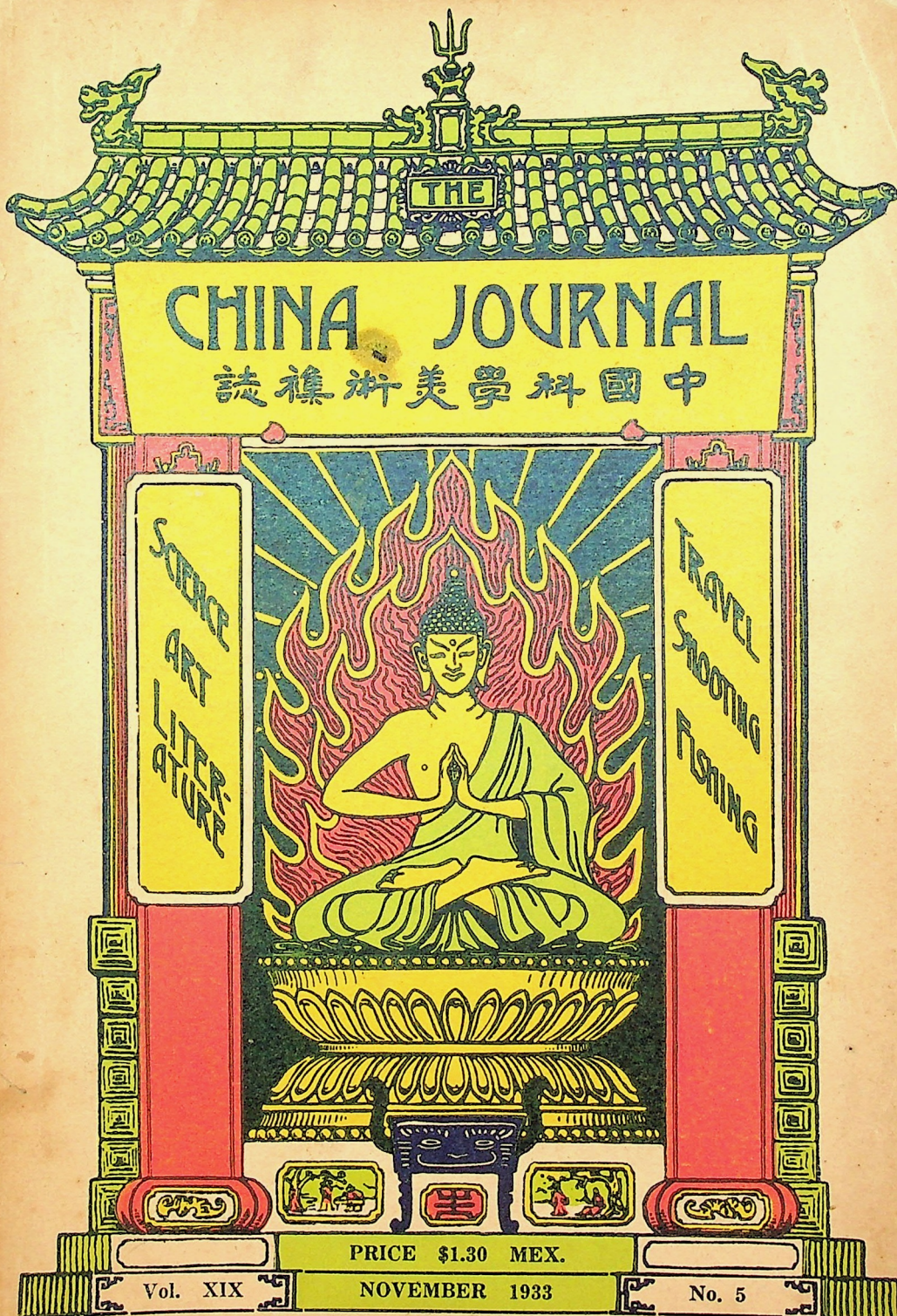




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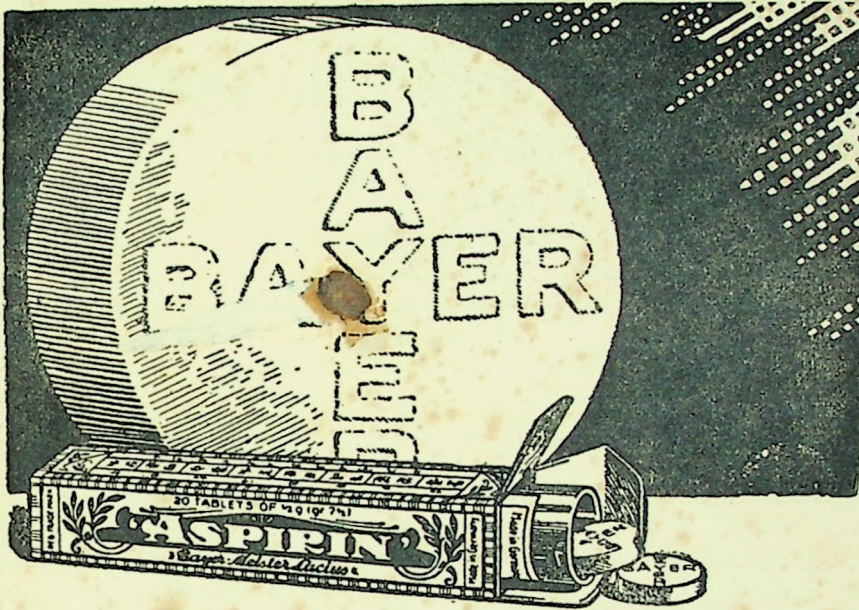
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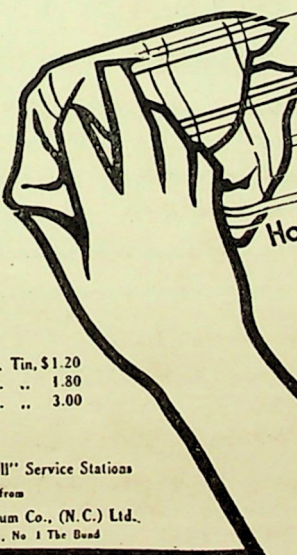
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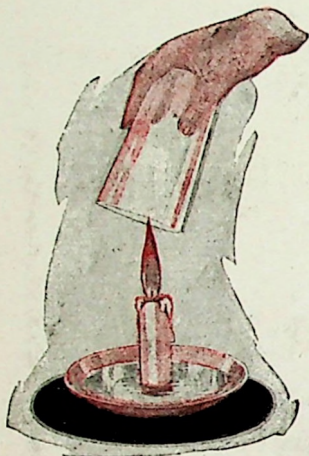
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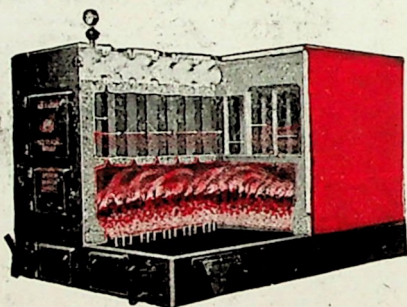
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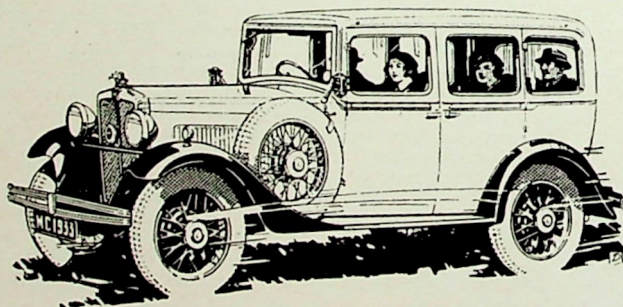
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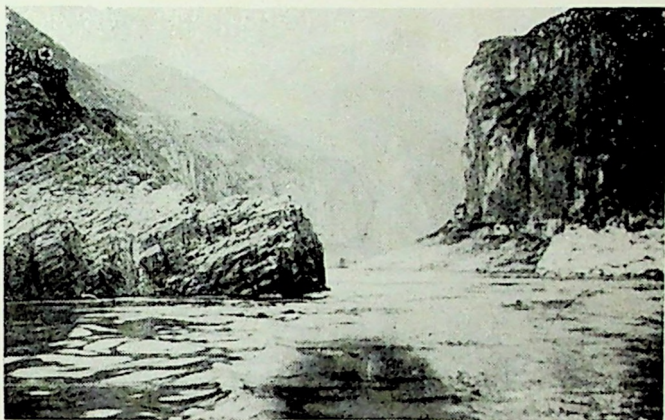
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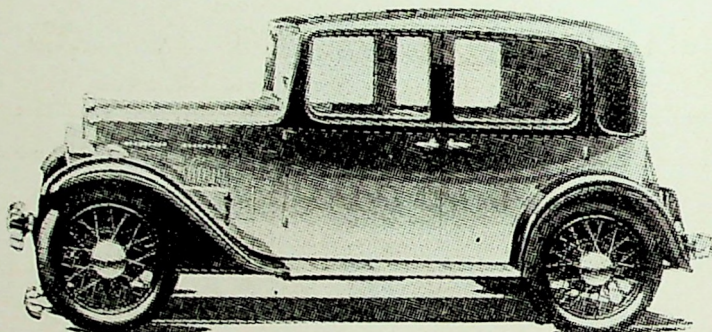
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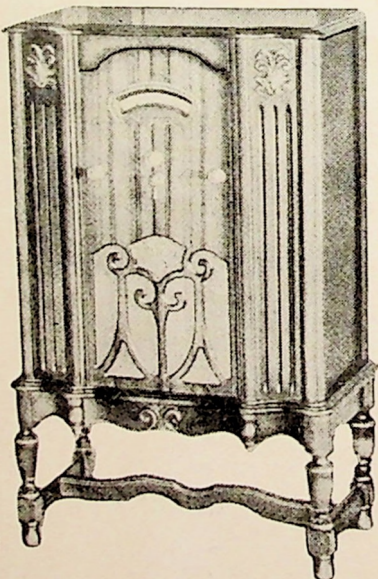
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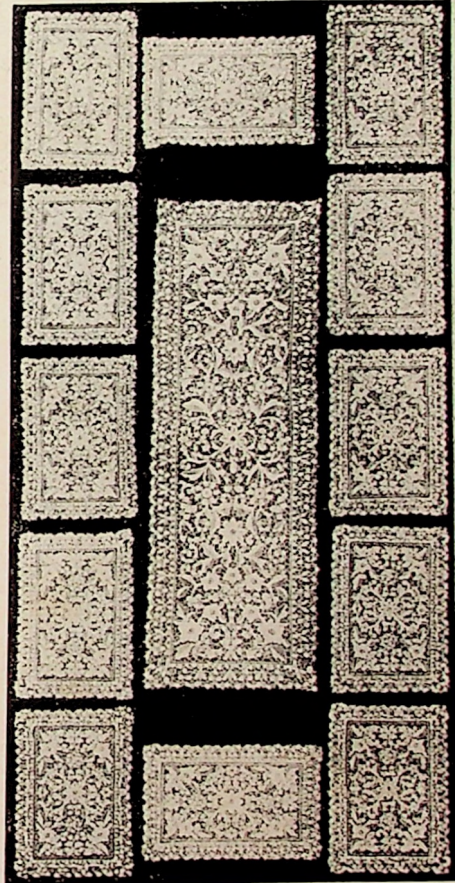
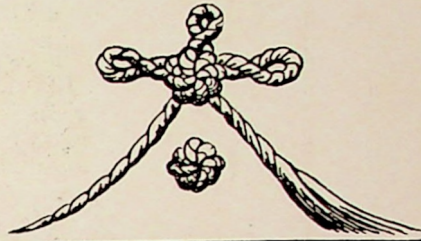
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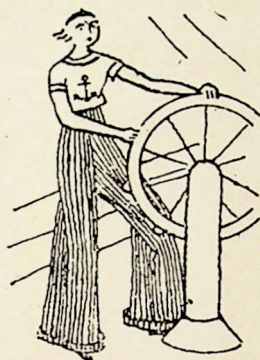
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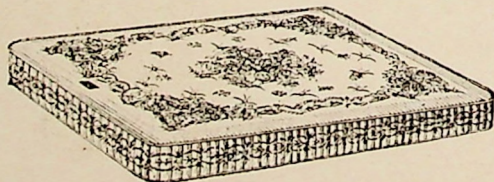
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"Aspro" is an acetyl-salicylic acid preparation advocated for the treatment of headache, sleeplessness, neuritis, neuralgia and feverishness. The tablets are well made, uniform in composition, and Give No Reaction for Free Salicylic Acid."

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[ENTERED AT THE CHINESE POST OFFICE AS A NEWSPAPER]

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NOVEMBER 1933

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Books for review should be sent to the Editor as early as possible.

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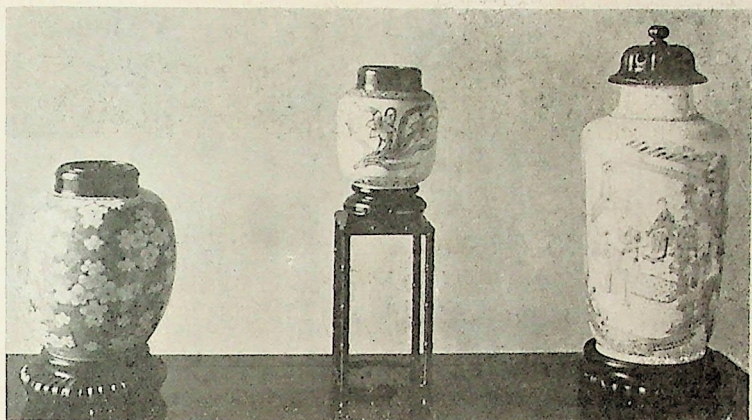
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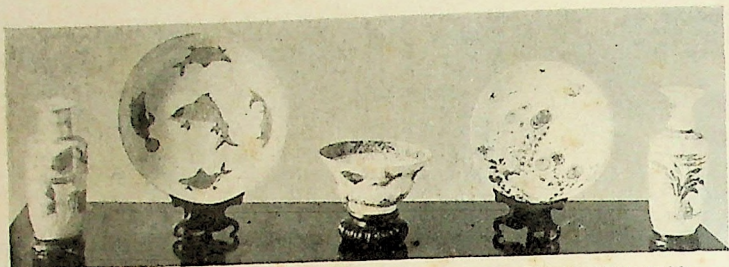
The Common Kingfisher (*Alcedo ispida bengalensis* Gm.), a World Wide Favourite and one of China's Most Beautiful Birds. From Mr. E. S. Wilkinson's "Shanghai Birds."



Ming, or Early Yuan, and K'ang Hsi Blue and White Porcelain Vases.



Sang-de-Boeuf Porcelain Vase and Bowls of the Yung Ch'eng to Ch'ien Lung Period, 18th Century.



Famille Verte Porcelains of the K'ang Hsi Period. (A.D. 1660-1700)



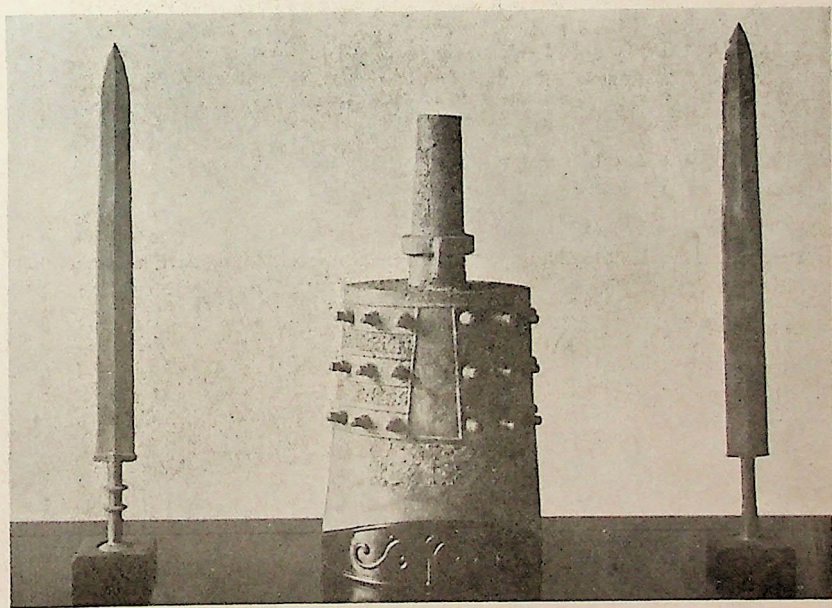
K'ang Hsi Blue and White Porcelain Plates and Bowls.



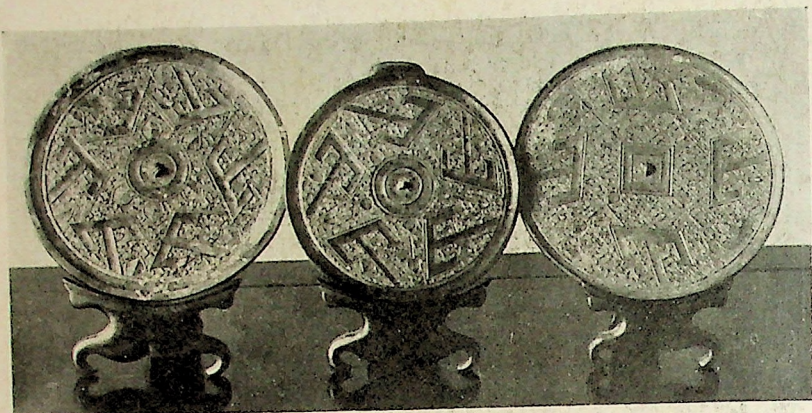
Two Yung Ch'eng Plates and a Ch'ien Lung Bowl, 18th Century.



Cloisonne Ware, the Screen believed to be of the Ming Period and the other Pieces Ch'ien Lung (A.D. 1736-1796).



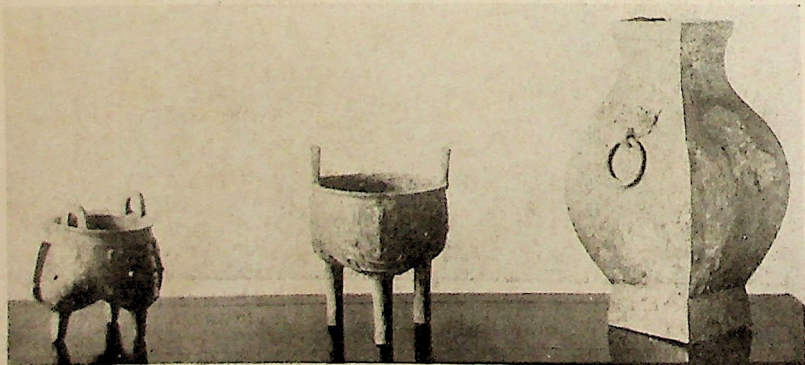
One of a set of Six large Bronze Bells flanked by Bronze Swords, all of the Ch'in Period and found in the Huai River Area in Anhui.



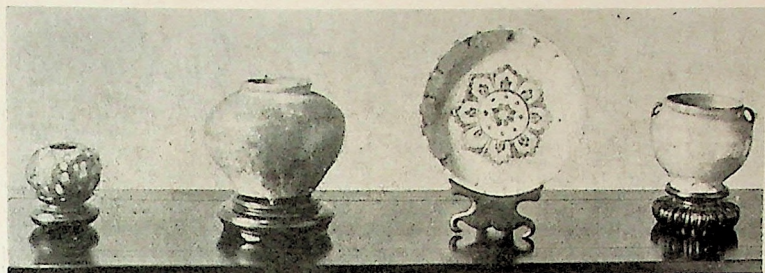
Three Ch'in Dynasty (Circa B.C. 225) Mirrors from the Huai River District in Anhui, showing the Four, Five and Six *Shan* or T-shaped Decorations.



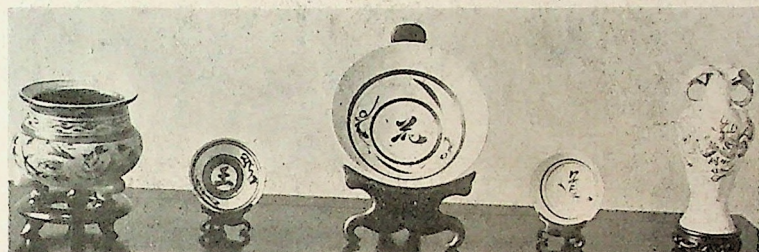
Three Chou or possibly Shang Dynasty Bronze Vessels, dating back to something like 1,000 Years B.C.



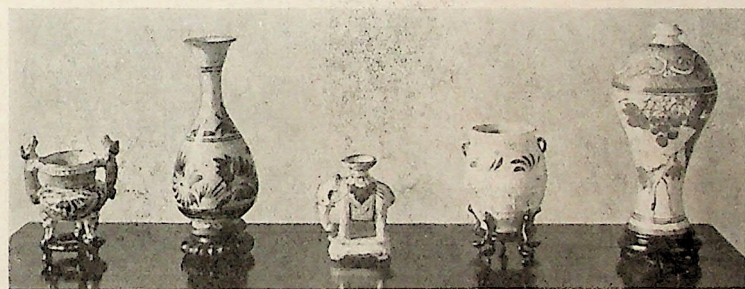
Three Bronze Vessels of the Chou (B.C. 1100-300) and Ch'in (Circa B.C. 225) Dynasties.



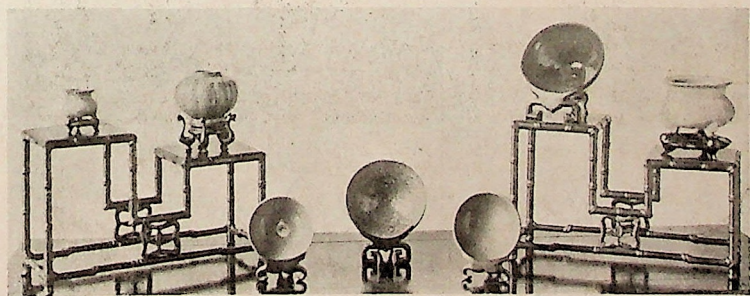
Han, T'ang and Sung Ceramic Ware.



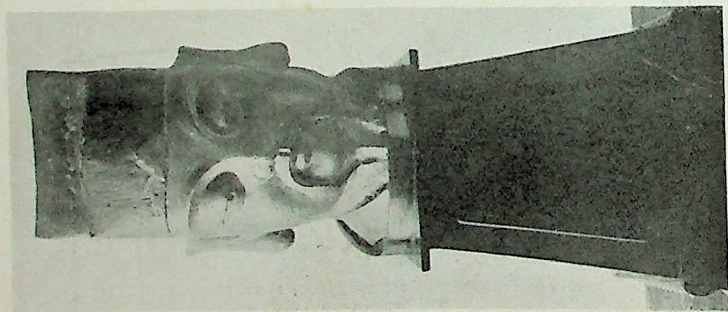
Specimens of Sung Period *Tzu Yao* Ware, dark Brown on Cream.



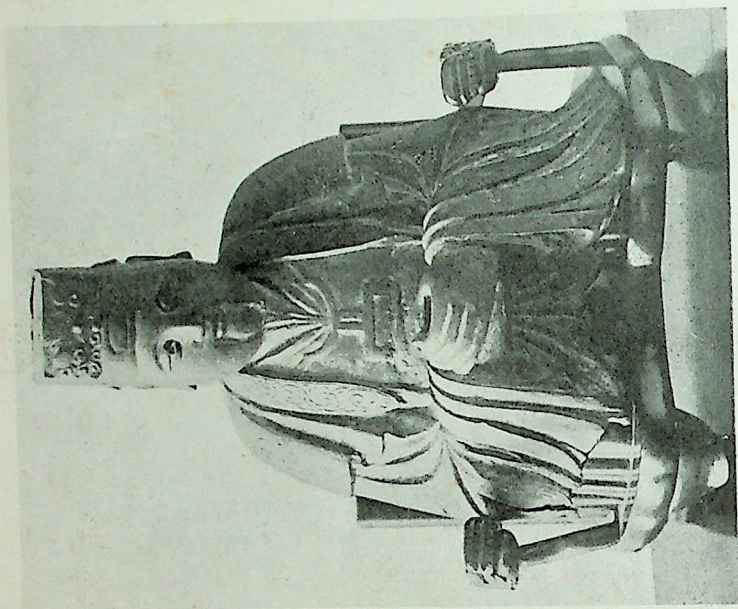
Sung Period *Tzu Yao* Ware.



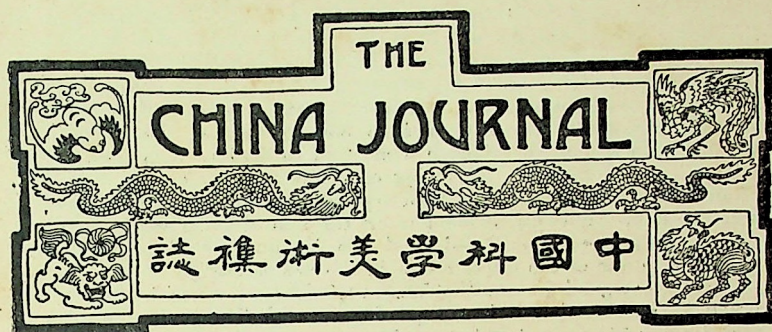
Small Pots and Bowls of the Sung Period.



Head of a Sung Period Bronze
Statue of a Court Official.
(A.D. 900-1200).



Upper Part of a Sung Period Bronze Statue of the God of
Thunder and Rain, called Lung Wang.



VOL. XIX

NOVEMBER 1933

No. 5

THE HISTORY OF THE SHANGHAI MUSEUM

In a few weeks' time it will be just sixty years since the Shanghai Museum, one of the major activities of the Royal Asiatic Society (North China Branch), came into existence; and it is a fitting thing, and a coincidence that may be taken to augur well for its future, that this useful institution starts on its second sixty-year cycle in the far more commodious quarters than it previously occupied provided by the third and fourth floors of the Society's fine new building completed early in the present year.

It may come as a surprise to many Shanghai residents that there has been a museum in this city for so long a period; indeed, we know for a fact that visitors from other parts of the world are almost invariably told that no such thing as a museum exists here.

It is a moot point whether this is the fault of those responsible for the Shanghai Museum in failing to put out the right kind of publicity or of the local residents generally, whose apathy towards anything like civic amenities is proverbial, but the fact remains that this institution has not heretofore enjoyed the appreciation and support it deserves of the members of this community.

Indeed, the history of the Shanghai Museum, dug from the annual reports of its successive Curators in the Society's publication,* reveals a long series of vicissitudes, relieved only here and there by brighter periods when more interest was shown by the public through the activities of some enthusiast.

* The *Journal* of the North China Branch of the Royal Asiatic Society.

THE CHINA JOURNAL

Although one of the main purposes for which the local branch of the Royal Asiatic Society was formed was the founding of a museum here, it was not till the completion in 1874 of the Society's first building on the present site, granted in perpetuity by the British Crown, that this object could be achieved, but in that year a number of members formed themselves into a Committee and approached the Society's Council with a plan to establish a museum forthwith. The plan was adopted, the Committee, consisting of twelve more or less prominent Shanghai residents, being authorized to proceed with the project. A fund was raised by borrowing at low interest the sum of Tls. 1,500 from the community's Recreation Fund, and the Museum was brought into existence in one of the upper rooms in the new building.

By great good fortune the famous missionary-naturalist, the Reverend Père Armand David, was passing through Shanghai, where he was leaving his trained Chinese collector, Wang Shu Han (王樹衡), and the services of the latter were secured by the Society as taxidermist, the first Honorary Curator being Mr. W. B. Pryer, who had been very active in getting the institution going.

