 9th century A. D., invaded the fertile region of Sukhothai. Nothing so far justifies one in supposing that there already existed in the 9th century Thai principalities in north Siam, which at that time must have been more or less under the sway of the young and strong Hariphunchai power. On page 333 the author is quoting Mr. W. A. R. Wood when stating that Lamphun in the 9th century was a Thai principality. That is of course wrong. Lamphun was not conquered by the Thai Yuan (under King Meng Rai) until the year 1290.

Page 339. It is doubtful whether *prang* is the symbol of the *linga*. The Siamese *prang* is anyhow directly descended from the Khmer *prasat* or tower.

Page 344. The dwellings of the Siamese Buddhist monks are not called *kana* but *kuti*. *Kana* means a division or group.

Page 348. The author mentions the Siamese orchestra as *bimbat*: it should be *phinphat*, of course.

Page 357. The Siamese letters have *not* been derived from the Pali but from a South Indian alphabet (via Cambodia).

Page 358. We are glad to see the author paying a well deserved tribute to the excellent work of the Danish Gendarmerie officers who have contributed so much to the establishment of the internal peace and order of the kingdom. As far as we know other authors have

paid but scant attention to the work of the late Phya Vasuthep (General Gudav Schau) and his men.

The book contains a very good general index and a complete and most useful index of literature arranged according to the various subjects.

And may this most interesting, useful and inspiring book be recommended to all earnest students of the land of the Thai.

ERIK SEIDENFADEN.

Bangkok, the 13th September 1938.