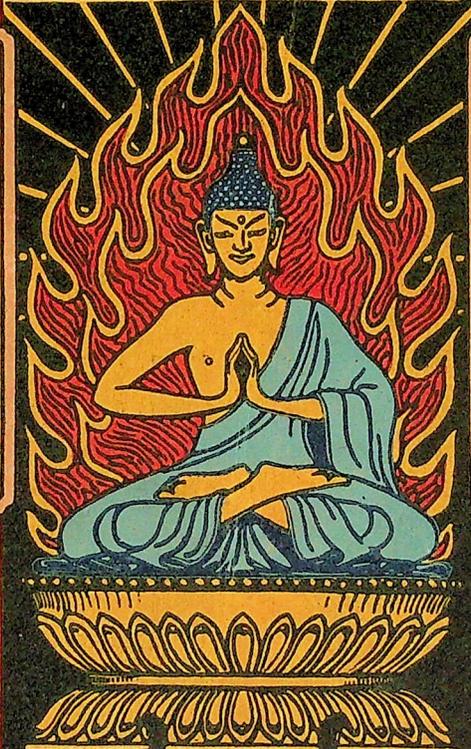


CHINA JOURNAL

誌 禪 術 美 學 科 國 中

SCIENCE
ART
LITERATURE



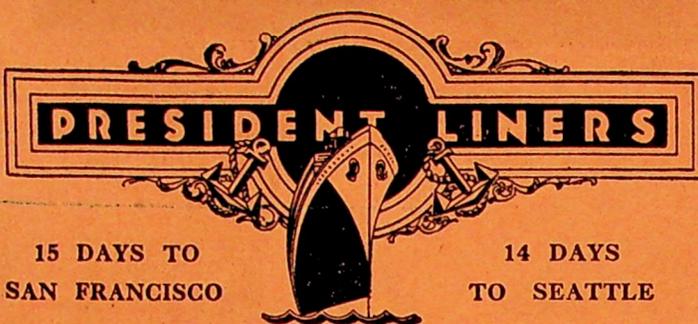
TRAVEL
SHOOTING
FISHING

PRICE \$1.30 MEX.

Vol. XXI

OCTOBER 1934

No. 4



15 DAYS TO
SAN FRANCISCO

14 DAYS
TO SEATTLE

"THE SUNSHINE ROUTE"
TO NEW YORK VIA HONOLULU, SAN FRANCISCO
PANAMA AND HAVANA

"THE EXPRESS ROUTE"
TO VICTORIA AND SEATTLE

"THE NEW WAY TO AMERICA"
TO EUROPE AND NEW YORK VIA SUEZ

DOLLAR STEAMSHIP LINES
AMERICAN MAIL LINE

SHANGHAI—TIENSIN—TSINGTAO—NANKING—HANKOW—HONGKONG—MANILA—
SINGAPORE—COLOMBO—BOMBAY—TOKYO—YOKOHAMA—KOBE

DEALERS

IN

INVESTMENT PROPERTIES,
VACANT LAND, RESIDENCES

ALSO

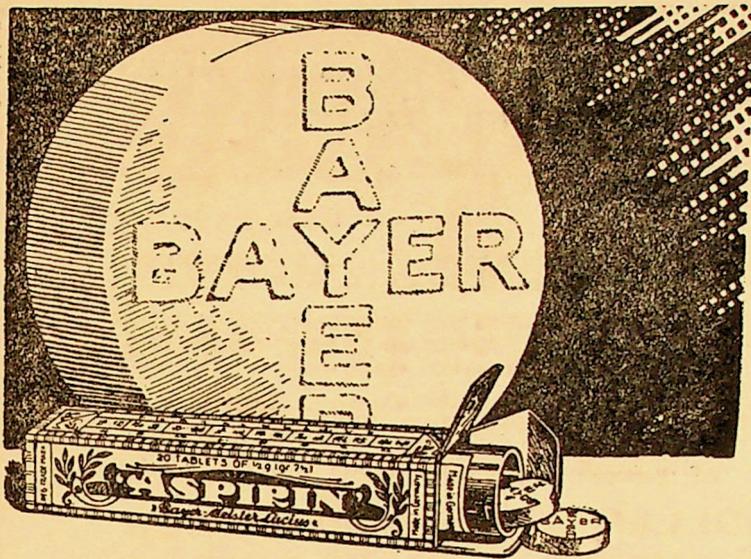
ESTATE MANAGEMENT,
MORTGAGES, INSURANCE

CHINA REALTY Co.

Federal Inc., U. S. A.

290 SZECHUEN ROAD

Telephone 15410



Against
Colds
take **Aspirin**

WAGSTAFF

FOR INTERIOR DECORATION,
ELECTRIC LIGHT FITTINGS,
GRILLES, GATES, ETC.
IN WROUGHT AND CAST IRON,
BRONZE AND WHITE METAL

Studios and Workshops :

118 GREAT WESTERN ROAD

Tel. 20911

*Help Develop China's Airways
and Highways*

Support the

券獎設建路公空航府政民國

STATE LOTTERY

This is a Chinese Government Lottery instituted for the purpose of raising funds for the development of civil aviation and construction of highways throughout China.

Every dollar goes to build highways, to plan airways and to provide prizes.

Prizes you can win

1 First Prize of	...	...	...	\$500,000
2 Second Prizes of	...	...	...	100,000
4 Third Prizes of	...	...	...	50,000
10 Fourth Prizes of	...	...	...	10,000
50 Fifth Prizes of	...	...	...	2,000

and over 50,000 other prizes

NEXT DRAWING—NOVEMBER 2, 1934

TICKETS

\$10 a number

\$1 a share

Obtainable at Banks, Stores, or from the

NATIONAL STATE LOTTERY

ADMINISTRATION

183-189 AVENUE EDWARD VII, SHANGHAI

(Every mail order purchaser is sent a Prize List by post)



Telephone from that nice comfortable chair instead of standing out in the hall.

A telephone in the hall is splendid for general use but how much nicer it would be to have one in the boudoir when you make those personal calls—and the cost for this telephone extension less than 12 cents a day.

Any of our employees will be pleased to take your order or consult the Business Office Now:—

Telephone 11400

Head Office :
232 Kiangse Road

Branch Office :
333 North Kiangse Road

SHANGHAI ★ TELEPHONE COMPANY

SKF

ROLLER BEARINGS

RADIOGRAM

Let CGRA serve you when you wish to communicate with your friends or connections abroad. Getting acquainted with CGRA (the Chinese Government Radio Administration) you will learn what good radiotelegraph service they offer you.

CGRA Radio Traffic Office: Jinkee Road, Sbanghai

Tel. 11130

70050

TAYLOR TAXIS

96 RTE. CARD. MERCIER

253 YU YUEN ROAD

7 EZRA ROAD

19-21 RUE MONTAUBAN

15 ASTOR ROAD

352 AVE. DU ROI ALBERT

S. C. S.

*Distributor of
All kinds of Japanese and
Foreign Products.*

The Quality of our Goods and the Comparatively Cheap Prices Asked are up to The High Standard Expected. This is because, being a "Co-operative" Store, we do not charge retail prices, but divide the benefit of mass buying with our Customers.

**THE SHANGHAI
CO-OPERATIVE SOCIETY**

Main Store :

Corner North Szechuen
and Dixwell Roads

Tel. Store : 46100, 46579

Office : 43588

Branch :

611 Avenue Joffre Tel. 83069

Branch and Mikasa Yoko :

931 Bubbling Well Road

Tel. 31382

Branch :

Glen Road Tel. 51021

S. KOMAI

Manufacturer of

Damascene Ware

Presented to the Prince of Wales by the Municipality of Kyoto in Honour of His Visit to Japan in 1922

DAMASCENE WORK

Special Orders Executed

298 Bubbling Well Road

Tel. 30570



OBJETS D'ART

JAPANESE AND CHINESE

TEA, COFFEE & DINNER SETS, LACQUER, SATSUMA, IVORY, BRONZE, CLOISONNE, PRINTS, DAMASCENE, TORTOISE-SHELL, CULTURE PEARLS, ETC. SILK DRESS MATERIALS AND KIMONOS "SILK LAND" HOSIERY.

Kiangse & Ezra Roads
SHANGHAI
Tel. 12319

SHIRTS MADE TO ORDER

PERFECT FIT GUARANTEED
OVER 600 EXCLUSIVE
DESIGNS

ASTOR HOUSE HOTEL TIENTSIN

THE LEADING HOTEL IN BEST
POSITION OF TOWN

Telegrams :
ASTOR TIENTSIN

PAUL WEINGART
Manager

NEGRETTI & ZAMBRA, LONDON

Manufacturers of

Meteorological, Engineering and Industrial
Instruments and Thermometers

of all Descriptions

Agents : **HIRSBRUNNER & CO.**

SASSOON HOUSE NANKING ROAD Telephone 15138

KNOW CHINA

Lack of knowledge of China, the Chinese, their Art, Literature, Folklore, Traditions, History, Drama and Philosophy, is one of the main causes contributing to misunderstanding and race antagonism.

THE CHINA JOURNAL

has been established for the precise purpose of making China, the Chinese and all that the country contains and stands for known to the World at large.

A High Class, Profusely Illustrated Monthly Magazine, containing numerous articles by Experts. Thoroughly Authentic.

SUBSCRIBE NOW

Only \$12.50

(Shanghai Currency)

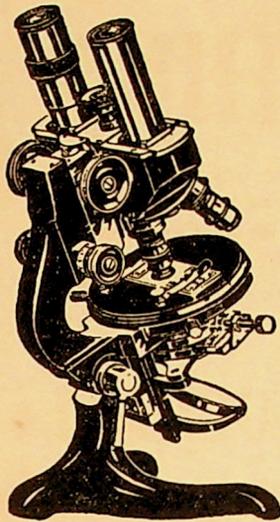
a year for 12 Numbers

(Postage in China included)

Postage abroad \$5.00 additional

20 MUSEUM ROAD, SHANGHAI

Telephone 13247



Leitz

MICROSCOPES

and all other Optical and
Scientific Instruments.

also: The world-famous

Leica CAMERA

Sole Agents:

SCHMIDT & CO.

Nanking Road, Sassoon Building, Shanghai

A fortnightly magazine issued for guidance and entertainment of guests of Cathay and Metropole Hotels and Cathay Mansions. An excellent Advertising Medium. . . .

IF YOU—

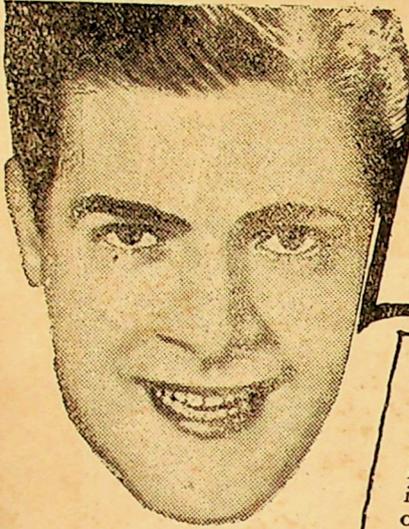
- ... own a gift shop.
- ... have antiques to sell; rugs, silverware or what-nots.
- ... design and make ladies' gowns and underwear.
- ... have a hat shop; a camera shop; a tea-shop or a really high-class cabaret.
- ... manage a shipping or travel agency.

"THE CATHAY"
MAGAZINE AND SHOPPERS' GUIDE



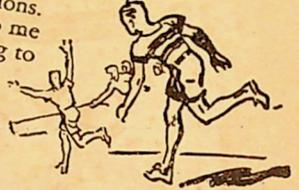
THEN YOU MUST
ADVERTISE IN "THE CATHAY"

SAMPLE COPY WITH RATES FROM THE BUSINESS MANAGER, "THE CATHAY"
c/o MILLINGTON LIMITED, 668 SZECHUEN ROAD, SHANGHAI



"A tip from a champion made me a winner"

"THERE was a time when I couldn't win. I had the natural ability but always seemed to lack the stamina for a successful finish. Then I met one of our former champions. He took a fancy to me — said he was going to make me a winner."



"First of all he corrected my diet. Through him, I began eating Quaker Oats — a good portion of it every day. He said it was the best food for building a man's strength and endurance. Said he always depended on it for that extra energy a champion needs."



"My next race proved I had benefited by Quaker Oats. I let the other fellow lead to the home stretch and then surprised everyone by sailing past him and winning. I've been doing the same ever since — eating Quaker Oats ever since, too. And when my athletic days are over I'll continue Quaker Oats. I can use that energy in every day life too."



Children and adults in every walk of life thrive on Quaker Oats. It has every element necessary for health. Gives extra strength, vigour and vitality. It's delicious, too—you'll like its tempting flavour. Serve Quaker Oats every day—cooks in 2½ minutes.

LOOK FOR THE QUAKER FIGURE FOR GENUINE

Quaker Oats

ROYAL BAKING POWDER

洛雅發醇粉
完全純潔



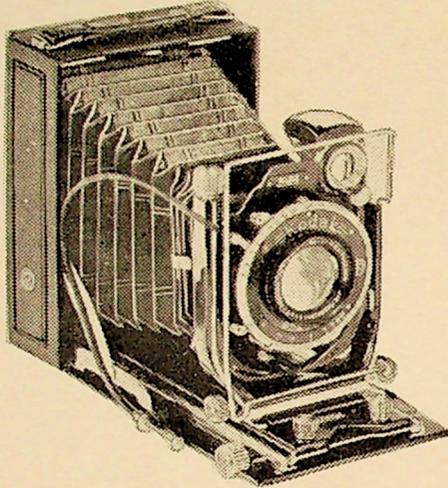
“Write to us for your
copy of the
Free Cookery Book”

CONNELL BROS. CO. LTD.

51 CANTON ROAD, SHANGHAI

KODAK RECOMARS

18 *and* 33



UNUSUALLY
VERSATILE
PRECISION
CAMERAS

USE EITHER
FILM PACK,
CUT FILM,
OR PLATES.

Here is an all purpose camera that is unsurpassed in its fine precision, construction and its versatility. It allows the use of a great variety of colour sensitive and speed emulsions, including the new Kodak Super Sensitive Panchromatic Film Packs assuring an almost unlimited range of picture opportunities.

Recomars 18 and 33 both carry f.4.5 or f.3.8 anastigmat lenses Compur shutter (speeds to 1/250 on the "18," 1/200 on the "33") with built-in self timer, wire frame and reflecting type finders, ground glass focusing back, double extension bellows and bed.

Kodak Recomar 18 (2 $\frac{1}{4}$ " \times 3 $\frac{1}{4}$ ") from \$120.75

The "33" (3 $\frac{1}{4}$ " \times 4 $\frac{1}{4}$ ") from \$148.00

EASTMAN KODAK COMPANY,

HONGKONG

SHANGHAI

TIENTSIN

PEROXOIDS

Eliminate the POISONS in your system by taking "PEROXOIDS," which supply OXYGEN to the various organs, thereby inducing a healthy state of the body. STOMACH ACIDS are neutralized, the INTESTINES are disinfected, CORPULENCE is reduced and pleasant SLEEP assured by these remarkable tablets. Taken regularly after meals PEROXOIDS rejuvenate the body and maintain it in a perfect state of HEALTH.



E. MERCK CHEMICAL CO., LTD.

668 SZECHUEN ROAD, SHANGHAI

Sold at all Chemists



**"Not Now—Later On" Is Gambling With Time
and Your Family's Future**

A man with family responsibilities who puts his money into any other investment, *no matter how attractive*, before he has *first* secured adequate life insurance, is gambling with TIME and his family's future.

Not because other investments may be risky, in themselves, but because accumulating an estate through ordinary saving and investments requires *many years*. No man can count on continued life or continued good health over any period of time. To-morrow you may be unable to secure the life insurance protection your family will need the day after.

Let us advise you on this vital question of Life Insurance

WEST COAST LIFE
INSURANCE COMPANY

SAN FRANCISCO-CALIFORNIA

W. R. RICE & Co.
GENERAL AGENTS

TELEPHONES 16910-16919

51 CANTON ROAD
SHANGHAI

Cut out and use this Coupon

WEST COAST LIFE INSURANCE CO., 51 Canton Road, Shanghai
Gentlemen:—

Please send me full information regarding Life Insurance:

Name..... Date of Birth.....

Address.....

FOX FILM
STAR
HUGH WILLIAMS

CAPSTAN

The world's most popular Virginia Cigarette

Re-528

The advertisement is enclosed in a decorative border. It features a central illustration of a man in a dark suit and top hat, holding a cigarette. Behind him is a row of identical, semi-transparent silhouettes of the same man. The word 'CAPSTAN' is written in large, bold, serif letters across the middle. A small circular logo in the top left corner identifies the actor as Hugh Williams. The bottom section contains a slogan in a cursive font and a small reference code 'Re-528' in the bottom right corner.



AN AUTUMN CRUISE
 THROUGH THE WONDERFUL
YANGTZE GORGES

is the
IDEAL HOLIDAY

Twenty days aboard a modern, comfortable vessel of the

“GORGE LINE”

visiting interesting cities of Western China and enjoying a
 panorama of magnificent mountain and canyon scenery.

**EXCELLENT FOOD—EFFICIENT SERVICE—
 CONGENIAL FELLOW TRAVELLERS**

Ask for illustrated folder

Sailings Weekly from Shanghai by “THROUGH” boats

For full details, and for reservations, apply to:—

YANGTZE RAPID STEAMSHIP CO.

Fed. Inc. U.S.A.

316 HONGKONG BANK BUILDING . . . TELEPHONE 13433

歡
迎
華
人
往
重
慶
游
覽
定
船
亦
可
向
本
報
館
接
洽

J A P A N



Whether for Sport or a Quiet Enjoyable Rest

" WINTER IN JAPAN "

Brings the Season at its Best!

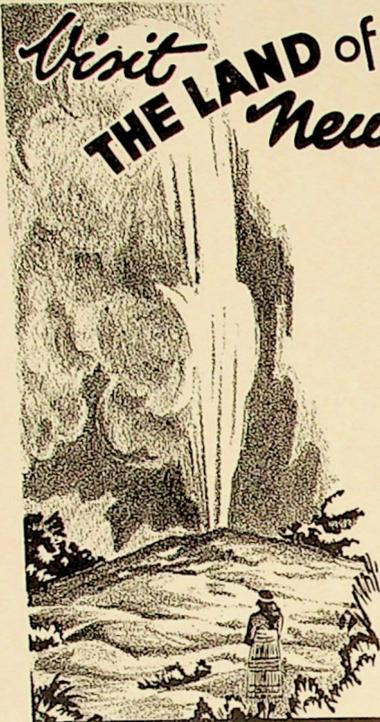
For particular informations and travel literature
please apply to:—

JAPAN TOURIST BUREAU

9 Canton Road, Shanghai,
and

Other Tourist Agencies

BOARD OF TOURIST INDUSTRY
JAPANESE GOVERNMENT RAILWAYS



Visit **THE LAND of HEALTH and BEAUTY**
New Zealand

with its Thermal Wonders, Curative Waters, Majestic Mountains, Fairy Fiords, Glow-worm Grotto—its Inland Seas of Rippling Waters—Snow-capped Peaks, and Alpine Sports—its Rushing Rivers with their Magic Mirrors—its Shooting, Deep-Sea and Fresh-Water Fishing. There is a Regular Service of Modern Liners between Australia and New Zealand.

For Fares, Rates, and Full Particulars, apply to:—

Mr. A. R. Hughes; Hongkong Bank Buildings, Colombo.

Mr. L. A. L. Moore; 171 Victoria Road, Tientsin.

Mr. S. Hutchison; 384 North Soochow Road, Shanghai.

Mr. S. T. Williamson; P.O. Box 615, Hongkong.
The N. Z. Trade and Tourist Commissioner, Corner Pitt St. and Martin Place, Sydney.

or N. Z. Government Tourist Department, Wellington, New Zealand.

TWO ROUTES BY FAMOUS EMPRESS SHIPS

DIRECT and via HONOLULU to PACIFIC COAST

The short way, the fast way is the Direct Express Route on the Empress of Asia and Empress of Russia, only nine days from Yokohama.

Via Honolulu by Empress of Japan, largest ship on the Pacific Ocean and its running mate the Empress of Canada, adds only three days more.

Enquire about our:

All Year Return Fares to the Pacific Coast, Round the World Fares in Connection with P. & O., Blue Funnel and Dutch Lines
and

“Inclusive Tours” to Hongkong with stay at the Repulse Bay or Peninsula Hotels.

Canadian Pacific

SIZE—SERVICE—SPEED
LUXURY—AT LOW COST

O.S.K. LINE

50 Mail, Passenger and Freight Services with a Fleet of 150
Vessels aggregating 550,000 Tons

NEW YORK LINE Shanghai—New York
36 Days
EXPRESS SERVICE New York—Shanghai
41 Days

Shanghai to Foochow, Keelung, Takao, Tsingtao, Tientsin and
Dairen—*Every 10 Days Service*

PRINCIPAL REGULAR OCEAN LINES

South American Line	- - - Monthly	Bombay Line	- - - 2 times a Month
African Line	- - - Monthly	Japan-Calcutta Line	- 2 times a Month
Australian Line	- - - Monthly	Saigon-Bangkok Line	- 2 times a Month
South Sea Line	- - - 2 times a Month	Philippine Line	- - - Fortnightly

CHINESE SERVICE

Osaka-Dairen Line	- - Daily Sailing	Keelung-F'chow-Amoy L.	3 times a Month
Osaka-Tientsin Line	- 7 times a Month	Keelung-Hongkong Line	- - Weekly
Yokohama-Tientsin Line	6 times a Month	Takao-Canton Line	- - - Fortnightly

OFFICES AND AGENTS IN CHINA

SHANGHAI, HONGKONG, SWATOW, AMOY, CANTON, FOOCHOW,
HANKOW, TSINGTAO, CHEFOO AND DAIREN

YOU PAY LESS—YOU GET MORE

*Food, Clothing and a large
variety of many other articles*

THE NIPPON COMMERCIAL UNION, LTD.

*shares with you its advantage of buying large quantities
of Merchandise at lowest prices*

486 WOOSUNG ROAD

Tel. 42305

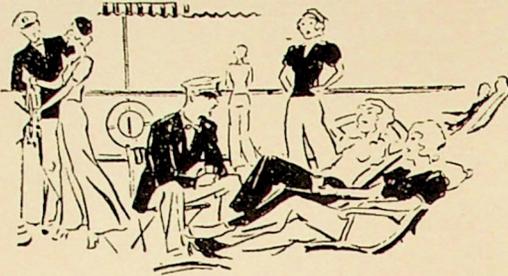
H. KISHIDA & CO.

WESTERN BRANCH

JAPANESE FANCY GOODS

717 BUBBLING WELL ROAD

Phone 35650



Presenting

in regal splendor with utmost simplicity our famous
Oriental silks for

Cruise Wear

Adapted to the most exacting
needs of the fashion-wise
gentlewoman

Featuring { PAJAMAS
 { SLACKS
 { SHORTS

Our lingerie and negligee garments are internationally known to the travelling public. Exquisite Chinese handwork and French styling.

Lovely Pekin jewelry: Oriental and Modernistic designs. One of the largest and most artistic displays in China.

Gift Section—Hand bags, Chinese suits and costumes. Rare old snuff bottles. Figures and old embroideries.

Ideas from London, Paris and New York help us to offer you garments, that are lovelier and smarter than ever.

THE SEA CAPTAIN'S SHOP

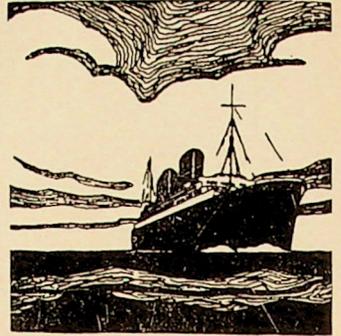
Mrs. W. TORNROTH

Central Arcade Third Floor

Tel. 10206

49 Nanking Road

Over Thos. Cook & Sons



GRAND EXPRESS TO EUROPE

23 DAYS TO BRINDISI
24 VENICE AND
 TRIESTE
25 LONDON
 (OVERLAND)

BY THE LUXURIOUS

S.S. "CONTE VERDE" 23,000
TONS DISPLACEMENT

S.S. "CONTE ROSSO" 21,000
TONS DISPLACEMENT

S.S. "GANGE" 17,000 TONS
DISPLACEMENT

HEAVY LUGGAGE FOR LONDON
BY SPECIAL TRAIN FREE OF
FREIGHT

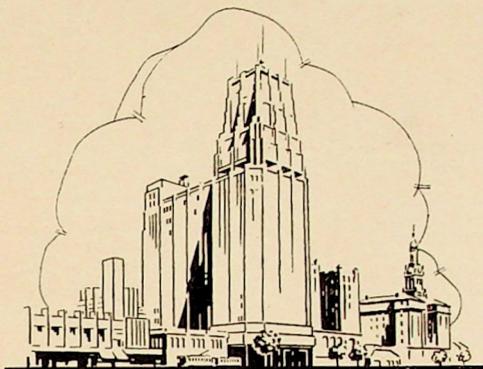
INTERCHANGEABLE RETURN
TICKETS WITH THE
DOLLAR LINES ON VERY
FAVOURABLE CONDITIONS

LLOYD TRIESTINO

FLOTTE RIUNITE LLOYD
TRIESTINO—MARITTIMA
ITALIANA—SITMAR

HAMILTON HOUSE,
170 KIANGSE ROAD

TEL. AD. LLOYDIANO—SHANGHAI
TEL. 16885 (3 LINES)



PARK HOTEL

*Opening November, 1934
At Bubbling Well and Park Roads,
overlooking the Race Course*

The newest Hotel and tallest building in China—located at the theatrical and sport centers of Shanghai—200 attractively furnished rooms and suites—beautifully decorated Dining Room, Lounge, Bar and Grill Room—Roof Garden on 14th floor—exquisite cuisine and courteous service.

RATES

American Plan

Single Room from Mex. \$12.00

Double Room from Mex. \$22.00

Moderate monthly rates on application.

Manager: MAX SCHIBLER

Cable:
PARKHOTEL



Tel. 91010

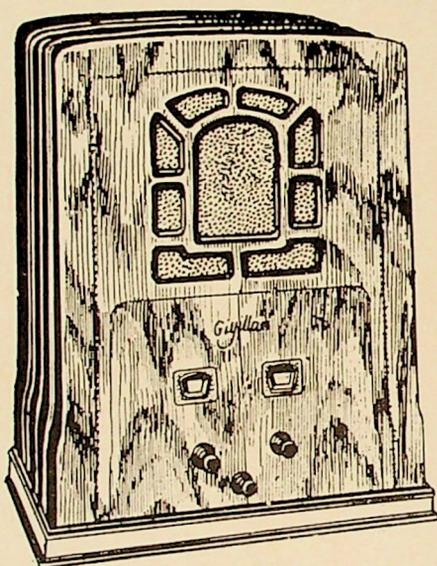
OPERATED BY THE INTERNATIONAL HOTELS, LTD.

PERFORMANCE

is the feature of the

New 1934 Gilfillan Radio!

GILFILLAN RADIO SHORT WAVE and BROADCAST COMBINATION



MODEL 47

8-Tube All-Wave Superheterodyne "Dual-Dialing"

Set embodies full short-wave and broadcast bands from 15-575 meters. Has separate dial window for broadcast reception, and another dial window with separate lighting for each different short-wave band. Very selective broadcast band and a world reaching short-wave band. Heavy walnut cabinet, deep tone dynamic speaker, tone control, short-wave band trimmer, and automatic volume control.

Better, clearer and louder short wave reception costing less both in initial cost and upkeep expense is obtained on the

New 1934 GILFILLAN Radios

by many thousands of owners the world over

Hear one of these radios and you will join the throng of their admirers!

Easy Terms!

Free Demonstration!

Buy To-day from

RADIO SALES CORPORATION

(Fed. Inc., U.S.A.)

82 Nanking Road Tel. 17808

(THE RADIO HEADQUARTERS)

or from other leading radio dealers

HYGRADE
Sylvania

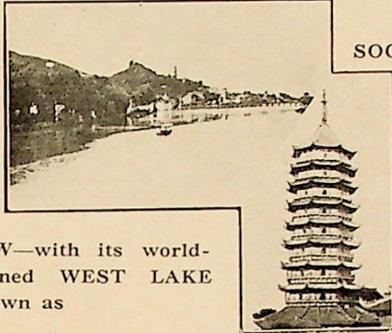
RADIO TUBES

MAKE ANY SET WORK BETTER

Visit "SOO" and "HANG"

Two Earthly Paradises on the

NANKING-SHANGHAI AND SHANGHAI-HANGCHOW-NINGPO RAILWAYS



SOOCHOW—a city
of beauty and
romance that
has survived
22 Dynasties

HANGCHOW—with its world-
renowned WEST LAKE
is known as

“THE GARDEN OF THE ORIENT”

Reduced rates for Excursionists and Tourists Parties

W. FUTTERER

GERMAN BUTCHERY, SHANGHAI

Ship Contractors, Navy and Hotel Suppliers

Under experienced German management and careful foreign supervision, German trained butchers use modern hygienic methods in every part of our butchery and sausage factory, insuring your health and satisfaction.

Westphalian Ham and German Salami Sausage of Superior Quality Imported Regularly.

WE DELIVER
TO OUTPORTS

WE DELIVER
TO OUTPORTS

W. FUTTERER

100 NORTH SOOCHOW ROAD - - Telephone 43410-40774

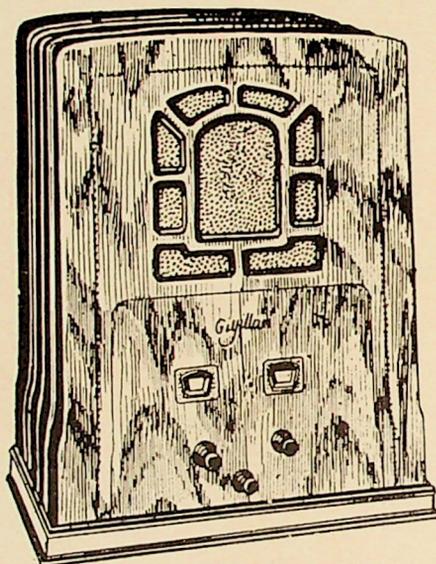
1201-3 BUBBLING WELL ROAD - - - Telephone 31504

PERFORMANCE

is the feature of the

New 1934 Gilfillan Radio!

GILFILLAN RADIO SHORT WAVE and BROADCAST COMBINATION



MODEL 47

8-Tube All-Wave Superheterodyne "Dual-Dialing"

Set embodies full short-wave and broadcast bands from 15-575 meters. Has separate dial window for broadcast reception, and another dial window with separate lighting for each different short-wave band. Very selective broadcast band and a world reaching short-wave band. Heavy walnut cabinet, deep tone dynamic speaker, tone control, short-wave band trimmer, and automatic volume control.

Better, clearer and louder short wave reception costing less both in initial cost and upkeep expense is obtained on the

New 1934 GILFILLAN Radios

by many thousands of owners the world over

Hear one of these radios and you will join the throng of their admirers!

Easy Terms!

Free Demonstration!

Buy To-day from

RADIO SALES CORPORATION

(Fed. Inc., U.S.A.)

82 Nanking Road Tel. 17808

(THE RADIO HEADQUARTERS)

or from other leading radio dealers

Sylvania
HYGRADE

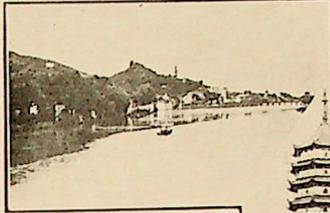
RADIO TUBES

MAKE ANY SET WORK BETTER

Visit "SOO" and "HANG"

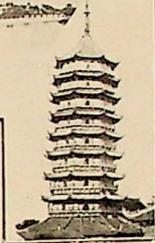
Two Earthly Paradises on the

NANKING-SHANGHAI AND SHANGHAI-HANGCHOW-NINGPO RAILWAYS



SOOCHOW—a city
of beauty and
romance that
has survived
22 Dynasties

HANGCHOW—with its world-
renowned WEST LAKE
is known as



"THE GARDEN OF THE ORIENT"

Reduced rates for Excursionists and Tourists Parties

W. FUTTERER

GERMAN BUTCHERY, SHANGHAI

Ship Contractors, Navy and Hotel Suppliers

Under experienced German management and careful foreign supervision, German trained butchers use modern hygienic methods in every part of our butchery and sausage factory, insuring your health and satisfaction.

Westphalian Ham and German Salami Sausage of Superior Quality Imported Regularly.

WE DELIVER
TO OUTPORTS

WE DELIVER
TO OUTPORTS

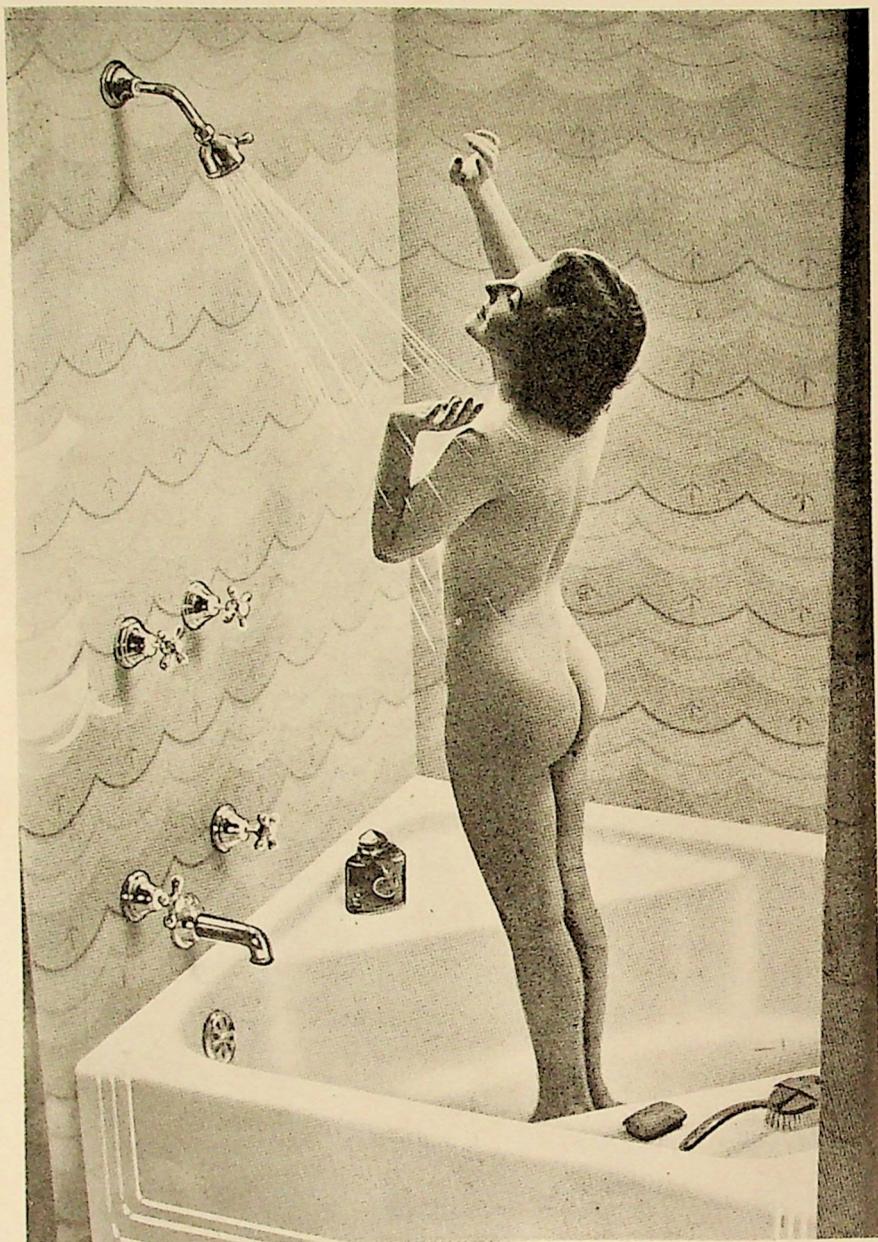
W. FUTTERER

100 NORTH SOOCHOW ROAD - - Telephone 43410-40774

1201-3 BUBBLING WELL ROAD - - - Telephone 31504

The bath of the future—

FOR THE HOMES OF TO-DAY! . . .