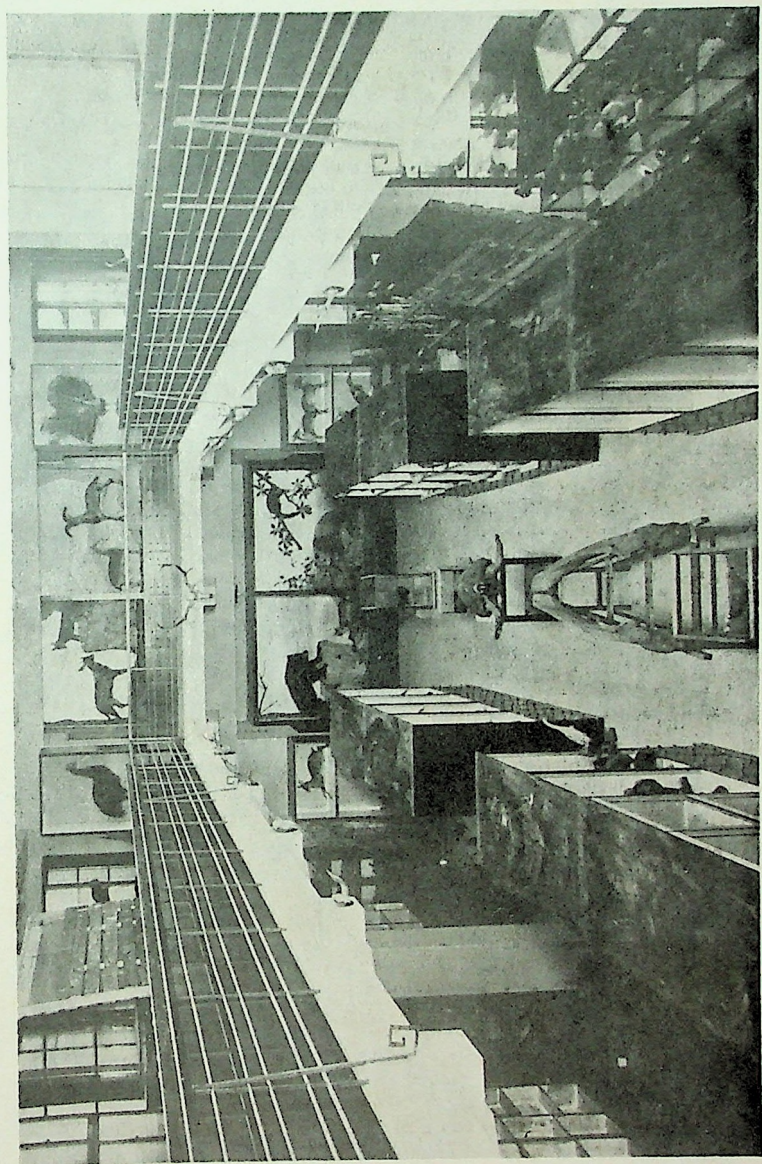
The first year appears to have been devoted mainly to the getting together of a collection of local birds, chiefly wild ducks of various kinds supplied by local sportsmen. Indeed, it is evident from the annual reports of acquisitions that throughout the whole history of the Museum it has received more active support from the sportsmen of the Shanghai community than from any other group, culminating early this year in a handsome donation from the members of the Shanghai Clay Pigeon Club of a sum of \$750 to be devoted to the mounting in their natural surroundings of specimens of some of China's game birds and animals.

In the year 1877 Mr. J. P. Martin became the Honorary Curator, being afforded valuable assistance by Père M. Heude, S.J., founder of the Siccawei Museum,* in the determination and classification of the many rare species that had by this time found their way into the Museum's collections. The report of 1878 draws special attention to the acquisition of the lower jaw-bones of a Japanese or sei whale (*Balaenoptera borealis*, Lesson), which are still in the Museum and never fail to interest Chinese visitors, who appear to be less familiar with these great sea monsters than Westerners.

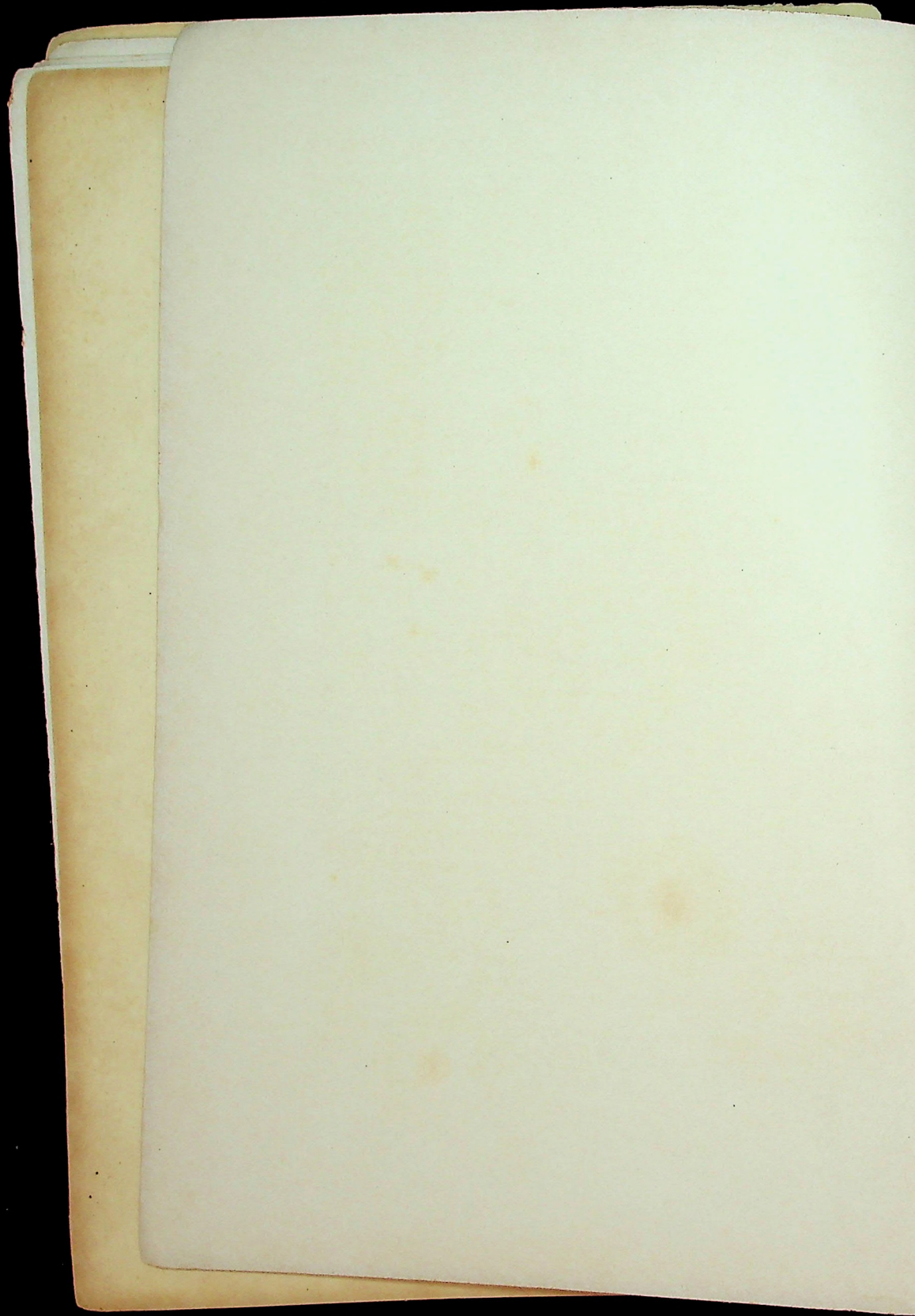
The year 1881, when Mr. D. C. Jansen became the Honorary Curator, saw the acquisition of a fine collection of geological specimens, presented by Dr. H. B. Guppy, surgeon on H.M.S. *Hornet*. This donation, augmented later by further acquisitions, formed the foundation of the Museum's present large and representative geological collection. In the same year the Museum was considerably expanded by being given the room previously occupied by the Society's Library, which was transferred for custody to what was known at that time as the Shanghai Library.

In 1883 Dr. H. L. Smith became the Honorary Curator, followed in 1884 by the famous naturalist, Mr. F. W. Styan, whose name is borne

* Now known as the Musée Heude and situated on Avenue Dubail in the French Concession, Shanghai.



A General View of the Shanghai Museum showing Scenic and other Cases partly ready for Exhibition.



THE HISTORY OF THE SHANGHAI MUSEUM

by many Chinese birds and animals. This was one of the bright spots in the Museum's history, for Mr. Styan greatly increased the collection of birds and generally brought the institution more up to what it ought to be, thereby increasing the community's interest in it. It must have been during this period that the foundations of the present very fine collection of Chinese birds in the Museum were laid, though in 1887, when Mr. H. Elgar Hobson took Mr. Styan's place, this was further added to by numerous specimens.

Under Mr. Carl Bock's curatorship, which began in 1889, a large collection of butterflies was purchased in 1891 from Captain Yankowsky, whose name is connected with the natural history of Eastern Siberia, especially the region about Vladivostok, where he later developed a considerable business and established some large deer farms for the breeding of the Manchurian sika deer for their horns, valued by the Chinese as medicine.

By this time the Museum had grown so large that the Honorary Curator reported that it was absolutely necessary to have a paid Curator to look after the specimens properly. Negotiations were forthwith started with a naturalist in South Australia, but in 1895, four years later, when Mr. H. Vosy-Bourbon became Honorary Curator, the position was still unfilled, and it was decided to train a Chinese for the purpose. Even this was not accomplished till in the year 1897, when Dr. R. H. Cox became Honorary Curator, a Mr. S. Chou was engaged, proving very satisfactory, according to the report for that year.

During the previous year, Mr. A. L. Anderson, still a prominent member of the Shanghai community, presented the Museum with a collection of Australian weapons of war and the chase.

In 1898 Professor E. R. Lyman succeeded Dr. Cox, being followed in 1900 by Dr. Stephen P. Brachet and Mr. J. West in 1904.

It was in 1906 that the late Dr. Arthur Stanley, Health Commissioner of the International Settlement of Shanghai, assumed the arduous duties of Honorary Curator of the Shanghai Museum, an event which must be looked upon as another of the bright spots in the history of the institution. For, whatever his predecessors had accomplished, the fact remains that Dr. Stanley thoroughly reorganized the Museum, and overhauled, and reclassified the whole of the collections it contained. This is indicated by the fact that, with the exception of some of the birds, most of the specimens in the Museum at the time that he left Shanghai in 1921 bore labels marked with his name or initials, showing that he had personally handled them. Not only did he do this, but, being a specialist in herpetology, he set about making a fine collection of Chinese reptiles for the Museum, and in 1914 issued a catalogue of these vertebrates in the Society's *Journal*. He also named a number of new species of snake, in which branch of zoology he was particularly interested.

It was during Dr. Stanley's tenure of office, in 1907 to be precise, that Mr. J. D. D. La Touche, the well-known authority on China's ornithology, became identified with the Museum in undertaking a complete classification and rearrangement of the birds it contained. He found that fully half the birds in the Museum had to be thrown out

owing to their bad condition. He published a catalogue in the *Journal* of 1909, which, like that of the reptiles, has served till now. Many of the present specimens in the bird collection bear labels which show that they were either presented by Mr. La Touche or were acquired during the period he was in charge of the bird collection. He also presented many specimens of mammals and insects. He prepared an exceedingly interesting exhibit of "Insects Collected in a Shanghai Garden," which, however, had to be scrapped some years ago owing to the ravages of our local climate.

It was in 1907 that the late Mr. T'ang Wang Wang, father of the present incumbent, was engaged as Taxidermist.

Dr. Stanley continued to act as Honorary Curator of the Museum for fifteen years, during which period much in the way of new material was added to its collections. It was obvious from the state of some of this material that, when he left Shanghai in 1921, he intended to return, for it indicates that he was in the midst of classifying and arranging the specimens and had put them away hurriedly, apparently without preservatives, and also without leaving any data concerning them in the hands of Dr. Noel Davis, who acted as his *locum tenens* in the Municipal Health Department and the Museum, subsequently succeeding him in both institutions when it was learned that he was not coming back to Shanghai. This was rather unfortunate, for, when in 1922 the writer became Honorary Curator jointly with Dr. Davis and began to delve into the recesses of the Museum's cabinets, it was to discover that already in the short period of eighteen months or so since they had been put away much damage had been done by insects and mould to the specimens.

By this time it was becoming evident that the old building of 1874 was utterly unsuitable and inadequate for the increasing needs of the Museum, the collections in which had grown so large that the specimens they contained could not be properly exhibited, and so had to be stored away. An attempt was made to rectify this by installing some wall cases in the lobby of the building, but even these proved inadequate, and, when it was discovered that the building itself was being riddled with the borings of termites, thus requiring considerable repairs, the writer began to agitate for its demolition and the erection of a new one.

Meanwhile he instigated the making of a collection of Chinese fishes by the present Taxidermist, Mr. T'ang Seng Kuan, who had succeeded his father, Mr. T'ang Wang Wang, in this position. Strangely enough this branch of zoology was scarcely represented at all in the Museum. He also arranged for the securing of the temporary services of Dr. S. M. Shirokogoroff, the prominent Russian ethnologist, in numbering, reclassifying and card-indexing the whole of the specimens in the Museum's collections, an undertaking that had never before been attempted. It became more and more evident, however, that until a new building with much more room for the Museum should come into being, it was hopeless attempting to do much with the latter, and, in 1927, when Dr. Davis retired and the writer assumed sole charge of the Museum, he made it his main objective to bring about this desirable end.

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It was not, however, till the old building had become so dilapidated, with its woodwork eaten away by white ants, as to be dangerous, and the consequent closing to the public of the upper floor housing the Museum, and the condemnation of the building by the Public Works Department of the Municipal Council, that the decision was made to tear down the old building and erect a new one. This was in 1930, but lack of funds prevented the project being actually put into effect until the Municipal Council of the International Settlement graciously decided to make a donation of Tls. 50,000 towards the building fund. Dr. Wu Lien-teh, the well-known plague specialist and present head of the Chinese Government Quarantine Service, generously donated a further Tls. 20,000, which, with various sums raised by an appeal to the community, amounting to some Tls. 40,000, bringing the total up to Tls. 110,000, made the Society's Council feel justified in proceeding with the project of erecting a six-storey building in place of the old one, which had served its purposes for well over half a century.

This naturally necessitated the removal of the collections in the Museum and their storage during building operations. Premises were secured near by on Peking Road, and with all due care the specimens were removed and stored there. In spite, however, of every precaution the two years that have elapsed since this was done have played havoc with many of the specimens, especially the birds, and it is to be regretted that not a few of these will have to be discarded.

The most critical period of the Museum's history came in the early part of the present year, after the new building had been completed and formally opened. As a result of recent economic conditions, and especially the great drop in the value of silver in relation to gold, the original estimate for the cost of the new building was exceeded by something like Tls. 50,000, with the result that the Society, although it had raised funds in excess of what were needed when the project was first decided upon, found itself heavily in debt when the building was actually completed. Indeed, the financial situation was so acute that there were no funds for the furnishing of the Auditorium with seats or the Library with shelves, and these needs were only met by individual members of the Council pledging themselves to raise the necessary money. There still remained the question of show cases for the specimens in the Museum, a far more costly matter than either the shelves for the Library or the seats for the Auditorium, and it became a question whether the Museum would not have to be abolished and the two floors intended for it let out as offices in order to provide the Society with an income sufficient to continue its other activities.

An appeal had meanwhile been made to the Shanghai Municipal Council for a substantial increase in its annual grant to the Society, and it was the granting of this increase that finally turned the scale in favour of retaining the Museum. The crisis was safely passed, and the writer, who was made Honorary Director of the Museum in 1932, the old position of Curator having been abolished as out of date and antiquated, was given the welcome authority to proceed with the installation of the show cases.

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Much valuable time, however, had been lost, and it was not till the hot summer weather had actually commenced that the cases were completed, since which time the present staff, consisting of a native Taxidermist and two assistants, and the Honorary Director, have been feverishly working to get the Museum ready for opening to the public during the present month of November.

At the same time that it was decided to change the curatorship to a directorship, it was proposed to enlarge the personnel of the Museum, and Professor W. M. Porterfield of St. John's University was elected Keeper of Botany and Mr. E. S. Wilkinson, local authority on birds and author of "Shanghai Birds," Keeper of Ornithology. Later Mr. Harold Porter, formerly of His Britannic Majesty's Consular Service and now Manager of the Peking Syndicate, an expert in Chinese antiques, was elected Keeper of Archaeology, while Mr. H. E. Gibson, a well known resident in the Far East, and one who has had considerable experience in the collecting of Chinese coins, was elected Keeper of Numismatics. Thus, in a sense, the Museum now has a Committee resembling the one originally responsible for its founding, each individual member of which undertook to look after some special branch or department.

The Museum is now far too large to be cared for properly by a single individual, especially one only able to give it his spare time. The crying need, voiced in 1892, for a paid Curator who could devote his whole time to the care of the collections is still unfulfilled, and is to-day far greater than it was forty years ago. The Society, however, is not in a position to afford the expense of such assistance, and recourse must of a necessity be made to those willing to give their services. This is indeed a sad state of affairs, and while it is felt that the Museum has reached another bright spot in its history, is, in fact, entering upon a new and altogether more hopeful phase of its existence, the fact remains that it must still depend for that existence upon the voluntary support in labour and finance of individuals in the Shanghai community.

It is an astonishing thing that an institution of this nature in a rich city like Shanghai, where many huge fortunes have been made, has not, with the exception of the grant from the Shanghai Municipal Council and the handsome donation from Dr. Wu Lien-teh towards its present building fund, in all its sixty years received a single endowment of any importance. This is a remarkable commentary on those who have made their fortunes in Shanghai. It is fervently to be hoped that such a state of affairs will not continue to exist, and that in the near future there will be found wealthy members of the community sufficiently public spirited to endow the Royal Asiatic Society and its Museum with funds adequate to their present and future needs.

Those needs include paid expert assistance. Voluntary service in both the Library and the Museum may have been all that was needed in the past, but with the expansion of the Society's activities in both these directions, it can no longer be adequate. Although the writer and those associated with him are willing to continue giving their services without remuneration, an adequately paid Librarian and Curator, devoting their whole time to the work involved, are needed in addition. The staffs, too,

in China" with the natural history generally of this country. "Through Shên Kan," written jointly with Mr. R. S. Clark of New York, through whose generosity Mr. Sowerby has been able to carry on his explorations, deals with the Clark Expedition in Shansi, Shensi and Kansu in 1908-9.

Mr. Sowerby, who has also published many purely scientific papers in various journals in England and America, comes from a family of naturalists and artists, on his father's side being descended from James Sowerby and James de Carle Sowerby, the well known botanists and conchologists of the early part of the 19th Century, Anthony Stewart, the famous miniature painter of the same period, and William Seguer, founder and first curator of the National Gallery in London.

The Shanghai Museum is the third institution of its kind in China with which he has been connected. The first was a small museum in Tai-yuan Fu, Shansi, organized in the years 1905-6. For this he provided most of the natural history specimens, setting them up in cases in their natural surroundings and with scenic backgrounds. The first week after it was opened no fewer than 10,000 people passed through. In 1907 he did the same thing for the Anglo-Chinese College Museum in Tientsin, making his first expedition into Western Shansi in order to collect specimens for it, and discovering some magnificent previously unknown forests and mountains running up to 10,000 feet. in altitude.

In 1923 he founded *The China Journal*, which he has edited from its first number.

Mr. Wilkinson, chartered accountant in Shanghai is well known for his interest in ornithology, and is an authority on the birds of the Shanghai and neighbouring areas. His book "Shanghai Birds," beautifully illustrated with numerous coloured plates by the famous bird artist, Mr. H. Gronvold, was the first of its kind to be published in China, and filled a long felt want. He commenced writing articles on birds in *The China Journal* several years ago under the title "Rus in Urbe." More recently he published a useful little book with maps entitled "Shanghai Country Walks."

Mr. Wilkinson has not only made an intensive study of the birds of China as represented in the collections in the Natural History Museum at South Kensington, London, but for many years he has gathered knowledge concerning them at first hand by constant observations in the field. He is preparing two further books to be called "More Shanghai Birds" and "The Shanghai Bird Year," and is also working on a catalogue of the birds in the Shanghai Museum.

Professor Porterfield has since 1916 been connected with St. John's University, Shanghai, his main subject being botany. He has made a special study of the bamboos of China and their innumerable uses, and may be looked upon as one of the leading authorities on these plants. He has also contributed considerably to the knowledge of the flora of the provinces of Kiangsu and Chekiang, more particularly that of the Shanghai area. Unfortunately for the Shanghai Museum he has just left China on furlough, and his loss will be felt keenly in the Botanical Department.

Mr. Harold Porter was, till quite recently, when he became Manager of the Peking Syndicate in China, a distinguished member of His Britannic

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should be larger than they are at present, if the Library and Museum are to be maintained and developed as they should be in order to meet the needs and be in keeping with the dignity of a city the size of Shanghai.

It will be seen, then, that the Society requires far more substantial financial support from the community than has hitherto been vouchsafed to it, and in view of the undoubted services it renders, with its splendid Library of works of reference on China and the Far East, and its well filled and highly interesting as well as educative Museum, both opened to the public free of charge, it is to be hoped that this necessary support will not be withheld.

THE PERSONNEL OF THE SHANGHAI MUSEUM

The present personnel of the Shanghai Museum consists of Mr. Arthur de Carle Sowerby, F.R.G.S., F.Z.S., M.B.O.U., Director; Mr. E. S. Wilkinson, F.R.G.S., M.B.O.U., Keeper of Ornithology; Professor Willard Merritt Porterfield, Ph.D., M.A., Keeper of Botany; Mr. Harold Porter, C.M.C., Keeper of Archaeology; and Mr. Harry E. Gibson, Keeper of Numismatics. All these positions are honorary. The paid Chinese staff consists of Mr. T'ang Sen Kuan (唐仁宮), Taxidermist, with his two brothers, T'ang Shui Yü (唐瑞玉) and T'ang Shui Keng (唐瑞耿), as temporary assistants.

Mr. Sowerby, who has been associated with the Museum for the past eleven years, having become Honorary Curator jointly with Dr. Noel Davis in 1922, assuming sole charge in 1927, has spent the greater part of his life as a field naturalist, big-game hunter and explorer in China. His travels, undertaken first on behalf of the British Museum in connection with the Duke of Bedford's Exploration of Eastern Asia in 1908, and thereafter on behalf of the United States National Museum, have taken him into most of the wilder and less known parts of the northern and eastern provinces, as well as the Ordos Desert, Inner Mongolia, Manchuria and Northern Korea, and he has published a series of books dealing with his travels, shooting and the animals and plants of these countries. Of these "The Naturalist in Manchuria," five volumes in three bindings, exhaustively deals with that country, its people, topography, fauna and flora; "Sport and Science on the Sino-Mongolian Frontier" deals, as the name indicates, with the provinces bordering Mongolia and neighbouring Inner Mongolia itself and the Ordos; "Fur and Feather in North China" with the game birds and animals of the northern provinces of China; "A Sportsman's Miscellany" with shooting in various parts of China and Manchuria; and "A Naturalist's Note-book



Professor W. M. Porterfield,
Keeper of Botany



Mr. Harold Porter, Keeper
of Archaeology



Mr. Arthur de C.
Sowerby, Director

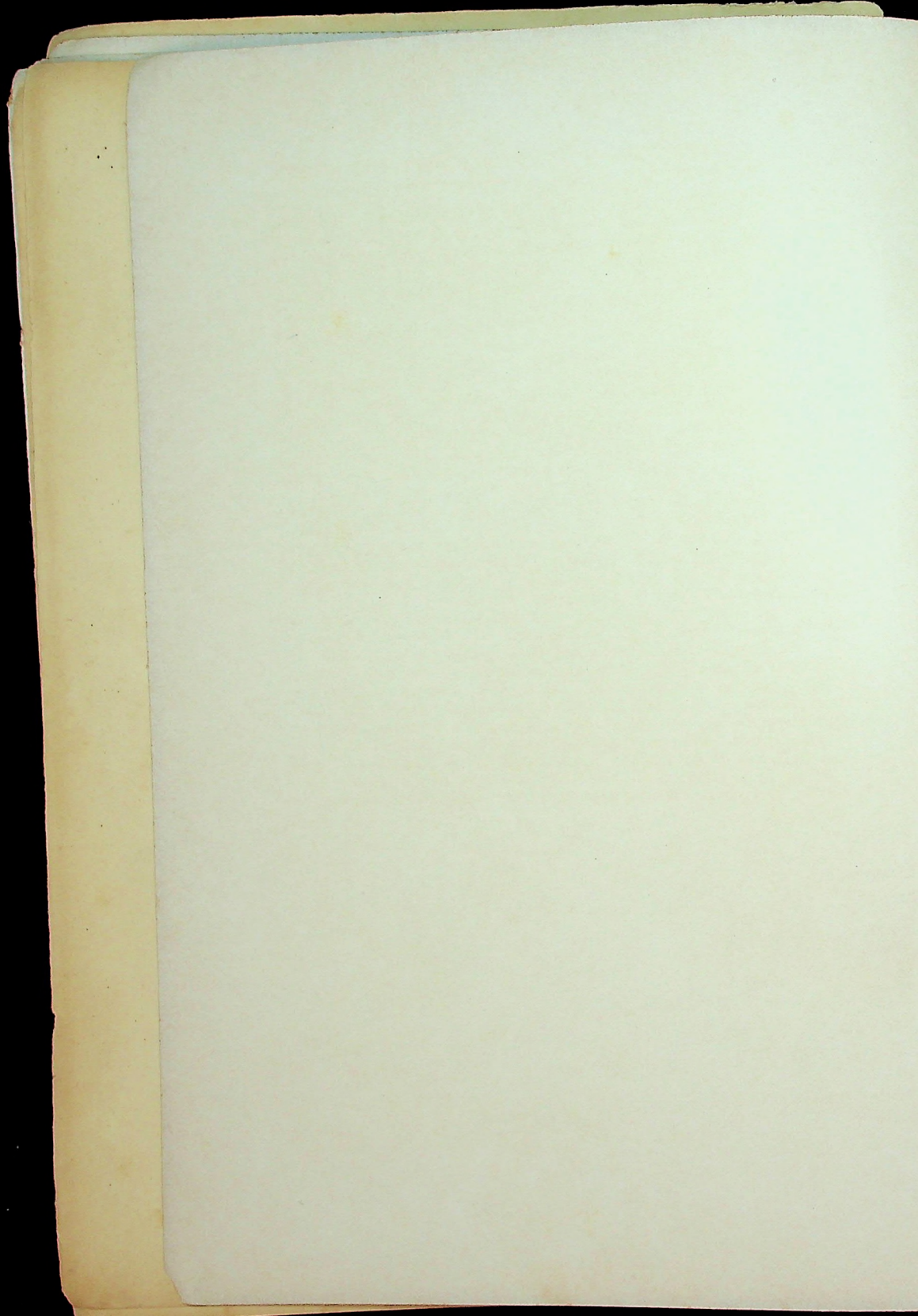


Mr. E. S. Wilkinson, Keeper of
Ornithology



Mr. H. E. Gibson, Keeper of
Numismatics

THE FOREIGN PERSONNEL OF THE SHANGHAI MUSEUM



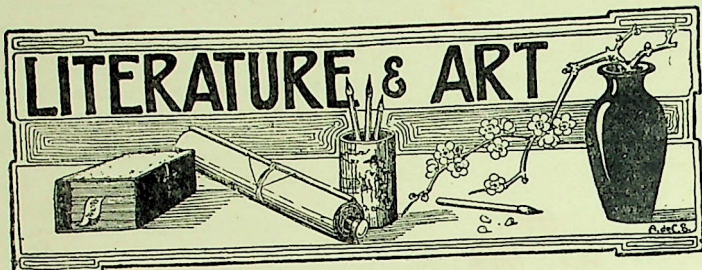
THE PERSONNEL OF THE SHANGHAI MUSEUM

Majesty's Consular Service, his duties in this connection having taken him to all parts of China. Always interested in the arts and antiquities of this country and a good Chinese scholar as well, he has devoted his spare time mainly to a study of these subjects and the making of collections of Chinese *objets d'art* and antiques. He possesses a very fine and in many ways unique collection of such objects at the present time, and has generously placed a considerable portion of this on exhibition in the Shanghai Museum.

Mr. H. E. Gibson has also travelled extensively in China and possesses a first hand knowledge of the country equalled by few. He has made a special study of Chinese coins, having collected specimens in several provinces, and is well up in this subject. He, too, has generously placed part of his collection in the Museum as a loan exhibition. He will devote his time to working up the Numismatics Department. A keen sportsman, he has in times past donated many interesting bird specimens to the Museum.

Mr. T'ang Sen Kuan and his assistants are the sons of the well known Chinese taxidermist and collector, the late Mr. T'ang Wang Wang (唐旺旺), who was trained by and has worked for Mr. La Touche and other ornithologists at different times. At one time he was employed in the Shanghai Museum, and through him and his family, all of whom are taxidermists and field collectors, its collections of natural history specimens were greatly increased. He died about two years ago, an obituary notice appearing in *The China Journal* of February, 1932.

Mr. T'ang Sen Kuan succeeded his father as Taxidermist at the Shanghai Museum in 1921, his services having always been most valuable. Though completely untrained from the scientific point of view, he is a first class naturalist when it comes to a knowledge of the animal life of his native province, Fukien, and the Shanghai area, where he has spent so many years. His two young brothers are promising lads, following the traditions of the family. By educating them in English and other subjects, it is hoped to prepare them for work of a more scientific nature than any of the other members of the family have been able to undertake.



COLLECTING CHINESE ANTIQUES

The collecting of Chinese antiques and *objets d'art*, popularly called curios, has become a regular vogue since the American tourist has discovered the Orient, and one now hears the names of Chinese periods tripping gaily from the tongues of those to whom a few years ago such words as Ming, Sung or Ch'ien Lung would have been "Greek." The vogue has developed a regular trade and many an enterprising merchant in China has made, if not a fortune, at least very handsome profits in the "curio business." Shanghai and Peking, and to a lesser extent other Treaty Ports in China, are full of what are called curio shops, if they are Chinese, and art emporiums, if they are foreign, so that the collector can satisfy his acquisitive instincts in this direction without so much as putting his nose into what may be called real China—that is, at a price.

It must be understood at the outset that there are collectors and collectors. There are the serious ones, who are purchasing for some important museum or wealthy collector in Europe or America, or to turn an honest penny by shipping what they buy to the big dealers of the West to be auctioned in London, Paris or New York. Then there are the non-professional connoisseurs of Chinese art, those who have acquired a taste for this, that or the other type or class of antique, and a knowledge born of experience, who know all the native dealers and every unsavoury alley where a curio shop is to be found, who fill their houses with the objects they love so dearly and talk learnedly to their friends of different ceramic wares, patina-encrusted bronzes, clay tomb figures, scroll paintings or carved ivory.

Finally there are those, forming the majority, who acquire Chinese antiques, usually spurious, because it is the vogue, or because they think they are pretty or quaint, or even because they are invested with a sort of romantic glamour that savours of the Mysterious East, who learn the patter and jargon of the native dealers and the more unscrupulous foreigners in the business, and finally take their treasures back to America or Europe fully convinced that they are the possessors of a genuine Ch'ien Lung, two-thousand years old, a Ming of the 1st Century B.C., a tapestry that came out of the Palace at Peking and was the pro-

COLLECTING CHINESE ANTIQUES

perty of the concubine of a T'ang Emperor, or something equally fantastic.

The foreign market for Chinese antiques has become so important that it has been possible in China to develop a regular industry in connection with the manufacture of antiques. In Peking there is, or was a few years ago, a factory for the manufacture of stone Buddha heads, supposed to have been knocked off some temple cliff-carving in the far interior. The stone of which they were made was the right kind, and experts were puzzled till it was found that certain large figures, such as line the approach to graves of the Ming period, had been purchased and transported piece-meal to the factory in Peking for the manufacture of these heads.

In Honan there are ancient tomb-figure factories turning out material that is almost indistinguishable from the genuine products of the tombs of the T'ang and Wei periods. And so it goes on till novices might well hesitate to spend a cent on Chinese curios or antiques for fear of being cheated, as, indeed, they are almost certain to be unless they are fortunate enough to have hit on an honest dealer, of which, by the way, there are a number in Shanghai who can be fully trusted.

And yet there are still plenty of genuine antiques to be had in China, which, except for the ultra-rare types, can be purchased at prices within the means of the ordinary individual. The trouble is how to distinguish the genuine from the fake, and, having distinguished, to know about what price to pay for it. What is needed these days more than anything else is for some authority to write a book on fakes, imitations and spurious Chinese antiques, and to tell the trusting public exactly how to recognize them.

Meanwhile there are one or two points to be made in connection with such fakes or imitations that are worthy of consideration. One is that even the imitations and fakes themselves are often genuine works of art and exceedingly beautiful, and, except to the rabid connoisseur or a museum curator, are worth having. For instance, a really good Ming copy of a Sung porcelain, although lacking something, that the latter possesses, is very desirable; and even some of the most modern copies of T'ang Dynasty tomb figures are extremely beautiful things.

Another point is that almost everything in China is a copy of something that went before, so that it is hard to say where the genuine ends and the spurious begins. Thus a good principle for the ordinary fancier of Chinese *objets d'art* to follow is to buy what pleases him, and, if it pleases him, to be content with it till he sees and can afford to purchase a better. He can usually dispose of the first piece at what he gave for it, or even at a profit, if he did not pay a foolish price when he bought it. In time, a person who follows this principle will find himself the possessor of a very nice collection, while there is no denying the fact that he will have learnt a great deal about the particular class of antique in which he is interested.

But, to return to our original theme, the thing that astonishes those who have been longest in the field is the seemingly endless supply of genuine antiques which China affords. Of course, there are certain

types that are so rare as to be practically unobtainable now in this country, unique pieces of porcelain, bronzes, or paintings by great artists of the past, but, on the other hand, there are always coming into the market beautiful pieces the like of which have never been seen before. These usually fetch high prices, these days, because most dealers, even in the interior, are now alive to their value; but, even so, wonderful bargains are sometimes to be had in this direction.

Of late years Honan has proved a happy hunting ground for the collector of Chinese antiques of every description, mainly as the result of the wholesale opening up that is now taking place of ancient graves and tombs formerly held sacred by the local people, who, in the days before the Republic, viewed their violation with superstitious dread. The valley of the Yellow River being the cradle of Chinese civilization extending over a period of some three to four thousand years, it is natural that it should yield large quantities of the more durable objects of art or daily use made throughout this long period, especially when it is realized how much the Chinese have always been given to the practice of placing such objects in the tombs with their dead so as to ensure the latter's well-being and affluence in the after life.

Another factor that has contributed largely to the number of antiques coming on to the market in the last few years is to be found in the troublous times China has been passing through, with bandits, communists and soldiers looting the houses of the wealthy in all parts of the country. In spite of the enormous amount of destruction that has been caused by these looters, much of value has been saved, and in due course has found its way into the hands of the dealers. Hard times have also forced many to sell the things they valued in their homes.

While one is naturally sorry for the unfortunate owners of these treasures, for, costly or not, they are genuine treasures, one cannot help feeling a certain amount of satisfaction that the source of China's ancient art objects is by no means exhausted, and that there is still, and will be for a long time to come, the opportunity of acquiring some of them for one's own collection.

Most of the beautiful pieces shown in the accompanying illustrations from Mr. Harold Porter's collection have been acquired recently in Honan. Some of them will be placed on exhibition in the Shanghai Museum, to be opened shortly, one of the objects being to give those who are interested in such things the opportunity of seeing what the genuine pieces look like.

In this connection the value of such a museum to the public may be noted, helping as it must, to enlighten and educate the latter in regard to the wonderful art that China has produced, and arousing an interest in, and cultivating an appreciation of, the beautiful as expounded by a race of artists.

THE EVOLUTION OF THE CHINESE CASH

BY

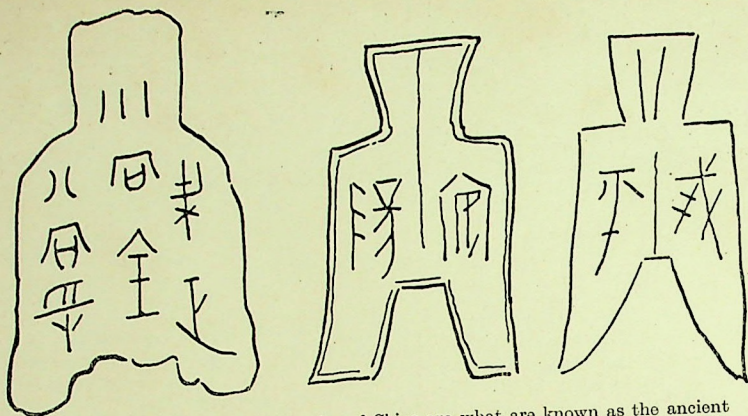
H. E. GIBSON

The study of Chinese numismatics is extremely interesting. It is not alone the enlargement of a collection or the acquiring of rare or new specimens that makes it so, but the fascination of developing a better knowledge of the various periods of the coins comprising the collection. As one enthusiastic friend remarked, he not only derived considerable pleasure through collecting cash, but also found that the hobby increased his knowledge of Chinese history. This is very true, and, in order to have a thorough knowledge of the coinages of various dynasties, it is essential that the collector should familiarize himself with the conditions and historical events of the period in which they were coined.

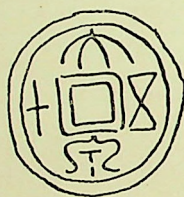
To go back to the time of the Chou Dynasty (B. C. 1122-255) when the first Chinese metal coinage came into existence, historical records describe a small state centered in what in modern times is known as Shensi, Shansi and Honan, and about which were clustered numerous petty states surrounded by vast unknown regions inhabited by nomads and barbaric tribes. This dynasty started a new epoch, in which are to be found the origins and principles of a new civilization. During its period of sway authentic history of ancient China had its beginning as well as a metal coinage in the form of odd shaped tokens of barter. These coins were original and not copied from an outside source, and were intended to conform to the requirements of their time.

We learn from the Chou annals that tribute was received from distant nations and that the commodities of the state spread afield. It was undoubtedly a period of advancement, and, with the growth of state power, so must the merchants have thrived. They became rich by their trade with bordering states and tribes. Business that heretofore had been almost entirely carried on by barter must have assumed such proportions as to fill up the merchants' warehouses with raw materials. As taxes were paid in goods, metals, raw material, rolls of silk and cowries the Government storages must have become over loaded with materials not easily disposed of. It took thousands upon thousands of men and beasts to transport tribute and taxes from outlying districts to the capital, and it must have been the same with the merchants in their barter business. Necessity forces people to invent easier methods, and this is what happened during the Chou Dynasty. The collection of taxes in goods and the carrying on of trade by barter became cumbersome, and, as a result, copper tokens were invented to represent so much metal or goods.

The change could not easily have been accomplished. People who traded a horse for pieces of silk, a quantity of grain for a sword or agri-



The earliest existant metal coins of China are what are known as the ancient pu-money. In shape they resemble a saddle and were therefore also called the Ch'eng ma pi, 乘馬幣, "Saddle Money." According to Chinese records these coins had their origin during the period of the reigns of Yao and Shun (2255 and 2198 B.C.), but this is considered doubtful and their origin is generally conservatively placed at about 800 B.C. There are several shapes which are commonly known as the round shouldered square foot, the square shoulder square foot and the sharp footed pu. It is interesting to note that the earlier saddle coins had no method of stringing, though later coins have holes in the top.



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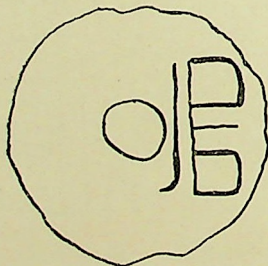


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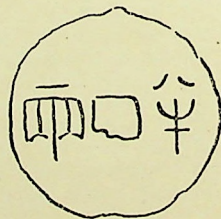
1. One of the Wang Mang coins. Ta-ch'uan wu-shih, "The great coin fifty." (6-7 A.D.)
2. Wang Mang "huo-ch'uan."
3. Coined by Liu Pei (221-2 A.D.) founder of the Minor Han Dynasty, one of the Three Kingdoms. Inscription Chih-pai wu-shu, "Value hundred wu-shu."



1



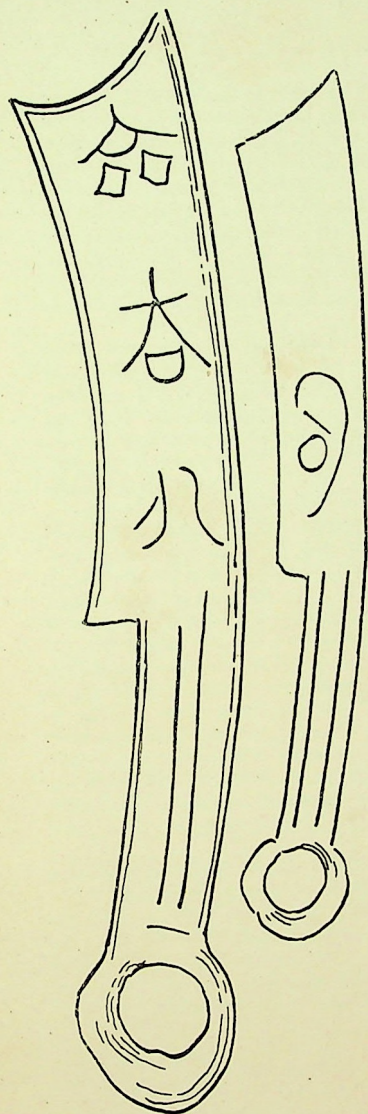
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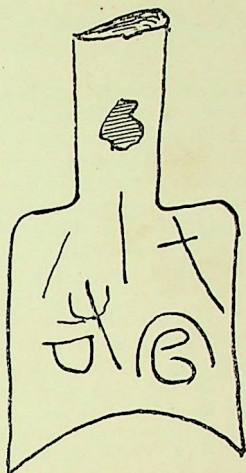
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The three above drawings represent the first round coins of China and were coined during the Chou Dynasty.

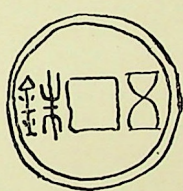
1. Yüan, issued in State of Wei (Northern Honan)
2. Pao-huo, "precious unit."
3. Pan-liang, first coined during the Ch'in Dynasty (255-206 B.C.)



After the saddle and spade money the sword money appears to have been invented, and was no doubt the outcome of barter in swords and knives. As compared with spade money it would appear that convenience was taken into consideration, as a hole was left in the top to allow the stringing of the pieces together.

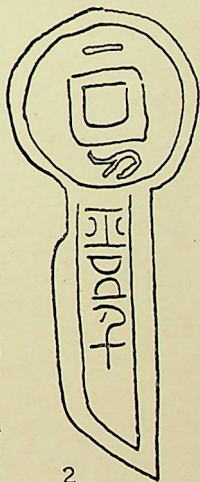


The second step in coins appears to have been the coinage of what is known as the spade-money. It was no doubt the outcome of barter in agricultural implements. In all probability it had its origin about the same period as the Saddle Coins. It will be noted in the accompanying illustration that in its hollow handle a piece of wood could be inserted, making it more convenient to carry about in the hand.



1

1. Western Han Dynasty (206 B.C.-25 A.D.). The Wu-shu coin which replaced the pan-liang in B.C. 118.



2

2. The usurper, Wang Mang (7-22 A.D.), being fond of ancient methods, copied old currency. The above drawing represents the (Yih-tao) ping wu-chien, "One knife: value five thousand."

cultural implements, had to be educated to the use of the metal tokens. The change must have been very difficult, for Chinese of those far off days must have been just as suspicious of changes of this nature as they are to-day. Those of us who travelled in the interior of China some twenty-five years ago will remember how difficult it was to pass off a ten or twenty cent silver piece. In most parts of the interior it was an utter impossibility. When the ten cash piece came into being merchants and inn keepers would pass them back with a shake of the head and politely ask if string cash or a chip off a piece of silver shoe were not available. They wanted the currency that they were used to, and were sceptical of the new silver pieces.

This brings us back to the peculiar shaped tokens of barter of the Chou Dynasty. The people had not heretofore been used to light metal coins. It had been their habit to load their backs with the produce of their fields, and to carry it to the nearest mart, where they would by barter again load up and take home the commodities they had secured in exchange. Thus we find the early tokens of barter, which became the recognized currency of the State of Chou, were made to represent some object with which the people were familiar, the saddle, spade, sword and knife money. The early *pu* coins or saddle money and spade money were inconvenient to handle and had no holes by which they could be strung. Later came the *pu* coins with holes, then the sword money with a hole in the top of the handle. For the sake of convenience the early tokens were gradually changed until a round metal disc pierced with a round hole came into existence. The idea for this coin no doubt originated by knocking off the sword blades and leaving the round ring at the top of the handle, which made it more convenient to carry about as well as to hoard. Tokens of barter had by that time become a recognized medium of trade. The people had gradually been educated to accept small pieces of metal in exchange for the products of their fields or the commodities they manufactured, and, from the clumsy sword cash, gradually came into existence the common square-holed copper cash that has been the recognized form of currency for over two thousand years.

It is not the object of this article to elaborate on the coinage system of China. It will suffice to show by illustrations the evolution of the Chinese cash and follow it along through the various dynasties, which may be of interest and assistance to the new collector. A word of warning, though, may not be out of place. Genuine ancient Chinese coins are not easily acquired. Every curio shop abounds with *pu*, knife and *pan liang* coins, the majority of which are rank imitations smeared with mud and alum.

THE IMMORTALS

Oh poet, who, inspired, sings
The half-guessed truths that others feel ;
Whose fancy soars on lacey wings
A glimpse of heaven, in sooth, to steal :

Oh painter, thou who deftly limns
What others can but dimly see ;
Who captures Nature's vagrant whims,
In line and colour bold and free :

Oh writer, thou who deems to tell
Of life and death and love and war,
Casting many a glamorous spell,
And weaving dreams from deeds of yore :

Oh painter, writer, poet—each
Complete thy task and go thy way,
Leaving immortal works to teach
In colour, word or lyric lay.

ARTHUR DE C. SOWERBY.

ART NOTES

Antiques and Art Objects in the Shanghai Museum : The Shanghai Museum has not heretofore contained much in the way of art objects, Chinese antiques or archaeological specimens, its activities having been mainly concerned with collections of natural history specimens—animals, birds, reptiles, insects, plants, fossils, minerals and the like. Recently, however, an attempt has been made to rectify this, and already what may be termed the Ethnological and Archaeological Section has been enhanced in interest and value by donations and loans from members of the community.

Amongst these is a series of antiques from the collection of the late Mr. F. S. Benbow Rowe of Tientsin, placed on

exhibition by his brother, Mr. O. S. Benbow Rowe of Shanghai. Amongst these are a number of stone steles with beautifully carved figures of Buddha and attendants in high relief. These are in the style of the Wei Dynasty rock carvings in the caves at Yun Kang near Ta-tung Fu in North Shansi. A very nice Wei Dynasty clay tomb figure of a warrior on horseback is also in this collection as well as two fabulous half-human half-beast figures of clay, and a very handsome Tibetan or Mongolian *puru* or three-bladed dagger as used by the lamas in their Buddhistic rites. The last is made of copper, brass and iron, heavily chased and richly decorated with turquoise matrix and coral. Its length is about 5 feet and it fits

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point downwards into a stand, the whole standing about 5½ feet high. This piece augments the Museum's collection of objects used in Buddhistic worship in Tibet and Mongolia derived from other sources.

Another interesting exhibit is a collection of pottery tomb pieces of the Han Dynasty period lent by Mr. Niels Poulsen. These were figured and described in the September, 1933, issue of *The China Journal*, in which also was figured and described a remarkable collection of objects from a prehistoric site in Honan placed in the Museum by the Reverend J. M. Menzies of Cheeloo University.

Mr. Harold Porter, Keeper of Archaeology, has placed on exhibition some interesting specimens of ancient tomb pottery figures, including a very unusual Ming period sedan chair and attendants, as well as examples of the ceramic wares of different periods, a set of ancient mirrors going back to the Ch'in Dynasty and various bronze pieces of the Chou period.

Mr. H. E. Gibson, Keeper of Numismatics, has arranged an exhibit of old Chinese copper cash coins, largely made up from his own private collection. The Museum has also been given a collection of ancient copper cash coins by Mr. Yinson Lee. When arranged the specimens in this collection will be made available for inspection by the members of the public interested in Chinese numismatics.

Mr. O. S. Benbow Rowe has also placed on loan an oil painting by the Portuguese artist Carolina Barradas of a trading or fighting vessel of some sort of the early days of Sino-foreign relations. This was reproduced as the frontispiece in the May, 1933, issue of *The China Journal*.

There are besides these exhibits numerous articles of more interest to ethnologists and archaeologists than to artists and collectors of art objects. Such are Chinese cross-bows and other weapons; geomancers' compasses; old style Chinese medical instruments; animal and plant drugs; salmon-skin clothes of the Goldis or Fish-skin Tartars of the Lower Sungari River in Manchuria; specimens of the famous oracle bones with archaic Chinese writing on them, as well as other pre-

historic relics from Honan; stone implements and so on, too numerous to mention here.

This section of the Museum is far from what is might be, however, and it is hoped that the members of the Shanghai community will help the Museum Director and the Keepers of Archaeology and Numismatics in their efforts to develop it. Meanwhile there is sufficient material in hand to form the bases of very good archaeological and ethnological collections.

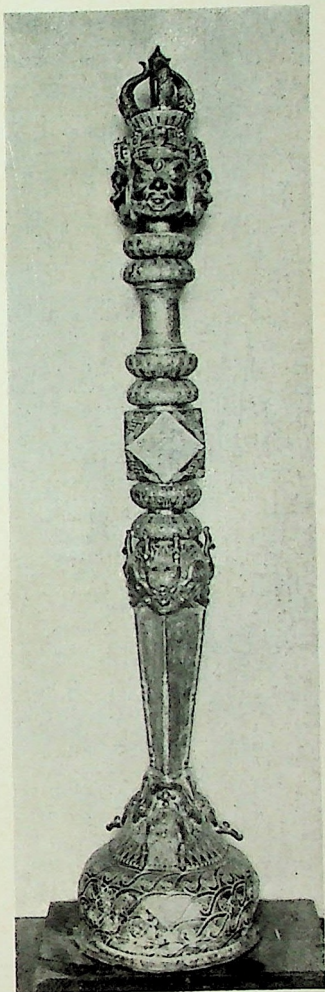
American Artist Continues Success in Shanghai: Mr. Dwight Bridge, the American artist who is painting his way round the world, and who reached Shanghai some months ago when he immediately began painting portraits of leading members of this community, has recently completed a striking portrait of Mr. Edwin S. Cunningham, United States Consul General, and Doyen of the Consular Body in Shanghai. This portrait has been presented to the American Government to be hung in the Consulate here in Shanghai by the American Chamber of Commerce to mark the completion of Mr. Cunningham's thirty-five years' service as a consular official and over fourteen years' service in Shanghai. An unveiling ceremony took place at the Columbia Country Club on October 31, when an address was given by Judge Milton D. Purdy. Incidentally, it may be mentioned that Judge Purdy's was the first portrait painted by Mr. Bridge in Shanghai.

Exhibition of Ancient Chinese Mirrors: During the month of October an exhibition of considerable interest was held in Shanghai. This was an exhibition of several hundred ancient Chinese bronze mirrors and other objects belonging to Mr. Mussen which was held in the Chinese Y.M.C.A. building from October 10 to 14 inclusive. It is not often that such collections are made available to the public; but it is to be hoped that in view of the increasing interest being shown in China's ancient arts and crafts, more exhibitions will be held than heretofore.

A. DE C. S.



Case containing Buddhistic Stone Steles. The Benbow Rowe Collection in the Shanghai Museum.



A *Purbu* or Three-bladed Dagger used in Buddhistic Worship in Mongolia and Tibet. The Benbow Rowe Collection in the Shanghai Museum.

CORRESPONDENCE

The Chinese Geomancer's Compass: An enquiry has come through Mr. C. W. Knott of the Griffith John School, Hankow, from Mr. H. Shaw of the Science Museum, South Kensington, London, regarding the compass used by the Chinese Geomancer, photographs of the "smallest and simplest" of which in that institution's collection were sent and are reproduced here. Mr. Shaw, besides asking for a translation of the various marks and characters on the face of the compass, seeks information as to the rarity or otherwise of these instruments in China, suggesting that they are very common at the present time.

In reply Mr. Knott, who has requested us to ask our readers for any further data on the Geomancer's compass as used by the Chinese has already been able to furnish the following information as to two of the uses of the instrument:—

"(1) For fixing the Direction of Coffins :

The corpse is packed tightly so that it cannot move relatively to the coffin after being exactly aligned with a string stretched lengthwise just under the lid. The ends of this string, protruding from under the middle of the lid at each end after it is fastened down, afford permanent indication of the direction of the corpse within.

(The final test that the head of the corpse is exactly under the string is made by dropping a copper cash from the string on to the nose of the corpse).

When the coffin has reached the burial ground the direction in which it should finally rest is determined by geomancers using this compass and the horary characters thereon, along the principles of the classic book on the subject, and with the deceased's date and hour of birth as essential data.

(2) For fixing the Direction of the Front Door of a House :

When a new house is built (or was, for the custom with modern streets and local exigencies has almost died out) the date and hour of birth of the head of the house

enable the geomancer to fix the precise alignment suitable for the front facade and main entrance door.

After the house has been built it is sometimes found that the alignment was made slightly wrongly. In that case the doorway has to be set right. Going along the streets of Wuchang recently I noticed at least two granite doorways of old houses which had evidently been inserted purposely askew in order that they might have the correct alignment despite the slightly erroneous alignment of the facade.

Calculation of dates :

If the 12 horary characters and the 10 celestial stem characters are written in order as on this compass, repeating indefinitely each kind on its own line, it will be seen that as the G.C.M. of 12 and 10 is 60 there is a cycle of 60 years before a given character in the lower line falls under that character in the upper line under which it fell 60 years previously.

The corresponding characters for 1900 A.D. are 庚子. A Chinese who says he was born in the year represented by these two characters was therefore born in 1900 A.D. Most old China hands remember that as the famous "Boxer Year." All Chinese remember the two characters for their year of birth.

The Chinese name for the Geomancer's compass is *Lo p'an* (羅盤), and of it Cooling's "Encyclopaedia Sinica" says: "This instrument is largely employed by professors of *Feng-Shui* (q.v.) and *Astrology* (q.v.)."

"It synthesizes all the accepted Chinese theories as to the cosmic harmonies between the quasi-living energies of nature (see *Yin and Yang* and *Five Elements*), time-relations as indicated by the sun and moon and the directions in space from any point on the earth."

The arrangement and characters of the sixteen or more concentric circles found on the faces of the larger types of compass are given, this data being too extensive to reproduce here.