It's the newest . . . smartest . . . most distinctive bath ever designed . . . this "Standard" Neo-Angle Bath . . . but, oh so roomy, safe and comfortable! It's almost square, with the tub running diagonally, to give you convenient seats in opposite corners. And no matter what kind of bath you prefer—shower, tub, foot or sitz—you can have it in this single one-piece bath. If you want your bath really modern, in white or any of ten attractive colours, you'll drop by our "Standard" showroom and see the "Standard" Neo-Angle Bath.

STANDARD SANITARY MFG. CO.

Sole Agents in China:

ANDERSEN, MEYER & CO., LTD.

SHANGHAI AND OUTPORTS



MODERN HOME

CONSTRUCTION SUPPLIES, LTD.

MANAGERS

(Incorporated under the Hongkong Ordinances)

FURNISHERS

DECORATORS

INTERIOR WOODWORK

Agents for

SHOEMAKER

ART LOOMS

RUGS

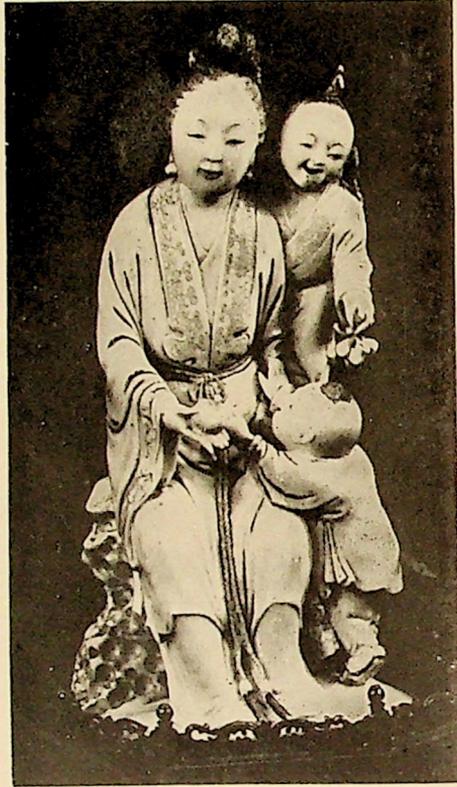
Large Stock to Select from

Showrooms : 874 BUBBLING WELL ROAD
Telephone 34310

Factory Showrooms : 1110 GORDON ROAD

Branch : 651 AVENUE FOCH, Telephone 72540

**For BEAUTIFUL JADE and
other CHINESE ANTIQUES
come to the JADE STORE**



Also Antique and Modern

ORNAMENTS, JEWELLERY and CURIOS
OF EVERY DESCRIPTION

THE JADE STORE

24 Nanking Road, Shanghai

Phone 13237

*WE WISH TO ANNOUNCE THAT WE ARE
SOLE AGENTS IN SHANGHAI FOR*

KARAGHEUSIAN RUGS

Made in Plain Colours and in Persian or
Imperial Pagoda Chinese Designs in Original
Colours or to suit your Colour Scheme.

Rugs Chemically Washed if Desired

THE CARAVAN STUDIO, INC.

18 ROUTE FERGUSON, SHANGHAI

QUALITY

利 **KLISILK** 關

Of first importance to the wise
shoppers is QUALITY. Cheap sale
bargains are frequently worthless.
We stand first and foremost for
QUALITY SILKS, EXCLUSIVE
PATTERNS and the LOWEST
POSSIBLE PRICE.

765 BUBBLING WELL ROAD
55A NANKING ROAD
603 AVENUE JOFFRE

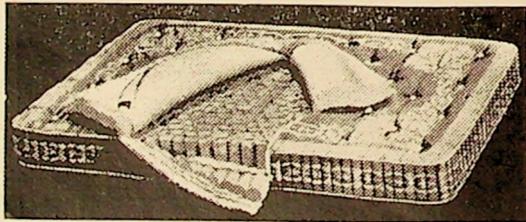
KLIS SILK CO., LTD.

DO YOU WAKE UP TIRED OR RADIANT WITH ENERGY ?



With a Simmons mattress, you will sleep as you have never slept before. A good night's rest brings you a mysterious glowing something no beauty aids can match. Takes away every trace of fatigue from a woman's face. Science says that really rejuvenating sleep comes only when every nerve and muscle can relax. There is a mattress that gives you this deep rejuvenating sleep—the Simmons BEAUTYREST. Don't let another day go by without seeing this famous mattress.

On Sale at all Good Furnishing Shops



Beautyrest Mattress

SIMMONS
BEDS . . SPRINGS . . MATTRESSES

FABERKRANKENHAUS AND SANATORIUM, TSINGTAO



Founded 1907
21 ANHUI ROAD

New Annex opened 1934
P O. Box 168

Cable Address : FABERHAUS, TSINGTAO

This Hospital and Sanatorium, Fitted with the Latest Equipment for Medical and Surgical Care, is specially prepared for receiving CONVALESCENTS all the year round.

Pleasant Adjoining Park in Shady Woodlands for use of Convalescents. German Government Trained Nurses.

The
China Jewellery Co.

We have the best assortment
of

**JADE, MODERN and
ANTIQUE**

Chinese Jewellery

to be found in Shanghai

"KNOWN TO BE RELIABLE"

4 Broadway

Astor House Building

Tel. 42671



MOTHERS

**HAPPY ARRIVAL OF
NURSERY VIYELLA**

Get ready with scissors and needles! Here's the children's own fabric. Soft as rose petals, sturdy as a nursery fabric must be. Made in the width that paper patterns are designed for. Protective against too sudden changes of warmth and cold. Unshrinkable. Unfadeable. In six dainty colours. FOR ALL AGES FROM 10 MINUTES TO 10 YEARS. For top and underwear. And the price is easy. Now, Mother!

27 inches wide

"Look for the name
on the Selvedge."

From all first class stores throughout the East. If any difficulty, please write Wm. Hollins & Co., Ltd., Viyella House, Castle Boulevard, Nottingham.

5APB5



YUEN TAH & CO.

Established 1876

**Provision and Wine
Merchants**

241-249 Avenue Haig

Tel. 74283 and 74098

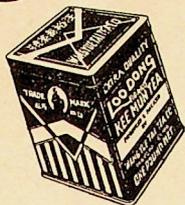
**Standard Quality
at Reasonable Price**

All orders will receive our

**CAREFUL PERSONAL
ATTENTION**

Price List will be sent on application

Drink **LOO DONG-KEE MUN TEA**



It has that rare,
refreshing fragrance

ROSE BRAND

\$2.10 for 1 lb. tin

\$1.10 for ½ lb. tin

LOO DONG BRAND

\$1.60 for 1 lb. tin

\$0.85 for ½ lb. tin



Obtainable from all leading
stores and groceries.

C. N. GRAY & CO.
TAILORS AND HABIT MAKERS, OUTFITTERS,
MAKERS OF CAMEL HAIR OVERCOATS.
EXCLUSIVE DESIGNS
Telephone 17870
306-308-310 KIANGSE ROAD, SHANGHAI

館相照華中
CHUNG HWA
STUDIO
THE LEADING PHOTOGRAPHER
IN TOWN
HIGH CLASS PORTRAITURE
ARCHITECTURAL AND
COMMERCIAL PHOTOGRAPHY
DEVELOPING AND PRINTING
PHOTO SUPPLIES
AGENT FOR **LEICA** CAMERAS
AND ACCESSORIES
Central China Sole Agents for
COOKE LENSES
594 NANKING ROAD
Telephone 94477
號四九五路京南
號七七四四九話電

Shanghai Pet Store

**IMPORTERS & EXPORTERS
OF BIRDS AND ANIMALS**
Specializing in Roller Canaries,
Fancy Canaries, Fancy Finches,
Fancy Pigeons and Fowls; and a
large variety of other Birds; also
fancy cages, accessories, and all
kinds of bird food, etc.
Retail and Wholesale.
Orders Taken
1553 BUBBLING WELL ROAD
AND 744 DIXWELL ROAD
(Opposite Police Station)

LIPTON'S TEA
 FOR QUALITY AND FLAVOUR

SAVE YOUR COCOA

The illustration shows a white teacup with a saucer on the left. To the right is a cube-shaped Lipton's Tea packet with the brand name and a logo. The text 'SAVE YOUR COCOA' is written in a curved path between the cup and the packet.

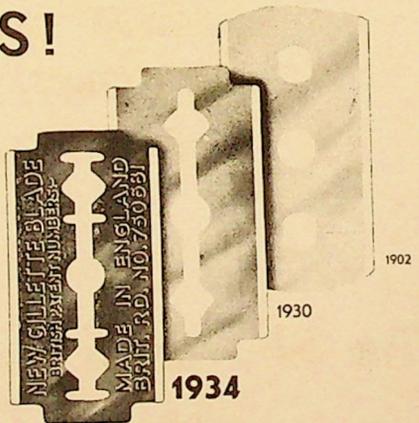
CONNELL BROS. CO., LTD., AGENTS P.O. BOX 342

PROGRESS!

Year by year Gillette—world leaders in the progress towards perfect shaving—invent new machinery and develop new processes by which to produce finer and still finer razor blades.

Keep pace with progress—buy Blue Gillettes, the blades which embody all the improvements in manufacture and design recently evolved by Gillette.

Ask for Blue Gillettes next time



Obtainable of all dealers

BLUE - Gillettes -

MADE IN ENGLAND

FEDERAL

Quality

AT PREVAILING LOW
PRICES IS CREATING
A CONSTANT DEMAND
FOR FEDERAL TRUCKS

The Shanghai Horse Bazaar and
Motor Co., Ltd.

(Incorporated in Hongkong)

(Operated by the Auto Palace Co., Ltd.)

993 BUBBLING WELL ROAD

Telephone 30002

THE KAILAN MINING ADMINISTRATION

Telephone
11070



12 The Bund,
Shanghai

BUILDING MATERIALS

FIREBRICKS

AND

FIRECLAY

“HYTEMPITE”

Special Fire Cement

DRAIN PIPES
Glazed inside and out

FACE BRICKS

PAVING BLOCKS
PAVING TILES

for Roads, Courtyards,
Stables, Godowns, etc.

WINDOW GLASS
(Factory at Chinwangtao)

16 oz. to 70 oz.
Best quality

THE SHANGHAI WATERWORKS FITTINGS COMPANY, LIMITED

(INCORPORATED UNDER THE COMPANIES ORDINANCES, HONGKONG)

HEATING

SANITATION

FIRE PROTECTION

Repairs Promptly Executed All Work Guaranteed

484 KIANGSE ROAD

Tel. 15577-6-5-4-3

DAY AND NIGHT SERVICE

DAY or NIGHT

IN ANY SEASON

OUR ELECTRICITY

is ready to serve you in any of its many uses.



**Power—Cooking—Lighting
Refrigeration and Small Appliances**

Electricity is Cheap

**SHANGHAI
POWER COMPANY**

FOR

BEAUTY, STRENGTH and PERMANENCY

USE

HORSE BRAND CEMENT

Manufactured by

THE CHEE HSIN CEMENT CO., LTD.

Head Office : TIENTSIN

Branch Offices and Agents in all Principal Cities

SYRACUSE SMELTING WORKS

Brooklyn, N.Y.



BABBITT METALS

For All Purposes

(Alloyed by the Stanley Process)

Stocks carried By Local Agents

H. OLIVEIRA & SON

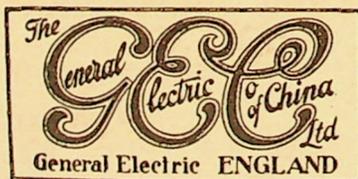
Telephone 40020



MOTORS :: GENERATORS :: TRANSFORMERS
 SWITCHGEAR :: LIGHTING SETS
 OIL ENGINES :: TURBINES :: MINING PLANT
 COAL CONVEYORS :: PUMPING PLANTS
 MOBILE CRANES :: RAILWAY EQUIPMENT
 EXPRESS LIFTS :: COMPLETE POWER PLANTS

The General Electric Co. of China, Ltd.

(Incorporated in England)



Head Office & Showrooms—

23-27 NINGPO ROAD

Tel. 16825 (3 lines)

Branches in the Principal Ports

The Shanghai Land Investment COMPANY, LIMITED

(Incorporated under the Companies' Ordinances, Hongkong)

ESTABLISHED 1888

Company Limited by Shares

**Capital Paid-up in 1,404,000 Shares of
Tls. 5.00 each to equal Tls. 7,020,000**

Board of Directors :

H. E. Arnhold, Esq.
(Chairman)
F. L. Ball, Esq.
B. D. F. Beith, Esq.
Chun Bing Him, Esq.
P. W. Massey, Esq.
Yu Ya Ching, Esq.

Head Office : Shanghai

Agents :

Messrs. Gibb, Livingston
& Co., Ltd.

Manager :

N. L. Sparke, Esq., F.S.I.

Properties To Let and for Sale

**GODOWNS, SHOPS, OFFICES,
HOUSES and APARTMENTS**

The Shanghai Land Investment COMPANY, LIMITED

100 JINKEE ROAD

SHANGHAI

**THE
CATHAY LAND CO., LTD.**

(Incorporated under the Companies' Ordinances
of Hongkong)

SASSOON HOUSE

SHANGHAI

Land and Real Estate Agents

Authorized Capital	-	-	-	-	-	Tls. 5,000,000
Issued 480,374 shares at Tls. 10					,,	4,803,740
6% Debentures					,,	4,000,000
6% Debentures						\$1,500,000

BOARD OF DIRECTORS :

H. E. ARNHOLD, Esq. (Chairman)

C. H. ARNHOLD, Esq.

F. R. DAVEY, Esq.

ELLIS HAYIM, Esq.

C. J. MEAGER, Esq.

G. L. WILSON, Esq.

GENERAL MANAGERS :

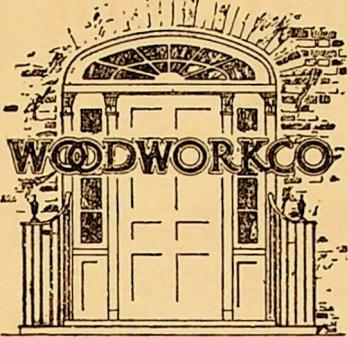
MESSRS. ARNHOLD & CO., LTD.

MANAGER :

E. S. BARRACLOUGH, Esq.

**THE CHINA WOODWORKING
& DRY KILN CO., LTD.**

*(Incorporated under the Companies'
Ordinances of Hongkong)*



DOORS, SASH AND WOODWORK OF
EVERY DESCRIPTION.

Address :

1426 Yangtzepoo Road,
Shanghai

Phone No. 50068

**Behn, Meyer China Co.,
LIMITED**

**General Importers
and Engineers**

356 PEKING ROAD

Tel. 92344

SHANGHAI

Chemicals

Machinery

Metals

Hardware

Paper

SPECIALISTS IN

CENTRAL HEATING

PLUMBING

FIRE PROTECTION

AIR CONDITIONING

SANITARY FIXTURES

Installations designed by
experts, and installed
by experienced fitters.

FOREIGN SUPERVISION

GORDON & Co., Ltd.

443 SZECHUEN ROAD

SHANGHAI

Phone
16077-8

Cable Address
"HARDWARE"

WORLD INTEREST

is focussed on

MANCHURIA

that little known but extremely interesting

LAND OF GREAT PROMISE

Mr. Arthur de C. Sowerby, the well-known explorer and big-game hunter, has written an extensive work on this country, based on a

SERIES OF EXPEDITIONS

into the wild and unknown parts. Although it is called

The Naturalist in Manchuria

it covers many phases of interest other than natural history, Volume I being devoted to the

COUNTRY, HISTORY, PEOPLE and RESOURCES

and containing an account of the author's

TRAVELS, ADVENTURES and IMPRESSIONS

Five Volumes in Three Bindings

The Complete Set

China and Japan	...	...	...	\$25.00	per set
England, Europe, etc.	...	...	...	£2:0:0	„ „
America and Canada	...	...	...	G\$10.00	„ „

All exclusive of postage—Stocks on Hand at the Office of

THE CHINA JOURNAL

20 MUSEUM ROAD

SHANGHAI

THE CHINA JOURNAL

誌 襍 術 美 學 科 國 中

Editor: ARTHUR DE C. SOWERBY, F.Z.S. Manager: CLARICE S. MOISE, B.A.
Assitant Editor: STUART LILLICO

[ENTERED AT THE CHINESE POST OFFICE AS A NEWSPAPER]

VOL. XXI

OCTOBER 1934

No. 4

CONTENTS

	PAGE
THE ARMAMENTS RACKET .. By ARTHUR DE C. SOWERBY	147
FAMOUS ORIENTALIST PASSES	148
CONSECRATED IMAGES OF CHINA .. By JOHN ANTON DEAN	150
ART NOTES	161
THE LIBRARY	162
TO MOUNT OMEI BY WAY OF THE YANGTZE GORGES By R. V. DENT	164
TRAVEL AND EXPLORATION NOTES	169
NOTES ON SOILS AND AGRICULTURAL CONDITIONS IN SOUTHERN ANHWEI AND NORTHERN CHEKIANG .. By JAMES THROP	174
ENGINEERING, INDUSTRIAL AND COMMERCIAL NOTES	179
NOTES ON SOME OXYA SPECIES FROM CHEKIANG PROVINCE WITH THE DESCRIPTION OF A NEW SUBSPECIES By K. S. FRANCIS CHANG	185
SUN SPOTS AND TERRESTRIAL CONDITIONS BY HERBERT CHATLEY	193
SCIENTIFIC NOTES AND REVIEWS	194
SHOOTING AND FISHING NOTES	196
THE GARDEN	197
SOCIETIES AND INSTITUTIONS	200
EDUCATIONAL NOTES AND INTELLIGENCE	201
PUBLICATIONS RECEIVED	202

Contributions of a suitable nature are invited and all manuscripts not accepted for publication will be returned.

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

The subscription for one year (twelve issues) in China is \$12.50, Shanghai currency; in Hongkong \$13.50; in Japan Gold Yen 13; in Indo-China Piastres 13.50; in the Netherlands Indies Fl. 15; in the U.S.A., the Philippines and Canada Gold \$6.00; in Great Britain, British Colonies and Europe £1: 5s., English currency, or its equivalent. Postage free.

Crossed cheques, drafts or postal orders should be sent in payment of the annual subscription from Outports and countries abroad direct to the Manager.

Office: 20 Museum Road, Shanghai, China.

PRINTED BY THE NORTH-CHINA DAILY NEWS AND HERALD, LTD., FOR THE PROPRIETORS



[All Rights Reserved.]

RAS CHINA IN SHANGHAI
LIBRARY



DONATED BY:

Peter Hibbard

Classified Index of Advertisers

ART AND CURIO DEALERS :

Caravan Studio, Inc., The ..	A25
Jade Store, The	A24
Kishida & Co., H.	A17
Komai, S.	A 4
Murakami, Toyo	A 5
Sea Captain's Shop, The ..	A18

AVIATION :

China National Aviation Corporation ..	Cover 3
--	---------

BANKS AND FINANCE AND INVESTMENTS :

Hongkong and Shanghai Banking Corporation ..	A49
National City Bank of New York, The	A46
National State Lottery Administration, The ..	A 2
Shanghai Loan & Investment Co., Ltd.	A40

BOOKS :

Naturalist in Manchuria, The ..	A38
---------------------------------	-----

BUILDING CONTRACTORS :

China Woodworking and Dry Kiln Co.	A37
--	-----

BUILDING MATERIALS :

Chee Hsin Cement Co., Ltd., The	A33
Kailan Mining Administration ..	A32

CHEMICAL IMPORTERS,

LABORATORIES,

DRUGGISTS, ETC. :

China Export, Import and Bank Co. (Aspirin) ..	A 1
Merck Chemical Co., Ltd., E. ..	A11
National Aniline & Chemical Co. U.S.A. (Dyestuffs) ..	A40
Scott's Emulsion	A48

COTTON MILLS :

Chinese Cotton Goods Exchange Ltd.	A41
--	-----

ELECTRICAL ENGINEERS AND CONTRACTORS :

General Electric Co. of China, Ltd., The	A34
Shanghai Power Co.	A33

ENGINEERS, MACHINERY

MERCHANTS, SHIP

BUILDERS, ETC. :

Behn, Meyer China Co., Ltd. ..	A37
Ekman Foreign Agencies, Ltd. ..	A 3
Oliveira & Son, H.	A34
Werf Gusto	A43

FABRICS :

Hollins & Co., Ltd., Wm. (Viyella)	A28
--	-----

FOOD PRODUCTS :

Connell Bros. Co., Ltd. (Royal Baking Powder) ..	A 9
Connell Bros. Co., Ltd. (Lipton's Tea)	A30
Fütterer, W.	A21
Nestlé & Anglo-Swiss Condensed Milk Co.	A39
Quaker Oats	A 8
Wang Yue Tai Tea Company ..	A29
Yuen Tah & Co.	A28

FURNITURE

MANUFACTURERS :

Caravan Studio, Inc., The ..	A25
Construction Supplies, Ltd. ..	A23
Simmons Company	A26

GAS FIXTURES :

Shanghai Gas Co., Limited ..	A42
------------------------------	-----

HOTELS :

Astor House Hotel, Tientsin ..	A 5
Park Hotel	A19

HOSPITALS :

Faberkrankenhaus	A27
------------------------	-----

IMPORTERS AND EXPORTERS, ETC. :

Behn, Meyer China Co., Ltd. ..	A37
Compagnia Italiana D'Estremo Oriente	A47
Shanghai Pet Store (Birds, etc.) ..	A29

INSURANCE :

West Coast Life Insurance Company	A12
---	-----

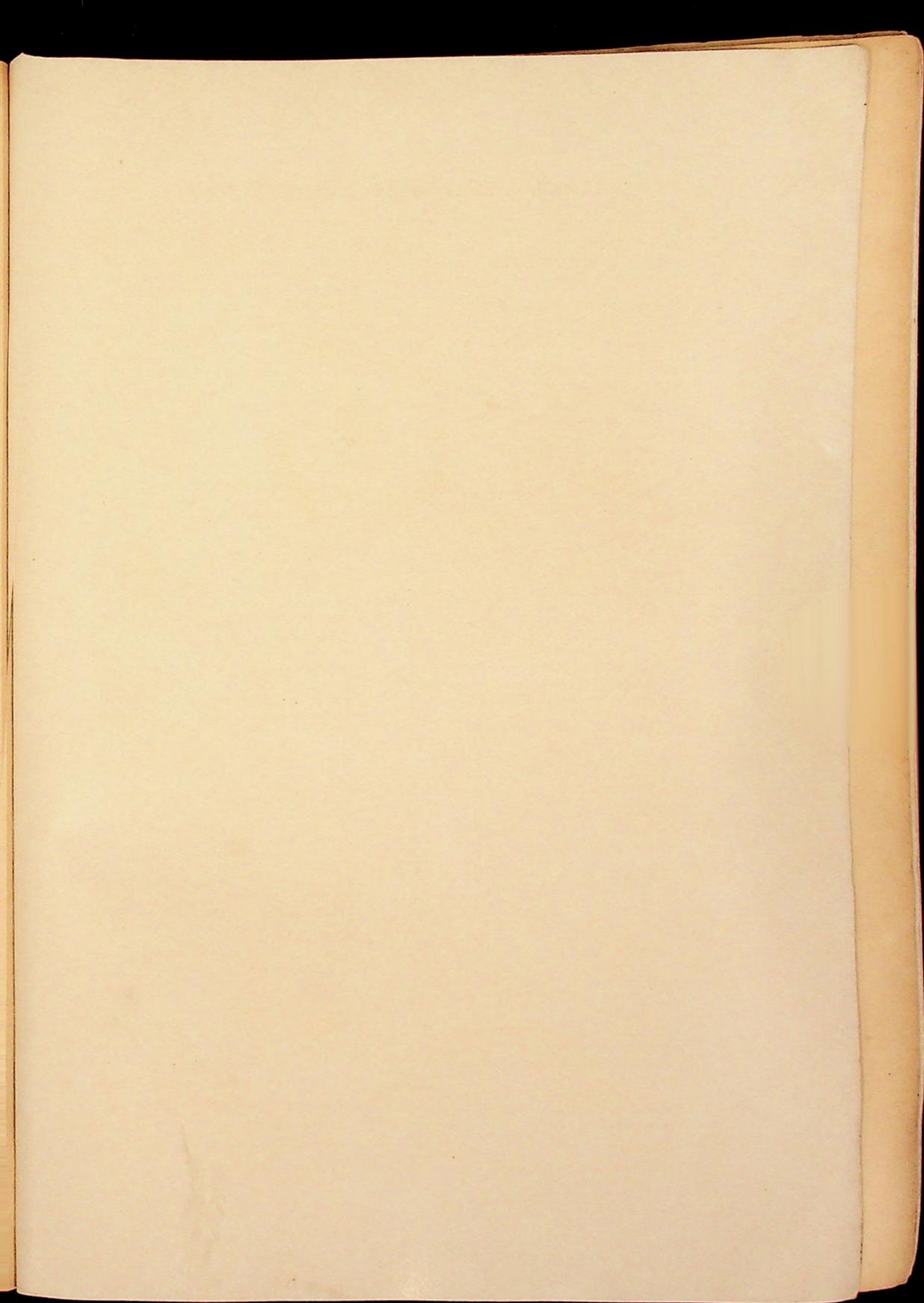
INTERIOR DECORATORS :

Caravan Studio Inc., The ..	A25
Wagstaff, W. W.	A 1

(Continued on next page)

Classified Index of Advertisers (Contd.)

JEWELLERS :		REAL ESTATE :	
China Jewellery Co., The ..	A28	Cathay Land Co., Ltd., The..	A36
Jade Store, The	A24	China Realty Company, The Cover 2	
MERCHANTS AND COMMISSION AGENTS :		Shanghai Land Investment Co., Ltd., The	A35
Wattie & Co., Ltd., J. A. ..	A50	RETAIL STORES :	
MOTOR VEHICLES AND REPAIRS :		Nippon Commercial Union, Ltd. The	A17
Shanghai Horse Bazaar & Motor Co., Ltd., The (Austin)	A45	Shanghai Co-operative Society, Inc.	A 4
Shanghai Horse Bazaar & Motor Co., Ltd., The (Federal)	A31	RUBBER ESTATES AND RUBBER PRODUCTS :	
Taylor Garage, Ltd.	A 4	Wattie & Co., Ltd., J. A. ..	A50
OIL COMPANIES :		SCIENTIFIC INSTRUMENTS :	
Asiatic Petroleum Co. (North China), Ltd.	A54	Hirsbrunner & Co.	A 5
PHOTOGRAPHY :		Kofa American Drug Co. ..	A44
Chung Hwa Studio	A29	Schmidt & Company (Leitz)..	A 7
Eastman Kodak Company ..	A10	SILKS, LACES AND EMBROIDERIES :	
Schmidt & Company (Leica)	A 7	Kishida & Co., H.	A17
PLUMBING AND HEATING CONTRACTORS :		Klis Silk Co.	A25
American Radiator Co. ..	A22	Murakami, Toyo	A 5
Andersen, Meyer & Co., Ltd.	A22	Sea Captain's Shop, The ..	A18
Gordon & Co., Ltd.	A37	STEAMSHIP, RAILWAY, TRAM AND TAXI COMPANIES :	
Shanghai Waterworks Fittings Co., Ltd., The ..	A33	American Mail Line ..	Cover 2
PUBLIC UTILITIES :		Canadian Pacific Steamships	A16
Shanghai Gas Co., Limited..	A42	Dollar Steamship Line	Cover 2
Shanghai Power Co.	A33	Japanese Government Railways	A15
Shanghai Telephone Co. ..	A 3	Lloyd Triestino Navigation Co.	A18
Shanghai Waterworks Fittings Co., Ltd., The ..	A33	Mackinnon, Mackenzie & Co.	Cover 3
PUBLISHERS, PRINTERS, NEWSPAPERS, ETC. :		Nanking-Shanghai and Shanghai-Hangchow-Ningpo Railways	A21
Cathay, The	A 7	Osaka Shosen Kaisha, Ltd..	A17
China Journal, The	A 6	P. & O. Steamship Navigation Co.	Cover 3
Game & Gun	A40	States Steamship Lines ..	A54
North-China Daily News and Herald, Ltd.	A51	Taylor Garage, Ltd.	A 4
Shanghai Evening Post and Mercury, The	A52	Yangtze Rapid Steamship Co.	A14
Shanghai Times, The	A53	TELEPHONES :	
Tientsin Press, Ltd., The ..	A41	Shanghai Telephone Company	A 3
RADIOES :		TOBACCO :	
Bureau of International Telegraphs	A 3	British-American Tobacco Co. (China), Ltd. (Capstan) ..	A13
Radio Sales Corp.	A20	TRAVEL :	
R.C.A. Victor Company of China	Cover 4	Department of Industries & Commerce (New Zealand)	A16
RAZORS :		WEARING APPAREL :	
Gillette Industries, Ltd. ..	A 30	Gray & Co., C. N.	A29
		WINE MERCHANTS :	
		Union Brewery Limited ..	A39



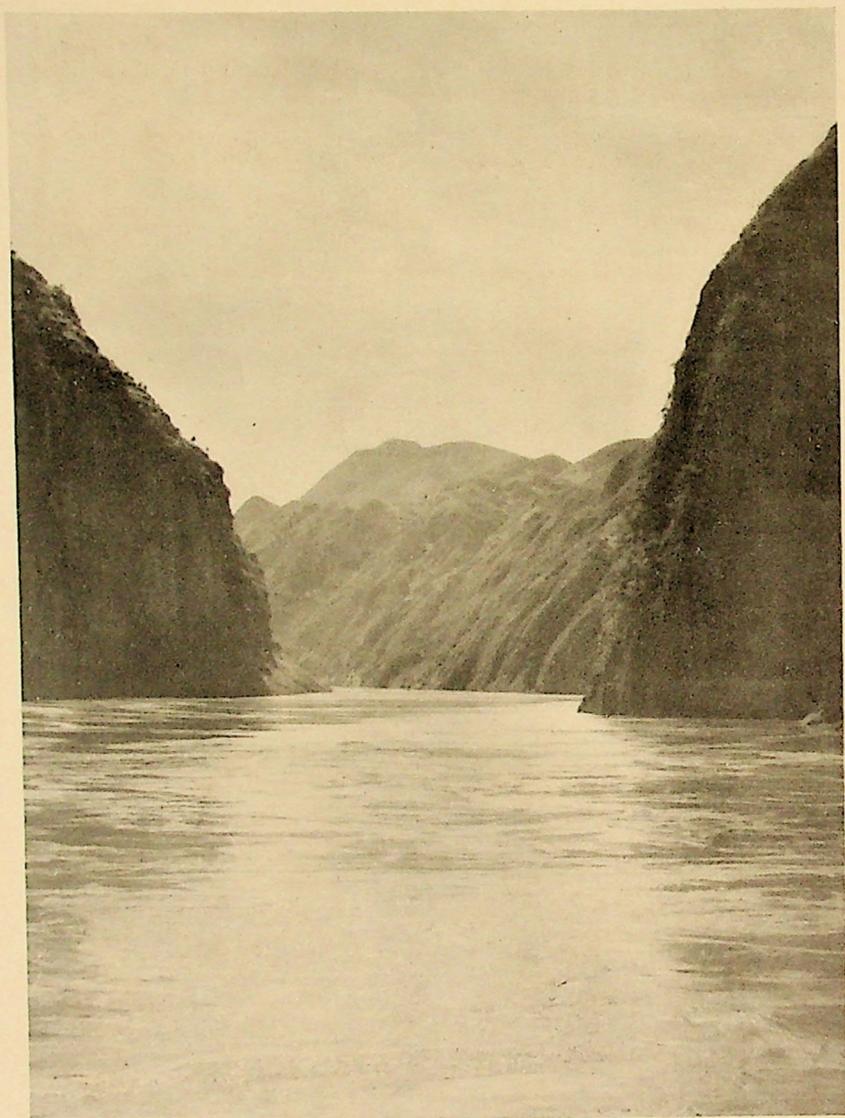
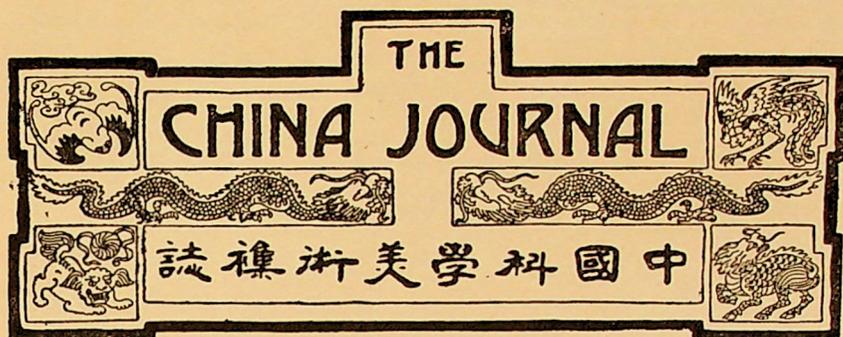


Photo by R. V. Dent.

In a Yangtze Gorge.

揚子江山峽



VOL. XXI

OCTOBER 1934

No. 4

THE ARMAMENTS RACKET

BY

ARTHUR DE C. SOWERBY

It would be interesting to know exactly how long humanity as a whole is going to put up with the "armaments racket" of the big arms and ammunition manufacturers.

The exposures arising out of the investigation being made in the United States into the arms trade are not only causing considerable misgivings in Government circles in numerous countries, but are acting as an eye opener to the deluded peoples of those countries whose sons were offered as a sacrifice to Moloch during the World War, a war largely engineered by the manufacturers of arms and ammunition for the sake of the vast profits that would be theirs.

And it would appear that similar sinister agencies are at work again in the breaking up of disarmament conferences and the fomentation of international jealousies and antagonisms, if reports from Washington are to be credited.

How long, we ask, is suffering humanity going to tolerate this racket of rackets, this grand scale murder business, this slaughter of innocents for the sake of financial gain to a small section of the community.