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The compass, the face and back of which are figured in the accompanying illustration, is a comparatively simple one. In the Shanghai Museum there are a number of these instruments, one actually smaller than the one here shown and square in shape with a lid, obviously designed to fit conveniently into a pocket or other small receptacle about the Geomancer's person. The largest measures 10 $\frac{1}{2}$ inches in diameter and is very complicated, the whole face being covered with concentric circles containing characters and symbols.

These instruments are all made of wood, a kind of box, and not, as described in the "Encyclopaedia Sinica," of lacquered clay.

A copy of the Chinese Classic on the subject, called 羅經透解, was sent us by Mr. Knott, and has been placed in the Shanghai Museum along with the instruments above mentioned.

Any further information which our readers may be able to supply will be appreciated.

A. DE C. S.

The 19-Year Cycle: The following reply has been received from Mr. C. G. Lubeck to Dr. H. Chatley's comment on his letter on the above subject which appeared in the last number of this journal.

Dear Sir,

Thanks to Dr. Chatley, I see I was hasty in questioning the existence of the nineteen-year cycle.

All the same, the Tables given in Giles' Dictionary certainly contain many errors. Some obvious mistakes (in Table H) are undoubtedly due to lack of proof-reading, but the principal error lies in the fact that the "ordinal number" of the required year as given in Table G is incorrect with reference to Table H. Thus, according to Table G, which gives "The first years of each cycle of nineteen years" commencing B.C. 628 and ending A.D. 2071, the year 1933 is the 15th year in the cycle beginning with 1919, and consequently, by referring to Table H, the first day of the first moon appears to be *February 17* (omitting January 19, which is too early for "China New Year"), whereas the correct date is *January 26*.

It is, of course, an easy matter to reconstruct Table G to correspond really with Table H, but any one making use of the latter must not only correct the misprints referred to already, but should take into account the "discrepancies varying from zero to 3 days" of which Dr. Chatley writes.

Yours sincerely,

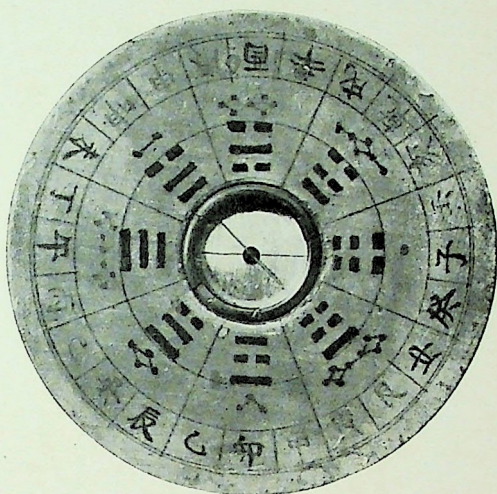
C. G. Lubeck

132, Route Kaufmann,
Shanghai.
October 28, 1933.

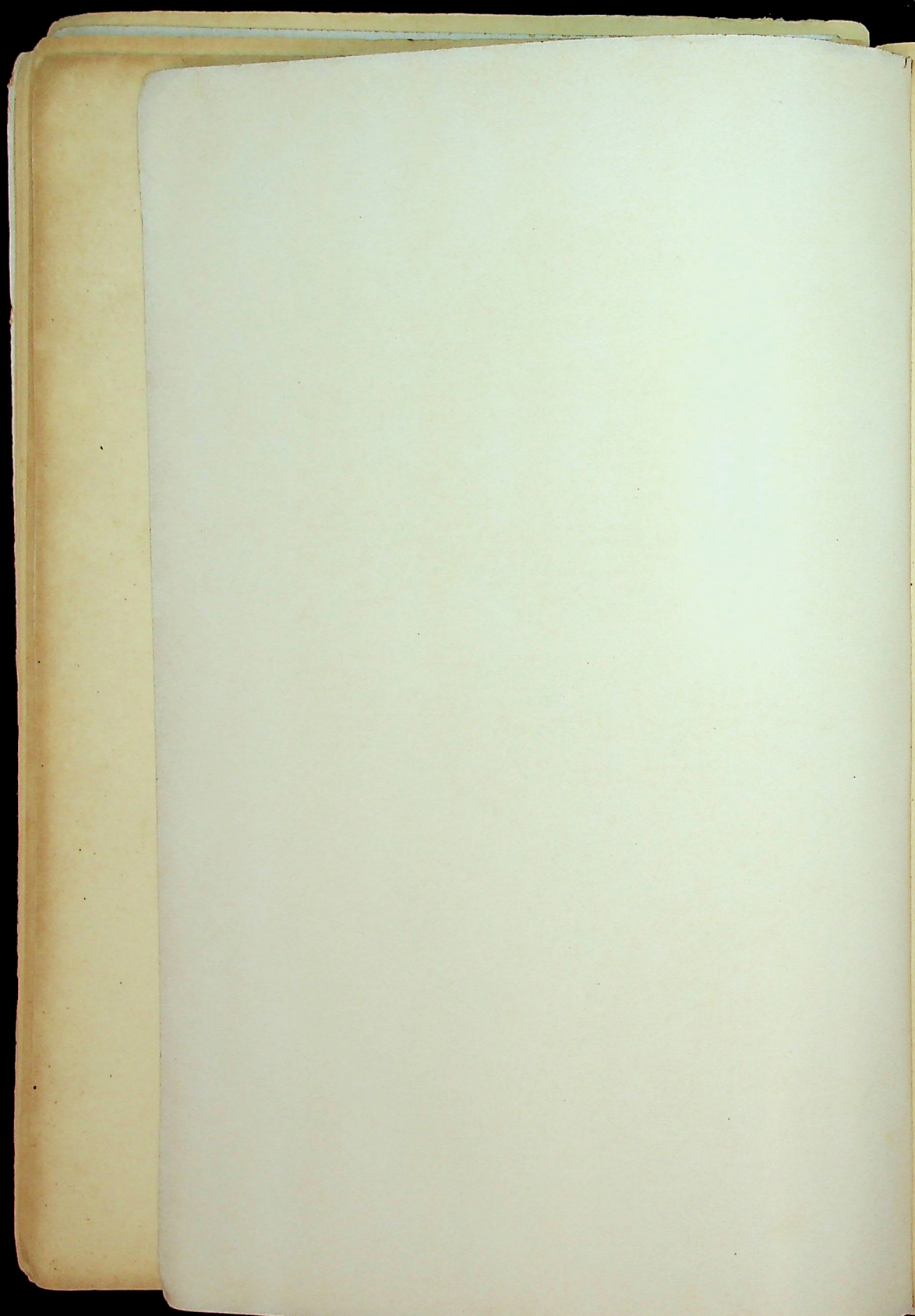
THE LIBRARY

The Largest Library in China: With accommodation for 1,500 students and the provisions of 1,000 seats, the new library which is under construction at Nanking as part of the Nanking Central University's group of buildings will be the largest in China, the Tsing Hua University Library coming next

with 600 seats, while the National Library at Peking has not more than 280 seats. However, seating capacity is not the real criterion of a library, and we believe the last named institution holds pride of place as the leading library in the country from the point of view of the number of books it contains.



Face and Back of a small Chinese Geomancer's Compass in the Science Museum, South Kensington, London. There are several Specimens of these interesting Instruments in the Shanghai Museum, both large and small.



REVIEWS

Les Musees Scientifiques (Scientific Museums): League of Nations. International Institute of Intellectual Cooperation.

We have recently received the first two issues of this publication, which is also called the *Monthly Bulletin of Information*, and has been brought into being with the object of circulating data and information of all kinds amongst scientific museums and institutions and promoting collaboration. It is the outcome of one of the activities of the International Institute of Intellectual Cooperation of the League of Nations.

In its first issue the origin and aims of this bulletin are dealt with, followed by general information concerning a number of museums in all parts of the world. Then comes news items concerning various scientific expeditions either in progress or projected. The next section deals with gifts received by various museums, after which come brief announcements concerning the members of the staffs of such institutions, and finally obituary notices.

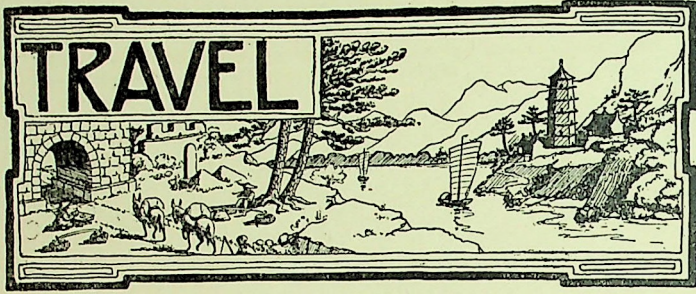
The second issue commences with general information and continues thereafter along the same lines as the first. There is one surprising omission, and that is that neither of these two issues bears any date, except the year 1933 on the second. Thus references to the current month are valueless. However, the publication of such a bulletin is an excellent idea, and we feel sure

it will be welcomed by all who are concerned with natural history museums, aquaria, zoological and botanical gardens or other scientific institutions of a similar nature. It will certainly have the effect of keeping them informed of the activities of sister institutions and associations. The annual subscription is 10s., U.S.\$2.00 or 45 fr., and should be sent to the International Institute of Intellectual Cooperation, 2 Rue de Montpensier, Paris 1er.

All the Mowgli Stories, by Rudyard Kipling, illustrated by Stuart Tresilian: Macmillan and Co., Ltd., London, 1933. Price 6s. net.

This is a new edition of Rudyard Kipling's famous stories about Mowgli, the wolf child, which originally appeared in his two Jungle Books, with the exception of "In the Rukh," which appeared in "Many Inventions," and deals with Mowgli's later life. It is crown size with large print and is illustrated with numerous excellent black and white drawings and several beautiful coloured plates. It has obviously been prepared specially for children, but adults will find pleasure in it. An excellent book for a Christmas or birthday present; and one that will help to arouse interest in wild animals and nature generally.

A. DE C. S.



HUA SHAN, THE SACRED MOUNTAIN OF SHENSI

BY

R. LAPWOOD AND REWI ALLEY

We reached Tung-kuan on the Honan-Shensi border after two day's travel by rail from Shanghai. Some difficult pieces of engineering in the way of tunnels and bridges through the loess formation that characterizes this part of Honan have helped to hold up progress on the Lunghai Railway, so that Tung-kuan was connected up only last year. The way to Si-an Fu is now clear, and the earthwork has nearly been completed as far as Wei-nan, more than half the remaining distance, though an engineer who was in our party sadly pointed out that the rails near the present terminus are not laid too well.

Tung-kuan lies on the great bend where the Yellow River from flowing south turns sharply east for the sea, forming the Shansi-Honan boundary. In the days of the Empire it was considered to be an important military post, and even the most casual observer cannot fail to be impressed by its strategic position and strength of fortification. It lies on the only road entrance to Shensi from the east: in other places high mountains or the Yellow River constitute difficult if not impassable obstructions to travel. The main highway to Si-an Fu runs through the town and is straddled by pretentious double gates. The town itself lies at the foot of the loess cliffs, but the walls run steeply up the escarpment over the hills, including every point of vantage and completely blocking the gap between mountains and river.

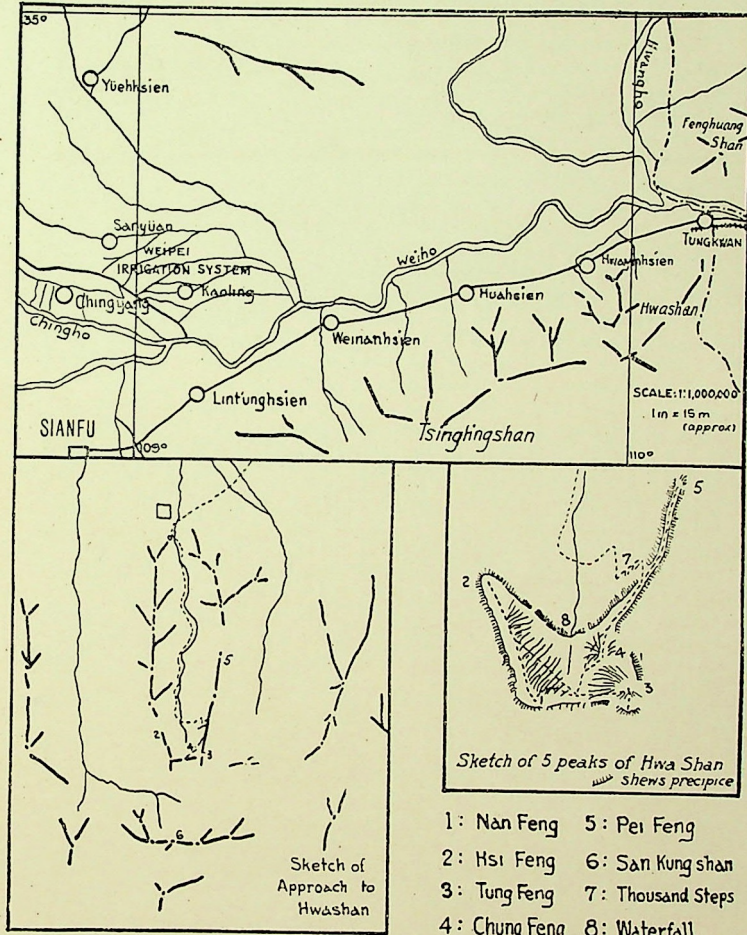
We found the China Travel Service hotel quite presentable, efficiently run by a Soochow man and graduate of St. John's, who had recently been transferred here from Mukden.

The town is fairly prosperous for Shensi, being the railhead; but the general impression is of poverty and squalor. Owing to famine beggars abound and the place reeks of opium. The necessary implements for opium smoking appeared in nearly every shop, and a large proportion of

HUA SHAN, THE SACRED MOUNTAIN OF SHENSI

the people showed the influence of the drug in their dull faces and listless bodies.

The temples are falling into ruin, and are often inhabited only by dying opium addicts or beggars. The people seem to be too poor for religion.



Maps of the Wei River Valley and Hua Shan, Shensi.

The roads in this district are practicable for all kinds of traffic in dry weather, but after rain nothing with wheels can make progress.

Rain fell the night after our arrival, and so, finding a rather noisy group of army officers in residence in our hotel, and having learned that Hua Shan, the sacred Western Peak of Taoism, was within twenty miles, we decided to occupy the time till a 'bus could run to Si-an Fu in climbing.

We made an early start by rickshaw, and ploughed along the Si-an Fu road, frequently being forced to walk on account of the depth of the mud.

After passing through several small walled towns we came to Hua-yin Miao, where the large yellow-tiled temple has been converted by the provincial militarists into an arsenal. The black chimney stacks at either end did not improve the look of the building.

Our rickshaw men told us that the arsenal had been shifted from another temple at the foot of Hua Shan, which had failed to stand up to such treatment and is now a ruin.

After travelling forty *li*, we reached Hua-yin Hsien, a small high-walled town lying on the south of the road. Here we turned left through a graceful avenue of trees (all too rare in Shensi) and rapidly neared the mountains, which rise steeply from the plain along a well-marked fault-line. Here we passed out of the loess country on to the rock debris spread by the river as it debouches from its steep mountain valley.

Near the foot of Hua Shan we had to ford the swollen stream, which made a nice excuse for cooling off in the clear cold water. A charming temple guards the entrance to the valley along which the ascent of the sacred mountain begins. It stands among gardens, through which swift streams dance, with pleasant pavilions set in quiet places. We had already had an appetiser for lunch from the peach orchards which lined the last part of our road, and now sat down to a meal of vegetables and steamed bread (*mo-mo*), during which we engaged two stout fellows as carriers and guides. We left the temple at about three o'clock.

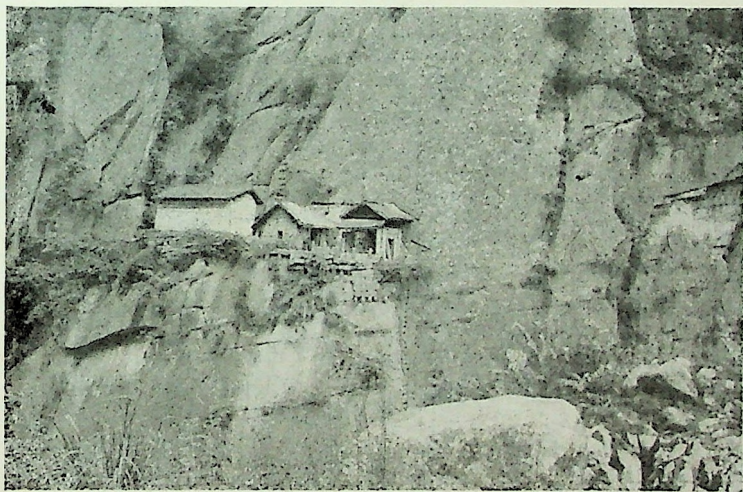
Hua Shan is a huge lump of deeply dissected granite. At its top, over 2,000 metres high, is a small half-basin, perhaps 300 yards across, filled with vegetation, and guarded by deep precipices on every side. There is one possible way up, by the north-east ridge: nowhere else does there seem any hope of climbing the smooth cliffs. The rim of the top basin is formed by the east, west and south peaks. The central and north peaks lie lower on the north-east ridge. Down the centre of the northern face a waterfall drops into a crack and emerges as a second longer fall.

The ascent surpassed all our expectations. It was more than climbing up some 5,000 feet, for thrills lay at every corner. The path is said to be 40 *li* long, and a temple marks the completion of each successive 5 *li* stage. Fortunately these are mountain *li*, therefore short, so that the temples near the top seem mercifully close together.

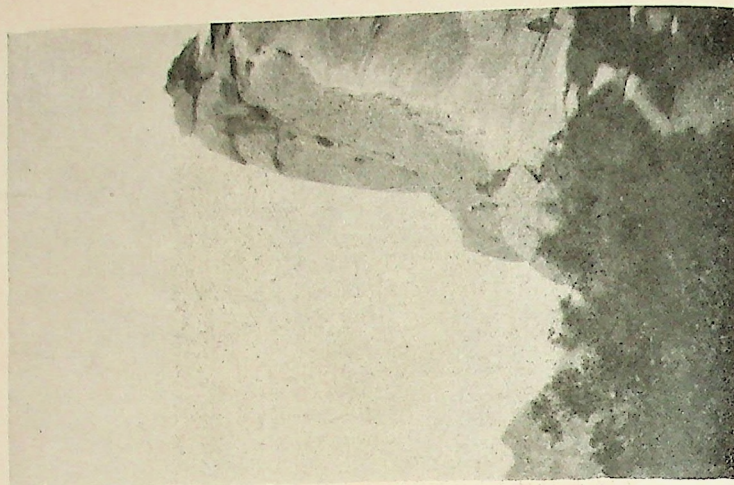
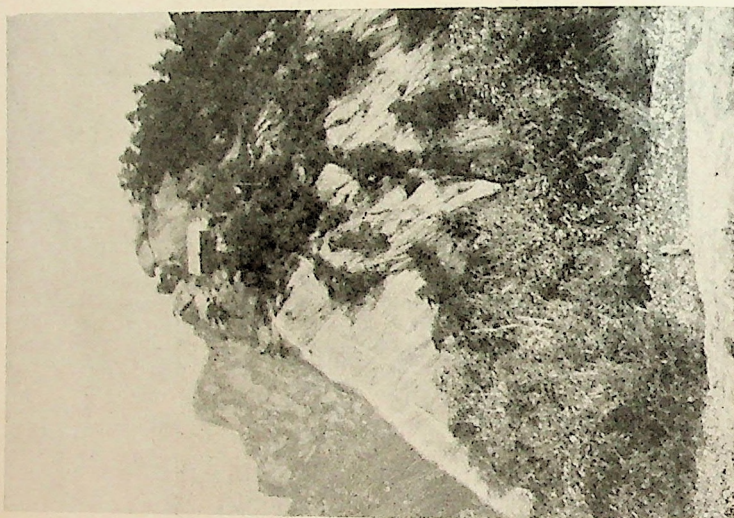
The path first led along a narrow winding valley walled in by steep cliffs on either side. It had been constructed to provide a rather precarious way along the side of the stream. Sometimes we could see,



Hua Shan, the Sacred Mountain of Shensi, as seen from the Plain.



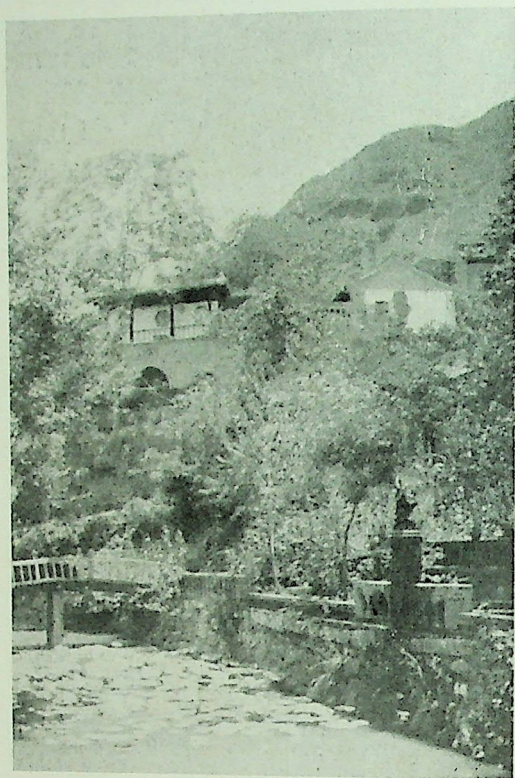
A Temple perched precariously on a Ledge on the Face of one of Hua Shan's stupendous Cliffs.



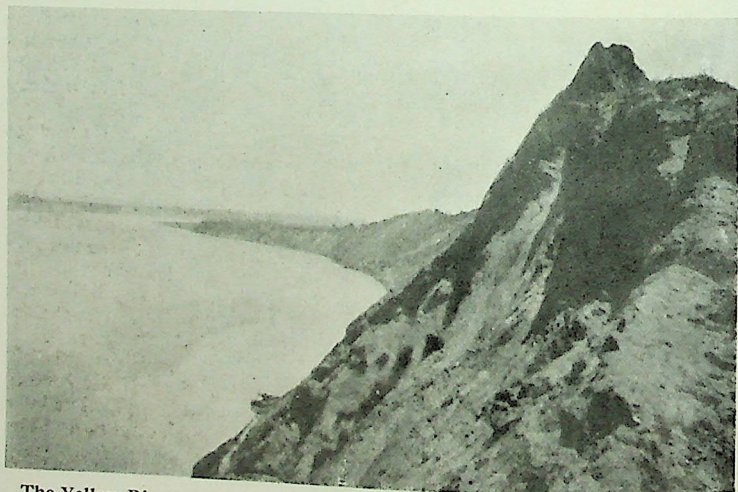
West, East and North Peaks of Hua Shan, the Sacred Mountain of Shensi.



A Rubbing from a Stone Monument in the Pei Lin Temple in Si-an Fu, showing a semi-schematic Drawing of Hua Shan, the Sacred Mountain of Shensi.



The Hot Springs at
Lin-t'ung Hsien near
Si-an Fu, Shensi,
where Ch'ien Lung
and other Emperors
have bathed.



The Yellow River and Loess Cliffs at T'ung-kuan, where the former bends
sharply to the East after having flowed South for Two Hundred Miles
forming the Boundary between Shansi and Shensi.

HUA SHAN, THE SACRED MOUNTAIN OF SHENSI

across the ravine, buildings perched high up on the face of a precipice, appearing inaccessible until we observed small hand- and foot-holds, and, perhaps, a chain scaling the vertical rock.

At the second temple we were joined by the Abbot of the Nan Fang (南 峯) Temple, which is built on top of the mountain. He was a venerable old man of sixty years, a remarkable figure, with his mane and beard of long white hair, brown wrinkled face, large bundle and iron walking stick. He climbed with such energy and determination that we had no wish to pass him, except that the sight of the iron spike dangling over our heads in his shaky old fingers was not always a comfortable one.

After 25 *li* we crossed the stream and came to the foot of what looked like an unscalable cliff. But steps cut in the rock and chains for hand-rails traversed its base to a deep gully, very much like the old fashioned gully-climbs of North Wales in steepness and width. Steps had been cut, deep and narrow from necessity, up the floor of the crack, and an iron chain ran alongside.

Without the steps and chains the climb would have been a difficult one indeed, and one wonders how the ancients, Lao Tse, Li Tai Po and all the other celebrities, managed so well. For we found on inquiry that these are modern steps and chains replacing an older and cruder chainless system. Last year the Governor of Shensi chose this work of renovation as one which would be most beneficial to his people.

We plodded up this gully, called the Thousand Steps, and after threading a long cave under the chockstone passed through a heavy iron-studded trapdoor to reach the Thousand Steps Temple, where the priests entertained us with tea. This trapdoor would completely prevent any ascent of undesirable persons in times of trouble, and one would think that it has been of the greatest use in these last few turbulent years.

The path zigzagged up with steps and chains to the north-east ridge, which is about five feet wide in places with true precipices on either side, but has been made comfortable by steps and balustrades. The final walk across the basin to the Nan Fang was easier, through woods. Our main interest at this stage was the prospect of supper and bed. We reached the top at 7.45, and were extremely kindly received by the priests, who gave us a good meal and a delightful room—no mosquitos and no vermin. Our solicitous host gave us big piles of quilts and a brazier, leaving us with a careful warning not to catch cold.

Next morning at six we went up to the very summit of the Nan Fang about fifty feet above the temple. The view was not extensive, for the mountains carried much cloud, but the slanting rays of the early sun pierced the clouds to light up the eastern cliffs and pick out rocky aretes in bright contrast with the dark pine-filled valleys between.

To the north, six or seven miles away, lay the plain of the Wei Ho, whose winding course we could trace till near Tung-kuan at its junction with the Huang Ho. Beyond the latter rose the high peaks of the Feng Huang Shan (鳳 凰 山) in South Shansi. Eastward cloud obscured the peaks, but in the south, across a deep valley at our feet, rose three graceful peaks on a short high ridge, the San Kang Shan (三 公 山). The nearer view was very impressive. The strong vertical cleavage of the Hua Shan

granite makes for astonishing scenery. After seeing this mountain one is better able to understand Chinese mountain paintings (山水), which had hitherto seemed so unreal. Hua Shan has evidently been a model for many.

We stood on the highest of the five peaks. Below us on the south the rock fell sheer for a thousand feet. On the north-west a narrow saddle linked us with the west peak. The ridges between us and the plain stood bright and clear in sunshine. Some were so faced and edged with smooth granite cliffs as to appear quite unclimbable. Trees grew wherever there was sufficient footing, and the paths were lined with wild flowers familiar in England—briar rose, hollyhocks, blue bells and a kind of tiger lily. On the topmost rock is a small pool, and about ten feet below another, called the Black Dragon Pool. This, the priests assured us, produced a regular water-supply, unailing even during long droughts, when the farmers come from the plains to worship the Black Dragon and pray to him for rain.

After breakfast we visited all the other peaks, and made one excursion off the regular path to a small shrine on the east peak. Here the chains were broken, the somewhat exposed slabs presenting a true rock-climb.

In several places buildings were being put up, carefully anchored to save them from blowing away.

After sharing a picnic lunch with our carriers we began the descent of the north-east ridge. The buildings perched upon it present a decidedly unsafe appearance. They straddle its top, so that the road must pass through them. On either side the cliffs fall away sheer. From the north peak is the best view of the huge north-west precipice and its waterfall.

On the descent we observed with wonder and amusement the way in which scraps of ground had been snatched from the tops and sides of cliffs and made to yield vegetables for the monks. There were also many small groves of walnut trees tucked away in little gullies, where squirrels whisked about joyously.

At one temple we met an old monk who was supposed to be a hundred and twenty-four years old. We were told that he had not slept for the last twenty years, but worked in the garden throughout day and night.

An old lady from Honan with her son had called at this temple that day, and had announced their intention of climbing to a very inaccessible cave to burn incense. In spite of the monk's warnings and the lady's bound feet they set off on their very hazardous expedition, which must have seemed to them something quite as difficult as a Polar expedition to us. After a bath in the stream under a waterfall, we reached the bottom temple and ended the day with a frugal supper on a verminous *k'ang* or brick bed.

Next morning, after copying Feng Yu Hsiang's inscriptions, "Away with Superstition," "Build Roads and Irrigation Schemes," which adorned the rocks in front of the temple we set off for Tung-kuan in rickshaws. One rickshaw soon broke, and the others looked unreliable. Steady rain set in and made pulling almost impossible; so we ploughed

HUA SHAN, THE SACRED MOUNTAIN OF SHENSI

our way on foot through sticky loess mud, finally reaching baths and bed at Tung-kuan.

We woke to find the day fine and a prospect of 'buses to Si-an Fu, and so, to make the best use of our waiting time, took rickshaws to the Shensi-Honan border. A large gate has been erected across the road, called Ti Yi Kuan (第一關). On it Feng Yu-hsiang wrote "Let us Build a New Shensi," a job which is as badly in need of doing now as it was in the 16th year of the Republic, when the motto was inscribed.

The next day we were able to get seats on a Si-an Fu 'bus. These 'buses are always packed beyond their natural capacity and luggage is piled on top until collapse of the roof or overturning of the car seems probable. The 'bus we took was poorly sprung and the seats were hard, but we found a box on the floor still more uncomfortable to sit on. The road was deeply rutted, and, as our speed habitually exceeded that which was safe, since the drivers were having a race, the 'bus rocked and swayed considerably.

Starting at 8.30 a.m. we reached Wei-nan Hsien shortly after 1.00 p.m. and Si-an Fu at about 4.00 p.m. Eighty miles a day is much quicker than the old bullock cart, but one hopes that the railway to Si-an Fu will be finished soon enough to make this introduction to up-country, 'buses unnecessary. With the railway to Si-an Fu completed, Kansu and Chinghai or Kokonor would be quite possible for a summer holiday.

Next morning before breakfast we climbed the great wall of the city, but did not get a very good view on account of the haze. The present city is only a fraction of the size of Chang An, the old capital, on whose site it stands and whose name it again officially uses. "Eternal Peace" sounds a bit sarcastic for these times.

It is also called Si-king (西京), the Western Capital. The present city is said to be in the form of a boat anchored to the two pagodas which stand out in the country some three miles to the east.

The Confucian Temple in Si-an Fu is a most peaceful place with old cypress trees in its courtyards. At its rear is the Pei Lin, the Forest of Stones, which is a collection of stone tablets saved from ancient cities, and amongst which stands the famous tablet dealing with the Nestorian Church which flourished in China during the T'ang Dynasty.

Then there is the Mohammedan Mosque (大清真寺), which was found to be really an abode of quiet. The building exterior, the courtyards and the tablets were all in the Chinese style, though the inscriptions and main hall of worship interior were Arabic. The gardens were well kept, the buildings clean and the people quiet and courteous.

One object in visiting Shensi was to see the irrigation project at Wei Pei, where a whole section of drought-stricken country had been successfully irrigated by a canal system installed by the China International Farmine Relief Commission. The job has been very well done, so that that portion of the country now blooms like a rose.

The canal engineer had recently been captured by bandits and held for eighteen days in the hills, but was finally released after being nearly starved, for the bandits had very little to eat themselves—grass boiled with

bad grain. On release, he had gone to work completing the road to Lan-chou Fu in Kansu, from which place he had just returned to Si-an Fu.

He had some excellent photographs, and many good stories of the difficulties encountered in the blasting operations, in moving machinery and in with his labour, leaving one impressed by the fact that one had met an engineer who stayed on his job until it was finished and who really took a share of the responsibilities and worries entailed in what is Shensi's first piece of real reconstruction.

Curio hunting in Si-an Fu was fun, as were visits to the Public Gardens and Zoo. The latter was a dreadful place, where the wretched animals were chained up, in some cases so that they could not move. Especially pitiable were two vultures, chained by the legs and looking utterly forlorn.

New tree lined streets, started in Feng's time, make the city look fairly presentable, but the miserable starving beggars, so many of them women and children, sitting on the doorsteps, make one realize that the major problems of the province are not being faced.

One evening was spent going over the English Baptist Mission Hospital, finding it to be an excellently kept institution, with its own electric light plant. All the beds were full, some of the patients being most pathetic, T. B., V. D. and gun shot wounds seeming to be very common.

The return journey from Si-an Fu to Tung-kuan was accomplished in the Mission "Dodge." We stopped for a while to admire the beauties of the hot springs at Lin-t'ung, where Yang Ho Chun, Ex-Provincial Chairman and present War Lord, is wont to foregather with his followers and disport, even as did Ch'in Shih Huang-ti over two thousand years ago, when he had a covered way built from his palace some distance away to these famous springs, so that he would be protected during all weathers.

It is really a charming spot, with quaint gardens and sheltering trees, and quite modern baths with white tiles.

The grave of Ch'in Shih Huang-ti is not far distant, and may be clearly seen from the road.

We arrived at Tung-kuan in the evening, and, after washing off the rather thick layers of loess dust with which we were covered, moved down to the station to berth on the night train, and soon had left Shensi far behind.

TRAVEL AND EXPLORATION NOTES

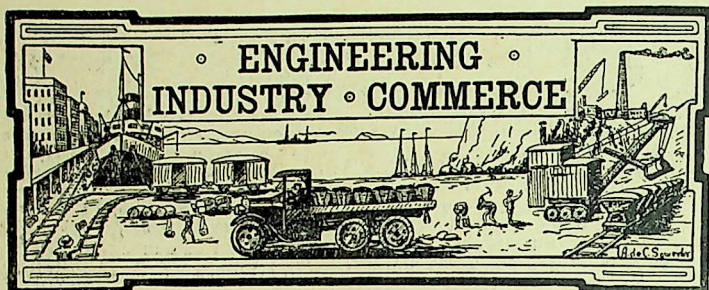
Sven Hedin's Ti-Hua Expedition Held Up: As a result of a collision between two trains, says a *Reuter* report from Peking, one of which was carrying three trucks and a sedan car for Dr. Sven Hedin's highway expedition into Chinese Turkestan, starting from Sui-yuan, and described in the last issue of this journal, the latter vehicle was so badly damaged as to be useless, and the expedition is being held up pending the purchasing of a new car.

Roy Chapman Andrews Planning Expedition into Siberia: Dr. Roy Chapman Andrews is planning to lead another expedition into Asia, this time to explore in Siberia along the Mongolian border. It is proposed to start next year. At present no further details are available, but it may be suggested

that rich finds await Dr. Andrews and his colleagues, for Siberia has always proved a happy hunting ground for scientific explorers. Dr. Andrews is reported to have made satisfactory arrangements with the Soviet Government for permission to do this work.

Botanical Specimens from Jehol:

According to a *Rengo* message from Changchun, Manchuria, dated October 12, the Japanese scientific expedition led by Dr. Tokunago into Jehol and Mongolia this autumn has returned to Changchun, after being away for two months, with large collections of botanical and other specimens. Some 850 species of plants are in the collection, of which a quarter are said to be new to science. The results of the expedition will be published in due course after the party returns to Tokyo.



THE DEVELOPMENT OF EXPLOSIVES

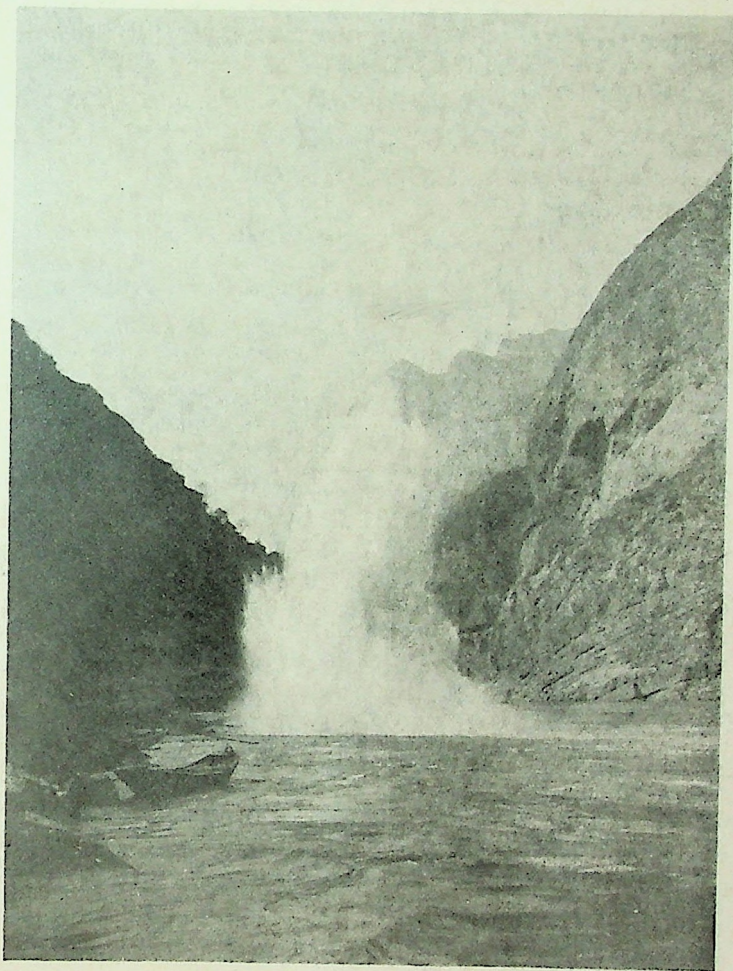
The early history of explosives is bound up with the discovery and crude manufacture of saltpetre. At one time it was believed that gunpowder was known to the Chinese for many centuries before Marco Polo came to this country, but modern research indicates that the saltpetre which they extracted then from the soil of dry localities was mostly mixed with and used for the same purpose as common salt. It is, however, of interest to note that Gibbon states that Genghis Khan, the Mongol Emperor, brought Chinese engineers with him in 1218 to reduce the fortifications of the Persians. While it is possible that the Chinese were the original discoverers of saltpetre, it is fairly certain that the Arabians and Egyptians were familiar with it in its pure state early in the 13th century. About 1245 Roger Bacon wrote his *Epistolata de Secretis Operibus Artis et Naturæ et de Nullitate Magiæ*, and in the intricate and involved passages of the later chapters Colonel H.W.L. Hime ultimately found the first known recipe for the manufacture of pure saltpetre and of gunpowder.

This is translated as follows :

"Let the total weight be 30, but of saltpetre take seven parts, five of hazel charcoal, and five of sulphur, and thus you will make thunder and light if you know the trick."

The Arabs are believed to have incorporated saltpetre in the "Greek Fire," which they had long employed, about this time, thereby rendering it far more effective. The actual nature of the original "Greek Fire" is uncertain, but it was an incendiary mixture and not a real explosive. It played an important part in the defeat of the Moslems at Constantinople as early as 668.

Although fireworks and fire throwing devices were known from Great Britain to China in the 13th century, the development of the use of gunpowder was very slow until the first guns were invented early in the 14th century. Cannon were used by the Moors at Alicante as early as 1331. By 1346 the use of these weapons had spread widely, and both English and French had them at the time of the battle of Crecy.



The Explosion of 300 lb. of Blasting Gelatine in the Course of Wreck Removal Operations in the Hsin-t'an Rapid on the Upper Yang-tze Kiang.

THE DEVELOPMENT OF EXPLOSIVES

Thereafter there were few fresh discoveries, except as regards methods of manufacture and use of the one type of explosive, gunpowder, until the 19th century.

This was the age of scientific discovery, and chemists were at work all over the world on countless problems of research. To the manufacture on a commercial scale of sulphuric and nitric acids must be attributed the original impetus which has resulted in the wide variety of highly efficient modern explosives.

In 1832 the French chemist Braconnot first experimented with the action of nitric acid on starch, obtaining a highly inflammable substance which he called xyloidin. Another Frenchman, Pelouze, carried out similar experiments on unsized paper and cloth, but it was not until 1845 that Schonbein suggested that cotton wool soaked in a mixture of the strongest nitric and sulphuric acids might be used in place of gunpowder. In 1846 he and Böttger made a similar discovery, and the two together offered their process to the German authorities. Soon after this all the European Powers were attempting to make gun-cotton, but serious explosions occurred in several countries, and its manufacture was discouraged until General von Lenk, in Austria, proved that if the gun-cotton was thoroughly well washed and all the acid removed the explosive could be stored quite safely.

Sir Alfred Nobel was then placed on a committee of the British Association appointed to study the matter, and the main process of Von Lenk, with various minor improvements, became the standard practice in England until early in the present century. In this process the best cotton waste is thoroughly cleaned and "teased" before being cut into short pieces and dried. After the sulphuric and nitric acids have been mixed and cooled, the charge of dried cotton is stirred into it, being thereafter freed from surplus acid in a centrifugal machine, and thoroughly washed by repeated boiling in water. It is subsequently pulped completely and rewashed, and mixed with a little alkali until there is about two per cent. of free alkali left in the finished product. Finally the pulp is compressed hydraulically under a pressure of about six tons to the square inch, and so moulded into blocks of the shape required.

Nitric acid was to play an equally important part in the second great explosive discovery, for Sobrero in 1847 found that when it acted on glycerine a very dangerous explosive was formed. This was an oily colourless liquid which will burn quietly if a match is held to it, though usually it will go out when the burning match is taken away. If, however, it is subjected to a sudden blow it explodes with great violence, giving out on explosion a volume of gas 12,000 times as great as that occupied by the liquid, this gas being expanded by the enormous heat evolved a further eight times, so that there is an instantaneous expansion of nearly 100,000 times.

This expansion takes place in about 1/400,000th part of a second, and the explosive force exerted is nearly thirteen times that of gunpowder.

So many accidents occurred when nitro-glycerine was used for blasting work that Nobel turned his mind specially to the problem of

converting it into a safe solid, which he solved in 1866 by the invention of dynamite. He found that the oil could be absorbed by a diatomaceous earth called *kieselguhr*, and this is still the essential composition of ordinary dynamite.

Nobel was to make one of his most far-reaching discoveries by the accident of a cut finger. He was experimenting with nitro-glycerine at the time, and to protect his wound he had covered it with collodion, which consists essentially of gun-cotton dissolved in a mixture of volatile solvents. To his surprise he found that the collodion absorbed the nitro-glycerine forming a tough horny substance, and thus he discovered the most powerful known explosive, "blasting gelatine."

From the three explosives mentioned above have been derived the majority of the modern forms, including the principal smokeless powders used as propellents for fire-arms.

There are, however, several other groups, of which by far the most important are the ammonium nitrate, nitro-toluene, and nitro-phenol classes. These form the principal filling explosives for shells and bombs, and all are characterised their ability by to withstand very heavy shocks without exploding. They require specially strong detonation, an intermediate primer being used as a rule for this purpose. From a military point of view an over-stable explosive is sometimes a nuisance, resulting, as it may, in a large proportion of "duds."

Of explosives used for peaceful purposes the best known and most useful of all is Nobel's gelignite. It consists of about 60 per cent. of nitro-glycerine, 5 per cent. of collodion cotton, with 27 per cent. of potassium nitrate and 7 per cent. of wood meal. It is, in fact, a slowed-down blasting gelatine, the intense shattering action of the latter being too rapid for use in most blasting work, where a slower and more rending action is required.

In coal mines, where the risk of fire-damp and coal-dust explosions is so great, special regulations are in force regarding the types of explosive that may be used, and all such products have to pass very stringent tests before they are placed on the "Permitted List." In the endeavour to reduce flame a large variety of diluents are introduced by the different manufacturers, and the strength of the explosive is reduced in consequence. Constant research is taking place in this direction, for, with the hoped-for reduction in the world use of explosives for military purposes in view, manufacturers turn increasingly to the opportunities afforded for their products in industrial undertakings.

In road and railway construction, the improvement of harbours and navigable waterways, the mining of coal and ores, explosives have played and are playing a vital part, and their importance to the progress of civilization can hardly be exaggerated. That such vast amounts of energy can be safely locked up in so small a compass is remarkable enough, though, perhaps, some day the infinitely greater marvels of atomic energy will be placed at the disposal of the world, through the researches of scientists quietly at work in their laboratories.

H. R. D.

ENGINEERING, INDUSTRIAL AND COMMERCIAL NOTES

INDUSTRY

The Value to Industry and Commerce of Museums: It is an undeniable fact that many men at the heads of industrial and commercial enterprises, while admitting that scientific museums and other such institutions have their place in the communal scheme of things, are frankly sceptical of their value to the business world. This is a greatly mistaken idea, born, of course, of ignorance concerning the activities of those belonging to the staffs and personnels of such institutions and the real purposes and aims of those institutions. Fundamentally scientific museums are not merely show places, where the curious may satisfy their appetites for strange things, as so many people seem to think. They are repositories for specimens of all manner of natural objects, the study of which frequently brings forth information of the greatest importance to humanity, whether it be in connection with the health of the community, food stuffs, the raw materials of industry or the damage done to commodities by insects and other pests. Without the large collection of zoological and botanical specimens, minerals, natural products of all kinds, cultivated plants and seeds, manufactured articles from all parts of the world, and the thousand and one other things one sees in museums, not only would scientific research be impossible, but economic research as well. To whom but to the entomologists at the Natural History Museum in South Kensington did the British Government and War Office go for help in determining how best to save the vast army stores during the Great War from destruction by insects? And, if it is a matter of plagues of rats or beetles or other pests, where but to a museum does one turn for information, both as to the identity

of those pests and how to get rid of them?

As a matter of fact, the justification of all such institutions is not that they pander to man's curiosity, but that they contribute to the betterment of the conditions under which he lives.

And for this reason alone the Shanghai business community should welcome the opening of the Shanghai Museum this month.

Handbooks on China's Industries: The first of a series of handbooks on the industries of China that are being compiled and issued by the Bureau of Foreign Trade, Ministry of Industries, has made its appearance and fills a long felt want. The series is entitled "China Industrial Handbooks," and this first volume is devoted to the province of Kiangsu. It contains a Foreword by Chen Kung-po, Minister of Industries, and a Preface by Ping Yin Ho, the Editing-Director of the series. Divided into ten books, each with a number of chapters, running up to fifty-four in Book Eight dealing with manufacturing industries, this useful work contains an astonishing mass of information, and will, we feel sure, be in considerable demand amongst those interested in the industries and commerce of China. Besides the manufacturing industries the rural industries such as agriculture, fisheries and pisciculture, horticulture, forestry, stock-raising, mining and the like, are exhaustively dealt with. Books Three and Four deal specifically with the various larger and more important cities of the province. It is to be hoped that the other books of the series dealing with the rest of the provinces of China will not be long in making their appearance.

RAILWAYS

Nanking-Pukou Ferry in Operation: The long looked for train-ferry between Nanking and Pukou which

connects the Shanghai-Nanking and the Tientsin-Pukou Railways came into operation towards the end of October.

THE CHINA JOURNAL

The inauguration ceremony of this service, which enables the railway journey between Shanghai and Peking to be made without a change, took place on the morning of October 22 on board the ferry itself, the name of which is *Changkiang*. British built, it arrived from Newcastle-on-Tyne in the early summer of the present year, but could not commence operations till the bridges at Pukou and Nanking on either side of the Yangtze had been completed. Apart from the time saved this new service is a great convenience to passengers, who heretofore have had to change from train to steamlaunch and from steamlaunch to train in order to cross the river.

It has recently been reported that the Board of Trustees of the Sino-British Boxer Indemnity Fund has decided to grant another loan of £80,-

000 to the Ministry of Railways to purchase a second train-ferry, as the *Changkiang* is not sufficient to cope with the traffic.

Projected Chekiang-Hunan Railway: According to a *Reuter* message of October 3, Professor Hsiao Shunching, Chairman of the Provincial Economic Council of Kiangsi, expects to start work next spring on a railway across Kiangsi to link up with the Chekiang and Hunan systems. The line is to be 570 kilometers in length, and will extend from Yu-shan on the Chekiang border to Ping-siang, whence a line already extends to Chang-sha. The total cost will be \$20,000,000. It is understood that General Chiang Kai-shek and Mr. Wang Ching-wei and the Executive Yuan have approved the scheme.

ROAD BUILDING

Shanghai-Wusih Motor Road Planned: A motor road of 140 kilometres between Shanghai and Wusih is being planned, and work on it is expected to start almost immediately. It will be financed by private capital,

the funds to be placed in the joint custody of the Greater Shanghai Municipal Government and the Kiangsu Provincial Government. The road will pass through such important places as Kia-ting, Tai-chang and Chang-shu.

AVIATION

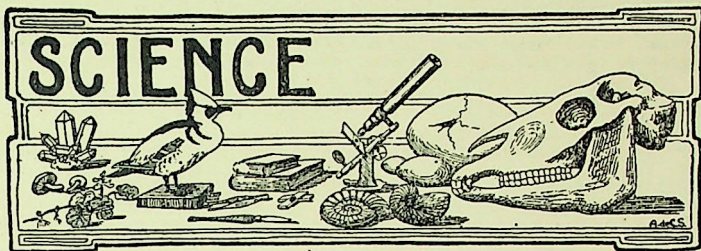
Shanghai-Canton Air Service in Operation: On October 24 the air-mail service between Shanghai and Canton commenced, when one of the China National Aviation Corporation's big Sikorsky amphibian aeroplanes left Lung-hua at 6.02 a.m., arriving in

Canton the same day at 4.35 p.m., half an hour ahead of the scheduled time. Stops were made at Wenchow, Foochow, Amoy and Swatow. The return journey to Shanghai was completed on October 26.

SHIPBUILDING

Two More Gunboats Launched at Shanghai: Two more of the ten gunboats being built for the Chinese Government at the Kiangan Dock

were launched on October 10. These were the *Suning* and the *Weining*. There still remain four to be launched.



THE BIRDS OF CHINA

BY

E. S. WILKINSON

To be asked to write a short article on the birds of China is something like being asked to say a few words about the Celestial Sphere. In the immense and varied field covered by China (more like a continent than a country to our European minds) the variety of birds available for study seems almost endless. Hot and cold climates, high and low levels, flat and hilly country, heavily wooded and bare open tracts all attract different types of birds at different seasons; and since all these conditions are to be found in immense stretches within the geographical boundaries of China, it is obvious that most varieties of birds common to the Palaearctic Region are likely to be found somewhere in this country.

In a short article of this nature it will, therefore, be best merely to glance at the subject in a general way, and to make no specific attempt to describe the birds with which we are dealing.

It may, perhaps, seem curious to start an article of this nature with a story about a donkey, yet I think the tale is relevant, particularly if one desires to point out the advantages of nature study as a whole. A very keen Medical Officer going his rounds in a certain port in China noticed a donkey tied to the wall of a shed with a short head-rope. He at once sent for the owner and told him he must supply a longer head-rope, since it was obvious that the donkey, as tied, could not lie down to sleep. The ancient countryman who owned the donkey indignantly replied that he had tethered the animal in this way for more years than he could remember, and that any change was quite unnecessary, since a donkey never lies down to sleep. The M.O. departed somewhat crestfallen but none the less pleased that he had learnt one more fact in natural history which had previously escaped him.

Again, during a recent trip down the northern coast of China our Captain caused a considerable flutter among his passengers by announcing that his fore-deck was covered with humming birds. Since these birds do

not inhabit this quarter of the globe, a little personal investigation was undertaken and soon proved the birds to be a flock of willow-warblers resting in course of migration down the coast. But please note that the humming bird theory was swallowed whole by all the other passengers, and it really seemed a pity to undeceive them.

While the acquired habit of observation and a little reading will make such absurd mistakes impossible in most branches of natural history, the fact remains that the opportunity for any really comprehensive study of the birds of China as a whole falls to the lot of very few, and it is for this reason that the writer has consistently advocated the localisation of bird study as a first step towards the acquisition of fuller knowledge. Once the observer has made himself familiar with all or at least the majority of birds which frequent the place of his ordinary residence, it is an easy matter to increase this knowledge as other places are visited.

Before going further into this question of the value of local study, let us first examine the facts, so far as they are known, concerning the birds of all China.

The great naturalist Père David in "Les Oiseaux de la Chine" described 807 species, and this book remained for many decades the most authoritative guide to the birds of China. Since his time the work of several other naturalists, of whom it is only necessary to mention Seeböhm, Hartert, La Touche and Styan, have by their efforts in certain localities added greatly to the knowledge of Chinese birds, and with the addition of this knowledge Gee, Moffett and Wilder were able to publish in 1926-8 "A Tentative List of Chinese Birds" with a total of 1,028 species. If to this number are added some 440 subspecies, we find a total of 1,468 different forms.

A word of warning may here be interpolated with regard to "subspecies," since this further division in nomenclature causes much differing of opinions and consequent arguments. Birds sometimes differ slightly in their form owing to geographical distribution, and the borderline between an accidental difference in appearance and a true and permanent change of form which would create a subspecies is so finely drawn as to be sometimes almost indistinguishable. It would, therefore, seem wiser for our present purpose to drop the question of subspecies and to deal with the true species only.

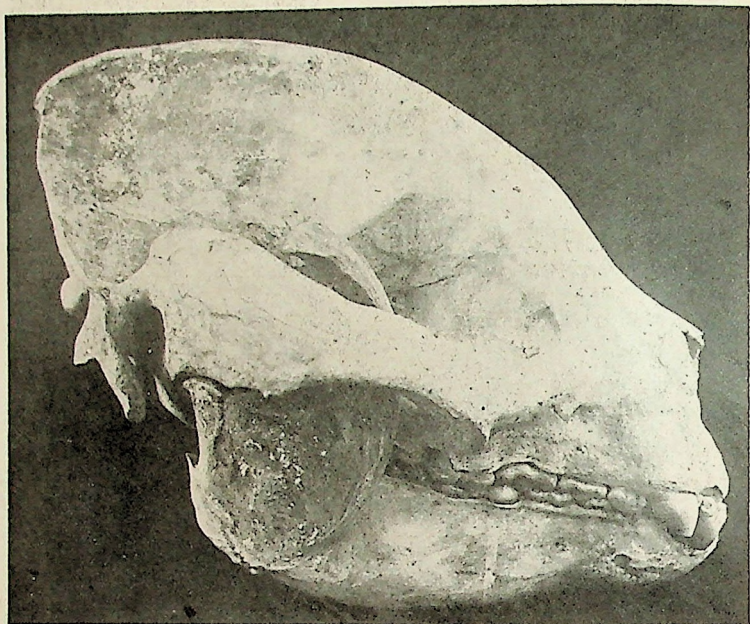
The first interesting fact to be noticed about these 1,028 species is that no less than 567 (or more than half) are *Passeres*, or perching birds, which take their name from the common sparrow. They include in their number all the true song-birds and cage-birds, such as bulbuls, finches, thrushes and larks, as well as all the most familiar birds of the fields from crows down to titmice. The other 461 belong to all the other orders, too complicated to name here, which include such birds as woodpeckers, cuckoos, kingfishers, birds-of-prey (diurnal and nocturnal), pigeons and doves, pheasants and other game birds, curlews, swans, geese and so on, as well as all birds of the sea and inland waters. With such a preponderance of the smaller birds we may well be puzzled when we visit the Shanghai Chinese City bird-markets and try to identify the



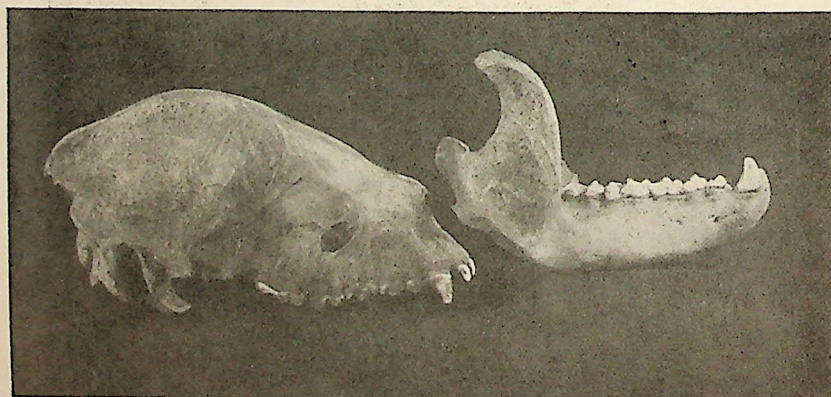
The Chinese Little Panda (*Aelurus fulgens styani* Thomas). A mounted Specimen in the Shanghai Museum, presented by Mr. K. Blickle.