The arch culprits, as far as we can make out, are the manufacturers of big guns, machine-guns, rifles and other engines of war, whose existence depends entirely on war or the threat of war, since they have no other line to which to turn in times of peace, while the articles they manufacture can not be turned to economic uses. It is somewhat different with the big chemical industries which manufacture explosives, for we believe we are correct in saying that there is ample profit to be derived from the manufacture and sale of explosives for purely industrial purposes, while

there is no need for a demand for explosives for war purposes in order to keep the factories busy, since they have many other lines of manufacture, such as dyes, fertilizers and the like. The same applies to the manufacture of aeroplanes, in view of the remarkable development of commercial aviation during the past few years. It applies also to ship-building. None of these three important industries need depend on the manufacture of war material. But the gun and shell makers must necessarily depend on war conditions, actual or potential, for a market for their products, and in our opinion they are the ones whose activities should be curtailed.

Governments with big armaments at their disposal are apt to display the infant psychology of a schoolboy with his first air gun or the criminal mentality of a well armed gunman. None of the three can resist using their weapons and so become a menace to the community at large. It is the modern rifle that has made banditry in China the menace that it is, just as modern automatic firearms have given the gunmen and racketeers in the United States their terrible power.

These facts are too well known to need stating, yet the people whose money is squandered on the placing of firearms in the hands of vast numbers of soldiers do nothing to prevent the building up of the tremendous armaments that are at once a disgrace and a menace to our twentieth century civilization; neither is anything done to curb the manufacture and sale of the weapons that the criminals turn with such dire results upon the communities on which they prey.

It is to be hoped that the outcome of the investigation into the arms business already referred to will be the taking over by the Governments of the countries concerned of all arms and ammunition manufacture, the cutting down of manufacture in these lines to a minimum, and a general reduction of armaments.

Failing some such readjustment as this, the world is due for another and a much more frightful war than the last; and the consequences to civilization and humanity of such a conflagration are beyond thinking.

FAMOUS ORIENTALIST PASSES

A *United Press* message from Chicago dated September 14 was to the effect that the famous anthropologist and Orientalist, Dr. Berthold Laufer of the Field Museum of Natural History, had died that day in tragic circumstances, having been killed by a fall from an upper floor of an hotel in that city.

The author of many important works on the ethnology, culture, religions, folklore, arts, archaeology and art-crafts of the Orient, Dr. Laufer has led several expeditions to various parts of Eastern and Central Asia, amongst which were the Jesup North Pacific Expedition to Saghalin Island and the Amur region of Eastern Siberia, 1898-9; the Jacob H. Schiff Expedition into China, 1901-4; and the Blackstone Expedition

FAMOUS ORIENTALIST PASSES

into China and Tibet, 1908-10. We met him in Si-an Fu, capital of Shensi Province, when he was on the last named expedition and we were on the Clark Expedition into North-western China, 1908-9, and well remember seeing some of the art treasures he was packing for shipment to the United States. We met him again in Shanghai in 1923 on his return from his last expedition into the interior of China on behalf of the Field Museum of Natural History. We found him an extremely intelligent man with a vast fund of knowledge at his command. He had a kindly and pleasant personality.

His explorations greatly enriched the Oriental sections of the ethnological and archaeological collections of the Field Museum of Natural History, just as his extensive researches and writings have added enormously to our knowledge of Asiatic culture, ancient and modern, religions, folklore and arts.

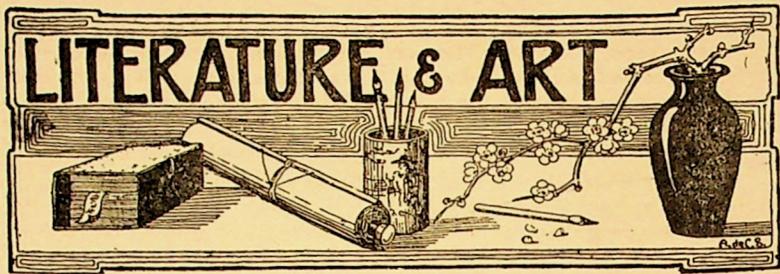
Following is a list of the more important and interesting books, monographs and papers he published during his long and useful career in the chosen field of his activities.

- 1898, Contributions to the Popular Religion of Tibet
- 1902, The Decorative Art of the Amur Tribes
- 1907, Historical Jottings on Amber in Asia
- 1909, Chinese Pottery of the Han Dynasty
- 1911, Romance of a Tibetan Queen
China Grave Sculptures
Jade, a Study in Chinese Archaeology and Religion
- 1913, Notes on Turquoise in the East
Catalogue of a Collection of Ancient Chinese Snuff-Bottles
- 1914, Chinese Clay Figures
Some Fundamental Ideas of Chinese Culture
- 1915, The Diamond, a Study in Chinese and Hellenistic Folklore
Asbestos and Salamander, an Essay in Chinese and Hellenistic Folklore
- 1917, Beginnings of Porcelain in China
The Reindeer and its Domestication
Supplementary Notes on Walrus and Narwhal Ivory
- 1919, Sino-Iranica: Chinese Contributions to the History of Civilization in Ancient Iran
- 1923, Use of Human Skulls and Bones in Tibet
- 1924, Tobacco and its Uses in Asia
Introduction of Tobacco into Europe
- 1925, Ivory in China
- 1927, Insect Musicians and Cricket Champions of China
- 1928, The Giraffe in History and Art
The Prehistory of Aviation
- 1930, Tobacco and its Uses in Africa
- 1931, The Domestication of the Cormorant in China and Japan

Perhaps the most important of these is "Sino-Iranica."

Dr. Laufer was born in 1874 at Cologne, being educated there and in Berlin and Leipzig. He went to the United States of America in 1898, and, after carrying out the expeditions already mentioned, became the Curator of Asiatic Ethnology in the Field Museum of Natural History, with which institution he was connected until his death. The study of Far Eastern ethnology in all its branches has suffered a great loss with the passing of Dr. Laufer, admittedly one of the leading Orientalists of the day.

A. DE C. S.



CONSECRATED IMAGES OF CHINA

BY

JOHN ANTON DEAN

PART I

THE IDOL ; THE CEREMONY ; "ENTRAILS"

We are not concerned with the purely representative image in this paper, but we are interested in idols. Idols are supposed to be conscious and animated creatures. As to their attributes, G. Willoughby-Meade notes in his "Chinese Ghouls and Goblins" that :

"The wooden and plaster images of minor deities and so forth in the temples are often referred to as moving, talking, and visiting people in dreams and actually feasting and drinking with them in their waking hours, but always or nearly always between sundown and cockerow." (p. 265.)

Images are purely symbolical of the deity in question. The worshipper is devout in his reverence, for the image awakens his religious feelings. They become instrumental in guiding the life of the man. And as the idol is the gathering of all perfections, it is of value as an ethical standard. But the common people, of course, ignore the spiritual system with its moral and intellectual symbolism, they find the idol to be a powerful spiritual intercessor, who can relieve them from social evils and physical ailments. Natives will worship the local idol for the protection that it insures. Joseph Edkins in his "Chinese Buddhism" describes the feelings aroused by the various images as follows :

"According to the explanations of the philosophic Buddhists, the principle of arrangement and the use of idols at all must be viewed as symbolical, as already remarked. When the worshipper enters he is met with the idea of 'protection' from celestial beings. As he advances into the presence of *Buddha*, he sees in his image 'intelligence,' the fruit of long and thoughtful contemplation. In the *Bodhisattva* are exhibited 'knowledge and mercy' combined. In the *Arhats* he sees those who have 'become' venerable by years,

wisdom, and a long course of asceticism. In the *sheng-wen*, the bareheaded 'disciple,' he sees the first step in progress towards the *Nirvana*, the introduction to the other three. When he bows before these images, and makes his offering of incense, candles and gilt paper, this also is a symbolism. It only means the reverence with which he receives the instruction of Buddhism." (p. 347-8.)

To gain a clearer conception of idolatry, we should distinguish the worship of an idol from the worship of a fetish. The demarcation line between the two may be vague. For illustration suppose the wooden image of Tibet's *Yama*, the God of Death, is before us. If it is considered to be an idol, the image would be conscious and animated, because it is only a representation of that specific deity. The realization that it is only an intermediary and not the original is not lost to sight. If this *Yama* image is a fetish it is infallibly holy. For the spirit of *Yama*, the God of Death, is positively supposed to be within the image. Under fetishism the image is not a symbol of the unknown. It is the essence of the symbol. Naturally fetishism is a very primitive form of religious worship.

For the deity to become animated and conscious within the material image it must be caught. There are various means by which the idolatrous image may be consecrated. The deity is asked to possess and avail himself of this figure. The monk or monks involved in the ritual recite an invocation to the deity; it has supposedly arrived; offerings of food are proffered to the image; hymns are sung; special *mantras* are recited; prayers for benefits are made; it is asked to remain, and then the ceremony is concluded by a benediction. All is in homage to the great spirit. The bonze is the intermediary who introduces the spirit of the god. Of course one must distinguish between the importance and ritual of an idol of huge size to be enclosed by a temple and the smaller votive image to be placed upon a family shrine.

Or, perhaps, the ceremony may proceed along other lines. Edkins in "Chinese Buddhism" gives the following:

"When the idols are set up there is a ceremony of consecration. The priests prostrate themselves before them, and a film of clay or some other substance is cleared away from the eyes of the idols. It is called the ceremony of opening to the light and the day is spoken of as *k'ai-k'wang-ju-tsi*." (p. 252.)

The monk may smear the breast of the image with vermilion paint or blood. "Entrails" of symbolic value may be inserted either through the base or back of the image and sealed. One of the first or last rites to be performed is the opening of the eyes. It is a magical rite. Perhaps the eyes, nose, mouth, ears, hands and feet have been touched with vermilion. This is done to assist the image in attaining consciousness of its senses. Communication with its worshippers may now be realized.

Commenting on Tibetan images L. Austine Waddell in his "Buddhism of Tibet" says:

"The mode of executing images, as regards the materials, the auspicious times to commence the image, and to form the most

essential parts, such as the eyes, are all duly defined in scriptures, whose details are more or less strictly observed. Many of the more celebrated idols are believed by the people and more credulous Lamas to be altogether miraculous in origin—'self-formed' or fallen from heaven ready fashioned . . . Internal organs of dough or clay are sometimes inserted into the bodies of the larger images, but the head is usually left empty, and into the more valued ones are put precious stones and filings of noble metals, and a few grains of consecrated rice, a scroll bearing 'the Buddhist Creed' and occasionally other texts, booklets and relics. These objects are sometimes mixed with the plastic material but usually are placed within the central cavity, the entrance to which is called 'the charm place,' is sealed up by the consecrating Lama. And the image is usually veiled by a silken scarf." (p 228-9.)

"Entrails" is the Chinese term for the offerings or charms that are secreted within the image. These entrails are the conscious core of the image. Generally small roles of sacred texts on paper or silk are inserted. These are the most common type found. But there are also models of the viscera. The internal organs of the body, such as the heart, liver, kidneys, intestines and gall bladder, are also to be found. These internal replicas are usually of silver or cloth, particularly silk and cotton. Initial animation may be originated by inserting a live animal into the recess and sealed therein. Amongst the animals used are young birds, snakes, lizards, spiders, toads and frogs. The spirit of the living creatures passes into the graven image to animate it. In small images the entrails may consist of twisted wool to form the "entrails" and this is sprinkled with incense. Here is an illuminating excerpt from Edkins' "Chinese Buddhism":

"The Pekin custom in making large images, whether they are of brass, iron, wood or clay, is to construct them with the internal organs as complete as possible. While the smaller images are filled with Tibetan incense or cotton and wool, the larger have the interior arranged according to Chinese notions of anatomy. The heads are always empty. The chief viscera of the chest and abdomen are always represented. They are of silk or satin, and their shape is that found in drawings of the organs in native medical works. A round red piece of silk represents the heart, whose element is fire. It is the size of a dollar. It and the lungs which are white, and divided into three lobes, are attached to a piece of wood, round which is wound a piece of yellow paper, threads of five colours, a metallic mirror called *ming-king*. This represents intelligence, the heart being regarded as the seat of mind. The lungs cover the heart as an umbrella or lid, as if to preserve it from injury.

"In the abdomen the intestines are made of long narrow pieces of silk with cotton and wool stitched along the concave border. This may represent fat or the mesentery. Embracing all, like the peritoneum, is a large piece of silk covered with prayers or charms. Inside are also to be found little bags containing the five kinds

of grain, with pearls, jade, small ingots of silver, and gold of five candareens' weight, and bits of solder of various shapes to represent silver." (p. 251.)

PART II

A CHINESE VOTIVE IMAGE OF KWAN YIN

A few years ago on the shelf of a curio shop outside Ch'ien Men (gate) of Peking, China, I found a Kwan Shih Yin of lacquer. Centuries ago in the period of the great Ming Dynasty (1368-1643), Wang Shih-chun, with the ceremonial assistance of a Buddhist monk, made this image. That was in the age preceding the Manchu Dynasty, the last dynasty in China, which ended in 1911. The image is one of the Bodhisattvas. A Bodhisattva is one who has attained enlightenment, one who may enter *Nirvana*, but does not because he wishes to remain on earth to save mankind before he enters.

As this article is brought forward because of the discovery of a hidden cavity within the trunk of the Kwan Shih Yin, I had better inform the reader concerning several allusions that led me to break through aged lacquer. Originally, before I disfigured it, the figure had a smoothly surfaced back of lacquer with no distinguishing sign that would indicate any form of a recess. The initial clue, however, occurred at the time that I obtained it in China. I had noticed a perpendicular line, hardly discernable and not continuous, on the image's back. Secondly, although the image is exquisitely shaped, there is a slight error in comparative proportions. The front of the figure from the neck down to the folded hands is thrust out more than is necessary. Thirdly, the figure appears to be always gazing down at one, for the axis of the body leans slightly forward. Of other Buddhistic figures there has been especially one, which I have beheld, that has "the looking down aspect" of this eight inch Kwan Yin of sandalwood, and that other figure is the fifty foot Daibutsu of bronze at Kamakura, Japan. From these three clues of an imperceptible line, a thrust out front, and an illusory looking down mass, I concluded that the artist who had wrought this work must have left a hidden recess within the statuette's trunk.

By this time the figure had been in my possession for over a year. The thought of scratching the lacquered surface repelled me. Here was a beautiful image, why deface it for a dubious result? One evening, however, being in an irreverent mood and wishing to give expression to my harboured intentions, I slipped a scalpel along the faint line on the back. It only cut through the lacquer. The next time I pierced deeper and bore down as the blade followed the line. Suddenly, it went easily and deeply into the heart of Kwan Yin. Then the sides of a cover, hitherto hidden, appeared on the lacquer. With excitement I cut along these sides. What was behind? What could there be in an image so small? Perhaps nothing of any intrinsic value or else the Chinese dealer, from whom I bought it, would have thought it worth his while to open it.

Carefully I pried this cover off, and there was revealed to me on my desk in the hour of the rat (11 p.m. to 1 a.m.) emblems that had

been sealed for centuries. A fragrance of temple incense arose from the aperture. I was about to vandalize the symbolic contents that some forgotten disciple of Fo had put away.

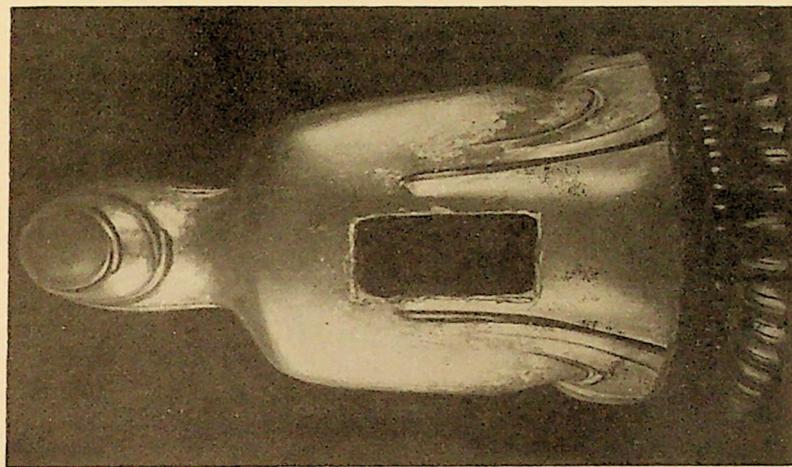
With facts and in fancy let us re-assemble the circumstances connected with the origin of this Bodhisattva. First, we shall speak with facts about the position held by Kwan Shih Yin in the Buddhist pantheon of China. Secondly, we shall speak in fancy about its maker, Wang Shih Chun, and about some thoughts that must have passed through his mind. Thirdly, we shall speak with facts and in fancy of the process by which this Bodhisattva became a symbol to stimulate religious imagination toward the Kwan Shih Yin.

The Buddhist pray to this Bodhisattva. He is called an Avalokitesvara in India; and in China the feminine manifestation of this masculine deity is called Kwan Shih Yin. The name indicates one who looks toward sounds of supplication from the world. The goddess has known all that the ear has heard or the mouth uttered. According to the Chinese there was a legendary king of the Chou Dynasty (1122-209 B.C.) who had a daughter. He arranged for her marriage, but she refused to be married. Thereupon the princess was sentenced to death. The executioner's sword descended, but it could not harm the maiden. To assuage the king's indignation, she was dismissed to Hades. Upon her arrival, she took compassion upon the suffering inhabitants. Under a shower of sacred lotus flowers, the foundations of Hades were shaken, and the imprisoned penitents were released. For the welfare of his domain the Regent of Hades had to remove her. Consequently the unfortunate princess was sent to P'u-t'u Shan, the lotus isle which is off the eastern coast of China. To-day pilgrims from all parts of China visit this island to make known to the Kwan Yin either their sufferings or their thankfulness for their relief from suffering.

It is significant to note that her position in the Buddhist pantheon is similar to the veneration given in Roman Catholicism to the Virgin Mary, the Mother of Perpetual Help. It was to her that individuals prayed for rain, for children, for recovery from sickness, or for help in danger.

It was during the reign of the Emperor T'ien Ch'i (1621-1627 A.D.) that an old Chinese and his elderly wife, or *l'ai l'ai*, made this votive offering to the Goddess of Mercy. Wang Shih Chun was a Chinese gentleman who must have belonged to the Dhyana or Ch'an sect of Buddhism. The sect concerned with meditation and contemplation as the way to attain a high level of insight or enlightenment. In evidence I offer the *mudra* or position of the hands and the unemotional indifference of his statuette.

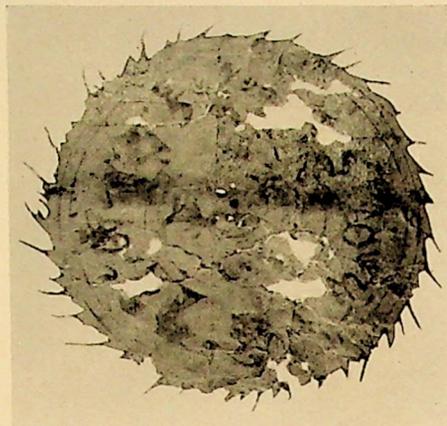
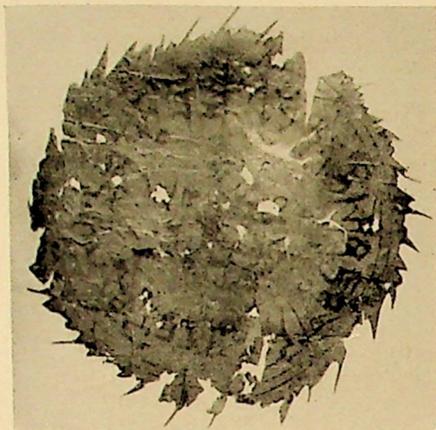
Imagine, if you please, Wang of the seventeenth century standing in his courtyard for this portrait by a twentieth century desecrator. Wang's eyes twinkle in amusement, and his lips part in a smile of remonstrance. Tall and slightly bowed, sincere and kindly of countenance, Wang represents one of the leisured class of Chinese of the Ming Dynasty. A black silk skullcap perched back on his head reveals a rather high and narrow brow. A sparse growth of grey-white hairs adorns his upper lip, and from his chin and partly up either jaw there falls to his chest a



Three Aspects of an Image of the Bodhisattva Kwan Shih Yin, the Goddess of Mercy, showing in the Central One a Cavity from which a Hundred and Fifty-five Objects were taken, representing the so-called "Entrails."

观音之 中有一洞内藏之十五样东西

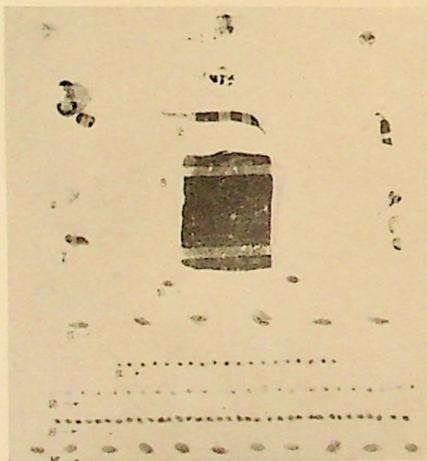
觀世音佛身內藏着各種東西
 三三代表風火輪
 中信後許願書
 下為米蘇香燭丸
 坐可



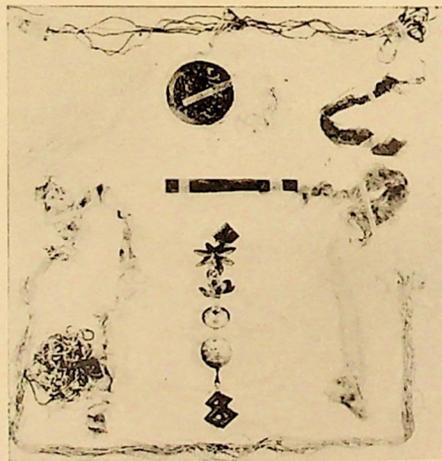
Two fringe-edged Yantras representing Fire Wheels with Sanscrit Prayer Formula in Tibetan Characters found inside an Image of Kwan Shih Yin.



With vermilion Chinese Characters and Fourteen Inches in Length this Record gives the Date when the Image was made, the Names of the Votaries and a special Prayer to the Bodhisattva.



A small Bag of Offerings, consisting of Grains, Seeds, Bits of Coral and Metal Filings, taken from the Cavity in the Image of the Bodhisattva Kwan Shih Yin.



Coloured Threads and Strips of Cloth representing the Sensual Qualities; a Wood Splinter, Bronze Medallion and Emblem Chain the Bonds between the Goddess herself and the Image.

whispy growth of white hair. As it is winter, Wang has on many layers of jackets and grey gowns. The sleeves are filled by the numbers within and fall to a length that hides his hands from our sight. The bottom edge of the robe sweeps against his silken black slippers.

Incidentally, may we present Madame Wang? Only a woman, nevertheless, she has taken part in this drama. In fancy we glance quickly at Madame Wang: it is a privilege granted to few men that we may even see her. For decades no man has seen her except Wang and, perhaps, some of the domestic coolies. She is dressed in the finery of a grand old lady. Grey pantaloons with a jacket whose sleeves reveal her arms; thick black oily hair drawn tightly back into a knot; silver pins jutting out from the knot. Earrings are embedded in her ears; her feet are bound.

Wang does not need to pray for children, as he has been blessed with male and female offsprings. Wang may have been ill at intervals during his life, but never with anything really serious. He has never known grave danger; his life has been led too placidly for that. Consequently, he wants to express gratitude for the favourable events of his life. So let us imagine his aspiration to fashion the Pusa after his heart's desire in an exquisite graven image.

Calm in its wisdom and complete in its silence, this lacquered sandalwood image of Kwan Shih Yin has remained as sublime as the maker and believer, Wang Shih Chun, desired it to be centuries ago. We shall now follow this craftsman and servitor of the Goddess in his design and work. As aromatic splinters of sandalwood are burned in the incense bronzes of this deity, Wang feels that the All Compassionate One will understand his complete reverence for her if he carves from that wood.

Why does Wang choose this particular posture? He has had the time in his declining years to contemplate the stirrings of pleasures and angers, the sorrows and joys of his life; therefore, a benevolent and thoughtful pose will befit the length of Wang's years. He is acquainted with all the forms of Avalokitesvara from the formidable to the meekest of its aspects. But, of all the postures of his beloved deity, there is only one form that Wang desires to model. It is the *dhayani mudra* of the Dhayana or Ch'an school of Amida to which he belongs. He decides that to lay the right hand over the left with the palms up and the tips of the thumbs touching, to have the legs crossed with the soles turned up, to have the head leaning slightly forward with the eyes cast down should be the perfect pose for his figure to assume. M. A. Anesaki in his "Buddhist Art" expresses this posture in the following observation:

"There is no expression in the active sense, yet the figure tells of a fullness of wisdom which can be poured out without end. It is an infinite eloquence in silence. Nevertheless, the paradox implied in such a phrase is not real, inasmuch as the Buddhists have always trained themselves to reserve emotions and to restrain expressions within the bounds of potentiality."

In his room Wang works silently and patiently. He sits on the *k'ang*, a built-in dais, that stretches across one end of the room, and serves as a bed during the night. It has a small opening in the centre near the floor, through which fuel is thrust to keep this huge oven affair heated. The end wall above Wang holds several scrolls upon which are exhibited beautiful ideographs. A long low cabinet of drawers stands beneath these hangings. Many of the drawers are partly open to display his tools. Wang sits cross-legged before a small movable table that serves as his work-bench.

He works for weeks on his carving. He wants his representation of the looking down sovereign to be faultless. This figure requires time, patience, skill and thoughtfulness to be rightly done. Then from the litter of chips covering his work-bench there arises a well balanced and symmetrical Kwan Yin. For the thrust out knees Wang grinds up some incense sticks and this powder mixed with glue and a few hairs forms the knees. Large pieces of sandalwood are expensive and difficult to obtain. The figure's equipose is to Wang's satisfaction. It is a roundly modelled Kwan Yin of sandalwood that has not a faulty chip blemish. Wang sands it down to a smooth surface. Furthermore, he has to cut a small rectangular piece out of the back. He chisels into the figure to a depth of over an inch and to a height of two inches. Next the cover has to be shaved down to a third of an inch in thickness. This niche is to contain the efficacious symbols that are to promote his affairs in this world as well as in the spirit world. It is to be a sanctuary of the Goddess. The invisible spirituality of the deity is to be symbolized in it by "seals of the heart."

The important feature of this Kwan Yin is now to be unfolded. The Chinese Buddhists give life to their carved or cast deities by the insertion of prayer rolls and "entrails." Most of the statues in the temples of China have a hollow within them in which are sealed the emblems; but nearly all of these figures have been vandalized, although, perfect collections are to be found in some of our museums. Our figure displays in the accompanying illustrations its prolific ensemble of efficient charms that gave animation to the statuette. Karl Ludvig Reichelt in his book on "Truth and Tradition in Chinese Buddhism" makes a very illuminating observation as follows:

"Thus with Buddhism's entrance into China, began the 'manufacture of gods (tiao hsiang)' and the Chinese developed that art to an altogether extraordinary degree. The first act of consecration of an image takes place while it is being made, when the pupils of the eyes are opened. This is called 'opening the light (kai kuang)' and is accompanied by an act of homage to the great spirit who, it is thought, will take up his abode in the statue. Occasionally it is done in a more drastic way, by putting a snake or some other reptile into the figure through an opening in the back, or by smearing the blood of a cock on the breast of the statue. This, however, takes place only in the case of the lesser local gods and the Taoist gods, who according to the Buddhistic custom have been chosen from among the people. The great images of the Fu or

p'-u-sa would never be treated in this way, but a heart or gall bladder of silver or gold or some mixture prepared of bitter herbs may be poured into the opening."

We have already noted how Wang is careful about the pose and position of the hands of his Kwan Yin. But now he has to secrete emblems of the utmost significance within this tiny recess. There are cloth and metal bound to a rosewood splinter; a small food bag; two magic circles cut from rice paper; and a silken strip with Chinese ideographs that are a record and a prayer. Consequently as the collection of this group indicates the complexity involved, we must imagine Wang as having the assistance of a Buddhist monk.

As Wang has lived in this section for decades and has gone frequently to the nearby monastery for worship, he must certainly solicit such assistance. Perhaps the monk chosen to aid in making this image sacred is second in seniority and devoutness to the abbot. Let us visit him. We enter the main hall of the temple; before us rises the altar. Incense sticks are burning in the ash-filled burners. On the altar is a large open lotus and upon it is a seated Buddha. In a gilded bowl before the Buddha floats the sacred and unquenchable flame. We turn to the right and thread our way between flat cushions laid before a long bench covered with bound books. Although the arrangements are similar to our pews, they are not for the laymen, but are for the monks. Presently we find ourselves before a curtained doorway. Thrusting it aside we are in a cell and before the monk. The cell contains a bed, a table against the wall, two chairs beside the table and bound volumes on the top of a closed cabinet that is nearly man high. The lamp reveals to us the immobile features of one who has forsaken the world. He is clothed in a voluminous black robe. It falls to his socks which reach slightly over his ankles. Black slippers encase his feet. The light is reflected from his satin neck-band, and from his rather oily forehead and high cheek bones. His head is completely shaven and down the centre of his skull in dotted pairs are the scars of initiation. The lids of his eyes droop over black pupils. His hands are thrust into his sleeves.

The bonze, upon Wang's request, begins gathering together most worthy emblems. He takes from the cabinet some embroidery thread and six strips of coloured cloth, and from a bronze receptacle in his cell a splinter of rosewood. In cross section it is round at one end and square at the other; round to denote the heaven and square to denote the earth. It is a bond between heaven and earth. About this he wraps the six pieces of cloth, each one individually, and around these the coloured threads. These streamers and threads are additional bonds or auras between heaven and earth. Next he winds six linked metal symbols about the cloth and splinter. These seem to be of silver. The metal chain of symbols is held by a long pink thread. Before the end of the chain is reached a bronze medallion is laid at the round end. This medallion has a figure of a hare with four characters above it on one side and a mirror on the other side. The hare, of course, is one of the twelve animals of the Zodiac and occupies the fourth house. The

markings on the moon delineate the form of a hare. It is the hare in Taoist legends that compounds the elixir of life on the moon. In the Buddhist writings there is found, in one of the Birth Stories, namely, "The Hare-markings in the Moon," the Buddhist legend of the hare. Above the running hare there are characters, which, translated, mean, "The hare rises from the East."

The use of this medallion is significant, for the statue was completed on the fifteenth of the month as set forth in the record. Now the fifteenth of the month in the Chinese lunar calendar is the night of the full moon. Also the medallion was heated at the time it was laid away for there is a charcoal crust on its surface and by its contact the rear of the cavity has been charred. We may say that this was done to lend warmth and life to the Kwan Yin image on the night of the full moon when the hare stretched its form across the moon's surface.

The monk now informs Madame Wang that he requires a small bag. Within this bag of blue cloth he places food for the image. There are grains of oats and rice, seeds of the poppy, seeds of the sesame, and other seeds. Also there are three coral beads for longevity, a bit of teak wood, and filings of gold.

The bonze cuts out from a piece of rice paper two stamped vermilion circles that will later change their colour to a dark rich brown. The fringed edge of the circles remind one that these are wheels of fire. A Tibetan script is found on their surfaces. The circles have a potent value. These diagramatic circles are *vantras* or *dharanis*. Their value lies in the fact that they have a claim on the protection of all script, influential beings, or objects depicted.

The monk now receives from Madame Wang a piece of yellow silk about fourteen inches long and about four inches wide. Upon this he inscribes in red the *sutra*, prayer, that Wang desires. The *sutra* begins with the orthodox "Homage to the Buddha, Homage to the Law, Homage to the Order." Then follows the adoration of the supplicant with the mercies that he seeks. It is the prayer that lends itself to the ear of this particular divinity. This *sutra* covers about three-quarters of the silken surface. Then, last of all, the bonze records on the silk:

"T'ien Ch'i (title of the reign) wood-rat year (the first element and the first animal denoting this to be the year 1624) on the 15th Day of the 3rd Moon, this Bodhisattva Kwan Shih Yin, an honourable gold image, is offered by the disciple of Fo (Buddha), Wang Shih-chun. At this time he is 67 years of age, and was born at noon on the 17th Day of the 10th Moon. His wife from the Li family is also to be remembered. At this time she is 53 years of age and was born at noon on the 29th Day of the 1st Moon."

The moment has arrived for consecration. Wang Shih-chun and his wife cross the large courtyard and enter the main chamber of the largest temple. As Wang closes the door behind him to forestall a winter-draft, only the spluttering wax of a few candel and the altar lamp shed light upon this solemn ceremony.

CONSECRATED IMAGES OF CHINA

The interior of the temple is dusky : not forboding, but pleasant. There can be no cause for fear while beneath this massively-beamed ceiling. The monk awaits Wang beside the altar table that holds the efficacious charms. Wang unwraps his image that is to become a living personification of the Goddess.

The life-breathing emblems are now gathered together near the image. The invisible spirit of Kwan Shih Yin is to be connected and manifested in the visible figurine of sandalwood. The sacred flame is taken from near the canopied Buddha overhead to the small image upon the table. The Buddha looks down upon the priest and votaries below with the complacent and sedative gaze that only one of his enlightenment can express. Perhaps, during the ensuing ceremony, there are rows of chanting monks seated upon the floor cushions.

There is no impropriety when Madame Wang appears by the side of Wang while the priest is laying away the sacred emblems. The priest first coats the interior of the recess with vermilion as being symbolical of the warm blood of a sacrificial animal. He heats in the sacred flame the chain of six symbols and the bronze medallion of the hare. These are quickly wrapped about the rosewood splinter and thrust into the recess. The food bag is stamped with a vermilion character and placed near the warmth of the metals. The *yantras* are folded and placed on either side of the cavity. Lastly, across the opening is laid the folded silken fabric. The bonze, immediately after the secretion of the charms, brushes black gum along the sides of the cover of the recess. The contents are to be securely sealed ; meanwhile the bonze continuously mumbles *sutras*.

The image is offered with the devout reverence and the solemnity that the occasion requires. This is not an ordinary affair. Husband and wife have seen the ascension to the Dragon Throne on High of that most powerful Son of Heaven, Wan Li, and they have observed that the Manchu invasion was inevitable. Furthermore, everyone makes the ascension to the Celestial region early or late in life. However, while still on this earth, they can at least ask for guidance to the Western Paradise from the honourable Goddess of Mercy.

Madame Wang, who stands silently throughout the ceremony, may wonder how long these emblems are to remain hidden from the sight of man, and to remain a bond between the votaries and the Goddess, perceived only by Kwan Shih Yin. A present day vandal could inform her that for three hundred and nine years that bond was to remain unbroken.

After the sealing Wang brushes a base of black lacquer over the whole surface. In a few days it is dry enough for a beautiful coat of dark red lacquer to be applied. When the lacquer has dried, Wang carries his image over to the temple and lays it on the altar table. In the presence of the huge gilded Buddha above, of the Buddhist monk and of Madame Wang, Wang Shih-chun gilds with deft fingers powdered gold over the entire surface of the figure. It becomes a Kwan Yin Bodhisattva of gold. Above all it expresses the inward philosophical teachings of Buddhism as understood by the devout worshipper, Wang. He gazes with reverence at his perfect work ; surely the Lotus Lady must have

left P'u-t'u Shan to guide his hands. The Goddess of Mercy is wrapped in silk and placed in the family shrine where she radiates gentleness and charm. Wang and Madame Wang can now live the remainder of their lives on earth without sorrow or despair, and with the comfortable feeling that, when their ancestors shall beckon to them, they will receive the proper compassion from the Bodhisattva.