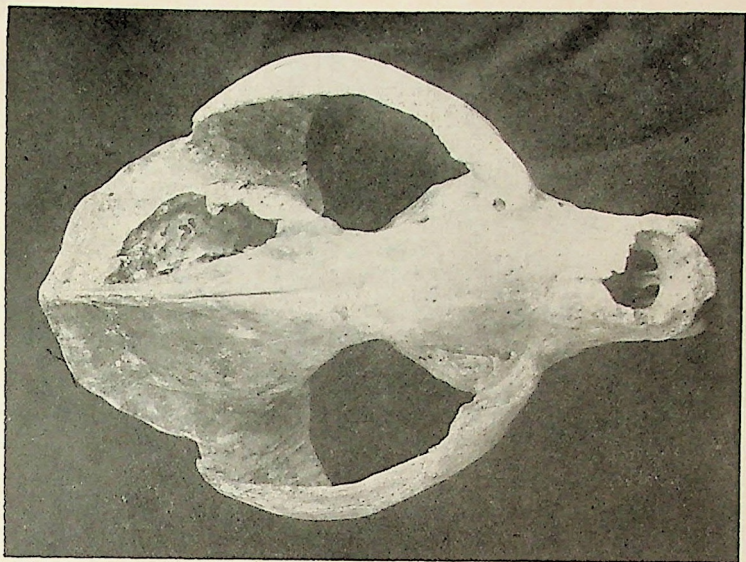
The Giant Panda (*Ailuropus melanoleucus* M.-Edw.). A fine Specimen in the Shanghai Museum presented by Mr. Jack T. Young, Mr. Arthur B. Emmons III and Dr. R. L. Crooks.



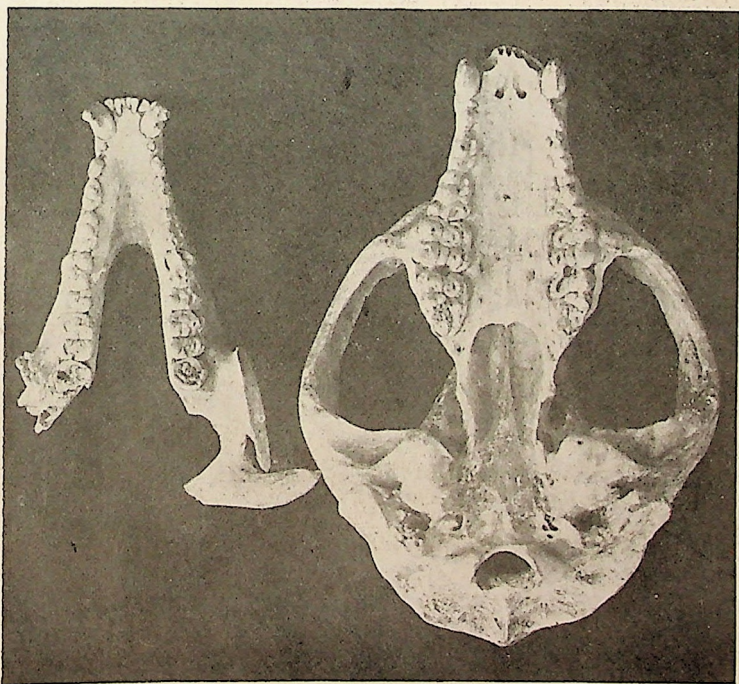
Lateral View of the Complete Skull of a Giant Panda in the Shanghai Museum showing the Lower Jaw in position.



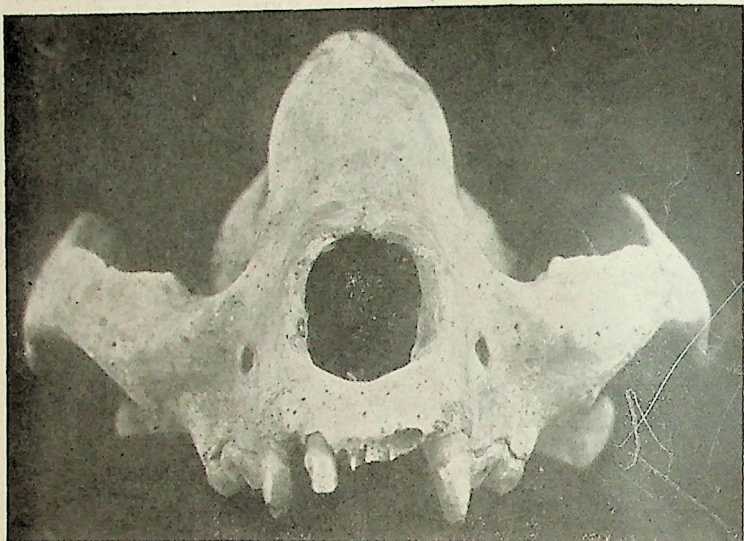
Lateral View of the Skull and Jaw of a Giant Panda in the Shanghai Museum. The Zygomatic Arch in the former is missing.



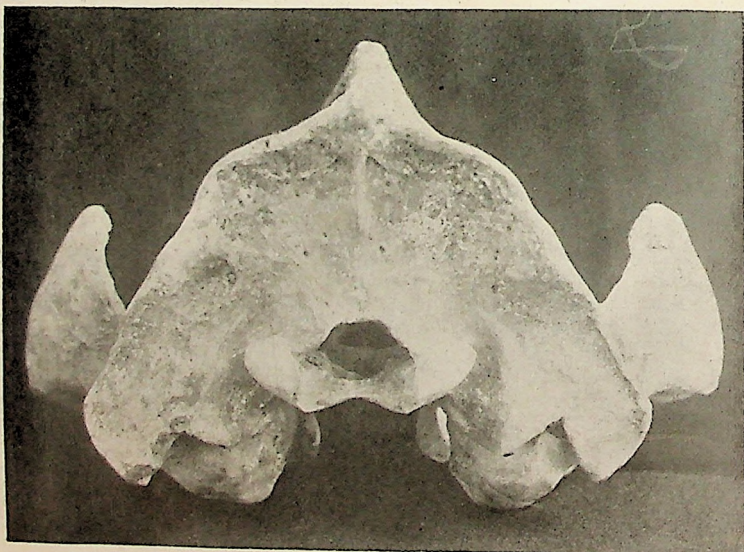
Dorsal View of the Skull of a Giant Panda (*Ailuropus melanoleucus* M.-Edw.) in the Shanghai Museum, showing well the great Size and Strength of the Zygomatic Arches.



Ventral View of the Skull and Dorsal View of the Lower Jaw of a specimen of the Giant Panda in the Shanghai Museum. In these the Formation and great Size and Breadth of the Molar Teeth are well shown.



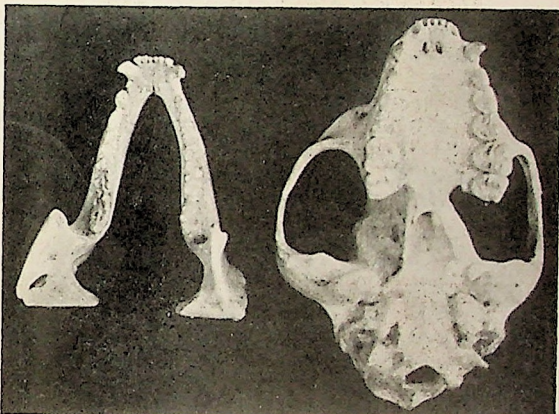
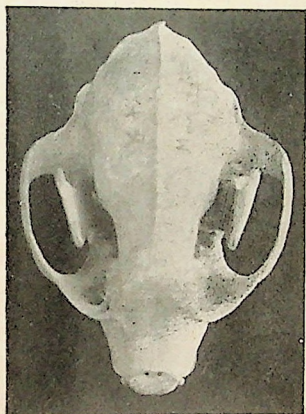
Anterior View of the Skull of the mounted Specimen of a Giant Panda (*Ailuropus melanoleucus* M.-Edw.) in the Shanghai Museum.



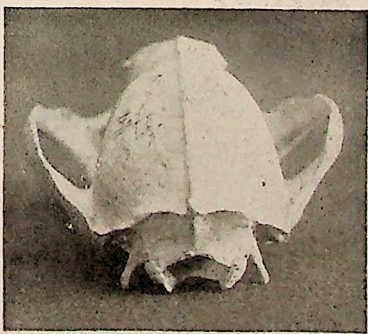
Posterior View of the same Skull showing both the Size of the Zygomatic Arches and the remarkable Height of the Sagittal Crest.



Lateral View of a Skull and Jaws of a Chinese Little Panda (*Aelurus fulgens styani* Thomas) in the Heude Museum, Shanghai.



Dorsal and Ventral Views of the same Skull.

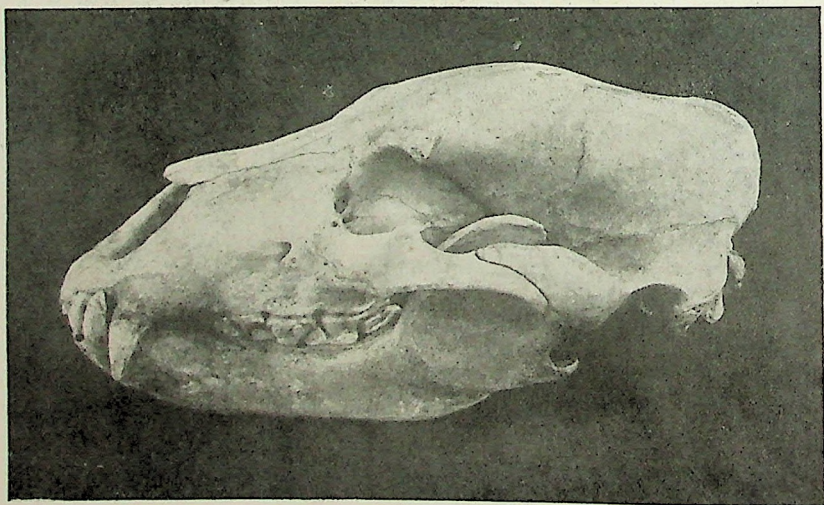


Anterior and Posterior Views of the same Skull.

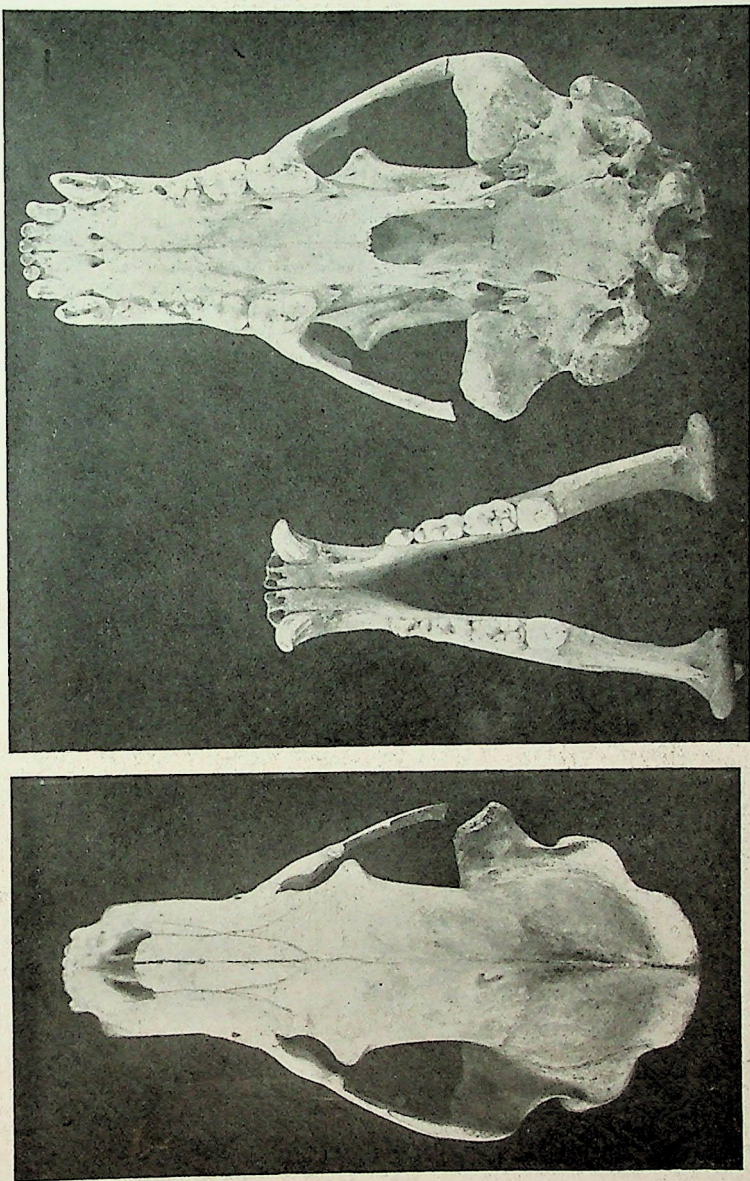
(By Courtesy of Heude Museum)



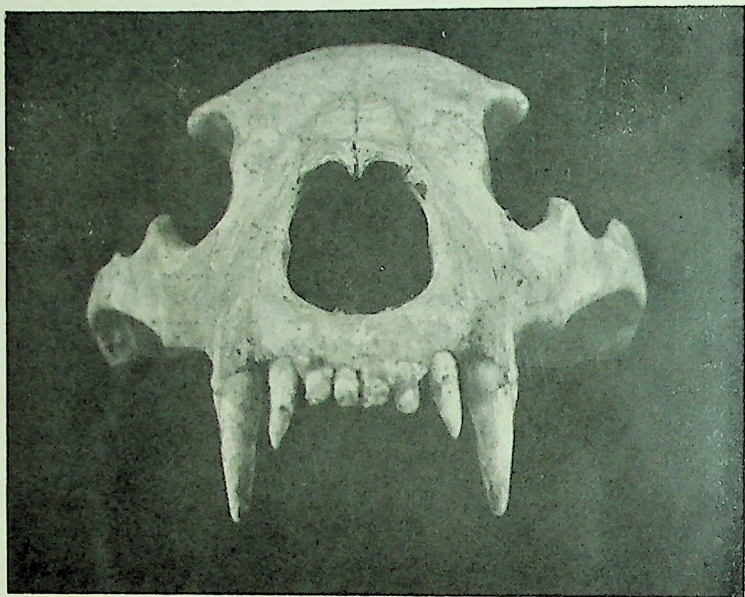
The Tibetan Grizzly or Dredmo (*Spelaus lagomyiarius*, Severtzow) from the Batang District on the Szechuen-Tibetan Border. A mounted Specimen in the Shanghai Museum.



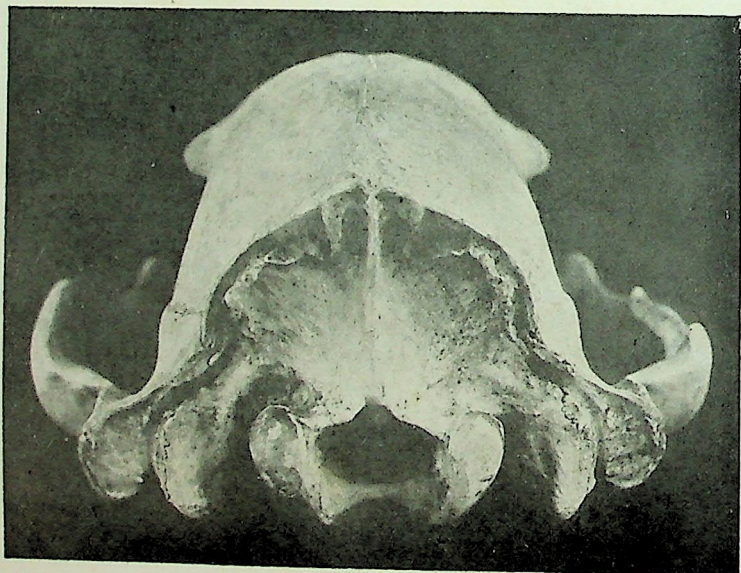
Lateral View of the Skull of the above Specimen of *Spelaus lagomyiarius*, Sev. in the Shanghai Museum.



Dorsal and Ventral Views of the Skull of a Tibetan Grizzly (*Spelaetus lagomyiarius*, Sev.) in the Shanghai Museum.



Anterior View of the Skull of a Tibetan Grizzly (*Spelaeus lagomyiarius*, Sev.) in the Shanghai Museum.



Posterior View of the Skull of the same Specimen of *Spelaeus lagomyiarius* Sev. in the Shanghai Museum.

many songsters and warblers stocked for the delectation of Chinese bird-fanciers. It must, of course, be remembered that some of these cage-birds are introduced from other countries, but it is safe to say that the great majority are of Chinese origin and are, therefore, probably included in the 567 passerine birds mentioned above.

Turning to the local distribution of all these birds we may safely say that our knowledge of the subject is as yet far from complete. Owing to the migratory habit of birds, both local and over great distances, it is very difficult to classify them in any convincing manner, since each locality claims migrants as well as residents, while the exact distribution of winter and summer visitors and the points where they merge into passing migrants are not accurately known. Much useful work has, however, been done in describing birds which may be seen in certain widespread areas, and most books attempt to give the range of the birds described. The majority of modern authors, however, are not much-travelled men in China, and the general tendency of each new author to copy the so-called "range" from the books of previous writers does not get us much further forward. Mr. J. D. D. La Touche is still engaged on his important work of classifying and describing the birds of the eastern provinces, and it is interesting to note that he has completed his list of *Passeres* with a total of 378, though the total number belonging to the other orders is not yet known. H. R. and J. C. Caldwell's "South China Birds" covers the provinces of Fukien, Kwangtung, Kiangsi, Kiangsu and Chekiang, and describes about 550 birds, of which some 250 are *Passeres*, while Volume III of Mr. A. de C. Sowerby's "The Naturalist in Manchuria" describes all the birds that have been recorded as occurring in that country, a total of 458 forms. La Touche has also published records of migrant birds seen on the island of Sha Wei Shan at the mouth of the Yangtze, and at Chin-wang Tao on the north-eastern coast of Chihli. Books such as these will go a long way to assist us in determining the migration routes and range of a large number of birds, yet there are many gaps and it would be difficult to divide the birds of any given district into residents, passing migrants and seasonal visitors with any degree of accuracy.

It has often occurred to the writer that a series of observations over much smaller areas would ultimately give accurate results if a definite system could be organized and the necessary workers found. To carry out such a task would require competent bird-watchers in each area, so that the dates of arrival and departure of visitors and the periods of the passing of migrants could be collated and finally compared with the results in each other area.

The writer's elementary book "Shanghai Birds," published in 1929, was an attempt at a first step in this direction, the first step being to create an interest in bird study, since it is a practical impossibility to find bird watchers so long as the majority of people cannot identify even the most common birds. This book covered only 119 different species, and did not deal in any detail with their seasonal appearance. Since that date further material has been collected and a fairly complete study of the seasonal movements made, so that a total of about

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235 birds can now be dealt with in a more satisfactory manner. The area covered by these observations may be taken as running roughly from the Shanghai residential district to Woosung, with a hinterland of about fifteen miles. The following very short summary will show the results obtained to date in this district:

Birds recorded in Shanghai area :

Passeres	..	..	..	111
Other Orders	..	..	..	124
			—	Total 235

Seasonal classification of the above :

Residents	..	..	..	32
Summer Visitors	..	..	..	29
Winter Visitors	..	..	..	66
Passing Migrants	..	..	..	105
Doubtful	..	..	..	3
			—	Total 235

The above figures are, of course, subject to revision and correction, and much work remains to be done in establishing the more or less exact dates of the arrivals and departures of the summer and winter visitors so far as such dates can be accurately decided. The writer hopes at some not too distant date to publish the details of these observations in two books "More Shanghai Birds" and "The Shanghai Bird Year." The advantages to any bird observer in Shanghai of any such observations are obvious, but the point at issue in this article is that, if similar results were prepared at reasonable intervals from north to south and from east to west, it should finally be possible to prepare a fairly accurate chart of the movements, range and distribution of the birds of China.

In the book mentioned above Mr. Sowerby has given a map of China, Manchuria and Eastern Siberia with tentative bird migration routes, but he agrees with the writer that much more information is necessary before these can be charted really accurately.

It is interesting to note from the above Shanghai figures (assuming them for the moment to be correct) that only 32 different birds reside all the year round in this area. In summer we have 61 varieties living with us and in winter 98; while it is only during the spring and autumn migrations that we might possibly observe the whole 235; and, as this process is going on to a greater or lesser extent all over China, it will be seen how difficult it is to answer the common question, "How many different birds are there in this or that district?"

With the above in mind it is most encouraging to note that contributions by amateurs to knowledge of the birds of China have increased during recent years, and that the actual listing of birds in certain localities on the coast has commenced. Two most useful areas in particular are referred to, Weihaiwei to the north and Hongkong to the south of us.

Mainly owing to the efforts of Major Hutson, R.E., a list of 144 birds observed in Hongkong has been prepared with accurate details

of the times of their appearance. In Weihaiwei similar work has been undertaken by Lieutenant Ascherson, R.N., and later by Commander Aylmer, R.N., and Mrs. Aylmer, their combined efforts resulting in a list of 147 different species up to the end of 1932. If these results could be carefully combined with the lists now available for the Shanghai area a useful contribution would be made to our knowledge of coastwise migrations as well as of the ranges of many birds.

The study of natural history in any form is one of the most interesting hobbies imaginable, yet it is surprising how few people will take the trouble to note the simplest facts about the animals, birds and plants which come before their eyes almost every day of their lives; hence the two stories with which this article commenced. China teems with interest in her flora and fauna, and it seems a pity that our eyes should be closed to the many beauties and points of interest which they offer. Many people are discouraged by the immensity of the task before them when they meet with large volumes dealing with vast areas; and it is with this in view that the writer advocates the local study of a small area, so that we may all ultimately assist in piecing together the giant jig-saw puzzle which China presents for our solution.

THE PANDAS OR CAT BEARS AND THE TRUE BEARS

BY

ARTHUR DE C. SOWERBY

Amongst the most interesting of the many remarkable animals found in China are the pandas or cat-bears, of which there are two species in this country. These are so different externally as to seem to belong to entirely different families. They are what is known as the giant panda or parti-coloured bear (*Ailuropus melanoleucus* M.-Edw.) that resembles a true bear in size and appearance, and the Chinese little panda (*Aelurus fulgens styani* Thomas) that looks more like a cat or a raccoon or some other such small carnivore.

Anatomically, however, as well as in many external features, not to mention their skulls and teeth, these two animals are so closely similar and so different from all other animals as to make it necessary to place them together in a family of their own, for which the name *Aeluridae* has been suggested.

Even in external features the resemblance of the giant panda to the true bears is only superficial. The texture of the hair is different. It covers the soles of the feet, which are bare in all the bears with the exception of the polar bear. The tail is much longer in the giant panda

than in the bears, though it is much shorter than in the little panda. The habits, too, and the food of the giant panda differ markedly from those of the bears, the former feeding exclusively on the various parts of the bamboo plant, including the young shoots, stems and leaves, while the latter feed on berries, nuts, cereals when they can get them, fish and even flesh. The large Alaskan brown bears are said to eat grass. The little panda, too, feeds extensively on bamboo, mainly the leaves.

The difference in the diet of these two types of animal is indicated by a corresponding difference in the skull and teeth, the pandas having developed enormous broad molars for grinding the tough fibres of the bamboo with a corresponding reduction in the canines. Their skulls, too, have developed to support unusually powerful muscles, much more so, even, than in the bears, in which this feature is more pronounced than in most carnivores. This is shown by the abnormally large and heavy cheek-bones or zygomatic arches in the pandas and the high sagittal crests. A comparison of the skulls of the giant and little pandas with that of a true bear shown in the accompanying illustrations will make these points clear.

The bear in question is a specimen of what may be called the Tibetan grizzly, known to the native tribesmen of the Szechuan-Tibetan borderlands as the *Dredmo* and to the Chinese as *Ma Hsiung* (馬熊).

A great deal of confusion has existed heretofore as to the identity and proper designation of this bear, due mainly to the fact that good and complete specimens of it are lacking in the big museums of the world. The illustrations here shown are of a specimen in the Shanghai Museum which came from the Batang area on the Szechuan-Tibetan border. It is complete with skin and skull, and so affords an excellent basis upon which to form conclusions concerning its proper identity; and, after a careful examination of the specimen itself, and reference to the latest literature on the subject, which includes a valuable paper by R. I. Pocock in *The Journal of the Bombay Natural History Society* (Vol. XXXV, No. 4, July, 1932, pp. 771-823) entitled "The Brown and Black Bears of Europe and Asia," I can come to no other conclusion than that this bear belongs to the grizzly group, to which, in my opinion the generic name *Spelaeus* (Brooke) is applicable, based on the prehistoric cave bear of Europe (*Spelaus spelaus*). Specifically it is referable to Severtzow's *lagomyiarius*,* so that its correct name is *Spelaus lagomyiarius* (Severtzow). The specimen under discussion resembles, as far as can be made out from the rather poor photograph in Frank Wallace's "Big Game of Central and West China," the bear shot in the Min Mountains on the Kansu-Tibetan borders on the Fenwick-Owen expedition in 1911. It has the pronounced white band or collar across the shoulders extending from the chest, which is also white. There is no description of Fenwick-Owen's bear in Wallace's book, so that it is impossible to compare its colour with that of the one in the Shanghai Museum, which is dark blackish brown on the body and legs, lighter brown on the head, the whole distinctly grizzled. The claws are of a light colour.

* *Ursus lagomyiarius* Severtzow, Cat. Zool. Coll. Przewalski, 1887, p. 9.

THE PANDAS OR CAT BEARS AND THE TRUE BEARS

In a paper entitled "Notes on Heude's Bears in the Sikawei Museum, and on the Bears of Palaearctic Eastern Asia," which appeared in the *Journal of Mammalogy* (Vol. 1, No. 5, November, 1920, pp 213-233), I classified this bear as *Spelaeus leuconyx* (Severtzow), apparently wrongly, for Pocock shows, I think rightly, that Severtzow's *Ursus leuconyx* is a synonym for Horsfield's *Ursus isabellinus*, a member of the brown bear (true *Ursus*) group ranging from the Thian Shan to the Western Himalayas. The same authority considers that *Spelaeus lagomyriarius* is a synonym for *Ursus pruinus* Blyth, commonly known as the blue bear of Tibet, but I cannot agree with him in this, on account of the difference in colouring and size between the two forms. It is evident, however, that they belong to the same group of bears, so that the correct name, in my opinion, of the Tibetan blue bear is *Spelaeus pruinus* (Blyth).

Incidentally, it may be pointed out that from the basin of the Amur River to the Western Himalayas, as well as in Siberia generally and south into Northern Mongolia and Korea, we have the two distinct types of bear, the grizzly type and the brown bear type, occurring side by side, a fact which has undoubtedly been the main cause of much of the confusion that has always existed in the classification of the Asiatic bears.