BIBLIOGRAPHY

1. Alviella, Goblet D'—Images and Idols, in the Encyclopedia of Religion and Ethics. Vol. VII, pp. 110-16. Edited by James Hastings.
2. Anesaki, M.A.—Buddhist Art. Houghton Mifflin Co. Boston and New York: 1915.
3. Ball, J. Dyer—Things Chinese. John Murray. London: 1926.
4. Ball, J. Dyer—Encyclopedia of Religion and Ethics. Vol. VII. pp. 130-31.
5. Ball, M. Katherine—Decorative Motives of Oriental Art. Dodd, Mead and Co. New York: 1927.
6. Bredon, Juliet, and Igor Mitrophanow—The Moon Year. Kelly and Walsh, Ltd. Shanghai: 1927.
7. Cohn, William—Chinese Art. The Studio Ltd. London: 1930.
8. Edkins, Joseph—Chinese Buddhism. Kegan Paul, Trench, Trubner & Co. Ltd. London: 1879.
9. Ellam, J. E.—The Religion of Tibet. E. P. Dutton & Co. New York: 1927.
10. Geden, A. S.—Images and Idols of Buddhism, in the Encyclopedia of Religion and Ethics. Vol. VII. pp. 119-27.
11. Giles, Herbert A.—A Chinese Biographical Dictionary. Kelly and Walsh, Ltd. Shanghai: 1898.
12. Gulland, W. G.—Chinese Porcelain. Chapman & Hall Ltd. London: 1902.
13. Hobson, R. L.—The Wares of the Ming Dynasty. Benn Brothers. Ltd. London: 1923.
14. Hobson, R. L.—Chinese Art. Ernest Bern, Ltd. London: 1927.
15. Johnston, R. F.—Buddhist China. John Murray. London: 1913.
16. Joly, Henri L.—Legend in Japanese Art. John Lane the Brodley Head. London: 1908.
17. Laufer, Berthold.—The Development of Ancestral Images in China. *Journal of Religious Psychology*. VI. pp. 111-23.
- 18.—Mackenzie, Donald A.—The Migration of Symbols, Kegan Paul, Trench, Trubner & Co. Ltd. London: Alfred A. Knopf. New York: 1926.
19. Poussin, L. De La Vallee—Avalokitesvara, in the Encyclopedia of Religion and Ethics. Vol. II. pp. 256-61.

CONSECRATED IMAGES OF CHINA

20. Pratt, James Bissett—The Pilgrimage of Buddhism. The Macmillan Co. New York: 1928.
21. Reichelt, Karl Ludvig—Truth and Tradition in Chinese Buddhism. Commercial Press Ltd. Shanghai: 1927.
22. Siren, Oswald—Chinese Art. (*Burlington Magazine Monographs.*) E. Welyhe, New York: 1925.
23. Stables, Mrs. Gordon—Chinese Red Lacquer Carvings. *Illustrated International Studio.* 77: 221-5 Je'23.
24. Strange, Edward, F.—Catalogue of Chinese Lacquer. Victoria and Albert Museum. London: 1925.
25. Takakusa, J.—Kwan Yin, in the Encyclopedia of Religion and Ethics. Vol. VII. pp. 763-65.
26. Tredwell, Winifred Reed—Chinese Art Motives. G. P. Putnam's Sons. New York—London: 1915.
27. Waddell, L. Augustine—Lhasa and its Mysteries. E. P. Dutton and Co. New York: 1905.
28. Waddell, L. Augustine—Encyclopedia of Religion and Ethics. Vol. VII. pp. 159-60.
29. Waddell, L. A.—The Buddhism of Tibet. W. H. Allen & Co. Ltd. London: 1895.
30. Waley, Arthur—An Introduction to the Study of Chinese Painting. Ernest Benn, Ltd. London: 1923.
31. Williams, C. A. S.—Outlines of Chinese Symbolism and Art Motives. Kelly and Walsh, Ltd. Shanghai: 1932.
32. Willoughby-Meade, G.—Chinese Ghouls and Goblins. Fredrick A. Stokes Co. New York: 1926.

ART NOTES

Chinese Art Exhibition held at Geneva: Under the auspices of the Chinese International Library, says a *Kuomin* message dated September 13, an exhibition of Chinese paintings, mostly the works of ancient masters, but some by Liu Hai-sou, the chief exponent of contemporary Chinese art, was opened at Geneva on September 12.

Missing Peking Palace Treasures alleged discovered in France: According to a news item in the *Shanghai Evening Post and Mercury* of September 8 a large number of valuable treasures that had been stolen from the Palace

Museum in Peking and smuggled out of China had been seized and were being held by Customs officers in France. It was understood that representations were being made to the French Government for the return of these treasures, but no information was available as to the nature and number of the latter. Later news, however, is to the effect that the treasures in question had not come from the Peking Palace Museum collection.

An investigation has been going on here in Shanghai to ascertain if any losses have occurred in regard to the huge consignment of treasures sent here from the Palace Museum when

THE CHINA JOURNAL

invasion of North China by Japanese and Manchoukuo forces was feared.

The latest report is to the effect that the investigation has been completed, and treasures to the value of \$50,000,000 are missing.

One-Man Art Exhibition in Shanghai: A professor in L'Ecole Supérieure des Baux Arts de Shanghai in Rue du Marche, a young Chinese artist named Nye Yi-tai put on a one-

man exhibition of his paintings in Shanghai about the middle of September. Of the modern French School, this artist is reported as striving to invest a purely Western medium and technique with an Oriental spirit. While he has more or less successfully acquired the impressionistic style of painting characteristic of the ultra-modern school of painting of the West, we fail to see in his work much of the spirit that is an essential feature of the purely Chinese style of painting.

DRAMA

New Chinese Opera House Opens: When the opening of the large new Chinese theatre on Kiukiang Road, Shanghai, called the Dah Wu Dai, was announced recently it was hoped by many foreign residents in this city that at last they would be able to enjoy the Chinese drama in the same comfort they experience in a modern European or American theatre; that is to say, without the innumerable disturbing elements that characterize a typical Chinese theatre, such as continuous loud-voiced conversation in the audience, and the constant passing to and fro of attendants serving tea, selling sweetmeats or passing out hot face-towels.

Some of those who have attended the new opera house, as it may be called, have been disappointed in this respect, the wonderful performance of Mei Lan-fang being marred by the above

nuisances, as well as the commotion caused by the collecting of tickets from the audience as the star was reaching his climax, and the clatter and noise made by attendants piling up stools in front of the stage and gathering the tea pots and cups into buckets during the final exquisite scene of the drama he and his troop were playing.

Of course, we realize that these things do not disturb a Chinese audience, and that the new theatre caters mainly to the Chinese; but we feel that a theatre offering Chinese drama but run strictly on Western lines as regards the booking of seats, comfort and silence in the auditorium, would have a great appeal to foreign residents in China, many of whom, like ourselves, love the Chinese drama but cannot stand the nerve-shattering strain of a Chinese theatre.

A. DE C. S.

THE LIBRARY

Shanghai Municipal Library Popular: The popularity of the Public Library of Shanghai Municipal Council (International Settlement) is evidenced by the figures for August that were issued about the middle of September. These showed that 5,978 books were issued during the month, 1,028 being non-fictional, while a total of 1,973 people had made use of the reading room. The names of some 588 sub-

scribers are on the Library's rolls.

There was a falling off from these figures during September, however, the number of volumes issued during the month being 5,600 and the number of subscribers on the rolls 581. The number of people using the reading room, on the other hand, increased to 2,145.

Many new books have recently been added to the Library.

REVIEWS

Children of the Yellow Earth, by J. Gunnar Andersson: Kegan Paul, Trench, Trubner and Company, Ltd. London. Price 25s.

When Dr. J. Gunnar Andersson was offered a position with the old Peking Government to come to China as an adviser of mining affairs in 1914, he

was already well known as a geologist. To-day he is the outstanding archaeologist in the China field, and is Curator of the Museum of Far Eastern Antiquities in Stockholm. Between those two dates is twenty years of rich experience in seeking and exploring the spots where ancient man once lived. "Children of the Yellow Earth" is the story of that twenty years, told in an absorbing manner that will hold not only the layman but the scientifically inclined as well.

It would be difficult to imagine a more suitable name for this study, for certainly the early history of the Chinese is almost entirely the result of their close contact with the heavy blanket of loess soil which covers so much of North China. Just how close is that contact, however, is not recognized until some such study as this brings out generally unknown facts. For that reason "Children of the Yellow Earth" is extremely worthwhile.

What is undoubtedly the most interesting section of Professor Andersson's book is his description of the finding of the Peking Man in the caves of Chou K'ou Tien near Peking. The discussion on this point is full, and the work of the experts engaged in the excavation is well described. One interesting feature is the manner in which Dr. Andersson foretold the presence of the fossil remains in the cave.

A point which often puzzles the layman when fossil remains are mentioned is the method of dating the finds. How, many people ask, is it known that Peking Man lived at the beginning of the Pleistocene Age? The answer is that the fossil remains were found in company with other substances the ages of which are known. Since already known strata provide handy indices of the flora and fauna of past ages, by comparing the remains found in the Chou K'ou Tien caves with specimens of established age the contemporary human remains are dated.

Dr. Andersson spends several chapters setting the stage for the finding of the Peking Man and demonstrating how this dating of the find is achieved. From there he goes on to other discoveries, including the Yang Shao pottery in Honan, which brought to light an entirely unknown era in China's past.

The last three chapters deal with "the cult of the dead," which Dr. Andersson believes was the motive for the making of the many burial urns his party found in Kansu at another site of very early culture, antedating the Hsia period. While at this point the book seems to wander from the subject of China, it returns for the final chapter, and leaves the reader with an unusually complete understanding of the relation between the Chinese, both ancient and modern, and the yellow earth which dominates their lives.

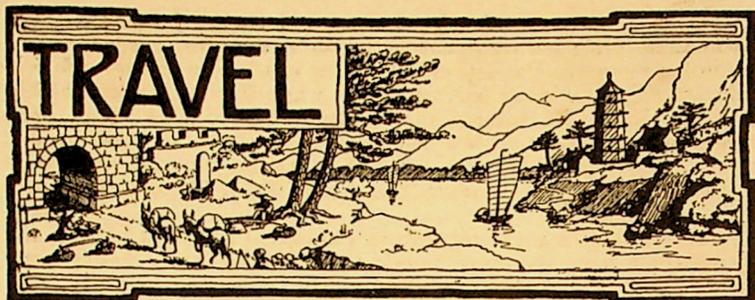
The book is well illustrated with photographs and sketches, and is written in a vein that makes reading easy.

S. L.

Chao Chun; Beauty in Exile, by Shu Chiung (Mrs. Wu Lien-teh): Kelly and Walsh, Ltd., Shanghai, 1934. Price \$5.00 (Shanghai currency).

Once more Mrs. Wu Lien-teh, whose pen-name is Shu Chiung, has placed us under a debt of gratitude by bringing out one of her delightful books dealing with the famous beautiful women of China's history. To "Yang Kuei-fei, the Most Famous Beauty of China" and "Hsi Shih, Beauty of Beauties" she now adds "Chao Chun, Beauty in Exile." This famous Chinese court lady of two thousand years ago, was, for reasons of state, given in marriage to a Tartar conqueror who lived in the great stretch of desert and semi-desert country beyond the Great Wall, and there in a Hsiung-nu camp she lived her life, an exile from the luxury of her beloved country. The story is a poignant one, and the author tells it well. It is one that has a great appeal to all Chinese. Chao Chün is one of China's greatest heroines. "In song and story, poets and historians of all times have eulogised her as the embodiment of all that was lovely and virtuous." Mrs. Wu's style is sympathetic and her English good. The book is artistically got up and well illustrated and printed. Several coloured reproductions of charming Chinese paintings add greatly to its attractiveness. Its authenticity is vouched for by the sources drawn upon.

A. DE C. S.



TO MOUNT OMEI BY WAY OF THE YANGTZE GORGES

BY

R. V. DENT

A brief account of the journey to sacred Mount Omei, in Western Szechuan, with hints and suggestions for the guidance of others considering making the trip, may make the difference to the latter of a reasonably comfortable and highly interesting journey as against a thoroughly uncomfortable two weeks with the interest considerably marred by the physical discomforts certain to be encountered.

To those acquainted with travel in the interior of China, little need be said beyond the warning that they should prepare for the trip precisely as they would for travel in any other part of China away from the luxuries and conveniences of treaty ports and their means of communication. But to those not accustomed to such travelling these lines are particularly addressed.

The voyage up the mighty Yangtze to Chungking is without doubt one of the great trips of the world. There is scenery to delight the most *blasé*, an ever-changing panorama filled with interest to those that have eyes which see. The navigation of the upper reaches, through the Gorges, fills one with admiration for the splendid captains that guide safely the ships under their command.

For the "Grandeur of the Gorges" is in no way exaggerated; the terrific force of the waters swirling down, the unseen but known obstructions which threaten destruction and are so skilfully avoided by the ships, the midget proportions of these ships as compared with the precipitous walls of the enclosing mountains, the sense of unfeeling super-normal destructive powers inherent in the troubled waters. . . . to those with eyes to see and an imagination to build up what they see, the voyage is unique.

For the Yangtze combines with its life-giving waters a relentless destructive capacity towards all that comes in its path, and the river

TO MOUNT OMEI BY WAY OF THE YANGTZE GORGES

demands to be treated with respect and fear, for those that slip are later met floating down the river and testify to its appalling strength.

But, as regards the actual journey by steamer, it is very safe and accidents are remarkably few. Further, when they do happen, there is rarely any loss of life because the steamer is grounded on a rock. The tremendous variations in the river-level generally enable the steamer to be salvaged at some time or other. The steamers are thoroughly comfortable, assuming, of course, that one of the well known companies' boats is taken.

Therefore, as regards the trip to Chungking and back, this is not any different from the usual comfortable travel between treaty ports elsewhere in China, and no special impedimenta need be taken.

But from Chungking on to Omei Shan conditions change and one travels "native." It is here that some attention to the necessities of comfort from a Western point of view is highly desirable, since without such attention one can be both hungry and uncomfortable. In Shanghai one hears about the attractiveness of Mount Omei, both from a scenic and from a Buddhist point of view, but one is not informed of travel conditions; therefore, it is the more desirable to know the facts and to be able to meet conditions with a few simple precautions.

There are two ways to get to Mount Omei from Chungking; either by motor vessel to Kiating, a matter of five days, branching off to the Min River at Suifu; or by motor-bus or aeroplane to Cheng-tu and thence by motor-bus or small boat down to Kia-ting. In either case, Kia-ting is the first objective.

As regards flying, the trip takes but two hours to Cheng-tu, costs \$175, return, and reservations must be made some days in advance, because the accommodation is limited. Baggage is limited to twenty-five pounds, therefore one's other luggage must be sent on to Kia-ting direct. This certainly seems the best way, but it is expensive.

It is possible to hire a private car for the trip, but this costs \$280 each way, which seems extremely high. The road is said to be very indifferent, and sometimes not passable. The road from Cheng-tu to Kia-ting is frequently impassable, and was so when the writer was at Kia-ting. This trip is said to take about a day when the road is in order.

One glimpse of the buses and their hard wooden seats, with what we had been told concerning the road, plus a point-blank refusal on the part of the bus employees to retain a seat for us, was sufficient. Two days on that bus was too uninviting for a pleasure trip, so we changed our plans and went by ship. The bus service runs every other day, more or less. In Szechuan everything is there or thereabouts, nothing being certain.

The little steamers ply between Chungking and Kia-ting every other day, and they are excellent. One of them, at least, is fitted with a bathroom, and, with a little judicious promising, an excellent bath was secured. However, another boat taken was not so fitted, the toilet arrangements being of the usual crude type.

The passage, including native food, was \$40 for a berth in a cabin. Most of the passengers travel "deck" class (\$20), and so there is no

difficulty in getting the cabin to one's self. Although it was said to be impossible, a very effective shelter was rigged up on the roof at night (the ships do not run after dark), and the writer had very comfortable nights quite alone up there, away from the seething crowd of other passengers. But this could not be done on the other boat taken, as it had a curved "upper deck" or roof, with no pent-houses between which the shelter could be rigged.

The food was fair, completely Chinese, while hot water for drinking could be had in any quantity. Everyone was perfectly charming in all ways, though the usual complete lack of privacy was at times slightly trying. Eating one's rice and two eggs surrounded by an admiring crowd is an ordeal to which one must get accustomed if he is to eat at all, as any rudeness is so entirely unintended that to take it otherwise would be ill-mannered on the part of the foreigner.

Including sleeping aboard the night before leaving at daybreak, the trip up took five nights, the ship arriving at Kia-ting at about eleven o'clock in the morning on the fifth day. The trip down took in this instance but two days, the fare being exactly half what it is up stream. The writer took almost no cash with him, using a letter of credit purchased from the Bank of China at Shanghai, available at Chungking, Cheng-tu, Kia-ting, and Omei Hsien, which latter place is some thirty *li* (ten miles) from the base of Mount Omei. The Bank of China staff were extremely courteous at all places, were most hospitable, and had it not been for their kindness and generosity in placing rooms at the writer's disposal at Kia-ting and Omei Hsien he would have had a hard time locating a place to sleep. The Chinese inns need only to be seen to be shunned if humanly possible.

Kia-ting is 288 nautical miles by river from Chungking. The scenery is pretty, but not interesting. The usual swift current with occasional rapids explains why the trip down is so much faster than that going up. By river Kia-ting is 1,613 nautical miles from Woosung at the mouth of the Yangtze. At Kia-ting a chair was arranged for, and, after starting at one o'clock in the afternoon, Omei Hsien was reached at dark.

The following morning, the foot of the mountain was reached in about two hours and the ascent began. Six coolies for the writer's chair were required, with a man for the bags. The scanty bedding was used to make the "chair" comfortable. It became thoroughly soaked and remained so during the entire stay of four days on Mount Omei, as it poured with rain almost all the time.

With the usual stops for resting, by that evening a good temple close to Chiu Lao T'ung was reached, and the priests did their best to make the traveller at home. Passable food was secured, the camp-bed rigged up, and a thoroughly uncomfortable night spent in wet bed clothes. First lesson.....bedding must be covered with oil-cloth, which in our case was not available. No mosquito net was used throughout, reliance being placed on insect repelling creams. This proved much more satisfactory, though generally unnecessary.

Chiu Lao T'ung is about half-way up the mountain, and, starting early, it took the entire following day to reach the summit. Unfortunate-

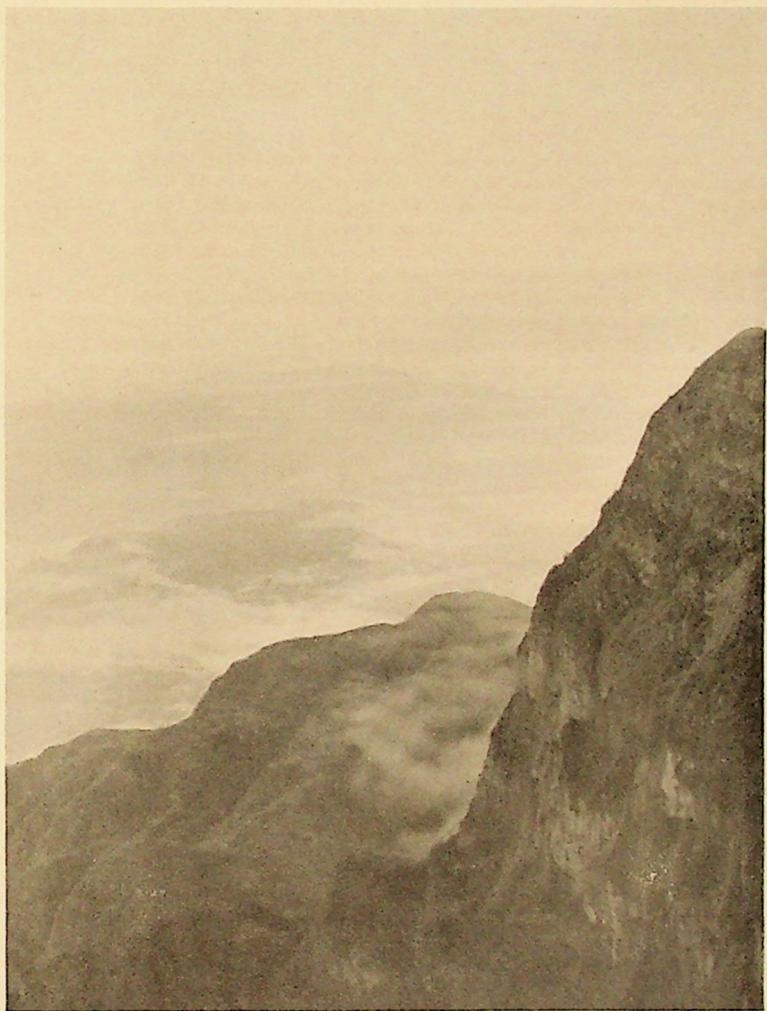
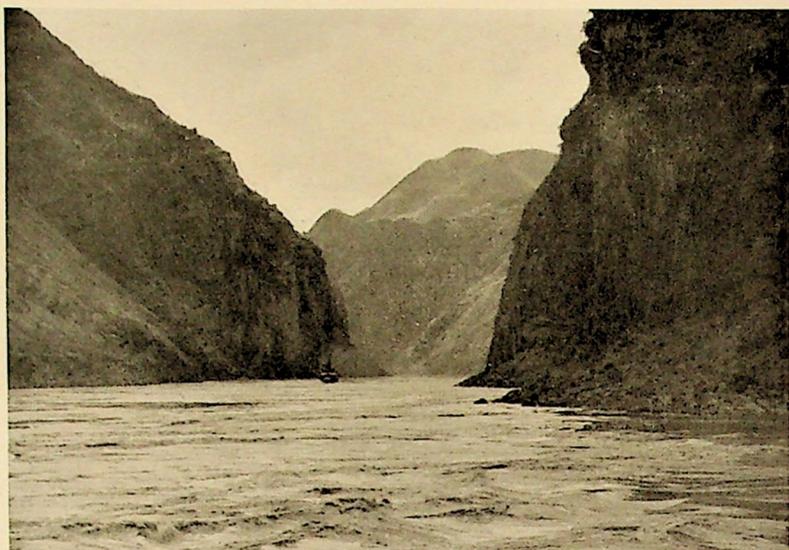


Photo by R. V. Dent.

Daybreak from the Summit of Mount Omei.

長江上游風景
~~漢口~~以上到重慶的路上揚子江
宜昌



Coming through the Yangtze Gorges.

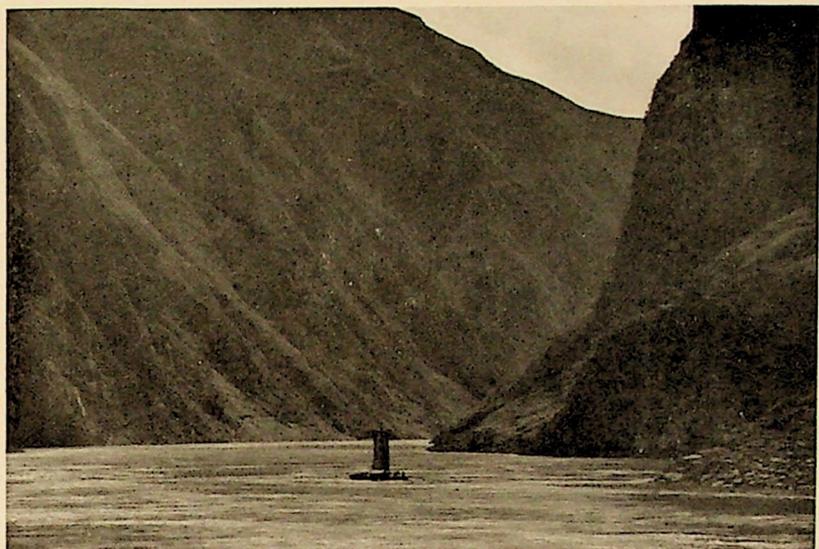
揚子江上的山峽



Photos by R. V. Dent.

The Entrance to the famous Wind-box Gorge.

著名的風箱峽



A Chinese Junk deep in one of the Gorges.

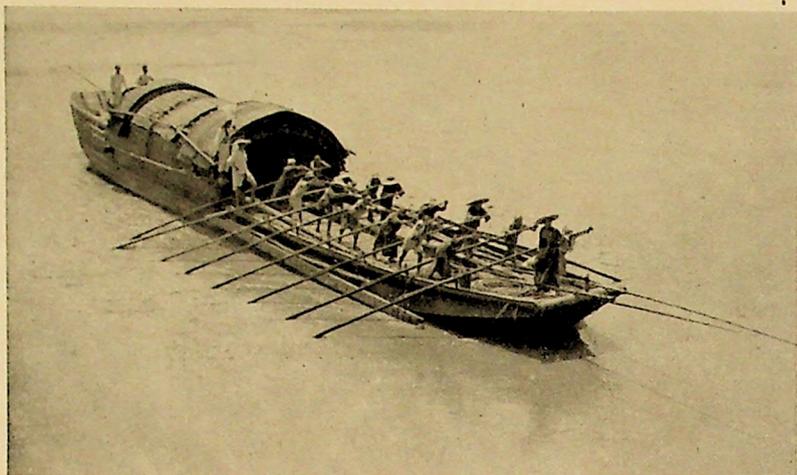
中國帆船在峽中



Photos by R. V. Dent.

A Steamer on its Way through the Gorges.

一火輪船在江中



山
峽
水
中
的
土
船

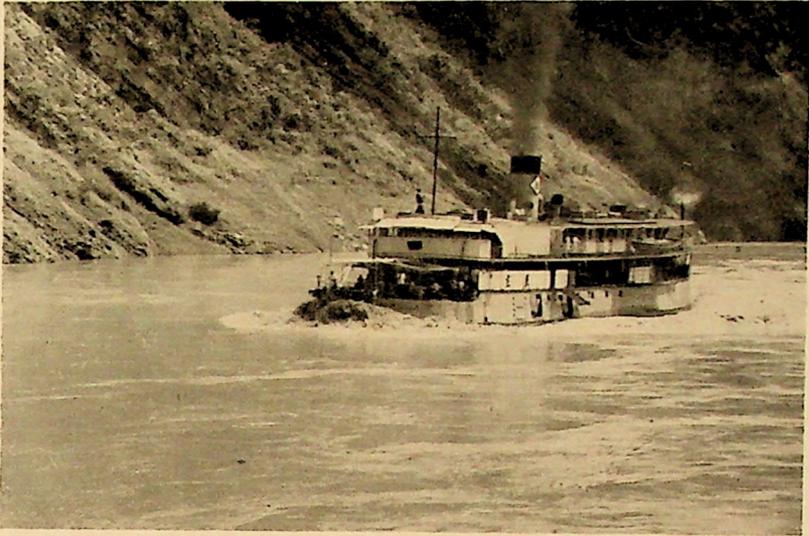
The Type of Native Vessel used in the Gorges. It carries a long Sweep in the Bow for Steering Purposes.



小
船
致
命
旋
渦

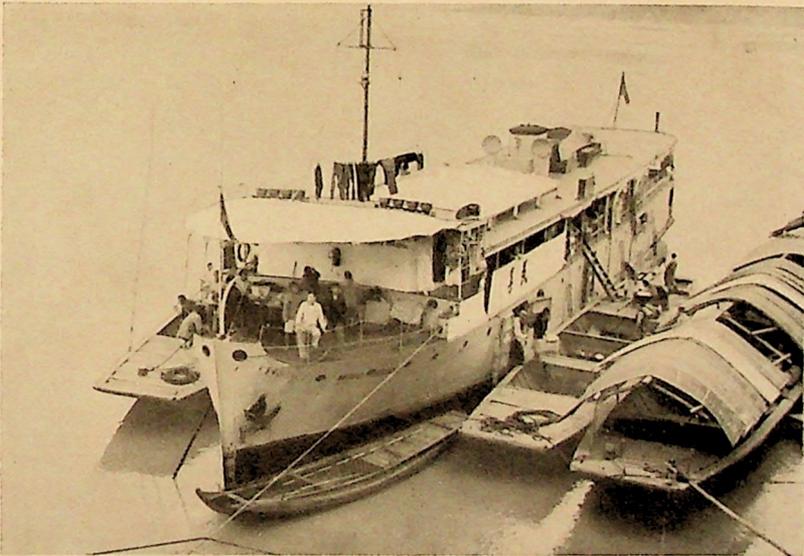
Photos by R. V. Dent.

A Death-Trap for small Vessels is the Typical Whirlpool of the Yangtze Gorges.



汽船在江中行駛
船頭前湧起浪花

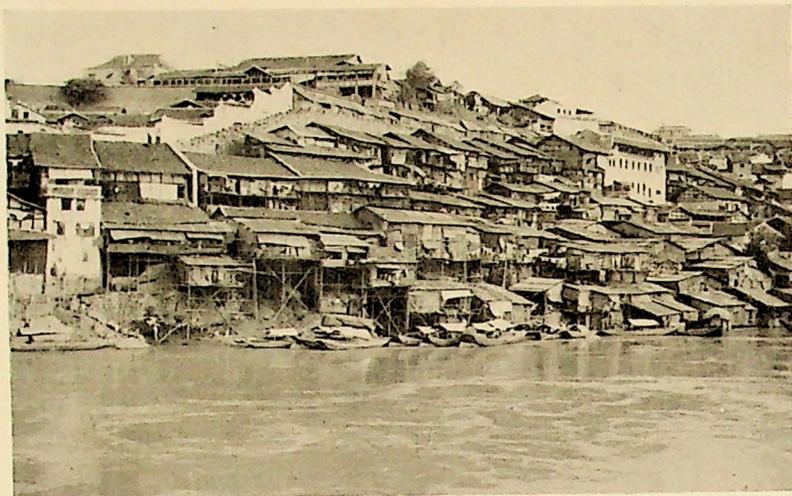
A Steamer ascending a Rapid in one of the Gorges, and creating a big Wave in front of the Bow.



此可在六月長江漲水時行駛

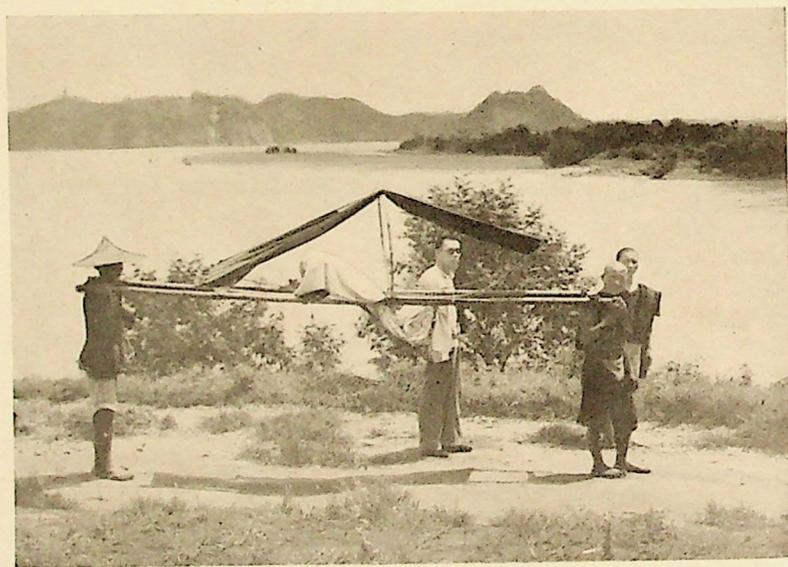
Photos by R. V. Dent.

A Chinese owned Motor Vessel as used on the Upper Yangtze, where it can only run during Summer, the High Water Period.



The River-front at Chungking, Szechuan.

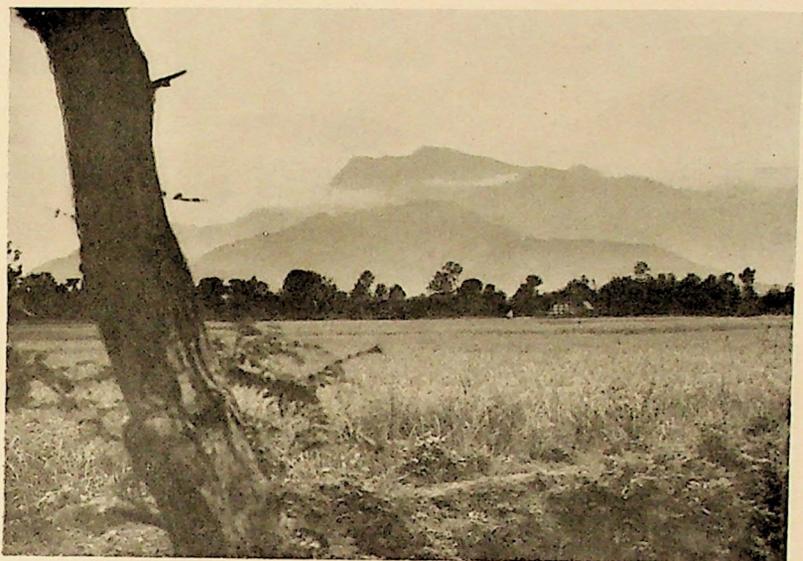
四川重慶的江邊



Photos by R. V. Dent.

The Type of Sedan Chair used for Transport in the Mountains of Szechuan.

四川各平地的地輪夫
叶湖月一



峨眉山上在雲霧中

A rare View of Mount Omei, which is usually enveloped with Clouds.



Photos by R. V. Dent.

Mist on the Mountain of Omei, one of China's Sacred Peaks.



The famous Hangchow Bore as it rushes up the Estuary of the Ch'ien-t'ang River at Hai-ning near Hangchow.



Photos by C. H. Wong.

The Hangchow Bore thundering along the Dyke which protects the River Bank at Hai-ning near Hangchow.

海
寧
觀
潮

合
上

TO MOUNT OMEI BY WAY OF THE YANGTZE GORGES

ly, the weather was atrocious, mist, drizzle, or rain being continuous. Very rarely did the visibility extend beyond fifty feet, and dreams of securing gorgeous photographs remained dreams. The vegetation is so intense that the country resembles the tropics in this respect. Gradually as the ascent proceeded the temperature fell, and at the summit it was extremely cold, the sensation of coldness being greatly heightened by the extreme dampness of everything.

With two woollen jerseys, two pairs of stockings, and winter under-clothing, the writer remained none too warm, while the night spent on the summit was intensely cold, as the charcoal burner secured could not contend with the innumerable leaks of wind through the deal-planked room.

On the way down a stop was made at the Chuan Tien (Domed) Temple, which proved the nicest and best temple of all, with by far the finest Buddha. This latter was a superb gilded-bronze image seated upon a six-tusked elephant, the whole being some thirty feet high. There was also a fine entrance with the best Eighteen Lo-han seen on the mountain. The Dah Hor Chang (Abbot) was most courteous and hospitable, and the writer was taken round and shown everything in detail.

On the whole, the temples were a disappointment. They are poverty stricken and their "treasures" are distinctly limited. Except in a few instances, the idols are not well kept, and one gets the impression that the sacred mountain is in need of more visits and support from devout pilgrims. A certain amount of Tibetan influence was noticeable, but with a few exceptions there was little Lamaistic theology to be seen unless searched for. In other words, Omei Shan is a sacred mountain of pure Chinese Buddhism.

The views ascending and descending must be very fine indeed, but owing to bad luck with the weather the writer missed them. Fortunately at the summit it cleared up for some fifteen minutes at about five in the morning, and the most magnificent view imaginable was obtained to the east, over the plains of Cheng-tu in the distance, to the south the mountains of Yunnan, to the west some high peaks and a few seconds glimpse of Minya Konka (24,000 feet), 125 miles away, snow tipped. But it was only sufficient to give an idea of what a perfect view could be, as the clouds covered large areas about 1,000 feet below the summit, which itself is 11,000 feet high.

Immediately opposite the observation platform outside the Golden Mount Temple was the tremendous 3,000 foot precipice bounding the highest point of the summit. This valley was filled with fog, and it is here, given fog no higher than the mountain top and a good sun, that the famous *Fu Kuang* or "Glory of Buddha" phenomenon can be seen. Unfortunately conditions were not right at the time, and while sufficient to give a reflection of an arm in the mist, the true "spectre" could not be seen. This phenomenon is but a shadow formed in the fog, gradually increasing in intensity as the fog thickens, and made possible by the precipices serving as a trap for the fog. The Chinese also greatly admire the *Shui Kuang*, which is the appearance of water in the sky due to the sun's flooding the upper clouds at dawn. This was seen and was really

beautiful. The third phenomenon is the *San Teng*, or mysterious lights which appear in the valley below, due most probably to marsh gasses or what we call will-o'-the-wisps. This was not seen, as at no time, much less in the evening, could the valley be seen at all.

The Christian missionaries of Szechuan have a summer resort on the Omei massif (Omei Shan is not on a range of mountains, but is the central peak of a collection of mountains forming a huge massif), about a day's journey from the summit. This must be a delightful place, and, as the missionaries know how to travel in the interior, Hsin-kai-tze, as it is named, must be a most welcome relief to them from the great heat of the plains.

From the summit, the Himalayas cannot be seen, as a study of the map will show; actually the first glimpse of the real Himalayas is to be had from Ta-t sien-lu and the pass just beyond it, for Minya Konka is a separate massif and not a part of the Himalayan system.

On the return trip down the Min River and back to Chungking the writer was fortunate enough to meet two parties of missionaries returning from a holiday at Hsin-kai-tze, four being bound for a place near Lu-chou and two ladies for a place a day's journey below Chungking. These people were extremely kind in all ways, and had a cook with them who supplied good food with proper utensils. In an effort to contribute to the table another lesson was learned. . . . with great effort some tinned foods were found; their average cost can be figured on a basis of \$1.80 for one very ancient tin of condensed milk.

This is due to the tremendous taxation (*likin*) in Szechuan. Incidentally, taxes in Chungking have been collected ahead for a trifle of sixty-nine years or thereabouts. Opium appears to be the main article of diet, and the approximately twelve searchings the writer underwent for opium and arms gave some impression of what militarism can mean. But a smile and an appearance of willingness to allow searching (there is no alternative) made everything smooth. Throughout the trip nothing but courtesy or indifference was met with, and absolutely no signs of hostility.

The lessons of the trip are these: go prepared as for a camping trip; take a Szechuanese cook, camp-bed, bedding in waterproof cover, flash light, ample provisions (if one has too many, the missionaries will welcome them at Shanghai prices), toilet necessities, and a determination to rough it a bit. The result will be well worth while. But do not set out on the trip under the impression that it is merely an extension of the Shanghai-Chungking voyage, for it is an entirely different undertaking.

It may further be suggested that intending travellers should get into communication with one of the missions at Kia-ting; the China Inland Mission, American Baptist Mission or Canadian Mission. The missionaries can very considerably facilitate travel. Funds should not be taken except in the form of a Bank of China letter of credit, and the Bank of China will be found most helpful. This company is not, however, a hotel service and it must be remembered that the hospitality that its staffs so kindly extend to travellers is hospitality only, not to be abused. Those who speak Mandarin Chinese will find no great

TO MOUNT OMEI BY WAY OF THE YANGTZE GORGES

difficulty in understanding the people, though there are notable differences in the dialects, which at times proves very confusing. Unless one does speak the language, a Szechuanese servant is absolutely indispensable, but a local servant is recommended in any case. The entire trip from Shanghai can be done in a little over a calendar month.

Lastly, the communications are uncertain. The ships mentioned above Chungking run only between June and September, roads are said often to be impassable, and time does not count. In the winter the mountain itself must be bitterly cold.

TRAVEL AND EXPLORATION NOTES

China Travel Service Expands: After eleven years of operation, during which time it has grown from a sideline of the Shanghai Commercial and Savings Bank to an organization with thirty-eight branch offices throughout the country, the China Travel Service on September 10 sent two members of its staff to Singapore to open the first office outside China. If the new venture proves a success, additional offices will be established at Manila and Saigon and in Java. Later, according to an official, it may go to America and Europe. Singapore was chosen for the start because of its large Chinese population and also because it is an important travel centre.

The Yangtze Gorges: Under this name an attractive book has just been published by Messrs. Kelly and Walsh, Ltd., Shanghai, giving a brief account of the famous gorges above Ichang on the Yangtze and fifty-six excellent pictures of views along this mighty river, both by A. M. Le Palud. The frontispiece consists of an in-folded chart of the section of the Great River dealt with, with the names of the more important places and delightful little pictures of views at these spots. As a guide for the journey up the Gorges, a souvenir of the trip or a present to a friend we can heartily recommend this excellent publication, the cost of which is Chinese \$6.00, with \$1.50 extra for postage abroad.

Travel Facilities Across Gobi Improved: Cutting down the time formerly required to make the trip by camel from two months to twelve days, the travel facilities between K'uei-hua Cheng, in Sui-yuan and Tihua in Sinkiang are expected to be further improved soon with the erection of rest houses along the way and general repair of the road, says a recent dispatch to the *China Press* from Nanking. The work is to be done immediately.

The Sinkiang-Suiyuan route runs from K'uei-hua Cheng to Tihua, a distance of 5,870 *li* or 2,863 kilometers. It is divided into three sections, the first running from Suiyuan to Ulanailikan, the second from Ulanailikan to Hami and the third from Hami to Tihua. Five days are required for the first section, four for the second and three days for the third, a total of twelve for the entire route. There are seventy-two stations on the whole trip, including one central station at K'uei-hua, four sub-stations at Ulanailikan, Hami, Kuchengtse and Tihua, respectively, eight rest stations along the route and twelve gas depots. Distances between stations vary from 40 to 150 *li* (12 to 50 miles).

Stations are provided with facilities for repairing the 'buses and for refuelling, besides which there are two big workshops, one at K'uei-hua Cheng and the other at Hami, for doing major repair and construction work. At present the Sin-Sui Transportation Company has a fleet of sixty passenger 'buses

and freight trucks in operation, the Nanking message declared. For rapid transmission of information, three radio stations have been erected, at K'uei-hua, Ulanailikan and Hami, respectively.

The fare from K'uei-hua Cheng to Tihua is \$300 each way, including food and lodging *en route*. Passengers' luggage is limited to sixty catties (80 lbs.) per person.

Royal Asiatic Society Expedition is Organized: With Sir Francis Younghusband as Chairman and with the Royal Asiatic Society (England), the India Society and the London School of Oriental Studies participating, a small committee has been formed in London to organize what is to be known as the Gaekwar of Baroda Greater-Indian Research Expedition. The object will be to study one of the last remaining regions of Asia unknown archaeologically, namely, the passes through the jungle-clad mountain ranges of Lower Burma and Southern Siam.

The Gaekwar of Baroda has contributed £500 to the expenses of the expedition and contributions have also been made by British friends of the enterprise. Dr. Quaritch Wales is the field director, and leaves England in October with his wife for research work in a part of Asia where he has in the past done valuable work, notably in investigating ancient ceremonial, government and administrative sites in Siam.

Explorers Seek Drought-Resisting Grass: The flora of China or Central Asia may help solve the newly recognized danger in the United States from severe drought and erosion following the plowing up of prairie land in the Middle West. At least, in the hope that it will, an expedition is to be sent out by the Department of Agriculture at Washington to search for a drought-resisting grass, according to a *United Press* message of September 17. The party will be led by Professor Nicholas Roerich, internationally recognized Russian scientist and authority on Central Asia. Other members will include his son, Mr. George Roerich, also an expert on Central Asia, Mr. H. G. MacMillan and Mr. J. I. Stephens,

officials of the Bureau of Plant Industry of the Department of Agriculture, who are trained in the study of American grasses.

In the recent disastrous drought in the Middle West of the United States thousands of head of cattle were lost through the failure of the ordinary grass to withstand the heat. The introduction of a drought-proof grass would be of great help in preventing a recurrence of the disaster, American officials believe. The present expedition in search of such a plant is the result.

Professor Roerich has for the past eleven years been making extensive trips into Sikkam, Kashmir, Tibet, Mongolia, Chinese Turkestan, the Gobi Desert and the Altai region, where his studies of the scientific subjects and the cultural backgrounds of the peoples of Asia have contributed greatly to the world's knowledge of these subjects. He recently spent three weeks travelling and working in the interior of Hsingan Province of Manchuria, where he is reported to have found a species of grass which can thrive on sandy soil, so that tracts of shifting sands, if sown with this grass, can be turned into green fields.

Americans to Seek Panda in Yacht: A sort of omnibus expedition, which has in view a study of ancient stone inscriptions in Peru, the photographing of hill tribes in the Solomon Islands, a discourse with descendants of Sulu pirate chiefs in the Southern Philippines, and a hunt for specimens of the giant panda in Western China and Tibet, was scheduled to leave New York some time in September. Members of the party include Lawrence T. K. Harkness and William H. Harkness Jr., who recently passed through Shanghai on their way back to the United States with three huge lizards from the island of Komodo, Le Grand Griswold, a big game hunter with experience in Indo-China and Africa, George Ryan, wealthy sportsman, William Roberts, Philadelphia yachtsman, Captain Byron Tate, world-wide explorer, and George Gombert, motion picture photographer. They are making their voyage on a refitted rum-runner, with Lawrence Harkness as leader. They expect to be on the expedition for two years.

Exploration Trip in Eastern Tibet: Led by the Reverend J. H. Edgar of Ta-t sien-lu, a party of visitors to the capital of the Tibetan Marches recently made a ten-day exploration trip into the upper reaches of the great Chieh La Plateau, where some excellent views of the magnificent Minya Konka Range were obtained, according to a report from Chengtu, Szechuan, in the *North-China Daily News* of September 15, dated August 24. The party crossed a number of high altitude passes, including the Chieh La, 14,700 feet, the Lo Ti La, 16,000 feet, and the Nang Ka La, 16,100 feet.

Professor Harry Smith of Upsala University, a Swedish botanist who has been working in the Ta-t sien-lu area for some time, was a member of the group. In the Yu Lin Kong valley he was able to collect ten specimens each of 246 species of flowers in a little over a week, well illustrating the botanical possibilities of the country. Professor Smith has established a workshop in the Dorge Drag Lamasery in Ta-t sien-lu, and his tireless work has resulted in the preservation of many fine specimens which are notable for their life-like tints. One reason for this is that he and his staff must change the paper coverings of their new specimens three times in the first fifteen hours.

Roubin-Mandeville Expedition Reaches Shanghai: Not often do the residents of Shanghai get worked up about happenings in Ta-t sien-lu, but the comings and goings of two of their friends in the Chinese-Tibetan border country for the past six months have furnished conversation for many a cocktail party in the port city recently. The two young men, Woodruff Mandeville and Eugeno Roubin, first broke into prominence on the front page of the *North-China Daily News* when the Shanghai paper's Ta-t sien-lu correspondent sent in a glowing account of how Mandeville had almost single-handed saved a monastery from flames that were threatening to destroy the entire border city.

With this exploit as a start he rapidly made a name for himself as a miracle worker by repairing the town's electric light plant and advising the local Government on engineering problems. In company with Roubin, who appeared

on the scene later, he made a journey through bandit-ridden country to a monastery having the reputation of being the highest and dirtiest in the world, some ten days from Ta-t sien-lu. Finally the names Mandeville and Roubin were engraved in Tibetan history along with those of Young-husband and Pereira when the two undertook to build a skin boat in which they could sail down the Tung River to Kia-ting, and thence down the Yangtze to Shanghai. In its five hundred years of existence, Ta-t sien-lu had never heard of anything of the kind.

The craft was completed early in August in spite of scoffing critics, and the largest crowd in the memory of the oldest living resident in Ta-t sien-lu turned out for the occasion. Since the boat had been built in the Tibetan courtyard where the two navigators were living, it had to be carried through the streets for some distance before reaching the river, a task in which all and sundry volunteered to assist. When the launching was at last accomplished by merely setting the boat down in the turbulent and shallow Dar River, an overwhelming majority of the thousands who lined the bank were seeing a boat float on water for the first time in their lives.

After a misadventure that nearly cost the life of Mandeville, who fell into the swollen Dar and was swept far downstream before reaching shore, a start for the Yellow Sea, nearly 1,800 miles away, was made on August 23. The craft and the belongings of the two men were carried overland to the banks of the Tung River, twenty miles away, where navigation was a little less hazardous, and from there the actual start on the epoch making voyage was scheduled to be made. All of Ta-t sien-lu was out to bid the two young men good by and happy landings, said the correspondent, adding that the expedition's "zoo" containing a black bear cub, a small serow and a Tibetan dog had been broken up. The dog is making the journey to Shanghai, but, as the reactions of a bear to a small boat in a rapid have yet to be tested, that pet was handed over to Mr. Marion Duncan of the Dolan Expedition for future handling. After losing most of their equipment when their craft capsized in a rapid, and experiencing various other adventures, the two

explorers reached Shanghai late in September.

S. L.

The Second Dolan Expedition :

The mention of Mr. Marion Duncan's name in the foregoing report is the first indication received here in Shanghai that the Second Dolan Expedition, which passed through Shanghai last July, had reached the Tibetan borders. Organized and headed by Mr. Brooke Dolan, this expedition has for its object the securing of zoological specimens, chiefly mammals, for the Academy of Natural Sciences of Philadelphia, and is the second such expedition Mr. Dolan has undertaken in the last few years. He has with him Mr. Ernst Schaefer, a young German zoologist and big-game hunter, and Mr. Marion Duncan, known to the readers of *The China Journal* for his articles on travel in Tibet and the customs of the Tibetans.

A letter dated September 3 from Ta-t sien-lu, which appeared in the *North-China Daily News* of September 26, describes the killing of ten takins by Mr. Schaefer.

Mountains, Buddhas and Bears :

This is the English translation of the name of a book in German by Mr. Ernst Schaefer called "Berge, Buddhas und Bären," which describes the author's experiences and those of his companions on the First Dolan Expedition to Western China and Tibet carried out in 1931. Except for the first two chapters, the foreword and an appendix, the book is written in diary form, giving a day to day account of the expedition from April 17, 1931, to January 9, 1932. The first two chapters are devoted to a general discussion of the region explored, while the appendix consists of brief descriptions of the larger mammals secured on the expedition. Two maps at the end of the book show the route taken, while excellent photographs of scenery, people and animals add greatly to the value and interest of the book. Naturally the most interesting part is that dealing with the shooting by the author of a young giant panda, as this remarkable animal had only

been shot once before by white men, when the Roosevelt brothers together shot one in 1928. An account of the autocratic King of Muli, the picturesque potentate of a mountainous area between Li-tang and Li-kiang, makes interesting reading.

Mr. Schaefer is to be congratulated on this excellent book, which is published by Paul Parey, Berlin, and can be purchased in Shanghai at Max Nossler and Co., 331 Kiangse Road.

Adventures on the Tibetan Border :

Mr. Marion H. Duncan, at present a member of the Second Dolan Expedition to West China and Tibet, but formerly a missionary at Batang in the latter country, has recently published a book entitled "The Mountain of Silver Snow," in which he tells in full the story of the thrilling, not to say terrifying, adventures of the Duncan and Mac Leod families while journeying from their station in Eastern Tibet to the coast by way of Burma and Rangoon during the troublous year of 1927. That is to say, the last seven chapters deal with this remarkable journey, the first nine dealing with the author's first journey to Batang and his and his plucky wife's six year's missionary work amongst a people preeminently satisfied with their own religion. While it is not everybody who is sympathetic to missionary work, none who reads this story of the heroic endurance of appalling hardships can fail to admire the spirit of those who will face such conditions for the sake of their principles. Incidentally, the book supplies a lot of useful information about a little known region. It is a great pity that the illustrations have been made on such a small scale, especially as so much space is wasted on unattractive backgrounds. They could have been double the size without much, if any, increase in cost. A map of Western China and neighbouring Tibet and Burma, which occupies the inside of the cover and the fly-leaf, shows the route taken by the author and his party from Yun-nan Fu to Batang and from the latter place to Rangoon.

The Altitude and Position of Huang Shan : The following letter

TRAVEL AND EXPLORATION NOTES

from a correspondent in Hangchow needs no comment:

Dear Sir,

I was much interested in reading in the September issue of *The China Journal* the article by Messrs. Alley and Lapwood about their trip to the two peaks of the T'ien Moh San. For two years now I have travelled extensively on foot throughout the mountains of northwest Chekiang and the adjoining parts of Anhwei, as far west as Tsih Ch'i (績溪). I have been to the summits of most of the higher mountains which these gentlemen saw from the West and East peaks of T'ien Moh San. They are correct in believing that these two peaks are not quite 5,000 ft. above sea level. When I went to the top of the East Peak I had with me an aneroid barometer which registered 4,650 ft. I think that the West Peak is slightly higher but I did not measure it.

I would like to say for the benefit of any persons interested in ascending the summit of the East Peak that there is a small rather indistinct path leading to the very top. At the main temple half way up one turns straight to the left at the gate and follows a very good road up to two small thatch temples known as the "East and West Thatch Huts." Just before reaching the latter of these you should turn directly to the right up the hill and this small path will take you to the summit.

There is one mistake in the article which I think should be pointed out. At the bottom of page 113 and the top of page 114 there are the following words, "A long slope of snow marked Huang Shan (黄山), near Huei-chou." This is quite a serious mistake since the Huang Shan is more than a hundred miles distant in a straight line from the T'ien Moh Shan and is not visible ever from there. The ridge which is referred

to I know well, and have been to its highest point which I measured as 5,200 ft. above sea level. It is a splendid range and is located in the western part of Ts'ang Wha (昌化) Hsien of Chekiang. This mountain is known on the best Chinese maps as Pah Dzang San (百丈山).

There is a question that I have been wanting to write you about for five years. In 1929 while shooting near Mokanshan with a friend he killed a large animal which was clearly a muntjac about the same size as the black crested muntjac, but this animal was dark brown in colour and had the typical muntjac horns. I have since seen another one in the same neighbourhood, but was unable to get a shot at it. I should very much like to know what it was. Incidentally I saw almost on the summit of the East T'ien Moh San the tracks of a deer which was either this animal or the black-muntjac.

Yours most sincerely,

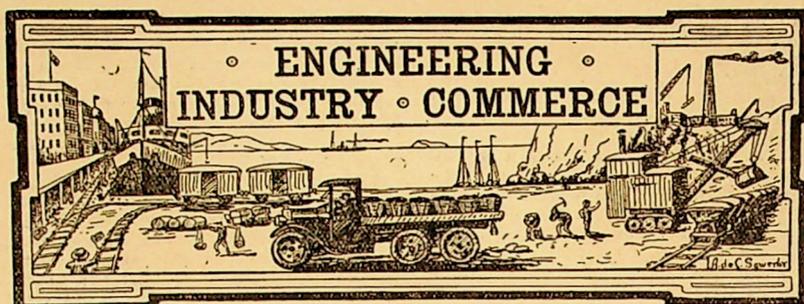
CHAS. W. WORTH.

Hangchow

September 14, 1934.

With regard to the species of the deer described by Mr. Worth, it is impossible to identify it without either examining a specimen or receiving considerably more data than that given. The skins of such specimens should be forwarded to us either at this office or at the Shanghai Museum (R.A.S.) at the same address. We know of no deer that answers the description, Kopsch's deer (*Cervus [Sika] kopschi*, Sw.), the only other species that might be found in that area, being much larger than a muntjac, though of a dark colour in winter. Mr. Worth's deer may, of course, represent a hitherto unknown species.

A. DE C. S.



SOILS AND AGRICULTURAL CONDITIONS IN SOUTHERN ANHWEI AND NORTHERN CHEKIANG

BY

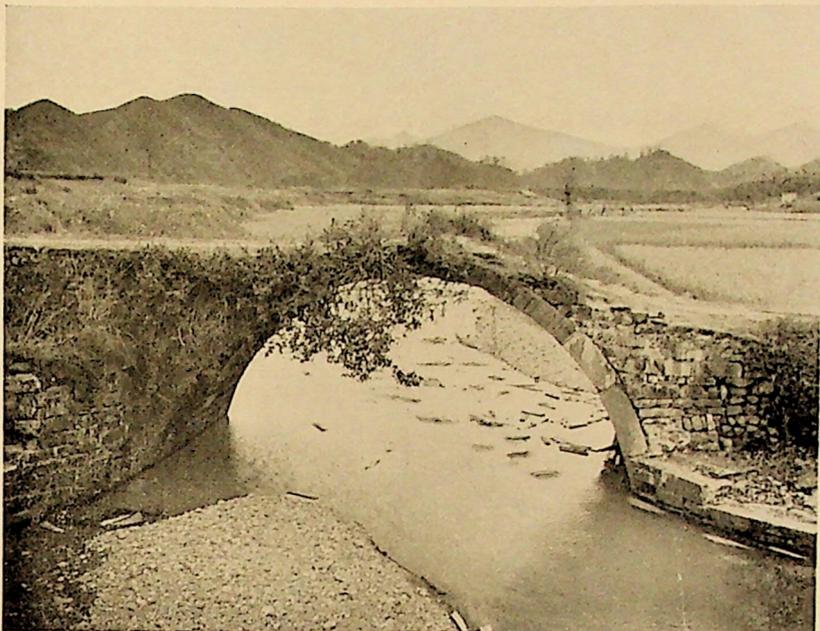
JAMES THORP*

During the latter part of March and early April the writer made a visit to Southern Anhwei and Northern Chekiang, primarily for the purpose of studying the soils and agricultural conditions of the region. This part of the country has a special interest to us along both of these lines because it lies between two important soil regions of China, or, rather, we should say, it represents a transition between those regions. Agriculture is not as important as it is in the great alluvial plains to the north-east and north, but there is a very interesting combination of agriculture and forestry here which we have not seen elsewhere in China up to the present time. The writer was accompanied by Dr. J. L. Buck and Mr. Liu of Nanking University, Mr. C. H. Hsia of Tsinghua University and his assistant, Mr. L. C. Lee.

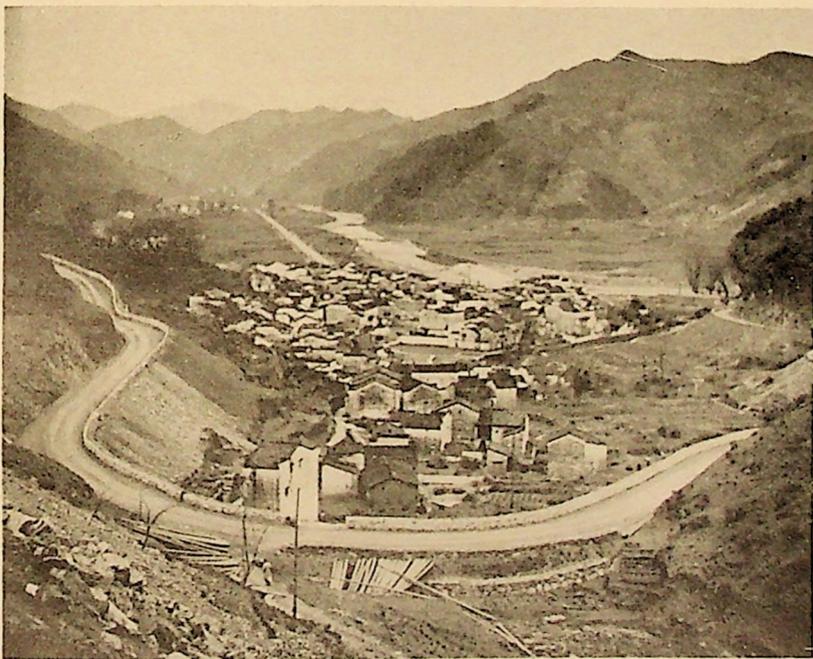
We went by motor-car from Nanking to Hangchow and from there continued to Huei-chou and Tung-ki. From Huei-chou (Hweichow) we took sedan chairs to Huang Shan, a journey of a day and a half, and from there Dr. Buck and Mr. Liu returned to Huei-chou while the rest of the party continued overland by chair to Ta-tung on the Yangtze River.

In spite of the fact that we had been told that this part of China is exceptionally beautiful we were hardly prepared for what we actually saw. Most of our readers are probably already familiar with the road conditions and the scenery *en route* between Nanking and Hangchow, but probably relatively few have made the trip from the latter city into Southern Anhwei. Soon after leaving Hangchow the road enters the

*Permission to publish the contents of this article has been granted by the National Geological Survey of China: Dr. W. H. Wong, Director; Mr. C. Y. Hsieh, Acting Director.



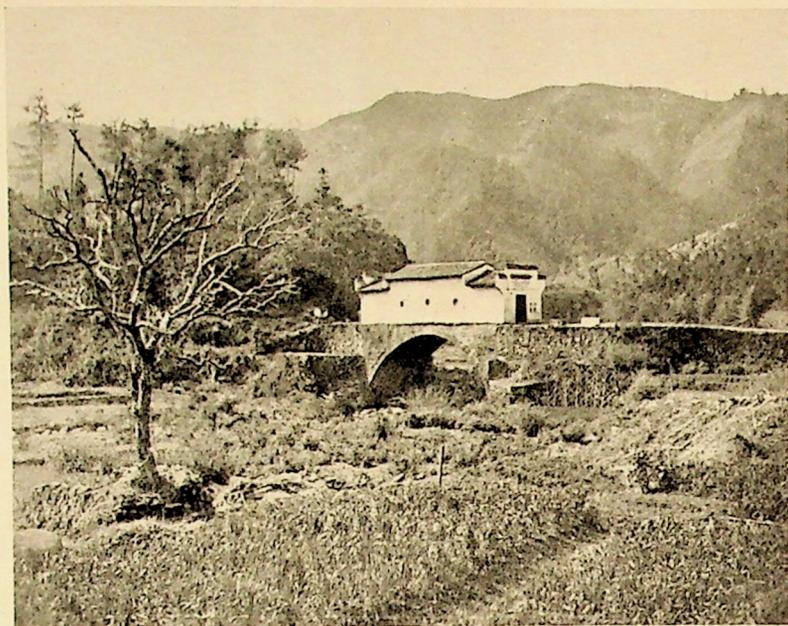
An old Stone Bridge on the Road Between Hangchow and Huei-chou, with Cordwood floating down the stream it spans.



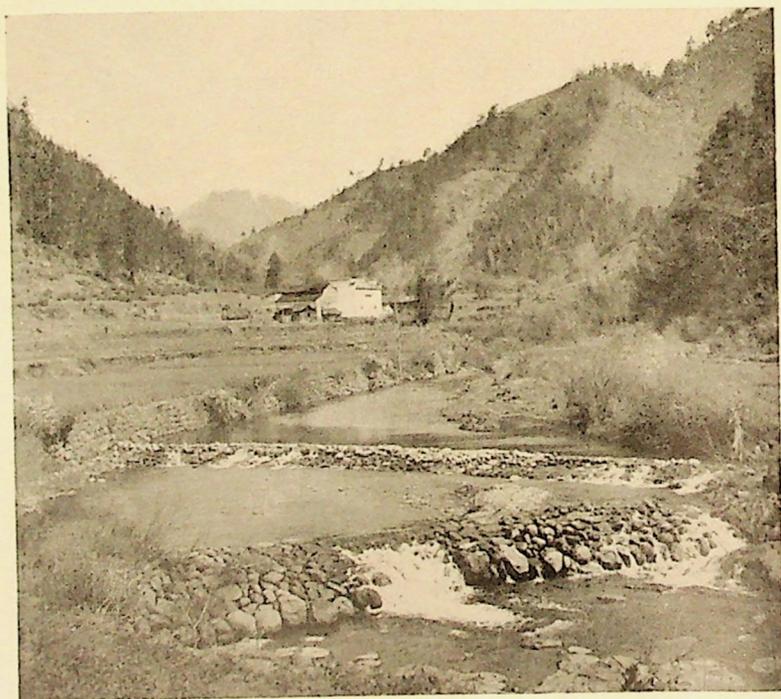
Photos by James Thorp.

A Section of the Motor Road from Hangchow to Huei-chou passing a prosperous little Village.

杭
州
到
懷
遠
中



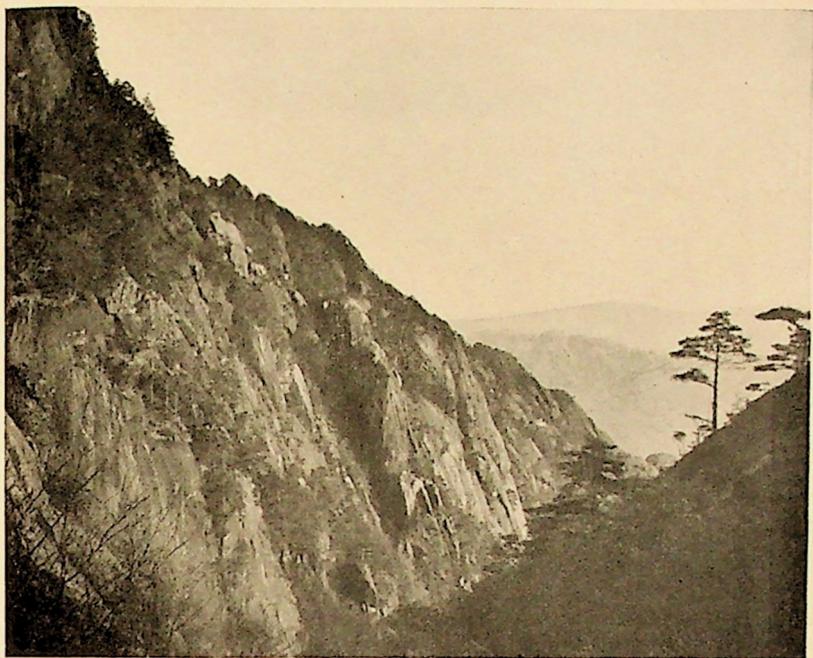
A Temple resting directly upon a Bridge on the Road from Hangchow to Hwei-chou.



黃山腳下

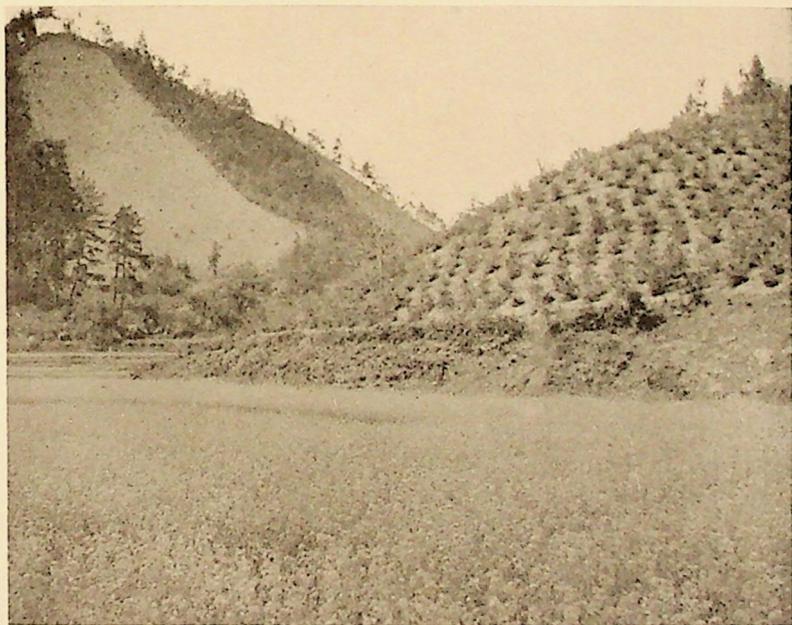
Photos by James Thorp.

Mill Dams in Southern Anhwei with the famous Huang Shan in the Distance.



安徽
黄山

The South Slope of Huang Shan, Sacred Mountain in Southern Anhwei.



Photos by James Thorp.

Typical Combination of Crops in Southern Anhwei. Rape in the Fore-ground will later be followed by Rice, while Tea thrives on the reddish Soils of the nearby Hill Side, and Corn is planted on the steep Mountain Side in the left Background. Uncultivated Slopes are covered with Pines, *Cunninghamia* and Deciduous Trees of various Kinds.

mountains to the west and winds about among the hills and over the passes in a most spectacular manner. The hills are covered with dense thickets of brushwood and bamboo, and in many places mixed with conifer and deciduous forests. The rivers are swift and beautifully clear, and the small valleys, each with its picturesque village and well-ordered rice paddies, make a beautiful sight which will long be remembered. At the time we visited the country practically all the rice lands were still covered by the winter rape crops, which at this season of the year are completely covered with bright yellow flowers. Soils on the mountain sides are red, yellow or brown, and add to the colour scheme. The more distant views are even more charming than those of the small valleys, for in these places one has a wonderful contrast between the bright yellow of the nearby rape fields and the delicate tints and shades of blue of the tumbled ranges of mountains. The villages are neat with well constructed houses, and remind one of the villages which one sees in the mountain valleys of Europe.

Amongst the most charming features of the landscape of this region are the wonderful old stone bridges, which were built, some of them, several hundred years ago. They have taken on a type of beauty which comes only with age, and which cannot be duplicated in modern structures. These bridges are of the high arched type of simple or multiple spans, and are somewhat similar to those seen around Soochow and in general throughout the delta plain of the Yangtze River. Their setting amongst great trees, clear rushing rivers and over-shadowing mountain ranges lend them a type of beauty which is not to be found in the delta region. Some of the bridges over the larger rivers had to be built so large in order to withstand the force of floods that they are quite suitable for automobile traffic, and are being used for that purpose. These bridges are built of native stone, which was hewn from the nearby mountains. They have become covered with lichens and moss and in many places shrubs are growing from the crevices in their sides. This is a paradise for the artist and the photographer.

One of the most enjoyable features of the trip was a climb up Huang Shan, the famous "Yellow Mountain" of Southern Anhwei. Estimates of the altitude of this mountain vary from 4,500 to 6,000 feet above the sea, and after our climb we are inclined to agree with the latter estimate. This mountain consists of a series of jagged pinnacles and plunging cliffs of solid granite and porphyry, and the greater part of it is bare grey rock. In the clefts and crevices in this rock the Chinese pine has found a footing, adding tremendously to the picturesque effect. One needs to see these mountains but once to understand the *motif* of Chinese landscape paintings with their overhanging cliffs and pine trees clinging to seemingly impossible rock surfaces. The climb up the mountain presents no difficulties so far as footing is concerned, as steps have been hewn from the solid granite, and one has only to mount a seemingly endless stairway; but the long climb is very arduous. At the top there is a Buddhist temple which has accommodations for visitors, but one must carry one's own bedding with one in order to be comfortable. Three or four days may easily be spent on this mountain, following the various trails

and drinking in the truly marvelous scenery, which changes into a charming new aspect with every slight change of sunlight, shadow or atmospheric condition.