LAWN AND ROADSIDE PLANTS OF SHANGHAI

BY

W. M. PORTERFIELD

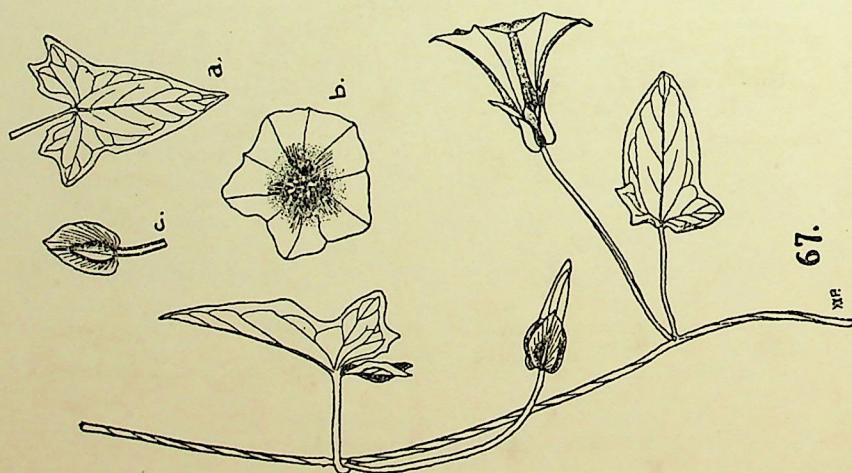
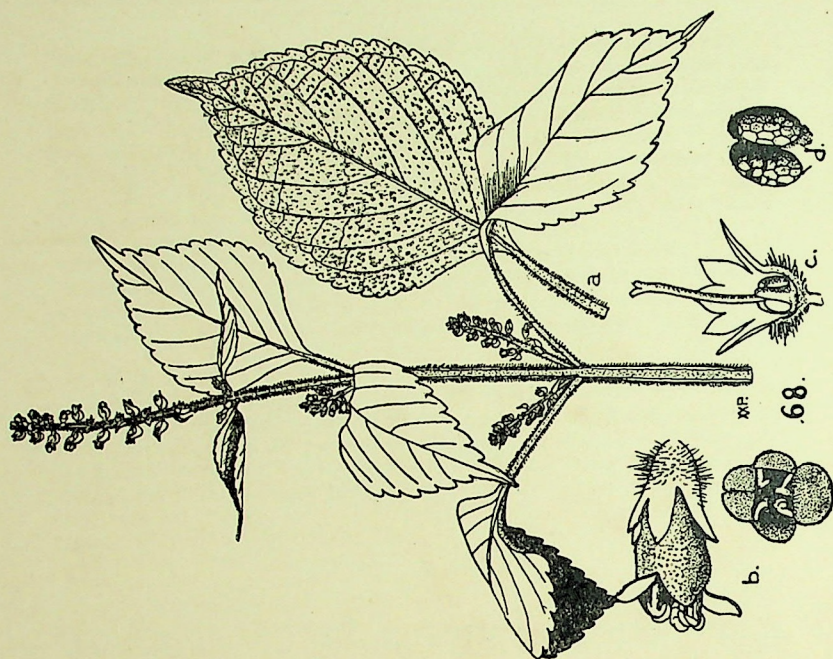
The present is the final instalment of Professor Porterfield's series on the common wild flowers of the Shanghai area, which has been running in this journal since the beginning of 1932. We understand from Mr. W. J. Kerr, Superintendent of Parks of the Shanghai Municipal Council, that he intends to devote a small section of Kiaochow Road Park to the cultivation of all the different species of plant dealt with in this series in order that school children and students of botany may be able to see them as they look in nature and learn to recognise and name them when they come across them in the country. This appeals to us as an excellent idea and one that school teachers should make full use of in instructing their classes in botany.

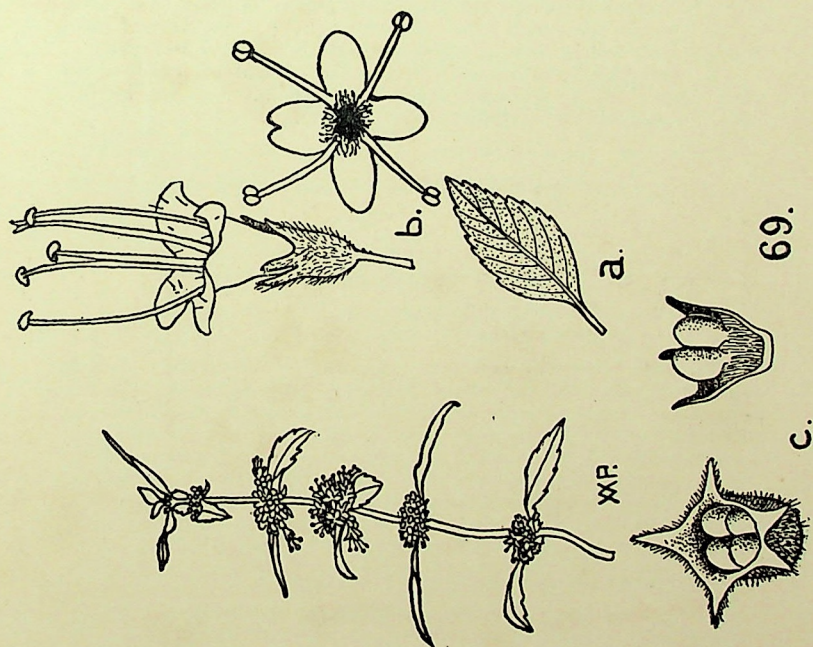
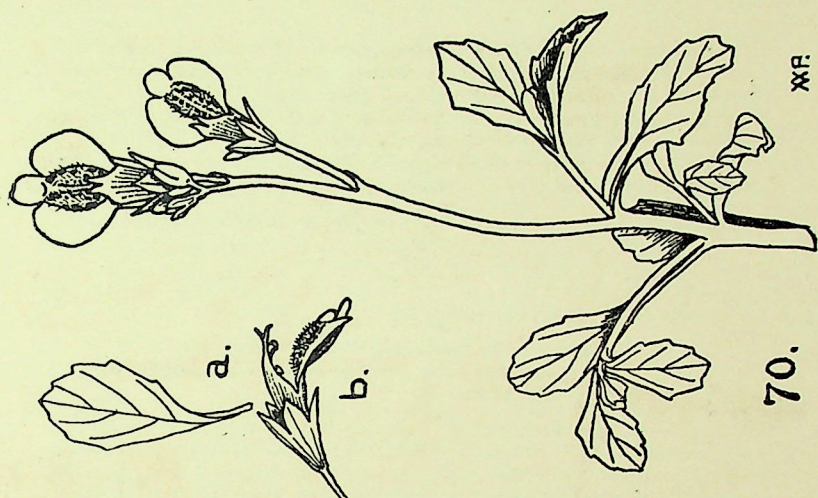
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Figure 67. *Calystegia hederacea* Wall. 小旋花
(*Convolvulus acetosaeifolius* Turcz.)

. Bindweed.

- a. The leaf. b. Full view of the flower.
c. One of the leafy bracts removed to show pistil.





A high twining glabrous climber with halberd-shaped leaves and trumpet-like flowers of pale pink with deeper pink stripe down the centre of each segment of the corolla. Stem 4-angled, twisted. Leaves alternate, basal lobes obliquely truncate. Calyx enclosed in two leafy bracts. Flowers axillary on elongated 4-angled peduncles.

A common vine around Shanghai found climbing over fences along paths in uncultivated places. (Collected June 10, 1932).

References: Index Florae Sinensis (Forbes and Hemsley), Vol. II, p. 164.

Figure 68. *Perilla ocymoides* Linn. 荜 荜

a. The leaf. b. Enlarged views of the flower.
c. Part of calyx tube removed to show the pistil. d. Enlarged view of nutlets.

An erect branching annual with small pale to white flowers in terminal and axillary racemes. Stems hairy. Leaves ovate acuminate, coarsely crenate. Flowers small. Calyx campanulate, hairy. Corolla a short tube with five segments, the upper two barely marked off from each other, the lowest lobe the longest. Stamens four, nearly straight, included within the corolla tube. Flowers solitary in the axils of small opposite leafy bracts forming together racemes. Nutlets reticulate.

A subtropical and tropical Asiatic herb found on uncultivated weedy banks. It is supposed to be of Indian origin. A variety is cultivated for its seeds. (Collected October 5, 1932).

References: Gray's New Manual (Robinson and Fernald), p. 711.

Index Florae Sinensis (Forbes and Hemsely), Vol. II, p. 379.

Figure 69. *Mentha arvensis* Linn. 薄荷

a. The leaf. b. Enlarged view of the flower.
c. Nutlets enclosed in the calyx tube.

Perennial herbs with ascending stems and globular whorls of small pale lavender flowers in the axils of the leaves. Stem and leaves minutely pubescent. Leaves opposite, ovate with serrate margin, the lower ones petioled. Corolla campanulate, four lobed, upper lobe broader and notched. Stamens four, erect. Calyx pubescent. Nutlets smooth.

A cosmopolitan species widely diffused in temperate regions of Europe, North America and Asia, sometimes extending into the subtropics. The moist rich soil around Shanghai is favourable to its growth. It blooms from August to October. (Collected October 13, 1932).

References: Flora Hongkongensis (Bentham), p. 276.

Gray's New Manual (Robinson and Fernald) p. 711.

LAWN AND ROADSIDE PLANTS OF SHANGHAI

Figure 70. *Mazus stolonifer* Maxim.* 彈刀子菜

a. The leaf. b. Side view of the flower showing hairy palate.

A low-growing herb with conspicuous bilabiate flowers, the lower lip three-lobed and broad with prominent palate, differing from *M. rugosus* Lour. in having much larger flowers, an erect stem and a leafless peduncle, and in producing short stolons. The corolla is horizontal, somewhat flattened, the outside of the corolla tube purple with darker longitudinal streaks. Palate divided lengthwise, white with reddish to golden brown spots. Lower lip very pale. Stem reddish, not apparently hairy.

One of the many flowers, which, with the violets and others, crop up in the lawns in the spring before the weeding has progressed very far. (Collected May 15, 1933).

References : L'Histoire Naturelle, Tome VI (Courtois), p. 83.

Figure 71. *Erigeron canadensis* Linn. 小 蓼 草

Horse weed. Butter-weed.

a. A lower leaf. b. A portion of the terminal inflorescence. c. Enlarged view of the flower. d. A single floret. e. The receptacle with bracts reflexed. f. A single achene greatly enlarged.

An erect hairy annual with linear entire leaves and numerous small cylindrical heads of inconspicuous white ray florets. Heads panicle. Involucral bracts linear. Receptacle flat, naked. Pappus short, simple.

A common weed in exposed waste places all over the world. (Collected October 25, 1932).

References : Gray's New Manual (Robinson and Fernald), p. 818.

Figure 72. *Carpesium cernuum* Linn.

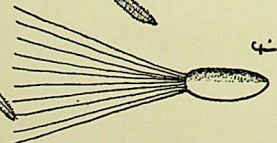
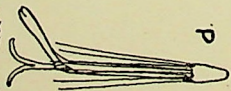
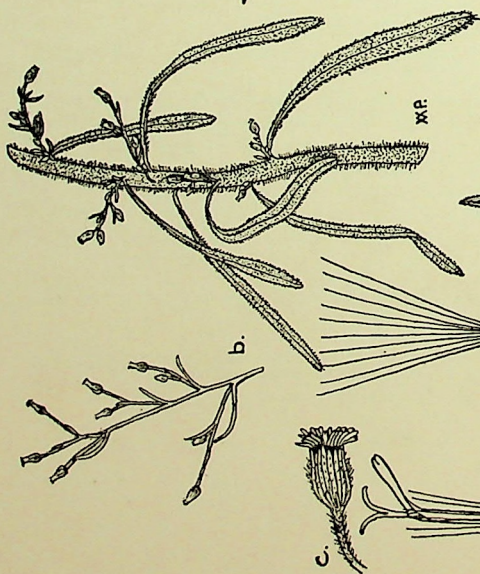
a. The leaf. b. A single floret.

Branching herbs with ovate to obovate entire leaves and compact sessile heads of yellow tubular florets which do not extend beyond the involucre. Leaves pubescent along the veins; short scattered hairs on the upper surface of the blade. Heads barrel-shaped, broader at the base. Florets all tubular without pappus.

Found from Central Europe to Japan and in China from Szechuan to Peking and south as far as Ningpo. One of the autumn weeds. (Collected October 18, 1932).

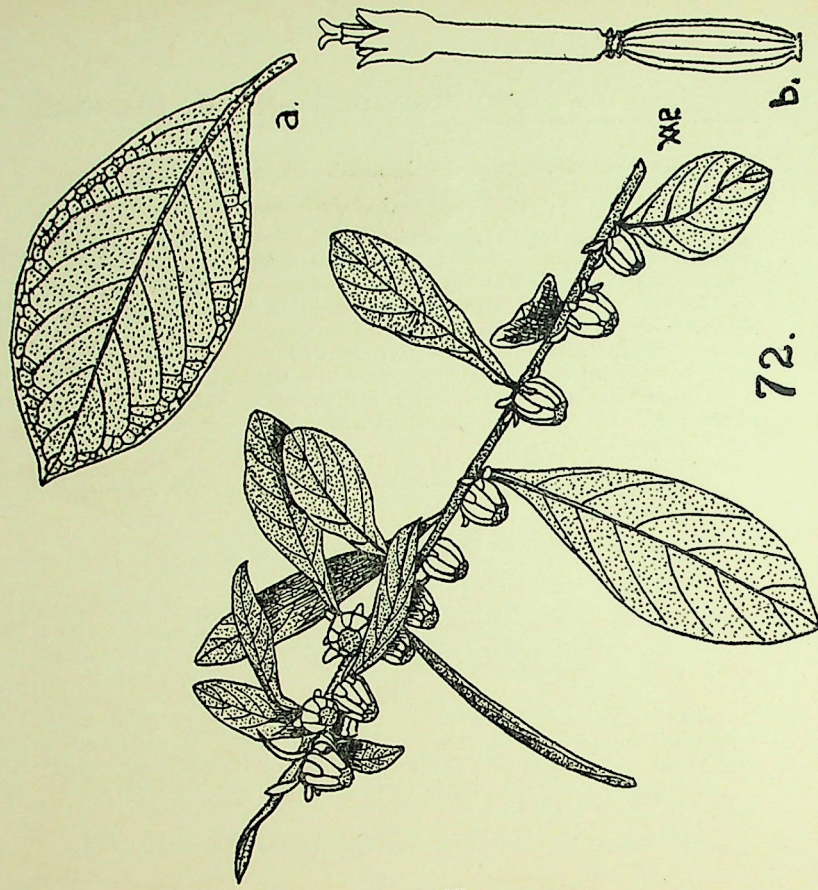
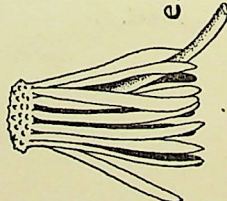
References : Index Florae Sinensis (Forbes and Hemsley), Vol. I, p. 430.

*The name of this plant was wrongly given as *Mazus stachydifolius* Maxim. in the preliminary list in the August issue of *The China Journal*, page 83 (Vol. XIX, No. 2, 1933).



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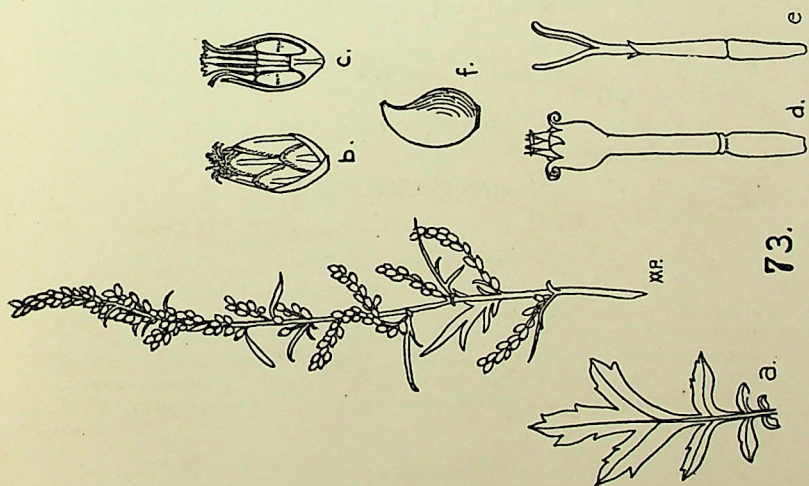
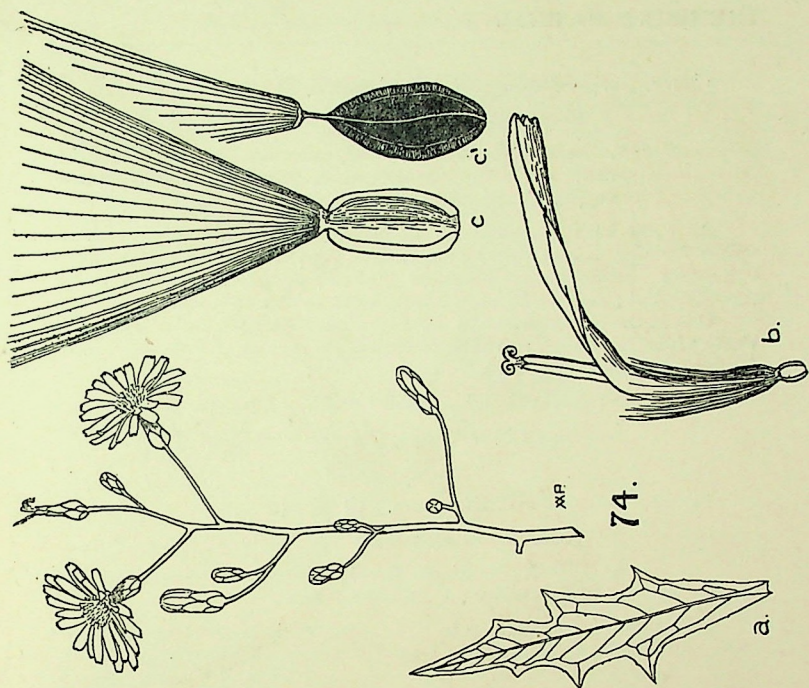


Figure 73. *Artemisia vulgaris* Linn. 艾蒿

Common Mugwort.

a. The leaf. b. A single head, enlarged. c. A section of the head. d. A disc floret. e. A pistillate floret from the margin. f. An achene.

An erect herb to one meter in height, with small ovoid heads in spikes forming a long terminal panicle. Leaves pinnatifid with white tomentum underneath. Pistillate florets peripheral, corolla tube three-toothed; perfect florets central, fertile, and five-toothed.

One of the commonest late summer and autumn weeds. Found in waste places and along roadsides in temperate regions all over the world. (Collected October 20, 1932).

References: Flora Hongkongensis (Bentham), p. 187.

Gray's New Manual (Robinson and Fernald), p. 849.

Figure 74. *Lactuca indica* Linn. 山萵苣

(*L. brevirostris* Champ.)

a. A leaf. b. Single floret enlarged. c. Young achene before maturity; c'. Mature achene.

A simple erect annual up to 80 centimeters in height, with glabrous stem and leaves, and a narrow terminal panicle of pale yellow flower-heads. Leaves, lanceolate, entire or bordered by a few teeth. Heads cylindrical. Bracts of the involucre obtuse sometimes edged with red. Florets all ligulate and perfect. Receptacle naked. Achenes broad, flat, and black with a short beak. Pappus simple, of numerous bristly white silky hairs.

An asiatic weed of the summer time found in cultivated places and fields which have not been planted with any specific crop. (Collected September 13, 1932).

References: Flora Hongkongensis (Bentham), p. 192.

Figure 75. *Sonchus oleraceus* Linn. 苦蕒

Common Sow Thistle.

a. A leaf. b. An achene enlarged.

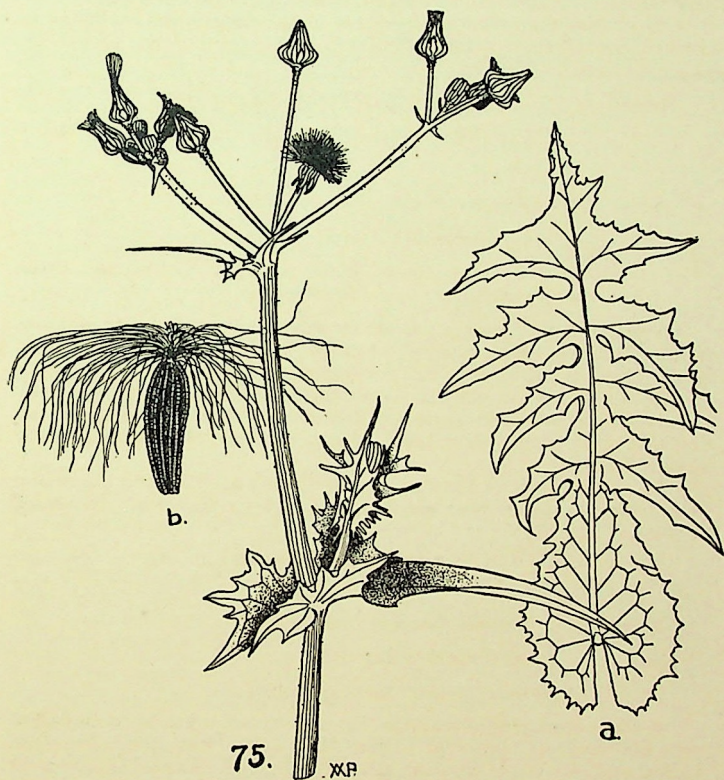
A stout erect glabrous annual up to a meter in height, with hollow stem and toothed pinnatifid leaves. The leaves thin, the upper ones narrow and clasping with short acute auricles. Auricles of lower leaves broader. Heads swollen at the base, grouped in terminal corymbose clusters. Florets numerous, small, pale yellow. Receptacle naked. Achene striate, the ribs transversely wrinkled. Pappus copious, white and soft.

LAWN AND ROADSIDE PLANTS OF SHANGHAI

A weed of cultivated and waste places through-out the temperate regions of the world. In Shanghai, as with all these weeds, they are found in the less cultivated spots around the borders of large lawns, along the roadsides and pathways between the fields, and by fences, canal banks and grave mounds.

References : Flora Hongkongensis (Bentham), p. 194.

Gray's New Manual (Robinson and Fernald), p. 865.



SCIENTIFIC NOTES AND REVIEWS

BIOLOGY

Scenic Cases in the Shanghai Museum: Inaugurating a new era in the history of scientific museums in China, the Shanghai Museum, one of the three main activities of the Royal Asiatic Society (North China Branch), which is to be opened to the public on November 15, will have amongst its exhibits a number of cases, large and small, showing birds and mammals in their natural surroundings with scenic backgrounds. These are being prepared by Mr. A. de C. Sowerby, the Museum Director, whose knowledge of the fauna of China, derived not merely from a study of the literature on the subject, but at first hand in the field during his many years' of exploration in all parts of this country, enables him to make the right setting for each species and to paint in the correct background. Besides being a trained artist he has had considerable experience as a taxidermist, an art which is very much in its infancy in China. It is to be hoped that other of the many natural history museums that have been started in China in recent years will follow the lead thus given them and begin to have their specimens set up in their natural surroundings as has become the rule in European and American museums.

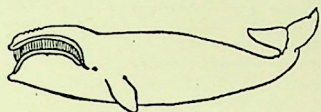
The Zoological Collections in the Shanghai Museum: The Shanghai Museum having been primarily started with a view to housing specimens of the birds, mammals and other branches of animal life in China, it is natural that its zoological collections are the most important. Amongst these that containing the birds is by far the largest, there being some 2,000 specimens, mounted and in cabinet form. These represent about 500 species, mostly from Eastern China. The mounted specimens, it is to be regretted, are in rather poor condition, but the cabinet specimens, forming the greater part of the collection, are in excellent shape and will be available for study when they have been catalogued and arranged in the drawers in the new cases.

The mammal collection is not very good, although it contains some very interesting and valuable specimens; including a mounted specimen and two skulls of the giant panda (*Ailuropus melanoleucus* M.-Edw.) a little panda (*Aelurus fulgens styani* Thomas), a Tibetan grizzly (*Spelaesus lagomyiarius* Sev.), an isabelline lynx (*Lynx isabellinus* Blyth), a La Touche's cat (*Felis dominicanorum* Slater), a Szechuen serow (*Naemorhedus milne-edwardsi*, David), a pair of Chinese blue sheep or burhel (*Pseudois nahoor sechuanensis* Rothschild), a large number of pangolins (*Manis dalmanni* Sundevall) and numerous more or less rare rodents, bats and other small species. The jaws of a Japanese or sei whale (*Balaenoptera borealis*, Lesson), a mounted specimen and skeleton of an Indian porpoise (*Neomeris phocaenoides*, Cuvier) taken locally, and the skulls of two other dolphins and the lower jaw of a third make up the cetacean collection. There are also a number of interesting heads and horns of some of China's big-game animals.

A good collection of reptiles and amphibians, and a fairly representative collection of local fishes are in the Museum, and there are also excellent collections of marine and land shells, crustaceans, butterflies, moths, beetles and other insects, corals and the like. A magnificent exhibit is a Japanese giant spider crab (*Macrocheira kaempferi*) with a span across the claws of 10-ft. 3-in. placed in the Museum some years ago by Mr. H. H. Read. It was captured in Tokyo Bay. Several large kingcrabs (*Limulus longispinus*) make handsome exhibits.

Pilot Whales at Wei-hai-wei: In connection with the subject of whales it may be mentioned that visitors this season at Wei-hai-wei, the sea-side resort on the North Shantung coast, were greatly intrigued by the appearance of a number of large black marine creatures, running up to thirty or more feet in length, in off shore waters. Based on descriptions of these

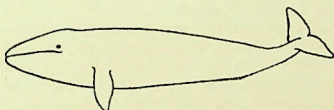
SCIENTIFIC NOTES AND REVIEWS



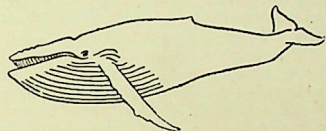
The Black "Right" Whale (*Eubalaena glacialis*, Bonn.), a specimen of which is on exhibition in Shanghai at the present time.



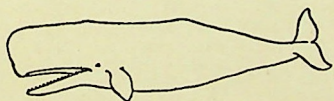
The Blue Rorqual, or "Finner" (*Balaenoptera musculus*, L.), the largest of all whales, running up to 90-ft. in length.



The Grey Whale or Devilfish (*Rhachianectes glaucus*, Cope), an inhabitant of coastal waters on both sides of the North Pacific. It is one of the Baleen Whales.



The Humpback Whale (*Megaptera nodosa*, Bonn.), a widely distributed Baleen or whale-bone whale, characterized by the enormous length of its flippers.



The Sperm Whale or Cachalot (*Physeter macrocephalus*, L.), which ranges throughout the Atlantic, Pacific and Indian Oceans, and is the largest of the toothed whales.



The Pilot or Ca'ing Whale (*Globicephalus melas*, Traill), one of the toothed whales, occurring in large herds or schools and not infrequently getting stranded in considerable numbers through venturing too close to the shore.

by Colonel M. H. Logan, Mr. N. W. Hickling and Mr. E. S. Wilkinson, all of whom had good views of the creatures, our conclusion is that the latter were pilot whales or "blackfish," the form of which that inhabits the China and Japan Seas has been named *Globicephalus scammonii* Cope, as distinct from the Atlantic form (*Globicephalus melas* Traill.) that occurs so often off the British coasts, sometimes so close to the shore that large schools are stranded when the tide recedes. The pilot whale may be distinguished by its blunt rounded head, its high dorsal fin and its black colour. It is something like the Indian porpoise found in local waters, in the Whangpoo River as far up as Tung-li-miao, and up the Yangtze as far as Hankow, but is much larger and may be further distinguished by the fin on its back, absent in the Indian porpoise.