The mountains near Huang Shan, in some cases, are heavily forested, and these forest trees are regularly harvested and carried down stream to market. It was an interesting and thrilling sight to see the natives steering dozens of long rafts of logs and boards through the rapids in the river. These rafts consist of groups of logs or boards tied together into small rafts, which in turn are tied end to end until in some cases the train extends to a length of fifty meters or more. Two or three coolies with bamboo poles run from one end to the other of this string of rafts and skilfully steer it through the swift water and past dangerous rocks. They even shoot these rafts through narrow flumes over the numerous mill dams which are scattered along the river, and at one of these places we observed a serious traffic jam where one of the rafts had stuck on the dam.

The swift rivers of the region furnish water power for the operation of dozens of small mills. The water is diverted into narrow ditches to the mill, where large under-shot or over-shot wheels operate the trip hammers, which pound the grain into flour. The number of trip hammers operated by one waterwheel varies from two to thirty-two, according to the size of the wheel and water power available.

Many of the steep mountain sides are periodically cleared of their trees by cutting and burning, and are planted to corn which is later followed by tung-oil or tea. As soon as the farmers begin to notice serious erosion due to this practice they plant *Cunninghamia* trees and allow the land to revert to forest.

In the entire region between Huei-chou and Ta-tung we saw many evidences of the effects of the Taiping Rebellion, from which the country has never fully recovered. Some of the villages of the region were largely destroyed during this uprising, and one still sees the ruined walls overgrown with vines and shrubs where buildings were destroyed and never rebuilt. Before the rebellion large areas of mountain side were terraced and intensively cultivated, but these terraces have been very largely abandoned, and in many places erosion has permanently ruined the soil. We are told that the prosperity of some of the villages has been badly affected by the choking of the rivers with sand, with the consequence that formerly navigable rivers have become impassable to freight boats. This is the direct result of the rapid erosion which has occurred since parts of the hills and mountains have been cleared of forest and cultivated. Navigation practically stops at the city of Huei-chou, whereas formerly it extended many miles up river.

The readers of this article may be interested to know a little regarding the principles involved in the formation of soil so that they may better understand a brief mention of soil conditions in Northern Chekiang and Southern Anhwei. From the viewpoint of the continent as a whole, important soil differences depend upon the effects of climate and vegetation more than on any other feature of soil environment. As an example of this a very humid climate, combined with its usual heavy forest vegeta-

tion, causes the formation of a strongly acid soil, which is agriculturally productive for only a very short period after being cleared. Heavy rainfall, combined with the decay of organic material formed from the dead leaves of the trees, causes a very large share of the plant foods to be dissolved and carried away in the ground water. From this brief statement it may readily be expected that the soils of this region are fundamentally poor soils. An exception may be made in the case of the broader alluvial plains, where fresh minerals and organic remains have been ground up by the river and deposited. We should also further qualify this statement by saying that on some of the very steep mountain sides the soils are forming rather rapidly from the decay of rocks, while at the same time the material from the surface is being equally rapidly eroded away, so that the soil material does not have an opportunity to be leached for a very long time. On the steeper mountain sides, then, we sometimes find soils which are moderately rich but also very thin. This is the reason that the farmers are able to raise fairly good crops of corn on the steep slopes, while on the gently sloping hills the soils are much poorer. Another cause for development of different kinds of soils is that of the average annual temperature. Soils in this region near sea level occur under conditions of fairly high average temperature, and where they remain in well drained positions this high temperature tends to cause the iron compounds to become highly oxidized, and the soils are, therefore, likely to be quite red in colour. In some tropical regions the soils ultimately become so rich in iron or alumina, or both, that they may be used as ores of these metals. On the other hand, soils which occur under poor natural drainage conditions are kept so moist that the iron does not become oxidized, and under conditions of rice culture the compounds may actually become reduced to a grey or bluish colour. In this condition they are often dissolved and carried away in the ground water. This accounts for the peculiar grey, grey-brown and mottled condition which one sees in the rice paddy soils.

Southern Anhwei is a region where tea raising has been a very important industry in the past, and this industry still thrives in certain sections. Tea will grow satisfactorily only on very acid soils, and as this condition prevails in this region, and climatic conditions are suitable, tea is a very important crop. Its production has been somewhat curtailed during recent times. This curtailment is at least partly due to the competition of Japanese and Indian teas, which are grown on a mass-production basis and under scientific management. The best quality teas in Anhwei and Chekiang are said to come from the high slopes of the mountains where mists and fogs are very frequent. This very humid atmosphere is supposed to account for the high quality of the tea of the region, and the buyers pay higher prices for teas raised on the higher peaks than for those raised in the valleys. We frequently observed that the tea bushes in the latter positions seemed far the more thrifty, but it is claimed that the quality of leaf produced is not so good as that of the bushes grown high up the mountain sides. Quite a large share of the tea was growing on soils derived from rocks known as schist-phyllite, which occurs in a large body south and south-west of Huang Shan. We also

saw considerable areas of tea plantings on soils derived from granites north of Huang Shan. In some places it was being grown on the terrace banks between the rice paddies.

The general productivity of the soil which is used for rice growing depends on two or three factors. Soils which occur in narrow valleys, if they have been washed from hill sides where soils are poor, are likely to be relatively non-productive. On the other hand, if such soils are washed from rich deposits on the hill sides, they are more productive. On the whole, in this region rice paddy soils of the smaller valleys have a low productivity, while those of the large alluvial valleys are more fertile. Here again we must make a qualification in the matter of texture. Sandy soils are not well suited to rice because of the fact that it is almost impossible to keep them flooded. The best rice soils are usually of a clay or a silty clay texture, and these soils are likely to occur in broad alluvial valleys between the natural levees of sandy materials and the uplands. Another factor of importance is that of fertilization. Almost invariably there is a roughly circular band of land within an easy day's walk of the large cities where the soils are more productive because of an abundant supply of night-soil. Smaller circles of fertile soils surround the smaller cities and villages. We noticed an especially infertile region between Hangchow and Huei-chou, where the soil poverty seems to be due to the fact that the parent rocks are shales and slates, materials which are usually notoriously poor in plant foods. Soils derived from basic igneous rocks, on the other hand, are likely to be more productive, as are those which are derived from certain kinds of limestones. We do not have the space here to go into greater detail regarding soil conditions in this region.

To those who enjoy beautiful scenery sufficiently to be willing to put up with the type of discomfort which one must necessarily undergo to visit such a place, and to those who enjoy a study of natural history, we would strongly recommend that they take a trip through Southern Anhwei and Northern Chekiang. We believe they will be amply repaid for their trouble. There are good trails to follow in the lower mountains and plenty of beautiful peaks to be scaled. A friendly but curious populace will welcome them in most of the villages they visit. We were told within a few months there will be a motor road from Hweichow to Ta-tung, so that this country may be visited in comparative comfort, and, while we greatly appreciate the convenience and speed of travel with which one may visit the country by motor-car, yet we also regret the probable partial destruction or mutilation of natural beauty which nearly always follows in the wake of motor road construction. The picturesque simplicity which one finds only in the more remote districts, as yet untouched to any degree by modern life, will probably be lost. Modernization of transport makes the country available to a larger number of travellers, but, unfortunately, detracts somewhat from the charm of an ancient and more or less primitive civilization. Let us hope that, when this region becomes modernized, the good things of the old will be allowed to remain side by side with those of the new.

ENGINEERING, INDUSTRIAL AND COMMERCIAL NOTES

AVIATION

Shanghai-Canton Run To be Re-summed Soon: Aeroplane service between Shanghai and Canton will be resumed late in October, officials of the China National Aviation Company announced on September 9. They are at present awaiting delivery of two new Douglas "Dolphin" eight-passenger amphibian airliners, which have been on order for some months and which will enable the trip to be made in seven hours. The 'planes, of a new design, are all metal in construction and have a cruising speed of 150 miles an hour. They will be completely equipped with two-way radio and blind-flying apparatus, sound-proofed cabin, electric inertia starter, a fire extinguishing system and many other refinements. The crew will consist of a pilot and co-pilot, who will also be radio operator.

Stops will be made at Wenchow, Foochow, Amoy and Swatow *en route*. A great deal of the traffic over this line is between ports rather than clear through, and the projected three trips a week in each direction will take advantage of this. Safety requirements are being given special care over this route, and definite plans for the operation of a directional radio beam are being studied. Radio stations have already been built at each port of call, and an additional one will soon be erected on an island in Hangchow Bay.

Eurasia Route Changed: Due to poor communication facilities, the airport of the Eurasia Aviation Corporation at Lo-yang, Honan, will soon be abandoned, a *Central News* dispatch of September 13 announced. The airliners will stop hereafter at Cheng-chou, at the intersection of the Peiping-Hankow Railway and the Lung-Hai Line about a hundred miles east of Lo-yang.

Modern Airport for Dairen: Increased aeroplane traffic between Japan and Manchuria has necessitated the

extension and general improvement of Dairen's airport, according to *Reuter*. The Kwantung Government proposes to construct a macadam runway for the 'planes, to be 900 meters long and sixty meters wide, costing Y.200,000 over a period of three years. Flood and search-lights to aid night flying will also be installed at a cost of Y.37,000. Other projected improvements include aerial beacon lights between Dairen and Antung, installation of special aeroplane inspection apparatus, and the establishment of a new aeronautical radio station.

Canton Plans New Line: An aeroplane service to connect the capitals of Kwangtung and Kweichow Provinces is now projected by the Southwest Aviation Company. A test flight over the new route was reported to have been made in mid-September, while the formal opening of mail and passenger service was scheduled for some time in October. Hopes are entertained of extending the service to Yu-kuan, in Szechuan, and to Yunnan Fu.

Air Route via Alaska Planned: Possibilities of an air line connecting Asia with America *via* Alaska were advanced by a conference held early in September between high Post Office and aviation officials of the United States and representatives of Soviet trans-Siberian air lines. The meeting was held in Anadyr, Siberia, the *China Press* reported.

Air and Sea Hook-up Made: From London to Shanghai by way of Suez in nineteen days is the possibility following new arrangements between Alfred Holt & Company, owners of the Blue Funnel Line, and Imperial Airways Ltd. Connection is made between ship and 'plane at Singapore. The cost of a single journey is to be £178.4.0 and for the return trip £355.10.0.

ROAD-BUILDING

Eight-Province Programme Well Ahead: When the National Economic Council announced its plans for building motor roads in the eight provinces of Kiangsu, Chekiang, Anhwei, Kiangsi, Hupeh, Hunan, and Fukien some time ago, 3,443 miles of completed highway were promised. On September 1 the Council was able to report that 2,045 miles were already in use and that only 873 miles remained to be completed. Kiangsi holds the record. Special effort was made to complete the network in that province in order to aid the Government forces in their operations against communists.

The figures for all eight provinces, as reported by *Kuomin*, are as follows, the distances being in Chinese *li* (one-third of a mile):

Provinces	Already constructed	Under construction	Not yet started
Kiangsi	566	621	171
Chekiang	830.2	355.4	50
Anhwei	910	96	454
Kiangsi	1,922	53	198
Hupeh	544	445	382

Hunan	339	187	228
Honan	819.9	233.8	57
Fukien	218.6	624.2	34
	6,149.7	2,615.4	1,574

One of the concrete results of this extension was announced in a bulletin of the Automobile Club of China on August 27, when the completion of a circular route into the Anhwei hills from Hangchow was described. The circuit is by way of Hangchow, Chien-teh, Tung-ki, Hwei-chou, Chang-hua, Yuhang and back to Hangchow, and includes some of the prettiest scenery to be found in the Shanghai area. There is second class Chinese hotel accommodation to be had at Tung-ki and Hwei-chou.

At the same time the Kiangsu Provincial Government has announced that it will spend \$140,966 on the improvement of the roadbed and the reconditioning of bridges along the Nanking-Hangchow Highway, and henceforth no vehicles weighing more than five tons will be allowed on provincial roads.

RAILWAYS

Bridge At Hankow Discussed: An iron railway bridge across the Yangtze River connecting Hankow with Wu-chang was reported by *Reuter* to have been decided on at an executive conference of the Hankow-Canton Railway recently. This structure, when and if it is completed, would make possible through traffic between Canton and the North and would even allow a trip from Hongkong to Gibraltar with no greater inconvenience in changing trains than crossing a station platform.

Of more immediate interest, is the fact that the conference also decided to repair the railway line between Wu-chang and Chang-sha, which has been in poor condition for some time.

At the same time the Ministry of Railways in Nanking has ordered that work on the Chien-tang River Bridge of the Hangchow-Ningpo Railway be started at once. The boring and some other preliminary work has already been completed.

Nanking-Wuhu Line Being Constructed: Construction of a new railway between Nanking and Wuhu

is already under way and is expected to be completed before the end of the year, according to a dispatch in the *Shun Pao* of September 10. The railway, which is being financed by the Kiangnan Railway, will be 100 miles in length and will pass through Ta-chiao Chen, Tang-tu, and Tung-shing Chen.

New Train Ferry for Yangtze: So satisfactory has been the service rendered by the "*Changkiang*," the train ferry built in England last year to connect the Tientsin-Pukow and the Shanghai-Nanking Railways, that the Ministry of Railways in Nanking is considering building another, says a *Reuter* dispatch from the capital on September 21. The new vessel would help take care of the growing traffic, and would be available should the "*Changkiang*" have to be laid up for repairs or overhauling.

Some doubt is being expressed by the Ministry as to whether such a large vessel could be built satisfactorily in China at present. In order to help decide the question the Navy Ministry

ENGINEERING, INDUSTRIAL AND COMMERCIAL NOTES

has been requested to send an engineer of the Kiangnan Docks in Shanghai to attend all future discussions on the subject held by the committee.

Re-routing the Suiyuan Line : To avoid the danger of constantly recurring floods, the Peiping-Suiyuan Railway may be re-routed through eastern Suiyuan, according to a report in the *North-China Daily News*. Survey work has already started. The line at the endangered point runs through a canyon which is occasionally subjected to disastrous floods.

Progress On Lung-Hai Extension: Express trains reached Wei-nan for the first time on September 1, when an additional fifty mile section of

the Lung-Hai Railway was opened to traffic. This shortens the time required to travel from Shanghai to Si-an Fu by a whole day. Work is continuing and the rails have already been laid as far as Lin-kou Chen, eight miles beyond Wei-nan. As the roadbed, bridges and tunnels have been completed, service as far as Lin-tung, historic hot spring resort only seventeen miles from Si-an Fu, is expected by the end of October.

While work is progressing, Chairman Shao Li-tsu of the Shensi Provincial Government has been petitioning the Ministry of Railways and the managing director of the Lung-Hai line to have the railway further extended to Sien-yang and Hsing-ping, west of Si-an Fu, at once.

SHIPPING

New Chinese Ocean Service : The China Merchants Steam Navigation Company is at present considering the establishment of a steamship service between Amoy and Manila, it was reported in the *North-China Daily News* on September 15. No definite decision has yet been reached, however. It was reported that the "*Poo An*" will be taken off the Tsingtao service and put on the new run when the first three of the four new ships being built in England for the China Merchants arrive at Shanghai in November.

New German Liner For Far East : Travellers between China and Europe will have an additional choice of new ships early in 1935, when the Hamburg-Amerika combined passenger and cargo vessel "*Cordillera*" arrives in Shanghai on its maiden voyage to the Far East. The ship is designed for tropical service and is well ventilated. Accommodation is provided for 159 first class passengers, 103 tourist class, and 110 economic tourist class. An in-

novation is a special dance floor for each of the three classes, while the usual amenities of baths, libraries, moving picture shows, ship's band, a florist shop, general stores, and a hair-dresser's saloon will help travellers enjoy themselves. The "*Cordillera*" will reach Shanghai on April 3, after calling at Rotterdam, Dover, Barcelona, Genoa, Naples, Port Said, Colombo, Singapore, Manila and Hongkong *en route*. The return voyage will start on April 14.

New N.Y.K. Liner is Inspected : Designed to maintain a thirty-six day service between the Orient and New York City, the "*Nagara Maru*," first of six new freighters under construction for the Nippon Yusen Kaisha, was inspected by shipping men on arrival in Shanghai on its maiden voyage early in September. The six ships are all being built with the idea of providing suitable accommodation for every kind of cargo, as well as maintaining a good speed. The other five ships are to be completed before February, 1935.

RADIOS AND TELEPHONES

Long Distance 'Phone Improvements Made : Several important additions were made in September to the telephone network that is gradually spreading over China. Long distance service between Cheng-chou, Honan, and Hankow was inaugurated on September 1, and was part of a general linking up of centres all through Hopei,

Hupei, Shantung and Honan on that date. Previous tests had shown the system to be in excellent working order. In Kiangsu the telephone wires of Nan-tung, Ching-kiang and Tai-shing were connected with those of the Shanghai Telephone Administration to provide more extensive service, while a new direct long-distance service

between Nanking and Shanghai, making use of the new Nanking-Shanghai Highway route, was inaugurated on September 16.

Fees for messages were announced as follows: From Shanghai to I-hing, \$1.20; to Soochow, \$0.70; to Wusih, \$0.45; to Nan-tung, \$1.10; to Chinkiang, \$1.15; to Yang-chou, \$1.25; to Nanking, \$0.90; and to Wuhu, \$1.40.

Tokyo Phones Hamburg and Manila: Telephone conversation between Japan and Manila became possible on September 27, when the new radio service between the two countries was opened to the public. The distance is 4,000 kilometres. The public will be able to use the new service between

9 a.m. and 10 p.m. every day, at a cost of thirty-five yen for three minutes. First tests over the new hook-up between Tokyo and Hamburg were carried out on September 18, when the Tokyo representatives of the Hamburg-America Line called their home office in the German port. They reported the conversation to be easily understandable.

Radio Station For Hankow:

What is believed to be the most powerful radio station in China was scheduled to be opened on October 10 at Hankow. It will be operated by the Municipality. The Hupeh Provincial Government has granted permission for its operation for one year, during which time it will enjoy a monopoly.

MINING

Kuangtung Gold Rush Continues: Despite the dictum of the Kuangtung Provincial Authorities that the property on which gold was discovered recently belonged to the Government, reports from En-ping, Kai-ping, Tai-shan and Kiang-men indicate that the district is still the scene of considerable activity. Over \$2,000,000 worth of precious metal is reported by *Reuter* to have been taken from the hills by villagers and native prospectors.

The gold is distributed over a fairly large area and exists in both alluvial and reef deposits. According to mining engineers who have been exploring these districts the geological features of the area are favourable to large deposits, not only of gold, but of other minerals as well. The country consists largely of a series of sand, limestone and shale

deposits, which at some period was intruded upon by a mass of granite. A great number of fissure veins, composed mainly of quartz and wolfram, occur throughout. Around Tai-shan both the soil and the presence of water favour hydraulic sluicing, or, perhaps, even the installation of dredgers.

The mineral found in this district is mostly in lode or reef form. Gold of this type is not as favourable for the small prospector as is an alluvial deposit, the necessity of providing costly machinery being a handicap to all but well-financed concerns. Deposits of this kind, however, are usually larger than alluvial beds, and give a better return for the capital invested. It has not been established from the brief reports received, however, that the reef is of sufficient size to be worked profitably.

ROAD TRANSPORT

Tangpu Moves for Better Omnibus Service: An ill wind which may blow some good for travellers in Kiangsu Province was a recent motor 'bus accident at I-hing in which seven passengers were killed and several injured. As the result of an investigation of the cause, the Kiangsu Provincial Party Headquarters has recommended a set of measures for improving the omnibus service. Included are (1) careful

selection and strict training of omnibus drivers, (2) limitation of the number of passengers, (3) regulation of speed, (4) forbidding the conveyance of luggage in passenger cars, (5) more courtesy on the part of conductors toward the passengers, (6) strict observance of the time schedule and (7) careful examination of the omnibus before starting. All seven, most passengers will agree, are recommendations which are in need of application.

CONSERVANCY

Yellow River Causes Alarm: Steady shifting of the course of the Yellow River in Southern Hopei to

the north continued through September, the *Shun Pao* reporting on September 10 that another forty feet of dike had

ENGINEERING, INDUSTRIAL AND COMMERCIAL NOTES

been washed away the day before. Although approximately 1,500 workers are engaged in building new dikes to check the flood waters, the embankments are being washed away before they can be completed. More than two hundred and forty feet of dike at Feng-lao has collapsed as a result of the shifting of the river's course, the journal reported.

Large areas of Southern Hopei have been inundated, and relief measures are being started by several agencies. The Central Government has appropriated \$100,000 for use by the Yellow River Flood Relief Commission, at the request of Dr. H. H. Kung. Simultaneously a meeting of the flood relief body decided to request the Central Government to appropriate a fund for immediate relief (granted), to urge provincial authorities to adopt further relief measures, and to request all charitable societies to come to their assistance. Measures suggested for raising funds included a charity race meeting, a tax levied on all amusement establishments, and charity theatrical performances.

Haiho Palliative Scheme Endangered: Lack of funds and the approaching winter have combined to put the elaborate work for controlling the Haiho River at Tientsin in immediate danger of total loss. Unless \$600,000 can be raised at once, it will be impossible to divert the freshets next spring, and work which has already been done at a cost of \$4,000,000 may be swept away. The Haiho Technical

Bureau, which has taken over the work of the defunct Haiho Improvement Commission, has, in conjunction with the North China Commission and the Hopei Provincial Construction Board, been negotiating with the Tientsin Consular Body and Chinese banking circles for a loan of \$5,000,000, but no results have been announced so far, and it is believed doubtful if the loan can ever be arranged. At present all construction work of the Bureau has been suspended pending the supplying of further funds.

New Whangpoo Conservancy Vessel Launched: Christened "*Li Liang*" by Mrs. Herbert Chatley, wife of the engineer-in-chief of the Whangpoo Conservancy Board, a new buoy tender and survey ship for use in the Whangpoo and Yangtze Rivers was launched at the New Engineering and Shipbuilding Works on August 29. The vessel is expected to operate in conjunction with the giant new dredger which will arrive at Shanghai early next year.

The "*Li Liang*" has an overall length of 150 feet, a breadth of thirty feet, moulded depth of sixteen feet and a loaded draft of ten feet. She has twin screws and four decks, lower, main, fore-castle and boat decks. The propelling machinery was designed and constructed by the builders, and consists of two sets of three-crank triple-expansion surface-condensing engines capable of driving the ship at a speed of ten and a half knots.

AGRICULTURE

North China Cotton Crop is Good: A new method of picking and selecting cotton is now being tried in the Tientsin area, according to a recent dispatch to the *China Press*. Instead of having the entire crop sorted on arrival at the mills, an effort is now being made to have the pickers grade it at the time it is removed from the bushes. Cotton handled in this way

is expected to command a much higher price, but would throw thousands of Tientsin workers out of jobs.

At the same time reports from Tientsin indicate that the cotton crop in North China is exceeding all expectations. Not only is a large picking forecast, but the quality of the new crop is well above average. Dealings in the crop are reported brisk.

COMMERCE

Australian Sandalwood for the Orient: The following letter on the sandalwood trade between Australia and the Far East will doubtless interest many of our readers:

Dear Sir,

Perhaps you and your readers will be interested in the enclosed pictures, taken by me during March, of sandalwood, quantities of which are exported

from Australia to the Orient for use on pyres (in India), for incense, arts, medicines, etc. Statistics show that during the period 1932-33 total exports were valued at A.£133,000, of which A.£89,000 worth went from Western Australia. In former years the trade was very much larger.

The trees are shapely, with small sage-coloured dull leaves (a few dried specimens enclosed). They are found sparsely scattered in the wild "bush" and always grow near certain other trees. The felling of them has been so constant and ruthless that it has become necessary to go much farther afield to obtain supplies, and the Government has decreed that no trees of less than three inches diameter shall be cut. In making an excursion through the "bush," a desire was expressed to view a growing Sandal tree, to accomplish which a detour of 27 miles had to be made.

Photo No. 1 shows the quarry, a well-known tree, in the middle of the "bush" highway, at the approaches to the township of Williams, 100 miles south by east of Perth, W.A. This particular tree is protected by the State Government, and is considered a fine sample above the average size.

When hewn, the logs are barked and railed to Fremantle harbour yards, where the butts and roots, which are also valuable, are sawn off (see photos Nos. 2 and 3) to make the resulting symmetrical logs easier for handling and stowing.

Photo No. 4 shows dressed sandalwood, stacked and awaiting shipment at Fremantle. The current price is roughly A.£30 per ton f.o.b. Ship-

loads have been made to Shanghai in the past.

Yours very truly,

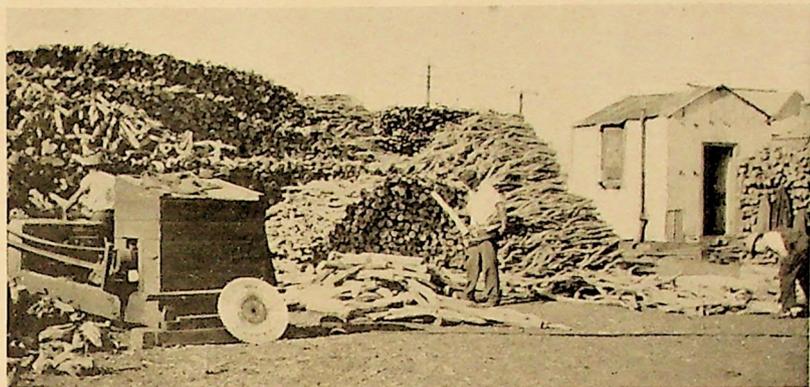
H. J. EVERALL.

P.S. Since writing the above I, fortunately, have been supplied with two official publications by the Western Australian Forests Department on Sandal-wood, both of which contain valuable information for the student. They are herewith enclosed.

"Sandal-wood," 3rd Edition, (*Bulletin No. 12*) and

"A Taxonomic Study of The Genus *Santalum*," (*Bulletin No. 44*).

To Promote Trade Relations: Mr. L. A. L. Moore, for the past four years Honorary Agent in Tientsin for the New Zealand Government and well known for his public work in the northern port during his sixteen years' residence there, left China early in October en route to his home in Auckland. He declared before leaving that he hoped to take an active part in promoting closer trade relations between China and New Zealand, a project on which he has spent a great deal of time in the past four years. It was one of the recommendations of the recent Australian Mission to the Orient that full time trade commissioners be appointed at important trade centres in China. It may be suggested that the same policy might be adopted by the New Zealand Government, in view of the great possibilities that lie in this direction.

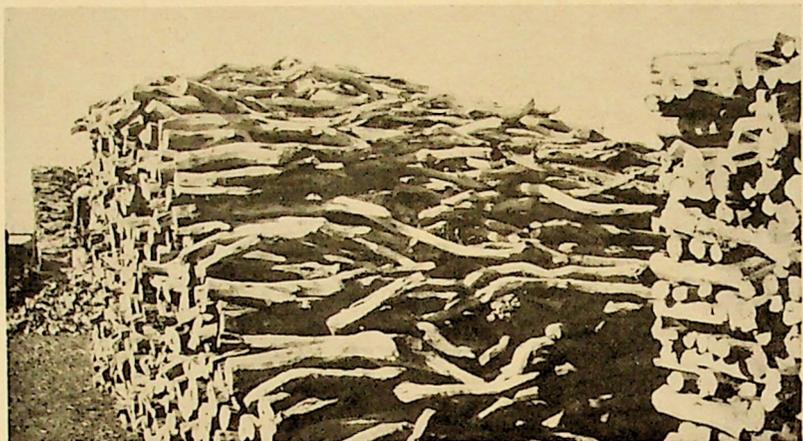


Examining and stacking Sections of Sandalwood in a Yard at Fremantle, West Australia, whence it is shipped in large Quantities to the Far East.

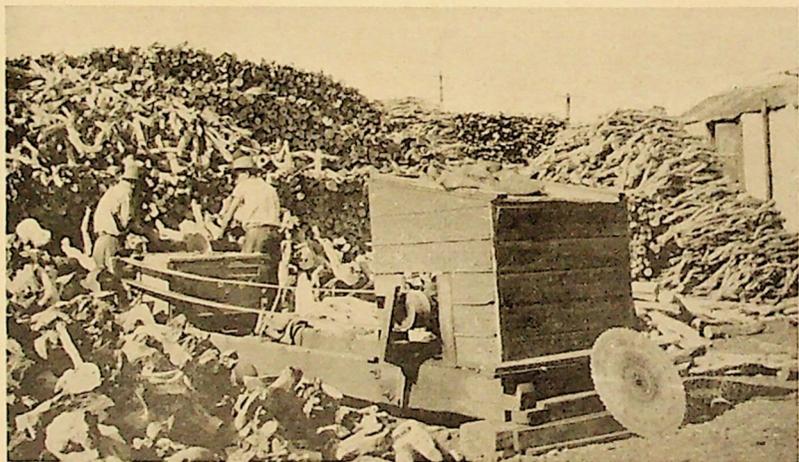


A Sandalwood Tree (*Santalum spicatum*) at Williams in West Australia.

澳洲木料輸遠東



Sandalwood stacked and ready for Shipment at Freemantle, West Australia.



Sawing off the Butts and Roots of the Sandalwood preparatory to shipping the Trunk Sections from Freemantle, West Australia, to the Orient.



NOTES ON SOME *OXYA* SPECIES FROM
CHEKIANG PROVINCE WITH THE
DESCRIPTION OF A NEW SUBSPECIES

BY

K. S. FRANCIS CHANG*

Among the *Orthoptera* specimens the writer collected in the summer of 1933 in the province of Chekiang were found a few species of *Oxya*, amongst them a new subspecies of a very rare Bengalese species. Since the genus is one of considerable economic importance, owing to its members being noxious rice pests, it would appear worth while to record a few facts concerning their classification and distribution, based entirely on the material collected from Chekiang Province, but checked also with material at hand from other provinces.

Thanks to the efforts of Dr. C. Willemse of Holland, the difficult genus *Oxya* was well revised in 1925.(1) Up till then the taxonomy of this genus had been in a bad state of confusion, and the descriptions given by earlier authors were in many cases too meagre to warrant any assurance of correct specific identification. In his work Dr. Willemse re-examined nearly all the types of known species of previous authors of the genus in various museums in Europe, and had redescribed them on a critical morphological basis. Uvarov's criticism of the work (2) in the following year, with a few valuable alterations, has added to its completeness and perfection.

It is, perhaps, unnecessary to mention that, though the genus has been so excellently monographed, much room was left for further studies to be carried out in the various localities where species of *Oxya* are to be found. Very little is known as yet about the variations upon which the validity of closely related species depends. As to their bionomics and life histories and their genetic relationships much remains for careful investigation. It is hoped that more attention will be paid to this phase of study. Besides the above in not a few cases only a single sex

*Instructor of Biology, St. John's University.

has been studied and described, while the opposite sex may still be unknown to science.

Up to the present, as far as I am aware, only three species of *Oxya* have been reported as occurring in Chekiang, while the total of the recorded species for the whole of China is no less than twelve. The small number of forms recorded for Chekiang is due to our very meagre information regarding the distribution of these insects and the little study that has been made of them.

In the following section are listed the different species collected by the writer and the localities where they are known to occur :

1. *Oxya agavis* Tsai.

T'ien Mo Shan (天目山), 8 ♀, 6 ♂, Aug. 3, 1933.

Chieng Chiao Kou (潛教口), 2 ♂, Sept. 3, 1933.

T'ien Chu Shan (天竺山), 2 ♀, 1 ♂, Aug. 3, 1933.

T'ai Tze Ang (太子庵), 2 ♂, Aug. 4, 1933.

Shan Feng Tien (山峯殿), 1 ♂, Aug. 5, 1933.

This is a fairly robust species. It can easily be distinguished from the other larger species by the prominently chocolate coloured bands extending from behind the compound eyes all along the upper border of the lateral lobes of the pronotum ; by the presence of teeth at the caudo-ventral angles of the second and third abdominal pleura, that of the third being best developed ; and the abbreviated organs of flight, which are generally shorter than the abdomen and only very rarely extend a little beyond the knees of the hind femora. It has only recently been described as a new species by Professor Tsai (3), who discovered it while examining the *Orthoptera* material from China in the Zoological Museum of the University of Berlin. Its type locality is Szechuan.

Besides Chekiang records, I have a few specimens from Fokang (福安) in North Fukien and Lo-yuang (羅源) in South Fukien.

2. *Oxya intricata* Stal.

This is evidently the commonest species, and, since it is represented in the collection by specimens from numerous localities, I do not think it necessary to give individual records. Uvarov was right in saying that the small submedial teeth at the hind border of its subgenital plate may be developed, undeveloped or worn off. I have found the same to be true in the long series of specimens before me.

3. *Oxya bidentata* Willemse.

T'ien Mo Shan, (天目山), 1 ♀, 1 ♂, Aug. 3, 1933.

4. *Oxya velox* (Fabricius)

T'ien-t'ai (天台), 87 ♀, 50 ♂, Sept. 20, 1933.

Ningpo (鄞縣), 6 ♀, 8 ♂, July 23, 1933.

Tsing-tien (青田), 3 ♀, 9 ♂, Sept. 29, 1933.

Ling-hai (臨海), 4 ♀, 2 ♂, Sept. 16, 1933.

- Chiu-lu (橋路), 3 ♀, 9 ♂, Oct. 6, 1933.
 Shih-pu (石浦), 1 ♀, 4 ♂, Oct. 8, 1933.
 Yung-kia (永嘉), 1 ♀, 10 ♂, Oct. 2, 1933.
 Shen-chia-men (沈家門), 3 ♀, 2 ♂, Oct. 14, 1933.
 Hai-men (海門), 3 ♀, 5 ♂, Oct. 4, 1933.

Besides Chekiang records, I have many specimens from Fukien, Canton and a few from Kwangsi.

5. *Oxya shanghaiensis* Willemse.

- Sheng-chia-men (沈家門), 18 ♀, 15 ♂, Aug. 12, 1933.
 Ch'ang Shan (常山), 1 ♀, 2 ♂, Aug. 25, 1933.
 Chu-ki (諸暨), 5 ♀, 1 ♂, Aug. 12, 1933.
 Chien-te (建德), 1 ♀, 3 ♂, Aug. 30, 1933.
 Shao-hing (紹興), 1 ♀, 8 ♂, Aug. 30, 1933.

This species is without doubt perplexingly close to *Oxya velox*. Personally, I feel inclined to question its validity. I would, however, refrain from synonymizing it with *O. velox* Fab. or naming it as a subspecies until I have made a more extensive collection. Besides Chekiang specimens, I have one pair from Shanghai and two pairs from Peking. It has also been recorded recently from South Kansu by Professor Sjöstedt. (4)

6. *Oxya chinensis* (Thunberg).

- Chu-ki (諸暨), 19 ♀, 28 ♂, Aug. 8, 1933.
 Tung-yang (東陽), 7 ♀, Aug. 15, 1933.
 Yu-yao (餘姚), 27 ♀, 39 ♂, July 25, 1933.
 Hsi-bsia-ling (栖霞嶺), 2 ♀, 8 ♂, Sept. 4, 1933.
 Mokanshan (莫干山), 1 ♀, 3 ♂, Aug. 9, 1933.
 T'ien Mo Shan (天目山), 15 ♀, 20 ♂, Aug. 3, 1933.
 Lan-chi (蘭溪), 3 ♀, 1 ♂, Aug. 18, 1933.
 Wu-i (烏義), 8 ♀, 7 ♂, Aug. 17, 1933.
 Ch'ang Shan (常山), 1 ♀, 5 ♂, Aug. 25, 1933.
 Ningpo (鄞縣), 3 ♀, 1 ♂, Aug. 21, 1933.
 Shen-chia-men (沈家門), 1 ♀, 5 ♂, Sept. 14, 1933.
 Chien-te (建德), 3 ♀, 9 ♂, Aug. 29, 1933.

Next to *Oxya intricata* this is the commonest form. Besides Chekiang specimens, I have a fairly large collection from Canton and Kuangsi. Those from the south are distinctly smaller than those I collected in either Kiangsu or Chekiang.

The life history of this species has been worked out by Liu and Li(5) in the Bureau of Entomology, Hangechow, but, judging by the drawing of the female subgenital plate of the adult, given in Figure 9 of their article, the species they studied appears to me to be not *O. chinensis* but something else, because the drawing shows no sign of the distinctive keels on the subgenital plate. I wonder if they were not dealing with a mixture of material. Besides, the measurements they gave for the total length of the species were a trifle too large for *O. chinensis*.

Concerning the last three species, *O. velox*, *O. shanghaiensis* and *O. chinensis*, I wish to make a few remarks. They may be discussed together on account of their very close relationship and great resemblance to each other. While *O. chinensis* is quite definitely distinguishable from *O. velox*, I hardly think, as I have stated above, that the separation of *O. shanghaiensis* as a distinct species is at all justifiable.

Comparing Willemse's description, point by point, these species differ in the following respects, which have arranged in tabulated form for the sake of ease in comparison :

	Abdominal Pleura (♀)	Subgenital Plate (♀)	Cerci (♀)	Fore wing
<i>Oxya chinensis</i>	2nd and 3rd with spines at their ventro-caudal angles, that of the 3rd often indistinct.	Hind border only slightly curved, with 2 very widely separated spines in middle of hind border and laterally with 2 less distinct spines. Hind half of disc with 2 parallel, sharply marked longitudinal keels, with sharp projecting end teeth or serration. Disc more or less grooved between keels.	Conical, tapering.	Indistinctly toothed.
<i>Oxya shanghaiensis</i>	3rd abdominal pleura normal, 2nd with spine very small or indistinct.	Hind border slightly curved inwards in middle, with tooth on each side. Somewhat laterally in hind border is located a spine-like curvature on each side. Hind half of disc with 2 parallel long. keels, ending in sharp spines.	With rounded tips.	Not toothed.
<i>Oxya velox</i>	Same as <i>O. shanghaiensis</i> , except that the spines of 2nd pleura are long, sharp and somewhat curved.	Hind border rounded, in middle with 2 small sharp teeth close to each other; from teeth extend more or less sharply indicated keels laterally at end of them is found a small tooth. From these teeth and extending longitudinally across the subgenital disc are 2 hardly distinct parallel elevations.	Conical, tapering.	Indistinctly toothed.

From this table it can be clearly noted that the important distinguishing characters used are those of the female subgenital plates and the female abdominal spines. In his diagnostic key to species Willemse separates *O. chinensis* from *O. velox* and *O. shanghaiensis* by the presence of a spine at each caudo-ventral angle of its third abdominal pleura, adding in his description of the species, however, the statement that the spine may often be indistinct. *O. chinensis* and *O. shanghaiensis* are said to have the third abdominal pleura normal. From my own examinations I have found this to be a spurious character. All three of them have the possibility of possessing the second pair of spines, and in the majority of cases they are merely indicated, as has been pointed out for *O. chinensis* by Willemse, to which I have found *O. velox* and *O. shanghaiensis* to be no exceptions. Indeed, I have quite a number of typical *velox*, typical in the sense of their other characteristics, possessing the said spines distinctly developed. Further *O. shanghaiensis* is differentiated by Willemse from *O. velox* by the characters of the spines of the second abdominal pleura, the former is said to have them short and often indistinct, and the latter to have them very much longer. This alleged difference is a variable character within limits. Spines of intermediate length have not been found lacking in my examination of a fairly large series. The other minor differences between *O. velox* and *O. shanghaiensis* are all variable and need hardly be discussed.

The characters of the subgenital plates, though variable in detail, offer, nevertheless, certain valuable specific characters. In *O. chinensis* there can be said to be some tendency towards a more distinct spinosity. The submedial teeth in this species are in most cases stronger and sharper than in other species, the parasubmedial teeth present and sometimes quite prominent, the caudo-lateral angles of the subgenital disc often forming conspicuous tooth-like triangular lobes, the keels of the disc showing at times serrations of 1 to 3 teeth on their edges caudally, and often possessing distinct and sharp end teeth. Except the caudal serrations of the edges of the keels, the same are present in *O. velox* and *O. shanghaiensis*, but are generally less pronounced. In spite of the highly variable nature of these characters when taken in detail, the general condition is, nevertheless, noticeable. The most valuable characteristic on the whole is, that of the longitudinal keels. In *O. chinensis* these keels are very prominently developed, sharply edged and high, often ending in sharp and distinct caudal end teeth, and may possess serrations of 1 to 3 teeth along their edges, as just alluded to. The spaces between these keels are noticeably grooved. In *O. velox* and *O. shanghaiensis* these keels are broad and low, distinct only for a short distance; they are wider apart and the area between them may either be flat, medially convex or slightly concave from side to side. As far as my examination of specimens is concerned, none of the keels ever possesses serrations on its edges, and the caudal end teeth are present only in rare cases, and when present are generally very fine and inconspicuous.

Another distinct characteristic of the subgenital plate is that the submedial teeth are in most cases closer to the keels in *O. chinensis* than in *O. velox* and *O. shanghaiensis*. The length and breadth and general

shape and contour agree more or less in the three species. While measuring the length it is often necessary to break the ventron of the proceeding segment so as to expose the contracted portion of the subgenital plate. To a certain extent a typical specimen of *O. shanghaiensis* is intermediate between *O. velox* and *O. chinensis*, but its closer affinity to *O. velox* can easily be discerned.

The above discussion concerns the female of these species only. Comparing the males, the characters of the supra-anal plates and that of the cerci offer noticeable differences. The tip of the cerci is in the majority sharper in *O. chinensis* than in *O. velox* and *O. shanghaiensis*: that of the two latter is in most cases blunt and slightly transversely grooved in the middle of the tip. The supra-anal plate in *O. chinensis* is very slightly longer than broad, its surface distinctly uneven, possessing a short groove on its proximal meson. In *O. velox* and *O. shanghaiensis* it is as long as broad, its surface smooth and flat, rarely uneven, the proximo-mesal groove absent. No difference has been detected by which the males of *O. velox* and *O. shanghaiensis* may be distinguished.

A small sized male of *O. chinensis* may range very close to the size of *O. intricata*, but the two can easily be distinguished by the characters of the groove on the supra-anal plate, that of *O. chinensis* is short and that of *O. intricata* is distinctly longer. A key can easily be made to differentiate the males of all species of the Chekiang *Oxya*.

8. *Oxya grandis ninpoensis* subsp. nov.

Ningpo (鄞縣), 7 ♀, 10 ♂, July 23, 1933.

General colouration greenish-yellow with a touch of brown, varying in degrees in different individuals; brown or reddish brown dorsally in most cases. Head with face and genae brownish-green, postocular brownish bands present, and continued throughout the length of the pronotum. Lateral lobes of pronotum generally green, each with a horizontal brownish band above. Fore and median legs greenish-yellow; knee-aculus of the hind femora black. Hind tibia with a dark band basally, spines paler yellow, black-tipped.

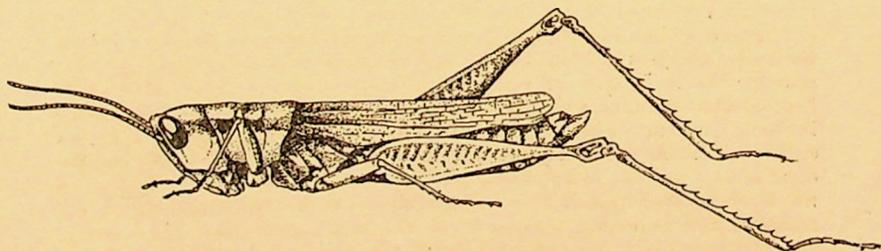


Figure 1. Side View of male *Oxya grandis ninpoensis* subsp. nov.

NOTES ON SOME *OXYA* SPECIES, ETC.

MALE: Robust and large. Pronotal prozona much longer than metazona, hind margin of pronotum broadly rounded. Tegmina narrow, rather short, generally shorter than abdomen, extending beyond the knees of the hind femora; front border smooth. The superior keels of hind femora ending in sharp teeth. Supra-anal plate triangular, a little longer than broad, base with a median groove, apex not broadly rounded, sides of distal third curved in. Cerci long, distinctly extending beyond the supra-anal plate, more or less laterally compressed or sub-cylindrical, with very broad base, straight when viewed in profile, or somewhat curved in when viewed from above; tip bifurcating, the outer tooth being slender, long and tapering, the inner a very broad, short and sub-triangular lobe, rounded in the tip, and more or less bend to the horizontal plane. Subgenital plate up-curved, tapering to a narrow truncate tip.

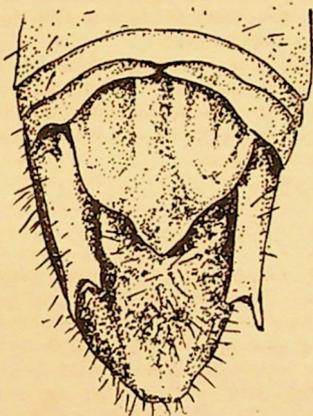


Figure 2. Male Genitalia of *Oxya grandis ninpoensis* seen from above.

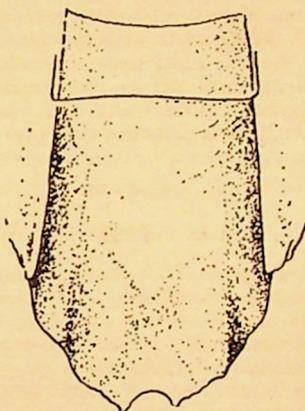


Figure 3. Female Subgenital Plate of *Oxya grandis ninpoensis*.

FEMALE: As in the male, but much larger and more robust. Elytra generally shorter than abdomen, not reaching the tip of hind femora, narrow, its base not abruptly broadened, costal margin untoothed. Second abdominal segment normal. Superior keel of hind femora ending in sharp spines. Supra-anal plate triangular, with a prominent transverse suture, dividing the plate into two halves, the proximal being thicker possessing a median longitudinal groove, with distinct borders, laterad of which the plate slope down on each side; tip of plate rounded. Cerci straight and tapering, shorter than the supra-anal plate. Subgenital plate longer than broad, its hind border converging on each side towards the submedial teeth, and border between these teeth being noticeably concave; submedial teeth very fine and short; very small triangular teeth

or lobes may be developed or only indicated at each caudo-lateral angles of the subgenital disc; the parallel longitudinal keels are low and broad, quite distinct in some and hardly noticeable in others, but at all events distinct only for a short distance caudally, bearing in no case any dentation. Ovipositor with superior and inferior valvulae straight, teeth of superior valvulae fine and more or less uniform, while that of the inferior valvulae are irregular and unequal with larger and smaller ones.

	♀	♂
Length of Body	38.0-44.5 mm.	32.5-34.5 mm.
Length of Pronotum ..	8.5-10.0 mm.	7.5-8.25 mm.
Length of fore wing ..	23.5-28.5 mm.	20.0-24.25 mm.
Length of hind femur ..	22.0-24.5 mm.	17.1-21.0 mm.

The present form is described only as a subspecies of *Oxya grandis* Willemse, described by its author from Bengal, because it differs from the latter only by the character of its abbreviated wings and femora-elytra ratio, which may not offer sufficient ground for its being considered a full distinct species. As far as I am aware *O. grandis* has only once been recorded occurring in Bengal, its type locality, and it must be a very rare species. Thus the discovery of the present form in Ningpo in China is a matter of much interest. The females of the present form may be close to *O. japonica* Willemse, but differs from the latter in the characters of the tip of the supra-anal plate, that of the teeth of the inferior valvulae of the ovipositor and in the presence of a sharp and distinct tooth at the caudal end of the superior keel of the hind femora. *O. japonica* has been recorded by Professor Tsai from Hangchow, but I have no specimen in my collection. I personally doubt if *O. japonica* is really a good species: its male is still unknown.

LITERATURE CITED.

1. Willemse, C. Revision der Gattung *Oxya* Serville. Tijdschr. Entom., lxxviii, pp. 1-60 (1925).
2. Uvarov, B. P. Notes of the Genus *Oxya*, Serv. Bul. Ent. Research, xvii, pp. 45-48 (1926).
3. Tsai, P. H. Zwei neue *Oxya*-Arten aus China. Mit. Zool. Mus. Berlin, 17 Band, 3 Heft, pp. 436-440 (1932).
4. Sjostedt, Y. Schwedisch-Chinesische Wissen-schaftliche Expedition nach den Nordwestlichen Provinzen Chinas unter Leitung von Dr. Sven Hedin und Prof. Su Ping-Chang. Arkiv för Zool., Band 25 A, No. 3 (1933).
5. Liu and Li. Some preliminary notes on the Life History of the Rice Grasshopper, *Oxya chinensis* Thunberg. 1932 Year-Book, Bur. Entom., Hangchow, pp. 59-70, 11 figs. (1933).

SUN SPOTS AND TERRESTRIAL CONDITIONS

BY

HERBERT CHATLEY

Arising out of the extensive drought conditions which have occurred in many parts of the Northern Hemisphere this year, much has been said of the effects of sun spots, having special reference to the fact that the present epoch is one of *minimum* spottedness. It does appear to be a fact that in certain places low rainfall and high temperature occur more frequently in years of minimum spottedness, with, perhaps, an accentuated character every third solar cycle (thirty-four years, the so-called Brueckner period), but it should be emphasized that the condition is not very marked and may be nullified by shorter period oscillations of a more violent character. For example, the very wet year (in China) of 1931 occurred at an epoch when spottedness was low. Droughts occurred in China in 1832 (three Brueckner cycles ago) and in 1900 (one Brueckner cycle ago),* but it is by no means certain that another will occur near 1968 and still less certain that one will happen near 1945, which is the next period of low spottedness.

Sun-spottedness indicates increased solar activity, and is accompanied by increased radiation ("solar 'constant'"). The fluctuation of radiant energy is about four per cent. up or down, corresponding to about 3.0°C. or 5.5°F. up or down from mean terrestrial conditions, but similar fluctuation may occur in *short periods*, and at many places on the earth the temperature effects are *inverted* owing to the reflection of radiation by the clouds. Thus, paradoxically, *increased* radiation may *lower* the ground temperatures. This is due to the fact that the additional heat is absorbed by increased evaporation from the sea, causing great cloudiness. The clouds reflect back the radiation from the sun, so that the result in many places is not higher temperature, but increased rain and lower ground temperatures. This is the reason why in places near the sea (as China and Europe) there is a tendency for cool-wet summers to accompany high spottedness, and hot-dry summers to accompany low spottedness. It should, however, once again be emphasized that this connection is not cleanly cut, is not of great range, and may be obscured by unusual wind effects due to the irregular distribution of land and water. Long range *local* weather prophecy is as yet unreliable.

As to the electrical effects, these are much more definite. High spottedness always tends to be accompanied by increased disturbances of terrestrial magnetism and auroras. These are almost certainly due to beams of electrons discharged from the sun spots, which may sweep across the earth if the spots are near the solar equator, and which, owing to the sun's rotation once in twenty-six days or thereabouts, fluctuate in terrestrial reactions with this period.

*The Health Department of the Shanghai Municipal Council has recently commented upon the absence of cholera in this area in 1934 and 1900.

SCIENTIFIC NOTES AND REVIEWS

BIOLOGY

Bones of Monster found near Newchwang: The bones of a strange monster were found in a reed-grown marsh in the district known as Ho-pei across the Liao River from Yin-kow (Newchwang) in South Manchuria, according to a report in the *Manchuria Daily News* of August 14. A reproduction, which we give here, of a photograph of the bones was given along with the account, which describes the monster as being "18 feet in length, with two horns three feet long, and having a pair of tusks about 18 inches long." It suggests that the bones are those of "a rare species of whale that somehow proceeded up the river some time ago."

Examining the details of the skeletal remains of the monster as shown in the photograph we note that what appears to be the skull has been placed at the tail end of the row of vertebrae, which, incidentally, are not in their correct order. These undoubtedly belonged to some form of whale, while the skull, apart from the alleged "horns" sticking out from it, appears to be that of a cetacean.

Pending an examination by experts and a pronouncement on their findings we would suggest that the bones represent the skull, vertebrae and a few ribs of a small whale that has been carried up the river at some period of high tide or severe storm in the past and stranded in the marsh. We further suggest that the alleged "horns" are rib bones which have been stuck into cavities in the skull in order to make the remains look more like those of the "dragon" that the local natives believe the monster to be.

The Prehistoric Ostrich of North China: The accompanying picture of a huge fossilized egg, found, probably, in the *loess* strata of the Yellow River basin, has been sent to us by Dr. E. M. Gale, who received it from Mr. R. Daniel of the Collectorate of Salt Revenue at Kai-feng Fu, Honan, with an enquiry as to its nature.

We are able to say that such fossil eggs are of fairly common occurrence

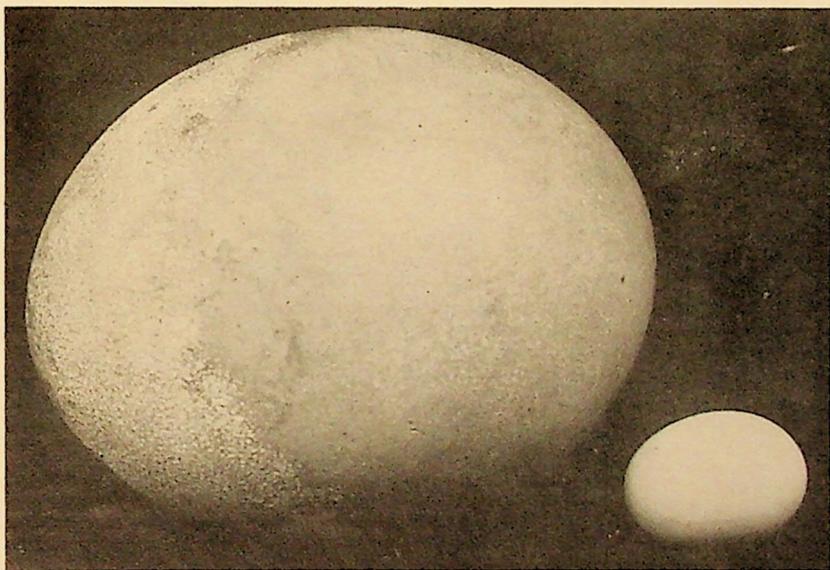
in the *loess* country of North China, being those of a large species of ostrich, known to science as *Struthioithus chersonensis* Brandt, which roamed the earth in Pleistocene times from this country westward at least as far as Southern Russia. Little if anything is known of the bird itself, its remains being almost exclusively confined to these large fossil eggs, found, as already stated, in comparative abundance in the *loess* strata of North China. If the size of the eggs offer any criterion, this prehistoric ostrich must have been considerably larger than the present day species.

The Giant Panda's Skull: Amongst the most remarkable features of the giant panda (*Ailuropoda melanoleuca*, David), one of China's most remarkable animals, are the skull and teeth adaptations to deal with the unusual kind of food upon which it feeds. This, as far as it has been possible to ascertain, consists exclusively of bamboo, apparently all parts of the plant, including leaves, stem and roots, being devoured. It will readily be seen that great muscular power and specially strong jaws and teeth are necessary for the mastication of such tough material, and these are exactly what we find in the giant panda. The lower jaws are extraordinarily heavy even for a member of the order *Carnivora*, to which, paradoxically enough, this herbivorous mammal belongs, while the molar teeth are proportionately broader and larger than those of any other carnivore. The latter also present a flat grinding surface, very different from the sharp edged cutting cusps usual in the group of mammals to which it belongs. The powerful muscles that work the jaws are indicated by the huge zygomatic arches and the high sagittal crest of the skull, which are required to give them sufficiently extensive surfaces for attachment. In the accompanying illustrations are shown various aspects of a giant panda's skull in the Shanghai Museum (R.A.S.) which bring out the features here mentioned, except in regard to the large zygomatic arches, which are

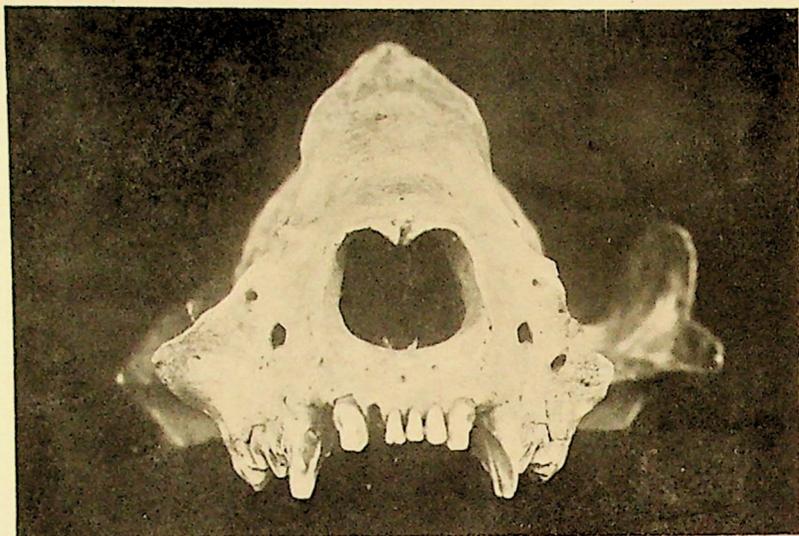


Courtesy "Manchuria Daily News."

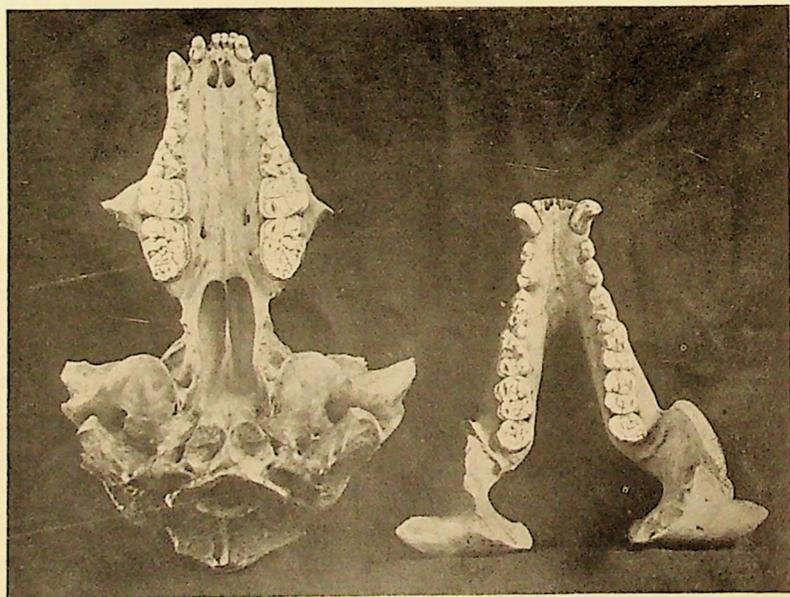
The Bones of a strange Monster found last Summer by a Reed-cutter in the Hopei Marsh across the Liao River from Yingkou (Newchwang) in South Manchuria.



The fossilized Egg of the giant prehistoric Ostrich found in the Loess country of North China and known to Science as *Struthiolithus chersonensis*. It has been placed beside an ordinary Hen's Egg for Comparison.



Anterior View of the Skull of the Giant Panda in which the Zygomatic Arches have been broken away. The remarkable Development of the Sagittal Crest for Muscle attachment is well shown. This is necessary owing to the great Muscular Power required to masticate the tough Fibres of the Bamboo upon which the Panda feeds. Shanghai Museum (R.A.S.).



Views of the Skull and Jaws of a Giant Panda showing the remarkable Development of the Molar Teeth, undoubtedly a Result of the Animal's exclusive Diet of Bamboo Leaves, Stems and Roots. Shanghai Museum (R.A.S.).

SCIENTIFIC NOTES AND REVIEWS

missing. These may be seen, however, in illustrations we gave in the November, 1933, issue of *The China Journal* in connection with an article entitled "The Pandas or Cat Bears and the True Bears."

Siamese Fighting Fish in Shanghai: Owners of aquaria in Shanghai will be interested to learn that the most beautiful of all tropical fishes, the Siamese fighting fish (*Betta splendens*) or veiltail, can now be purchased in Shanghai, as a visit to the Pet Store, 1553 Bubbling Well Road, will reveal. These astoundingly beautiful fish have been described as the "orchids of the aquarium," but even this does not do them justice. They show an ex-

traordinary array of rich colours green, blue, red, gold, purple—all with a brilliant metallic lustre, and with an infinite variety of changes as the fish turns in the sun-light with its huge veil-like fins and tail expanded to their full. Only one male can, however, be kept in a vessel, owing to the remarkable pugnacity of this species, and it is when two males in different glass vessels are placed side by side that the marvellous displays of colour are seen at their best as each little fish strives to get at its opponent. If placed together in the same vessel they commence fighting at once, and very soon will have torn each other's beautiful fins to shreds. Though very small they are able to bite one's finger sufficiently strongly for one to feel it distinctly.

SEISMOLOGY

Monthly Record of Earthquakes: An earthquake with its epicentre some 200 miles from Prato, Tuscany, was recorded on September 5 by the seismographs of Prato Observatory.

A violent earthquake rocked the town of Orleansville in Morocco, says a message to the *North-China Daily News* from Algiers dated September 7. Five people were killed and twenty injured, while it was believed that many more casualties had taken place in the nine hundred miles of country between Orleansville and Algiers.

On September 12, a series of seismic shocks was felt in the region of Caltanissetta, Sicily, however.

Three villages were destroyed, nine people killed and two hundred injured in a severe earthquake that occurred in the state of Jalisco, Mexico, on September 20.

Severe seismic shocks were felt on September 23 at Erzerum, Turkey, but no damage was done or casualties reported.

VOLCANOLOGY

Kilauea Volcano Active: What was described as the most spectacular demonstration on the part of Kilauea Volcano in Hawaii for a long time took place on the morning of September 6, when the forty-four "fountains of hell"

in the Halemaunau pit suddenly became active, spouting streams of steam and boiling water 500 feet into the air. It was feared that an eruption of the volcano was imminent, but no news of any such catastrophe has been received.

METEOROLOGY

The Weather in China during September: The excessive heat and drought that prevailed all through the summer throughout the greater part of China, especially in the Yangtze Valley, was broken in the Shanghai area by rains, which continued off and on during the whole of September. On September 17, excessively heavy rain fell, establishing a new rainfall record for this area. Siceawei Observatory recorded 4.54 inches of rain during the twenty-four hours ending at 7.00 p.m. on that date, with 1.18 inch during the preceding twenty-

four hours. Fine weather prevailed thereafter to the end of the month, but an unusually violent typhoon, which passed Shanghai well to the eastward on September 21, swept the coasts of Japan the following day, causing enormous damage and loss of life. The world's low pressure record was broken, when a pressure of 684 millimetres was registered at Muroto Meteorological Observatory in Kochi Prefecture, Central Japan, just prior to the onslaught of this devastating storm, in which well over two thousand people were killed, over eight thousand were

THE CHINA JOURNAL

injured, hundreds of thousands were rendered homeless and damage was done to the tune of many hundreds of millions of yen. The previous low pressure record was 689.2 millimetres, recorded in India on April 6, 1886.

Throughout Central and North China and Manchuria torrential rains during the month have caused widespread flooding, with much destruction of life and property. The last few days of the month saw winter conditions prevailing throughout the northern provinces.

MEDICINE

Cholera Preventive Reported: According to a *Reuter* message from Chillong, Assam, dated September 7, a greatly improved preventive of cholera has been discovered by Lieutenant-Colonel Morison, Director of the Pasteur Institute there, which has been used successfully. No inkling of the nature of the preventive was given, however.

Absence of Cholera from Shanghai: An outstanding feature of the past summer in Shanghai from a medical point of view is the entire absence of any cases of cholera this year. This may have been due to the excessive

heat and dryness experienced this year, although full credit must be given to the various Municipal Health Departments and the National Quarantine Service for their activities in watching against any outbreak of this dread disease.

Jukao Ravaged by Dysentery: A message from Jukao, Kiangsu, dated September 12, which appeared in the *North-China Daily News*, was to the effect that a severe epidemic of dysentery had broken out in that district. There has been no further news as to the progress of the outbreak.

A. DE C. S.

SHOOTING AND FISHING NOTES

SHOOTING

A Big Bag of Takin: As already reported in "Travel and Exploration Notes" news has reached here in the form of a letter in the *North-China Daily News* of September 26, which was written by that newspaper's Tatsien-lu correspondent on September 3, to the effect that Mr. Ernst Schaefer of the Second Dolan Expedition to West China and Tibet had made a record bag of ten takins (*Budorcas tibetanus* M. Edw.). This was accomplished in the Kong-yu district on the right bank of the Tung River. It seems that while moving up the valley of the latter Schaefer and his native hunter became aware of a herd of takins on the opposite bank. By dropping the leader of the herd with his first shot, Schaefer, who is an expert marksman, turned the herd back, repeating this manoeuvre till he had no fewer than ten of the animals down. The specimens were subsequently retrieved and brought to camp by natives. This is a record which will

probably never be beaten, for the takin is a rare animal, and one that is exceedingly difficult to hunt. Very few have been shot by European and American big-game hunters.

There are three recognized species, namely, the Szechuan takin, already mentioned, the golden takin (*B. bedfordi* Thomas) from the Tai-pei Shan region of South-western Shensi, and the Mishmi takin (*B. taxicolor*) from the northern frontier of Assam, with a small-horned subspecies, the Bhutan takin (*B. t. whytei*) from Bhutan.

They are large ox-like animals related to the serows, gorals and Rocky Mountain goat, and are only found in high precipitous mountains where there is plenty of bamboo jungle, upon the leaves of which plant they feed. Messrs. Rowland Ward's "Records of Big Game," 1922 Edition, contains a list of but twenty-five specimens, including all four forms. In recent years quite a number of Szechuan takins have been secured for museums in

SHOOTING AND FISHING NOTES

America, but the golden takin specimens that have been secured by Western sportsmen can almost be counted on one hand, and certainly not more than five or six sportsmen, of which the writer is one, have had the good fortune to shoot one of these rare animals.

Snipe Shooting Poor this Season : From all accounts the snipe shooting in the Shanghai, Nanking and neighbouring districts has been very poor this season, doubtless as a result of the excessive dryness during the summer. Even where the ground was wet after the rains that fell early in September few birds were to be had. Two Shanghai sportsmen, Messrs. R. F. C. Master and G. D. Jack, shooting in the Nanking area on September 1 and 2 over country that is usually very good for snipe and twenty-five couple may be expected as a normal day's bag for each gun, failed to secure more than five and a half couple between them. Most of the birds seen were on dry ground.

Migrating Doves Shot: A phenomenon which has previously been

observed by ornithologists and duly reported is the passing through this general area while on migration of the little red turtle-dove (*Oenopopelia tranguebarica humilis*, Temminck) in flocks often of considerable size and frequency. This takes place in September as the birds are passing south to their winter resorts in tropical regions.

A report has come in to us to the effect that certain sportsmen had enjoyed what they considered good sport shooting at these beautiful little doves as they passed over continuously in flocks of from fifty to a hundred birds on September 8. So fast were the birds they were very hard to hit, and the report ran that some five hundred shells were expended for a bag of about thirty doves.

While this might by some be placed in the category of sport, we rather deplore the shooting of this beautiful little member of the dove family, being, as it undoubtedly is, one of our most attractive summer visitors. It would hardly seem worth while shooting so small a bird for the pot.

A. DE C. S.

FISHING

Poor Sea-Bass Fishing at Pei-tai Ho : Reports are to hand that the sea-bass fishing at Pei-tai Ho, one of the North China sea-side resorts, has been very poor this season. No large fish have been taken, and only small catches have been made. Our informant noted that the sea was dirty all the time to a considerable distance from land, and also that there were none of the large jellyfishes that usually abound in those waters during the warmer months. He suggests that the

excessive rains bringing down large quantities of silt and dirtying the waters may be responsible for the dearth of both sea-bass and jellyfish. We are inclined to place the blame on the unusually high temperatures prevailing everywhere this year. Unquestionably the sea-bass like cool water.

Reports from Wei-hai-wei on the northern coast of Shantung are also to the effect that the sea-bass fishing there was poor this summer.

A. DE C. S.

THE GARDEN

Autumn Bulb Planting : From the beginning of October and into November is the bulb planting season. The soil should be thoroughly prepared, the beds given rich old cow manure, black and crumbly, and dug well into the soil. If whole beds of bulbs are not desired and only groups of bulbs decided upon, have the holes into which each bulb is to fit prepared by making

a larger hole than is necessary for the bulb. At the bottom of the hole put broken brick, then rough soil and sand, some finer soil and a pinch of bonemeal mixed with sifted soil. Next place the bulb in and cover comparatively firmly, filling in the space all round bulb. This may sound difficult, but is so easy that dozens of bulbs can be planted in a few hours. As a general

rule a bulb is covered with fine soil to a depth of one and a half times its own diameter. However, this also depends upon the soil. If the latter is light the bulb can be planted deeper; if heavy, less depth is necessary.

The following list of spring flowering bulbs will be found comparatively correct. Most of them are old friends, but some novelties are included that are well worth growing.

- Anemonies plant one inch deep and 4-inches apart.
- Begonias plant 3-inches deep and 3-inches apart.
- Chionodoxa plant 2-inches deep and 3-inches apart.
- Crinum plant $\frac{1}{2}$ -inch deep and 30-inches apart.
- Crocus plant 3-inches deep and 4-inches apart.
- Daffodils plant 4-inches deep and 8-inches apart.
- Erythroniums plant 2-inches deep and 3-inches apart.
- Freesias plant 2-inches deep and 4-inches apart.
- Fritillaria plant 2 to 4-inches deep and 6-inches apart.
- Galtonia plant 5-inches deep and 8-inches apart.
- Hyacinths plant 2 and 4-inches deep and 6-inches apart.
- Iris (Spanish and English) plant 2 and 4-inches deep and 6-inches apart.
- Ixia (English) plant 2 and 4-inches deep and 6-inches apart.
- Lilies plant 8-inches deep and 8 to 10-inches apart.
- Lilium candidum* plant 2-inches deep and 8-inches apart.
- Lily-of-the-Valley plant in clumps and give top dressing annually.
- Montbretia plant 3-inches deep and 4-inches apart
- Mariposa tulips plant 2-inches deep and 3-inches apart.
- Muscari plant 2-inches deep and 4-inches apart.
- Narcissus plant 4-inches deep and 4-inches apart.
- Oxalis plant 1-inch deep and 2-inches apart.
- Ranunculus plant $1\frac{1}{2}$ -inch deep and 3-inches apart.
- Scilla or Squills plant 2-inches deep and 1-inch apart.
- Snowdrops plant 3-inches deep and 5-inches apart.
- Sparaxis plant 2-inches deep and 4-inches apart.