In a recent paper in the *North-China Daily News* (October 22), we published brief accounts with drawings of whales generally, many of which appear to have a world-wide distribution, although some naturalists consider those inhabiting the Pacific Ocean as sufficiently distinct from those of the Atlantic Ocean to warrant giving them separate names. The latter view may be correct in connection with

some of the large forms, such as the black "right" whales (*Eubalaena*) which appear to be more local in their distribution, but it is hardly likely in the case of the fast-swimming wide-ranging rorquals (*Balaenoptera*), the hump back whale (*Megaptera*), the sperm whale (*Physeter*) the terrible killer (*Orca*) and others. In the accompanying drawings, kindly lent by the *North-China Daily News*, several of these whales are shown.

The Shanghai Museum's Botanical Collection: Botany has not been one of the strong subjects in the Shanghai Museum, but latterly its botanical collection has been considerably enhanced by the presentation of numerous specimens of bamboos, including articles made from these plants, by Professor W. M. Porterfield, Keeper of Botany, and a large number of the seeds and dried fruits of plants from all over the world which were in the private collection of the late Mr. Ezekiel Salmon and were recently presented to the Museum by his brother, Mr. J. E. Salmon of Shanghai. This collection is extremely interesting and educative. Aside from the foregoing the botanical specimens in the Museum consist of some pressed plants and samples of Chinese timber.

GEOLOGY

Geological Collections in the Shanghai Museum: The Shanghai Museum's geological collections, in which term are included the palaeontological, mineralogical and petrological specimens, are unusually good, except for the fact that hardly any of the specimens have a locality assigned to them. While this does not matter so much in the case of the material from other countries, it greatly decreases the value of the Chinese specimens. It is evident that the collections were made at a

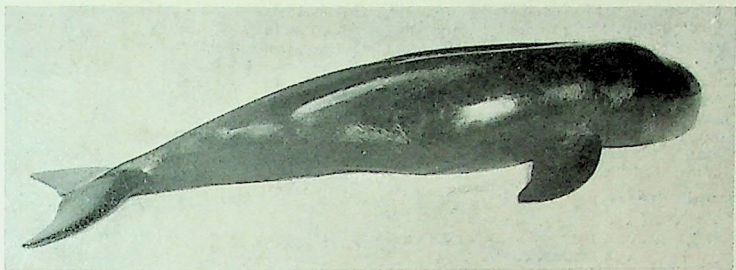
time when much less importance was attached to the localities of geological and palaeontological specimens than is the case to-day. However, for educational purposes these specimens are excellent.

A recent acquisition is the geological part of the late Mr. Ezekiel Salmon's collection already referred to above in connection with botanical specimens. This, amongst other things, contains numerous specimens of precious and semi-precious stones, both in the rough and polished.

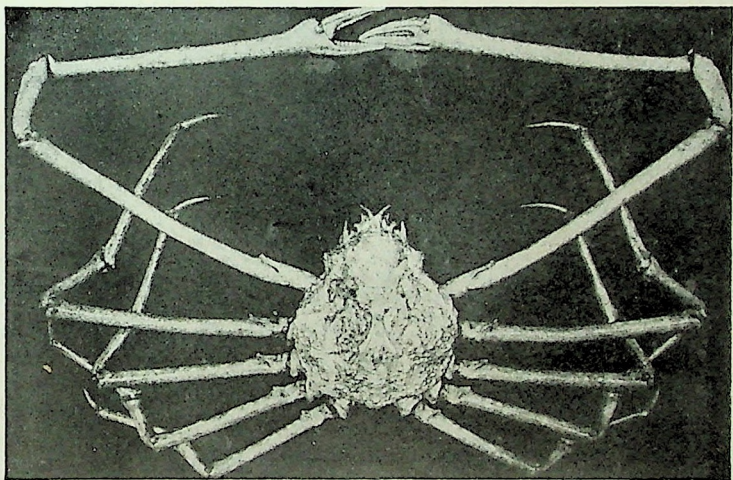
ETHNOLOGY AND ANTHROPOLOGY

The Ethnological and Anthropological Collections in the Shanghai Museum: While there are a number of interesting ethnological specimens in the Shanghai Museum, this branch of science cannot be said to be very well represented. In connection with this subject, however, it is sometimes difficult to determine where ethnology

ends and archaeology or anthropology begins, and many specimens are of interest to the students of each of these sciences. Some of the material in the Shanghai Museum belonging to the categories of ethnology and anthropology has already been mentioned in the present issue of this journal in connection with the archaeological



An Indian Porpoise (*Neomeris phocaenoides*, Cuvier) taken in the Whang-poo River at Shanghai.



A fine Specimen of the Japanese Giant Spider Crab (*Macrocheira kaempferi*) in the Shanghai Museum, lent by Mr. H. H. Read. It was captured by some Fishermen in Tokyo Bay in 1898, and measures 10 feet 3 inches across the outspread Claws.

SCIENTIFIC NOTES AND REVIEWS

material in the Museum under "Art Notes," since archaeology is as closely connected with art as it is with ethnology. Clothes, weapons, utensils and objects of religious significance of various

native tribes or groups in China and adjacent countries form the chief items in the Museum's ethnological collection, while the anthropological section is represented by a series of human skulls.

SEISMOLOGY

The Monthly Record of Earthquakes: On October 2 a severe earthquake occurred at Los Angeles, California, completely wrecking two buildings and causing the death of one man and injuries to four others. The quake was felt as far north as Santa Barbara.

An earthquake shock was felt at Vancouver at six o'clock in the evening

of October 5. Although it extended over a wide area it was not of sufficient strength to do any material damage.

Light seismic shocks were felt in Italy in the area about Rome on October 12, while on October 25 a wide area in Southern California experienced an earthquake of minor intensity.

A. DE C. S.

ASTRONOMY

Fire Ball Seen in Shanghai and Nanking: An extremely brilliant fire ball, which for a short time illuminated the whole sky, was seen in Shanghai and Nanking about 7.00 p.m. on October 23. The appearance is described by one observer as that of a large pear shaped drop followed by a coloured trail which lasted several seconds and was extremely startling. Unfortunately no exact time has been obtained, but the meteor appears to have travelled from Shanghai to Nanking in a minute or so, indicating the usual speed of say twenty miles per second. As has frequently been the case this extreme speed gave rise to the elusion that the meteor descended to the ground at a short distance. This being simply due to the meteor passing over the horizon

so quickly. The direction being from east to west just after sunset, it follows that the meteor was proceeding in the direction of the sun and appears to have grazed the earth's atmosphere probably at a very great height, perhaps fifty miles. This would account for the great length of the path observed. This phenomenon has not often been seen here, but is quite a standard one.

In this connection readers may be reminded that between November 13 and 16 next there is a possibility of the Leonid Shooting Stars appearing in considerable numbers in the early hours of the morning. Last year they were looked for very assiduously, but only a few turned up, and another wash-out this year is possible.

H. C.

METEOROLOGY

China Weather Report for October: In the Yangtze Estuary region the weather throughout October was consistently fine, except for a few days early in the month. Fine weather also has prevailed throughout the rest of the country for any reports to the contrary. A slight cold snap commenced on October 24, being heralded by a fall of snow in Northern Manchuria on October 23.

A strange phenomenon was noticed in a garden in Shanghai when white lilac and dwarf cherry blossomed on October 26. This, apparently, is the result of the long spell of dry weather at the end of the summer, when the leaves of these two plants fell and winter buds formed. The wet weather in September caused the latter to burst and the bushes to come into new leaf, and ultimately to blossom.

MEDICINE

Manchurian Plague under Control: Although alarming reports were received early in October to the effect that the outbreak of bubonic and pneumonic plague in North-western Manchuria was spreading, by the end of the month news arrived that it had

been officially announced that the outbreak had been definitely brought under control and there was now no fear of its spreading.

Old Style Chinese Surgical Instruments and Drugs: An interesting

exhibit in the Shanghai Museum consists of a set of surgical instruments as used by the old style Chinese doctor, as well as a series of samples of animal and vegetable *materia medica*. The instruments include needles, lancets, scrapers, hypodermic syringes, tweezers

and the like, while amongst the animal drugs, if they can be called such, are pieces of tiger bones, fossils, dried scorpions, centipedes and lizards, deer horn shavings and numerous other strange things.

A. DE C. S.

SHOOTING AND FISHING NOTES

SHOOTING

Shanghai Gun Club's Donation for Scenic Cases: The opening of the Shanghai Museum, which is to take place on the 15th of this month, will call to the minds of the shooting members of the community the generous gift of the North China Clay Pigeon Club, which has been dormant for some years now, of \$750 to the former institution to be used in the mounting of some of China's game birds and animals in cases with their natural surroundings and scenic backgrounds. Since this sum, though a generous one, could not cover the whole of the exhibits of this nature which have been prepared in the Museum, it has become necessary to designate a certain number of the cases to be considered as paid for by the Gun Club's gift, and Mr. A. de C. Sowerby, the Director of the Museum, who personally has carried out the work of arranging the groups of birds and animals in their natural settings and has painted the backgrounds, has chosen the four large scenic cases at the ends of the two galleries opposite to the entrances for this distinction. These contain: (1) a Tibetan grizzly, or dredmo (*Spelaeus lagomyiarius* Sev.), standing on a rock and looking down upon an isabelline lynx (*Lynx isabellinus* Blyth), also Tibetan, which has just killed a muntjac or barking deer (*Muntiacus reevesii* *lachrymans*, M.-Edw.) and is snarling over its kill. This case has a sunset and mountain background. (2) A giant and a little panda (*Ailuropus melanoleucus* M.-Edw. and *Aelurus fulgens styani* Thomas) in their natural setting of rhododendron and bamboo

thickets. The former of these was presented by the two explorers Mr. Jack T. Young and Mr. Arthur B. Emmons III, of the Sikong Expedition, during which the 24,000 foot peak known as Minya Kongka was climbed, and Dr. R. L. Crooks of Ya-chou, Szechuen. The little panda was presented by Mr. K. Blicke of Shanghai.

(3) A West China serow (*Naemorhedus milne-edwardsi*, David), showing a white mane, and an East China goral (*Urotragus arnouzianus*, Heude), the former standing beside a drinking pool and the latter looking down from a cliff spur. The scenery is of partly forested mountains.

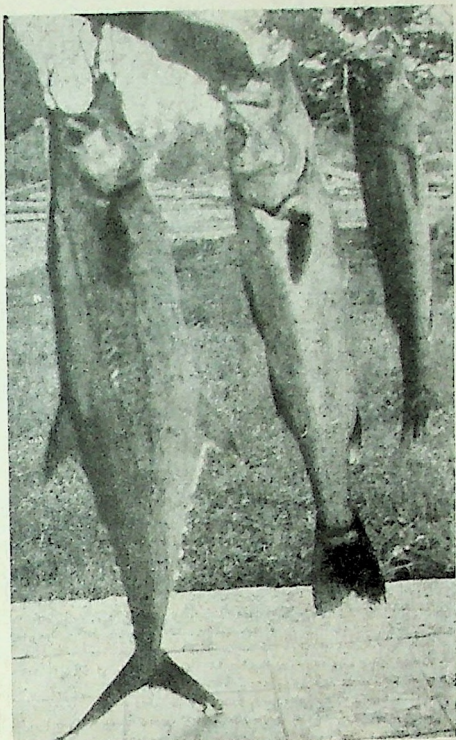
(4) A pair of Chinese burhels or blue sheep (*Pseudois nahoor szechuanensis* Rothschild) from the Szechuen-Tibetan border. These are standing under a cliff, and in the background is seen the snow-clad peak of Minya Kongka rising above the mists.

Besides these large cases there are several other smaller ones devoted to game birds and animals, amongst which may be mentioned one showing a pair of muntjacs (*Muntiacus lacrymans* Milne-Edwards) in startled pose; another a Yangtze river-deer (*Hydropotes inermis* Swinhoe) leaping from the cover of high reeds; another with a pair of Manchurian black-game (*Lyrurus tetriz ussuriensis* Laurenz); and others with wild geese, bustards, and so on.

It may here be mentioned that in view of the fact that many of the mounted specimens of game birds and wild fowl, as well as of mammals of



Mr. N. W. Hickling with his 8 lb. *Wong Yu* or Chinese Amber-jack caught this Season at Wei-hai-wei.



A fine Spanish Mackerel and two Sea Bass caught by Mr. N. W. Hickling at Wei-hai-wei this Season.



Five Sea Bass and an Amber-jack, a Morning and Evening Catch made by Mr. N. W. Hickling this Season at Wei-hai-wei.

SHOOTING AND FISHING NOTES

all kinds, are not in the best possible condition, contributions from sportsmen in China would be greatly appreciated in order to replace them. As a matter of fact almost anything in the way of animal life would be acceptable, for

the Museum's collections are still far from complete. Particularly are good specimens of the larger mammals required, such as wild boar, leopard, wolf, black bear, tiger, wild sheep, wapiti, sika deer and the like.

FISHING

Spanish Mackerel, Amber-Jack and Bass at Wei-hai-wei: We are indebted to Mr. E. S. Wilkinson for the following notes regarding fish caught during the past season at Wei-hai-wei, the popular summer resort on the North Shantung coast.

Mr. N. W. Hickling's catch during the season may be summarized as follows:—

A total of 42 days' fishing, of which half were blank. The total catch was 72 fish of an aggregate weight of 283½ lbs.

Of these 68 were Japanese sea-bass weighing altogether 261½ lbs; one was an eleven pound specimen of what the local Chinese call a *pai-yü*, a local representative of the well known Spanish mackerel, probably *Scomberomerus gracileus*, Günther, one was an eight pound specimen of what the Chinese call *wang yü*, a local representative of the amber-jack, probably *Seriola aureovittata*, Temminck; one was a half pound flounder and one a three pound sea-bream or gilthead.

The best morning's fishing was obtained early in September in heavy weather, when the catch between 10.30 a.m. and 12.30 p.m. was seven bass

of a total weight of 40½ lbs. individual fish weighing 10, 8, 7, 5½, 5, 2½ and 2½ lbs. respectively. Another catch of five bass and the Spanish mackerel and the amber-jack are shown in the accompanying illustrations.

Mr. David Anderson, who was fishing with Mr. Franck Veda at Wei-hai-wei this summer has furnished us with a photograph of an amber-jack caught by him. This will be reproduced in our next number with a discussion as to the identification of this fish. We believe we are right in designating it a kind of amber-jack rather than a yellow-tail, and will state our reasons at the same time that we publish the photograph of this fish.

Meanwhile it is extremely interesting to note that large sea fish other than the well known sea-bass are being taken by anglers off the China coast, and we may safely predict that the sport of sea-fishing is certain to develop into something really worthwhile before many more seasons have gone by.

We shall always be only too pleased to assist anglers in the identification of the fish they catch, but to do this properly good photographs are necessary or, better still, the actual specimens preserved in formaline.

A. DE C. S.

THE GARDEN

NOVEMBER

Farewell to Summer: There is sadness in the thought of the passing of another summer, and we have come to the "melancholy time of the year, in which some rain must fall, some days must be dark and dreary." Fortunately for us in these semi-tropics November is not such a melancholy dismal rainy

month, and we can count on many bright sunny days, although a wintry crispness is already in the air. November, too, is our chrysanthemum month, and whoever has seen our Queen of Autumn would not consider this a dark and dreary month. But the poet Longfellow did not live on the banks of the

Yangtze, otherwise he too would have sung of the beauties of this autumn month and its special flower.

The gardens are at present still beautiful, late salvias, dahlias, golden-rods, asters, cannas, marigolds, chrysanthemums all will continue to bloom until heavy frost descends. There is a charm at twilight more spiritual in its beauty now than during the growing seasons of spring and summer.

A haze on the far horizon,
The infinite, tender sky,
The ripe rich tints of the cornfields,
The wild geese sailing high;
And all over upland and lowland
The charm of the Goldenrod—
Some of us call it Autumn,
And others call it God.

Carruthers.

An autumn flower, sadly neglected in our Shanghai gardens but found in almost every garden in North China, is the New England aster or Michaelmas daisy, a species of wild chrysanthemum. High bushes of these starlike single flowers, lavender in colour, are exceedingly effective in the autumn garden. Each sturdy bush is literally covered with hundreds of small blossoms. Planted in front of goldenrod, or between the yellow "King Midas" cannas, with marigolds banked along their roots, they form a glowing picture of mauve and golden yellow until early winter. A prettier picture than this harmony of lavender and gold can scarcely be imagined. This New England aster is hardy, too, and cuttings can be made from the parent stock for next autumn's flowering. It is exceedingly easy to grow and most effective where bold masses are desired. There are a great many varieties among these hardy herbaceous perennials and half hardy annuals. The former grow up to five feet, the latter two feet. There are a few rock-garden species, such as *Aster alpinus*, height about six inches, with its deep purple blossoms. It likes an open sandy soil. *Aster albus* has white, *Aster ruber* deep-red flowers. All thrive best in well drained sandy soil. The old clumps can either be divided in autumn after the flowering season, or seeds may be sown in very early spring, the seedlings gradually hardened and set out in their permanent beds or pots.

Staking: The goldenrod, America's national flower, is also easily grown. Once planted it sends its rootlets out and in spring new shoots appear. The clumps can be divided in early spring, or should be divided, else one dense mass will result. A little cultivation only is necessary. As goldenrod grows so tall, up to ten feet, it needs staking. Firm the stake behind the plant and tie the stems loosely, giving them sufficient freedom to bend in the wind. Why will every Chinese gardener place a clumsy pole in front of delicate stems and tie the whole firmly and tightly so that the poor plant is absolutely rigid and crushed together? The stakes are to support the plant, not to strike the eye with their ugliness. Formerly green painted bamboo stakes were obtainable; now, however, with increasing difficulty. We could paint our own stakes. A dollar will buy quite a number of bamboos and a coat of green paint could easily be given them. The coloured stakes are inconspicuous and are well worth the little extra work.

Petunias, antirrhinums, marigolds, salpiglossis, ferns, in fact most flowers, need staking, and the finer and less conspicuous the stakes are the more natural the plant looks.

Conservatory Plants: All tender conservatory plants were brought into shelter towards the middle of October. The flowerstands, all woodwork, were thoroughly washed and cleaned last month, the pots also washed and all plants inspected. It only needs a few insects to multiply in the damp warmth of the conservatory to bring great aggravation. So it is advisable to let only clean healthy plants be brought in. The ferns enjoy an eastern exposure so as to get the early morning sun, and the poinsettias can be placed at the west side of the greenhouse. The poinsettias are of various heights, ranging from a few inches to five feet. This is due to having cut them back several times.

The Japanese variety does not lose its leaves as rapidly as does the Chinese, and has larger flowers or bracts. A semi-poinsettia can be purchased here in the markets, and it is very colourful with its green foliage and red bracts. This *Euphorbia*, or "Painted Leaf," makes a fine showing with its brilliant scarlet. *Euphorbia variegata* produces

first green leaves which gradually turn silvery. This variety is sometimes called "Snow on the Mountain." The former, *Heterophylla*, resembles our tender poinsettia. To the Christmas variety we have in the conservatories give liquid fertilizer once a week. Beancake water is beneficial, although the odour is vile. Sulphate of ammonia may be given as an alternative, an ounce to a large watering can thoroughly dissolved. Soot, too, is very effective.

Lantana is another tender plant which needs shelter. The lovely verberna-like flowers are very fragrant and of charming colours. *Buddleia*, too, needs to be under shelter. It contributes greatly to the fragrance of the conservatory.

Bulbs : Under the seats of the flower-stands pots of bulbs can be gradually forced. Keep them for the first few

weeks as dark as possible to enable root growth. Freesias and cyclamen are up: keep them cool. Chinese narcissus bulbs should be given two sharp shallow slits lengthwise, placed for twenty-four hours in water, and then planted in a shallow dish with a little water to which charcoal has been added. Keep them dark and cool until root growth has begun.

Planting Out : Towards the end of November, or as soon as the beds have been cleared of annuals, dig the soil thoroughly and add old manure and leaf mould, after which spring bulbs can be planted.

In the kitchen garden seedlings worn in boxes in September and October can be transplanted. Some of them will need protection from the cold.

L. L.

SOCIETIES AND INSTITUTIONS

THE ROYAL ASIATIC SOCIETY, NORTH CHINA BRANCH

The Opening of the Museum : The long looked for opening to the public of the Museum of this Society has been announced for November 15. After a brief address by Mr. A. de C. Sowerby, Director of the Museum, at 11.30 a.m., the opening ceremony will be performed by Mr. A. D. Bell, Chairman of the Municipal Council of the International Settlement of Shanghai, to the generosity of which public body, in presenting the sum of Tls. 50,000 towards the building fund, and in making a grant towards the Society's yearly expenses, the existence of the new building with its Museum, Library and Lecture Hall is largely due.

In the afternoon the Society will hold a reception at which tea will be served, the service by courtesy of the "Chocolate Shop," one of Shanghai's most popular tea shops, while music is to be provided through the medium of a Stewart-Warner "Magic Dial" Phono-Combination by courtesy of the

Radio Sales Corporation. Mr. W. J. Kerr, Superintendent of Parks, of the Shanghai Municipal Council is very kindly arranging for the floral decorations in the reception room and lobbies. A large number of official invitations have been sent out, and it is expected that, with the attendance of the many hundreds of regular members of the Society, to whom notices have also been sent, and that of the official guests, the capacity of the large building will be taxed to its utmost.

Although it will be getting dark by the time the guests arrive at the reception, the fact that the Museum has been well lighted with "daylight" lamps, installed by the General Electric Co. (of China), Ltd., will enable them to have a good view of the numerous interesting exhibits, the preparation of which has been carried out by Mr. Sowerby, assisted by the members of the Museum's paid staff, and which has entailed many months of arduous labour since the

building was completed early in the present year.

The arrangements for the opening have been in the hands of the members of a small sub-committee of the Society's Council, with a number of ladies in Shanghai forming an Entertainment Committee. The names of the latter are: Mrs. A. de C. Sowerby, Dr. Anno Walter Fearn, Mrs. R. Laurenz, Mrs. Marie Logan, Mrs. V. G. Sutcliffe, Mrs. Charles M. Campbell and Mrs. K. Cantlie.

Lecture on Cycles of Cathay:
Dr. Herbert Chatley lectured before the Society on October 19, his subject being "Cycles of Cathay," a brief résumé of which is as follows:

The Hindus believe that every 4,320,000 years the world passes through a period of renovation and this idea has been adopted by the so-called "occultists." The Buddhists have similar long periods, but they are less well defined. The Indian books in which these figures are given date back to the early centuries of the Christian era. They do not occur in the oldest Indian literature. The Chinese in their fragmentary descriptions of prehistoric times refer to similar long periods, but

with much variation in the figures. Chu Hsi, the 12th century doyen of Confucian commentators, adopted the figure of Shao K'ang Chieh, which was 129,600 years, divided into 12 cosmical "months" of 10,800 years. Curiously enough the latter short period seems to be the same as the oldest on record, that of Heracleitos, the Greek philosopher of change (600 B.C.). Critical investigation indicates that the origin of all these ideas is to be found in Babylonia. The fundamental hypothesis was that the sun, moon and planets all issued from a certain starting point at the beginning of the "world year" and all return exactly to it again at the end of the "world year". Valiant efforts were made to compute the necessary time, but owing to the inexactness of the observations, no final result was obtained, and it was found necessary to postulate longer and longer periods. In actual fact, no such astronomical period exists, but there are approximations to it. As the coincidences of position are merely relative to the Earth, no cosmic significance attaches to them.

In his lecture Dr. Chatley showed how such cycles had developed in China, and the relation of the well-known Sixty Year Cycle to them.

PUBLICATIONS RECEIVED

Books:

All the Mowgli Stories, by Rudyard Kipling: Macmillan & Co., Ltd. London.

The Netherlands Indies: Travellers Official Information Bureau, Batavia, 1933.

The Coastwise Lights of China, by T. Roger Banister: Chinese Maritime Customs.

Periodical:

The New Zealand Journal of Science and Technology—American Journal of Science—The Shipping Review—Chinese Economic Bulletin—Manchuria Monitor—World Unity—Science Journal

—Natural History—Discovery—The Far Eastern Review—The Far Eastern Traveller's Gazette—Game & Gun—Man—Chinese Economic Journal—The Metropolitan Vickers Gazette—The Chinese Social and Political Science Review—Transactions of the Natural History Society of Formosa—Contribution from the Sin Yuan Fuel Laboratory Geological Survey of China—Philippine Magazine—The Salmon and Trout Magazine—The Journal of the Society of Chemical Industry, Japan—The Lepor Quarterly—Mid-Pacific Magazine—Mitteilungen aus den Königl. Naturwissenschaftlichen Instituten in Sofia—The Chinese Recorder—The Travel Bulletin.

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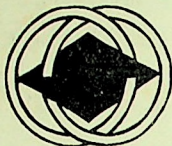
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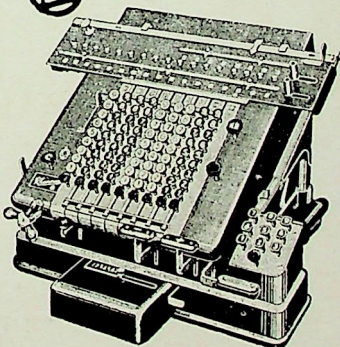
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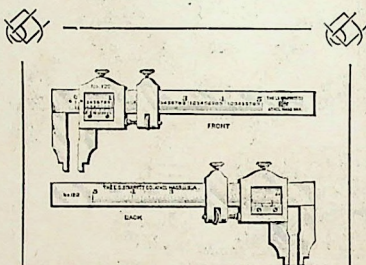
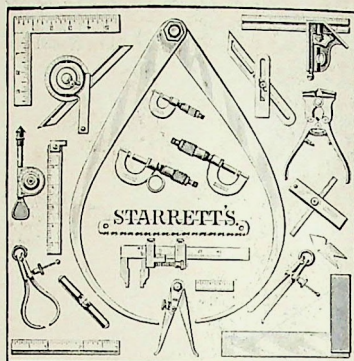
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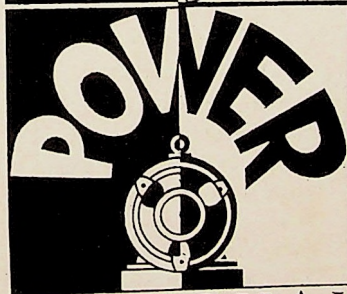
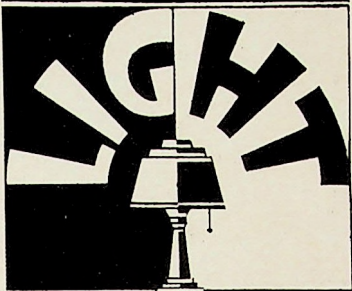
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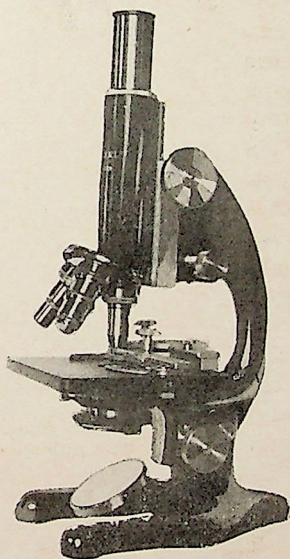
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