Tulips plant 3 to 5-inches deep and 3-inches apart.

Tigridia plant 4-inches deep and 8-inches apart.

Tuberoses plant 1-inch deep and 8-inches apart.

Tritonia plant 2-inches deep and 4-inches apart.

Winter Aconite plant 2-inches deep and 3-inches apart.

Few spring flowers are more attractive than the anemonies, their brilliant colours being most welcome in early spring. They do well naturalized in the lawns. The St. Brigid is especially brilliant. Anemonies like a rich moist but well drained soil, and are hardy. They should be watered frequently.

Tuberous begonias are tender and must be grown in a greenhouse and brought out only when the weather is warm. They like partial shade, bloom in a great variety of colours, white, pink, red, salmon, orange and scarlet, and are not difficult to grow. The tubers should be placed in shallow boxes in a light soil composed of leaf mould, and kept damp in a shady place. Later they should be placed in three inch pots in soil composed of fine leaf mould and sand. They will make rapid growth and should then be transplanted into larger pots. They are plants well worth growing.

Chionodoxa, or "Glory of the Snow," is also an early spring plant. If planted in groups and left undisturbed it will multiply rapidly and produce lovely star shaped flowers, fine for spring carpeting, in rich gentian blue colours.

The Crinum, a lily-like flower with broad evergreen leaves, needs much space, the flowers are cup shaped and come in shades of white and pink.

No spring garden should be without crocuses! They are loveliest when massed in lawns or under trees, forming carpets of purple, lavender, yellow and white. Daffodils enjoy partial shade. The trumpet daffodil known as "King Alfred" is of a brilliant yellow colour, the perianth and trumpet being of a deeper golden yellow.

The dog-tooth violet (*Erythronium*) has dainty lily-like flowers, white and pink in colour. It does best in shade in a rich moist soil.

Freesias are of such easy culture that there can be a succession from December into early summer. As they are tender bulbs they should be planted

in well drained pots, several in a pot. They thrive best in a cool place. Much watering is necessary during the flowering period. Some novel shades have been cultivated. Besides the white form we have pale lavender, bright yellow, carmine-pink and orange coloured freesias, all delightfully fragrant.

Fritillaria meleagris, or guineahen flowers, are peculiarly checkered, some cream and chocolate, others purple and white flowers, bell-shaped, and all checkered like a chess board. *Fritillaria imperialis* grows to three feet in height. Its flowers are yellow and red. When planting cover bulb four inches deep. It subsequently does best if left undisturbed.

The summer hyacinth (*Galtonia*) reaches a height of four feet and has drooping bell-like white flowers. It should be planted in groups, among shrubs, when it is most effective.

Hyacinths, the bedding varieties, bloom in a great many different colours—white, rose, red, blue, mauve and apricot. A bed of hyacinths in early spring is most delightful and colourful. To force hyacinths place the bulbs in special bulb-glasses, fill with soft water without letting the bulb touch the water. It should come to within a fraction of an inch of the bulb. A small piece of charcoal will keep the water fresh. Place the glasses in a darkened corner until strong roots have formed, and then bring them gradually to the light. The process of root growth takes about three weeks. If planted in pots cover the bulb (one in a pot) lightly with fine soil, wood ashes and old leaves, and place in the dark. All bulbs must develop strong roots first, else the flower stalk will shoot up and produce poor flowers. Cover hyacinths four inches deep if soil is light, two inches if heavy.

A dainty tiny flower is the *Muscari*, or grape hyacinth. Naturalized in the lawn it grows well, but as each bulb is so small it looks best in groups. Flowers come in various shades of mauve and blue. Cover the bulb with two inches of soil.

The English and the Spanish varieties are the best known of the bulbous irises. If desired they may be grown in pots covered with wood ashes and leaf soil and placed in the dark until the roots form. This will take about six weeks. The Spanish iris should be spaced two inches apart the English

about four. The colours of the former are shades of cream, yellow and blue, those of the latter are mauve and white. The Japanese irises are not bulbous.

Ixia, or African corn-flower, likes a sunny location and does best in a light sandy soil. After the flowering stage is over it does not need any moisture. Plant bulbs four inches deep in a sandy soil. The pale green *Ixia viridiflora* is a novelty, being a colour seldom seen amongst flowers. Other colours range from white to brilliant red.

Lilies are fascinating among shrubbery where they have some shade for their roots. If left undisturbed they will multiply rapidly. A mixture of thoroughly decayed manure, leaf mould and sand is best. Plant deeply with the exception of *Lilium candidum*, which needs only two inches of covering. This is the true Madonna lily.

The lily-of-the-valley needs a cooler climate than ours and a sandier lighter soil. However, some have been naturalized under trees in a cool northerly part of the garden and do fairly well. They are easily forced, and like partial shade and a moist soil.

A specialist advises lifting the roots of *Montbretia* every other year, or when the plants become crowded, as finer blooms are said to be the result. They like a rich well drained soil and are of the easiest culture and are delightful as cut flowers. Colours, orange, scarlet and yellow.

Amongst the tulips we have the single early tulips, double tulips, Darwin tulips, Rembrandt tulips, breeder tulips, parrot tulips, cottage and hybrid tulips and a new lily-flowering tulip. These are only some of the classes. Tulips are very hardy and like a rich soil, but perfect drainage is essential. The beds should be dug and thoroughly enriched to a depth of two feet with roughage to provide for drainage. They may also be grown in pots and in special fibre.

The different varieties of narcissus are great favourites. Naturalized in lawns under trees and shrubbery, they grow undisturbed and multiply. An occasional dressing of leaf mould is beneficial. If planted in beds, follow instructions for ordinary bulbs.

The oxalis is a charming little starlike flower of white or pink. It does well in borders or in pots.

A very showy border flower is the ranunculus, which blooms in brown, black, orange and yellow colours, and likes a sunny location with a well drained soil. It is advisable to plant the peculiar finger-like projections of the bulbs downward. The bulbs may be soaked in water before planting.

Scilla, or squills, naturalize successfully and are not particular as to soil. They bloom very early in the spring. The dainty blue star-shaped flowers are borne on graceful stems, from six to ten blooms on a stem. They are hardy and multiply quickly if left undisturbed. The woodland hyacinth belongs to this family and is much used for wild gardening.

Snowdrops do better in a colder climate and in sandier looser soil than we have in Shanghai. Give as cool a position as possible.

Sparaxis, or African harlequin flower, has its home in Africa. It likes a sandy soil with no moisture after the blooming period is over. The flowers are gorgeously brilliant. Exceedingly colourful are the blooms of the *Tigridia*, whose flowers are peculiarly flat and spotted, one stem carrying several flowers. This plant likes a sandy sunny place, is not hardy and should be lifted

and kept in a dry cool place. Or it may be planted in pots, which should be kept in a frost proof place. Plant four inches deep.

Tuberose are exceedingly fragrant and a few planted near the dwelling will be delightful. They do best in a sandy loam and leaf-mould. Plant shallow, but later, after growth has commenced, more sand and leaf soil can be added. At first only a little watering is necessary, later more.

Tritonia, also an African flower, has lovely orange-red blooms on long stems. It likes sandy dry soil.

Very early in spring, almost before the crocuses bloom, the winter aconite flowers. Its colour is a golden yellow. It does well under trees and shrubbery and in the rock garden, where, if left undisturbed, it will grow in beauty.

Given the garden space, a wild garden is delightful. Plant under trees among shrubbery and ferns or rocks the following and a procession of flowers will be ensured from winter almost into summer, and from year to year they will increase in beauty: winter aconite, galanthus, crocus, grape hyacinths, scilla, woodland hyacinths, fritillarias, cottage tulips, narcissus and jonquils.

L. L.

SOCIETIES AND INSTITUTIONS

NUMISMATIC SOCIETY OF CHINA

First Fortnightly Meeting Held : The first regular fortnightly meeting of the recently formed Numismatic Society of China was held in the Reading Room attached to the Library of the local branch of the Royal Asiatic Society in the latter's new building at 20 Museum Road at 5.30 p.m. on Tuesday, September 25.

Although by no means all the members of the Society were present, there was a sufficiently large attendance of enthusiasts to ensure a good meeting.

After the formalities usual at such functions had been gone through, the Hon. Secretary, Mr. G. H. Parkes, made a detailed report of all that had transpired in connection with the Society since its inaugural meeting held last June in the office of *The*

China Journal at the instigation of a few people interested in the collecting of coins. It was decided at that time not to hold any further meetings till after the hot weather was over, but in the meanwhile new members had been enrolled, and the Hon. Secretary had got into communication with important numismatic societies in other parts of the world with gratifying results.

The Hon. Treasurer, Mr. K. F. Mulder, reported the financial state of the young Society as satisfactory; that is to say, the entrance fees and first annual subscriptions of all but three members had been received, while so far expenses had not been great.

The President, Mr. A. de C. Sowerby, was pleased to report that the Council

SOCIETIES AND INSTITUTIONS

of the Royal Asiatic Society had kindly granted the use of the Reading Room to the new Society, as a gesture of encouragement, for which the members of the latter were, of course, duly grateful. In return it was indicated that the junior Society would take a special interest in the rapidly growing collection of ancient and modern coins in the senior Society's Museum.

After all business had been transacted and reports presented, the President made a short speech on the subject of "Coin Collecting," in which he dwelt upon the different phases of this interesting occupation. Particularly interesting, he said, was the historical side of the subject, the world's history, in fact, being written in the coinages of the past. The memory of great victories, far reaching events and illustrious names had been perpetuated in the coins of the world from the beginning of civilization down to the present day, and in collecting and studying these

coins one could not help acquiring a knowledge of world history, just as the collecting of stamps tended to give one a good knowledge of geography.

Of course, he said, there were many people who collected coins merely because of their acquisitive propensities, and so might be described as "human jackdaws," having in view the well known predilection on the part of members of the crow family to hoard pretty or bright objects.

After the President's address, each member present was asked to state the branch of numismatics in which he was particularly interested, when it transpired that most branches of this very wide subject were represented at the meeting.

It has been decided to hold the regular fortnightly meetings of the Society on the second and fourth Tuesdays of each month at 5.30 p.m. Communications should be addressed to Mr. G. H. Parkes, the Hon-Secretary, P. O. Box 871, Shanghai.

EDUCATIONAL NOTES AND INTELLIGENCE

Faculty Changes at Nanking University: Outstanding among the forty-nine new members of the faculty of Nanking University this Autumn is Mr. C. F. Strickland of Oxford University, who is in China under the auspices of the Sino-British Cultural Association. His work in the College of Agriculture and Forestry will include training students in cooperative organization, a subject on which Nanking University is putting special emphasis this year. Mr. Strickland was in the Indian Civil Service for fifteen years, and has visited Europe, British Malaya, Palestine and East and West Africa in a study of cooperative organizations. Another new worker in the same department is Dr. W. Mackenzie Stevens, who is at the University under a grant from the Shanghai Commercial and Savings Bank in the interests of cooperative organization. Dr. Stevens is a Doctor of Philosophy and is a professor at Louisiana State University in America. Professor Ogden King from the University of California is also engaged in the same work.

Numerous Chinese educated in Europe and America have been added to the faculty this year.

Chinese Students Abroad Listed: During the academic year from July 1, 1933, to June 30, 1934, a total of 621 Chinese students went abroad for higher study, the Ministry of Education announced in September. Of these 554 are men and 77 are women; 101 are on scholarships and 520 are private students. There are 219 of them in Japan, 186 in America, seventy-five in England, sixty-eight in Germany, forty-five in France, fourteen in Belgium, and fourteen others divided between Italy, Denmark and Switzerland.

Divided by subjects, 151 are specializing in Law, 139 in engineering, eighty-three in medicine, seventy-eight in literature, fifty-five in science, forty-five in education, forty in agriculture and twenty-seven in commerce. Kiangsu is the home province of 126 of the students studying abroad, followed by Kwangtung with eighty-eight. Che-

kiang has sixty-eight, Hopei fifty, Anhwei forty-eight, Fukien thirty-two, Hupeh thirty-two, Kiangsi twenty-seven, Szechuan twenty-four, Shansi fifteen, Shantung fifteen, Honan thirteen, Liaoning (Mukden) eleven, Heilungkiang five, Kwangsi four, Yunnan four, Suiyuan three, Shensi two, and Chahar, Chinghai, Kansu and Sinkiang one each.

Canton to Send More Students Abroad: In hopes of providing more of the trained technical men which China so sorely needs if her work of reconstruction is to succeed, the South-West Political Council recently decided to send ten students to Europe and America to complete their studies, according to a *Reuter* dispatch from Canton. Three are to be sent to England to study cotton weaving, wool weaving and ship building, one goes to Germany to study general mechanics, one to France to study silk weaving, one to Switzerland for hydro-electric engineering, and two to the United States to study aeronautical engineering and paper manufacturing, respectively.

Shanghai University Tests Basic English: To test the claim frequently

made for Basic English that a working knowledge of English sufficient for ordinary business and social life can be attained in two or three months, the Downtown School of the University of Shanghai has opened two courses in the subject, the institution has recently made known. Instruction will be limited to students who know no English. Professor W. D. Webb is the teacher, and the classes meet early in the morning, before business hours.

The complete vocabulary of Basic English contains only 850 words, all of which can be written on one sheet of note paper. The list of verbs, particularly, has been strikingly cut, so that students are able to describe a number of similar actions with the same predicate. The compilers have even gone to the extreme of eliminating the difference between *shall* and *will*, and *can* and *may*. The system combines the good points of slang and "pidgin English" with extreme simplicity. First compiled by Professor C. K. Ogden of Cambridge University some years ago, Basic English has been a strong rival of Esperanto for selection as a universal language. Basic English is usually credited with the better chance of success because of the already extensive use of the English language.

PUBLICATIONS RECEIVED

Books :

Social Pathology in China, by Herbert Day Lamson: Commercial Press, Ltd., Shanghai.

The Port of Shanghai, Eighth Edition, 1934: Whangpoo Conservancy Board, Shanghai.

The Strangeways Research Laboratory, 1933 Report.

International Tin Research and Development Council, 1934, First General Report.

The Yangtze Gorges, by A. M. Le Palud: Kelly & Walsh, Ltd., Shanghai.

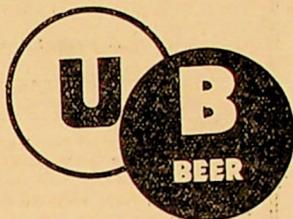
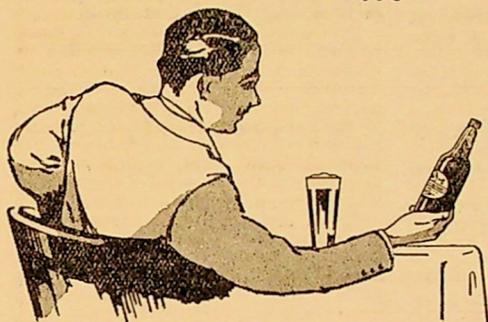
National Research Council of Japan, 1932-1933 Report, Tokyo, Japan.

Periodicals :

Game and Gun—The Shipping Review—The People's Tribune—Chinese Economic Bulletin—The Fishing and Shooting Gazette—The Lloyd Mail—World Unity—Extreme-Asie—The Far Eastern Review—The Travel Bulletin—The Metropolitan Vickers Gazette—La Revue Nationale Chinoise—The Economic Bulletin—The Manchuria Monitor—The Chinese Economic Journal—Discovery—The New Zealand Journal of Science and Technology—Natural History—Smithsonian Miscellaneous Collections—Quarterly Bulletin of Chinese Bibliography.

be *Certain*

it's



"—yes, he is getting
on very nicely!"



Lactogen provides abundant nutriment for every up-building process that is going on in Baby's body. Flesh is formed firmly, bones grow densely, nerves are steady. The foundations of a robust constitution are well laid.



Better Milk For Babies

The Shanghai Loan & Investment COMPANY, LIMITED

(Incorporated under the Companies' Ordinances of Hongkong)

Capital : Tls. 1,250,000.— fully paid up

Directors : W. R. McBain, Esq., *Chairman*

A. J. Welch, Esq. J. H. Liddell, Esq.

General Agents : George McBain, 1 The Bund, Shanghai

SHOOTING - FISHING - DOGS

and all field and stream sports. Read the authoritative journal

and the
"GAME & GUN ANGLERS MONTHLY"

Dealing with British and Overseas Sport.

Subscription rate 14/- for 12 monthly issues

Game, Gun Ltd. Thames House. London S.W.1, England

NATIONAL • ANILINE INDUSTRIAL CHEMICALS

A comprehensive line of Coal-Tar Derivatives serving the following industries, Dyestuff, Textile (Wetting-out Agents), Synthetic Resin, Paint, Lacquer (Solvents and Plasticizers), Mining (Flotation Re-agents), Wood Preservation, Insecticide, Germicide, Rubber (Accelerators and Anti-Oxidants), Gasoline and Oil (Inhibitors), Steel (Inhibitors), Explosive, Pharmaceutical.

INTERMEDIATES

THE NATIONAL ANILINE AND
CHEMICAL CO., U.S.A.

NEW YORK

CHINA

88 MUSEUM ROAD, SHANGHAI

司公限有份股所易交布紗商華海上
CHINESE COTTON GOODS EXCHANGE LTD.

號十六百二路亞多愛

260 AVENUE EDWARD VII, SHANGHAI, CHINA

Paid up Capital - - - - \$1,500,000

Dealing in Raw Cotton, Cotton Yarn and Cotton Cloth
 business for spot and forward deliveries

Telegraph Address: (Chinese) Shanghai 5089

Telephone 13671, 18507

Director-in-Chief: H. Y. MOH, B.S.M.S.

Managing Directors:

WOO FUNG SHU

L. Z. D. KAO

VEN LANG-DING

CHANG TING CHUANG



“CHINESE BABIES”

by EVELYN YOUNG.

A delightful book of Chinese Nursery Rhymes, translated into English, beautifully illustrated on every page, and nine Coloured Plates. Printed on stout Ivory Card and bound Blue Imitation Suede, 10" x 7½", packed in gift carton ready for posting.

Price Mex \$4 per copy.

The first edition, published November, 1932, was completely sold within 21 days.

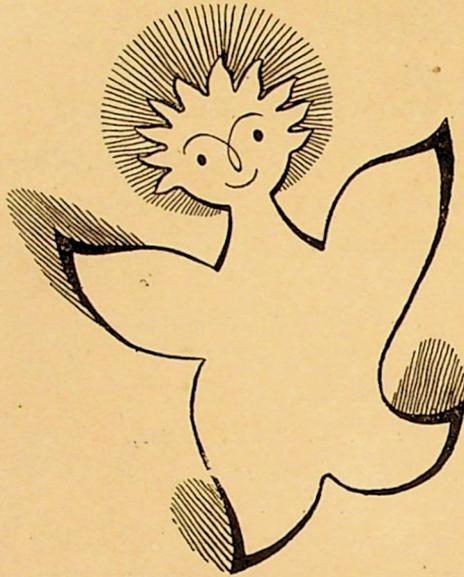
Second Edition now available.

We shall be pleased to send it direct to any address in the world, by Registered Book Post, for Mex. \$1 per copy extra.

THE TIENTSIN PRESS, LIMITED

181, Victoria Road, Tientsin.

or from your Bookseller.

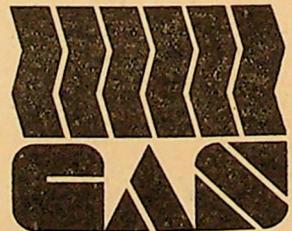


**MR.
CUBIC-FOOT
TALKS ABOUT
HEAT-ON-TAP**

Open your gas tap and you get a lot of Cubic Feet of gas coming out (all cousins of mine by the way). These fellows are incredibly quick in heating anything you wish to warm up, but apart from that, you know that every cubic foot contains a fixed quantity of heat.

Now that's an important point: When you buy so many cubic feet of gas you are buying a definite quantity of heat, in other words it's heat you're buying, not fuel, and between you and me, I can't think of any more rational way of buying heat than that, can you?

**BUY YOUR HEAT
IN CUBIC FEET**

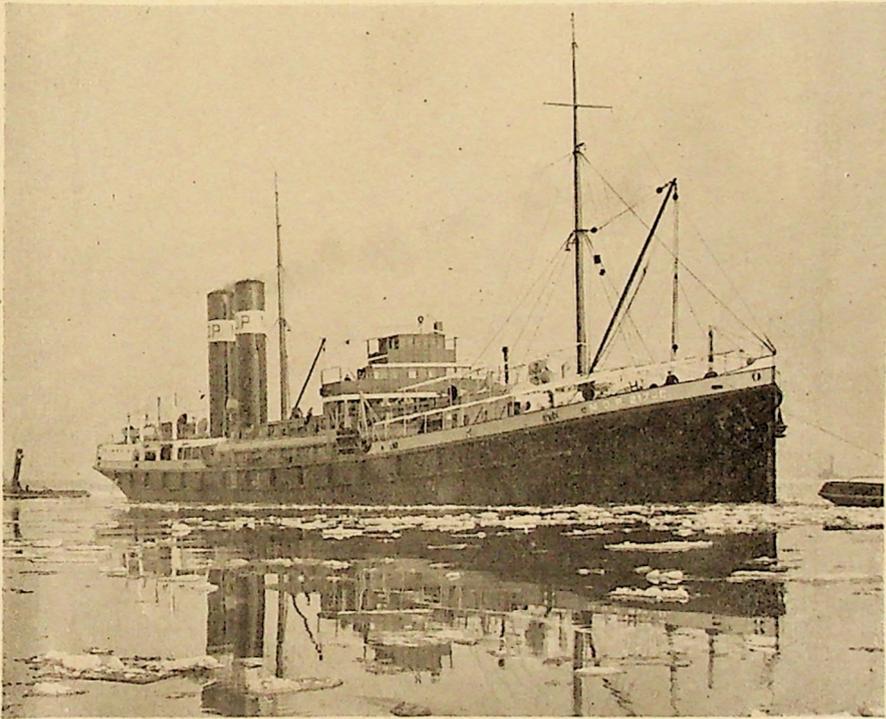


FOR CRANES AND DREDGERS

APPLY TO

WERF GUSTO
SCHIEDAM

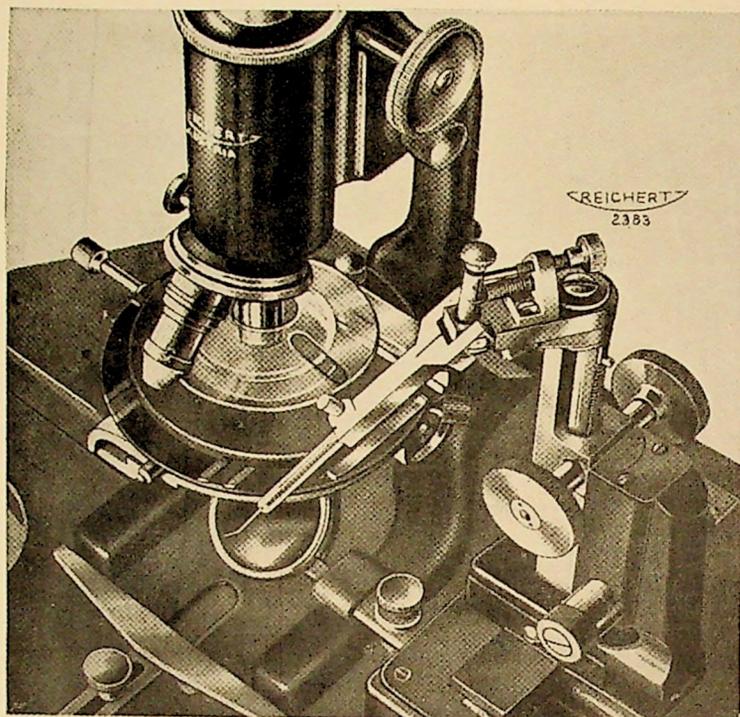
A. F. SMULDERS
HOLLAND



Trailing Suction Hopper Dredger, 325' x 52' 6" x 23', Supplied to the Argentine Government.

Shanghai Agency : CHINA INDUSTRIES LIMITED
20 MUSEUM ROAD

Tientsin Agency : OTTO KLEEMANN & CO.
17 WOODROW WILSON STREET



BACTERIOLOGICAL PLATE MANIPULATOR No. 1300

(as suggested by Koblmüller and Viesthaler*)

For bacteriologists, for the sub-culture of microscopic colonies and the isolation of single bacterial cells from colonies or mixtures of bacteria on culture-plates; mostly for the purposes of pure culture.

ADVANTAGES :

This new Plate Manipulator is a radical departure from other micromanipulators in which bacteria are isolated from drops of liquid with glass capillaries (micro pipettes), since it used a metal needle of microscopic fineness for working on the surface of solid nutrient media. It considerably simplifies the process, appreciably curtails the time required for manipulation, and at the same time gives a much higher percentage of single-cell bacteria, since, by isolating them from the edge of a growing colony, the worker can always be sure of isolating single bacteria which are capable of thriving.

Manufacturers : **Optical Works C. REICHERT,**
VIENNA (Austria), Hernalser Hauptstr. 219.

Sole Agents for China :

KOFA, American Drug Co., Fed. Inc., U.S.A.

Shanghai—120 Nanking Road

The CAR

YOU *can afford*

AUSTIN

SEVEN

CHEAP TO BUY



CHEAPER TO RUN

The Shanghai Horse Bazaar & Motor Co., Ltd.

(Incorporated in Hongkong)

(Operated by The Auto Palace Co., Ltd.)

993 BUBBLING WELL ROAD

Phone 30002

THE
NATIONAL CITY BANK
OF NEW YORK

A World-wide Banking
Institution

HEAD OFFICE :

55 Wall Street, New York City

SHANGHAI BRANCH - - 41 KIUKIANG ROAD

C. I. D. E. O.

COMPAGNIA ITALIANA D'ESTREMO ORIENTE

SHANGHAI

Kiukiang Road 190

Tel. 14723

FIAT

Civil & Military Aeroplanes
 Diesel Electric Propulsions
 Railway Rolling Stocks
 Fire Engine & Pumps
 Military Trucks
 Diesel Engines
 Armoured Cars
 MAS Boats
 Tanks

C. E. A. T.

Underground & Submarine
 Cables
 H. T. Power Cables
 Telephone Cables
 Wires

C. G. S.

Electrical Measurement
 Instruments
 Watthour Meters

Societa' Italiana

ERNESTO BREDA

Machinery for Various Industries
 Military and Civil Aeroplanes
 Portable Steam Engines
 Agricultural Machines
 Arms and Ammunitions
 Iron and Steel Foundry
 Naval Constructors
 Electric Machines
 Hydraulic Presses
 Military Tractors
 Steam Boilers
 Road Rollers

MARELLI

A.C. & D.C. Electric Motors
 Electric Generating Plants
 Electric Machineries
 Switchgears
 Blowers
 Pumps

GENERAL IMPORT

Chatillon Artificial Silk
 Woollen Piece Goods
 Metals & Hardware
 Building Supplies
 Cigarette Papers
 Aluminium Foils
 Hats-Hat Bodies
 Woollen Yarns
 Tobacco Leaf
 Chemicals
 Papers

GENERAL EXPORT

All kinds of China Produce



However vigorous his health, however free he keeps from childhood's ailments, there must come a time when growth demands too much from his little body. That is the danger time. Only a sound constitution will save him from measles, diphtheria, influenza and infectious fevers.

Only SCOTT'S Emulsion can supply every essential for the building up of a germ-proof system.

SCOTT'S Emulsion feeds the body, enriches the blood and protects the lungs.



Scott's Emulsion

**Saves the young
Protects the old**

Sole Agents for North China

IMPERIAL CHEMICAL INDUSTRIES (CHINA), LTD.

(INCORPORATED UNDER THE ORDINANCES OF HONGKONG)

Head Office 133, SZECHUEN ROAD, SHANGHAI.

Branch Offices and Agents in the principal cities of North China.

HONGKONG AND SHANGHAI BANKING CORPORATION

(INCORPORATED IN HONGKONG)

CAPITAL :	
Authorized	\$50,000,000
Issued and fully paid up	\$20,000,000
RESERVE FUNDS : Sterling	£6,500,000
Silver	\$10,000,000
RESERVE LIABILITY OF PROPRIETORS	\$20,000,000

Head Office : HONGKONG.

Board of Directors :

Hon. Mr. C. G. S. Mackie, <i>Chairman</i>	
S. H. Dodwell, Esq. <i>Deputy Chairman</i>	
Hon. Mr. W. H. Bell,	C. C. Knight, Esq.,
A. H. Compton, Esq.,	G. Miskin, Esq.,
W. J. Keswick, Esq.,	K. S. Morrison, Esq.,
T. E. Pearce, Esq.,	

Branches and Agencies :

Amoy	Foochow	Kowloon	Muar	Singapore
Bangkok	Haiphong	(Hongkong)	(Johore)	Sourabaya
Batavia	Hamburg	Kuala-	New York	Sungei Patani
Borabay	Hankow	Lumpur	Peiping	Tientsin
Calcutta	Harbin	London	Penang	Tokyo
Canton	Iloilo	Lyons	Rangoon	Tsingtao
Chefoo	Ipoh	Malacca	Saigon	Yokohama
Colombo	Johore	Manila	S. Francisco	
Dairen	Kobe	Moukden	Shanghai	

Chief Manager :

V. M. GRAYBURN

London Branch : 9 GRACECHURCH STREET, E.C.3

Shanghai Branch : 12 THE BUND.

Sub.-Agency : 27 BROADWAY

Interest allowed on Current Accounts and on Fixed Deposits according to arrangement.

Local Bills Discounted.

Credits granted on approved securities and every description of Banking and Exchange business transacted.

Drafts granted on London and the chief commercial places in Europe, India, Australia, Africa, China, Japan and America.

Safe deposit boxes to rent. Terms on application.

Savings Bank Office :

Accounts will be kept in Dollars, Local Currency.

Deposits of less than \$1 will not be received.

Not more than \$200.00 will be received during one month from any single Depositor.

Interest at the rate of 2½% per annum will be allowed upon the monthly minimum balance.

The maximum balance on which interest will be allowed is \$5,000.00.

Deposits may be withdrawn on Demand.

Depositors will be provided with Pass Books in which all transactions will be entered. Pass Books must be presented when paying in or withdrawing money.

Office Hours—10 a.m. to 3 p.m. ; Saturdays—10 a.m. to noon.

A. S. HENCHMAN, *Manager.*

J. A. WATTIE & CO., LTD.

(INCORPORATED UNDER THE COMPANIES' ORDINANCES, HONGKONG)

Financial, General and Commission Agents

Head Office :

93 CANTON ROAD, SHANGHAI

(also at London and Sourabaya).

Secretaries or General Managers for :

Alma Estates, Limited
New Amherst Rubber Estate
Anglo-Dutch (Java) Plantations, Limited
Anglo-Java Estates, Limited
Batu Anam (Johore) Rubber Estates, Limited
Chemor United Rubber Company, Limited
Cheng Rubber Estates, Limited
Java Consolidated Rubber and Coffee Estates, Limited
Kapayang Rubber Estates, Company, Limited
Kroewoek Java Plantations, Limited
Repah Rubber and Tapioca Estates, Limited
Samagaga Rubber Company, Limited
Semambu Rubber Estates, Limited
Senawang Rubber Estates Company (1921), Limited
Shanghai Klebang Rubber Estate, Limited
Shanghai Malay Rubber Estates, Limited
Shanghai Seremban Rubber Estates, Limited
Sua Manggis Rubber Company, Limited
Tebong Rubber Estate, Limited
Zianghe Rubber Company, Limited
The Rubber Trust, Limited

THE CHINA
ARCHITECTS and BUILDERS
COMPENDIUM, 1934

NOW ON SALE

With land values on the increase and rapid changes in Shanghai buildings, this publication has become the stand-by of Builders, Contractors, Architects and Property Owners. The 1934 edition contains the latest technical data on all branches of building, architecture and property, and the following summary gives an idea of the wide field it covers:

- I.—GENERAL INFORMATION—LAND, PROPERTY AND BUILDING.
- II.—TECHNICAL INFORMATION, COSTS AND PRICE LISTS.
- III.—DIRECTORY OF ARCHITECTS.
- IV.—CATALOGUE OF BUILDING MATERIALS, ETC.
- V.—INDEX.

Price Five Dollars

NORTH-CHINA DAILY NEWS, SHANGHAI
AND AT ALL BOOKSELLERS

ONE CLASS LINERS

"General Pershing"—"General Sherman"—"General Lee"

To San Francisco and Portland, Ore.—via Japan Ports
To Manila—via Hongkong

EVERY
THREE WEEKS



COMFORT, SAFETY
EXCELLENT
CUISINE

STARTLINGLY LOW RATES
SPECIAL THROUGH ROUND TRIP FARES TO
EUROPE AND AROUND THE WORLD

STATES STEAMSHIP LINES

At All Main Ports - - - Consult Your City Directory

**SHELL
FLOOR
POLISH**

How little it takes—and

**IT REALLY
CLEANS
AS WELL!**

	8-oz. Tin, \$1.20
	16-oz. .. 1.80
	32-oz. .. 3.00

Obtainable at "Shell" Service Stations
or from
The Asiatic Petroleum Co., (N.C.) Ltd.,
Local Sales Dept., No. 1 The Bund

**P. & O., British India, (Apcar Line) and Eastern
and Australian Lines**

(Companies Incorporated in England)

Total Tonnage 1,400,000

Peninsular & Oriental Fortnightly Direct Royal Mail Steamers

(Under Contract with H. M. Government)

"P. & O." (Fortnightly Service)—To Hongkong, Singapore, Penang, Colombo, Bombay, Aden, Port Said, Marseilles, Gibraltar and London.

"P. & O." (Fortnightly Service)—To Moji, Kobe and Yokohama.

"P. & O." (Frequent Service)—To Hongkong, Singapore, Penang, Colombo and Bombay.

"British India" APCAR LINE (Japan Line)—To Moji, Kobe and Yokohama.

"British India" APCAR LINE (Indian Line)—To Singapore, Penang, Calcutta from Japan or Hongkong.

"E. & A."—From Shanghai, Yokohama, Kobe, Moji or Hongkong to Manila, Rabaul, Brisbane, Sydney and Melbourne.

For Freight and Passage by above Steamship Lines apply to

MACKINNON, MACKENZIE & COMPANY

HONGKONG AND SHANGHAI

Cable Address :

{	"P. & O." "PENINSULAR"
	"B. I." & Apcar "MACKINNONS"
	"E. & A." "AMATREF" Shanghai. "PERTAMA" Hongkong.



SPEED

TRAVEL BY AIR

with

Safety and Comfort

Shanghai-Hankow
7 hours

Hankow-Chungking
7 hours

Chungking-Chengtou
2 hours

Shanghai-Peiping
8 hours

Full Particulars from
**China National Aviation
Corp. & Agencies**

51 CANTON ROAD, SHANGHAI
Tel. 12955-4-3



RCA VICTOR

RADIOS

PHONOGRAPH COMBINATIONS

VICTOR RECORDS

*provide your guarantee
of perfect home
entertainment*

RCA VICTOR CO. OF CHINA

356 PEKING ROAD

SHANGHAI

