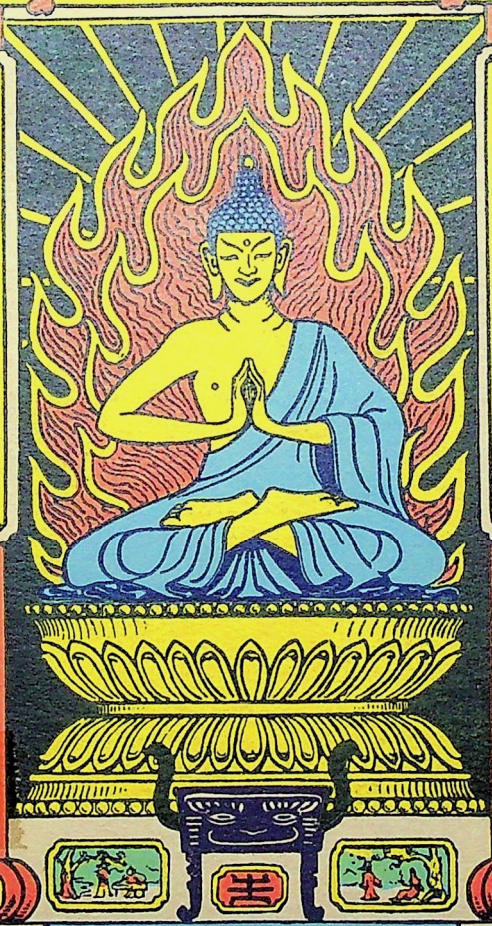
THE CHINA JOURNAL

中國科學美術雜誌

SCIENCE ART LITERATURE

TRAVEL SHOOTING FISHING



PRICE $1.30 MEX.

Vol. XVI FEBRUARY 1932 No. 2

QUICK-STEP

The modern color finish for floors and all surfaces subjected to hard wear

A Product of General Paint Corporation, San Francisco

SIEMSSEN & CO.
DISTRIBUTORS

You can be proud of your floors

FINISH your floors with QUICK-STEP and you'll have beautiful, lustrous, durable surfaces that will give you constant satisfaction and pleasure. A QUICK-STEP floor likes to show how well it can resist the steady tramp of countless feet without showing a scar.

Any one can use QUICK-STEP. It flows on wood, cement or composition materials equally well. It dries overnight, producing a surface that is hard and tough. Colored floors are now the mode. Do yours with QUICK-STEP. Let us show you the color folder.

SHANGHAI
451 KIANGSE ROAD
Telephone 13697

CHINA REALTY CO.

FED. INC. U.S.A.

EVERY PHASE
of
REAL ESTATE BUSINESS
BUYING — SELLING — RENTING
VALUING — MANAGING
MORTGAGES.
INSURANCE.
70 Szechuen Road.

四川路七十號電話六八二八八號

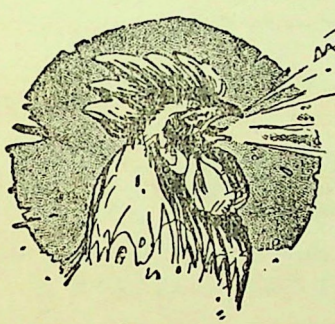
中國營業公司

"SHANGHAI'S REAL ESTATE MARKET PLACE"

059-Ch21/32/16-2

For
COUGHS
and other
Respiratory
Troubles

take
CRESIVAL
It has a pleasant taste and is therefore readily taken even by children.



Tickling Throat

Who wants to hear the cock crow? It's a sign you're awake when you shouldn't be.

But a tickling throat won't be denied and breaks your sleep at unearthly hours.

Let an "Allenburys" Glycerine and Black Currant Pastille dissolve on the tongue at bedtime and sleep in uninterrupted comfort.

There will be no more 'tickling throat' that night.

Your Chemist stocks them.

Packed in distinctive tin box containing 4 ozs.

Allenburys
Glycerine & Black Currant PASTILLES

Allen & Hanburys Ltd.,
London and Shanghai

E. LEITZ, OPTICAL WORKS

WETZLAR, GERMANY

MICROSCOPES for Biology
MICROSCOPES for Metallography
MICROSCOPES for Mineralogy
MAGNIFIERS Stereoscopic and plain binocular, hand-lenses, etc.

DISSECTING ACCESSORIES Microscopes to Microscopes
COLORIMETERS and other apparatus for clinical investigations.

MICROTOMES Different types, for Paraffin, Celloidin and frozen preparations.

MICROPHOTO PROJECTION Apparatus and Accessories for any purpose. Apparatus, Epi- and Diascope, Micro-projection.

Known as the Best German Workmanship.

Our speciality of public interest

Leica

The world-wide known tiny monster camera with special ENTIRELY NEW FEATURES

ALSO:

BINOCULAR FIELD GLASSES,
Theatre Glasses, etc. for every purpose

SCHMIDT & CO.

Shanghai 1 Nanking Road Sassoon Bldg.

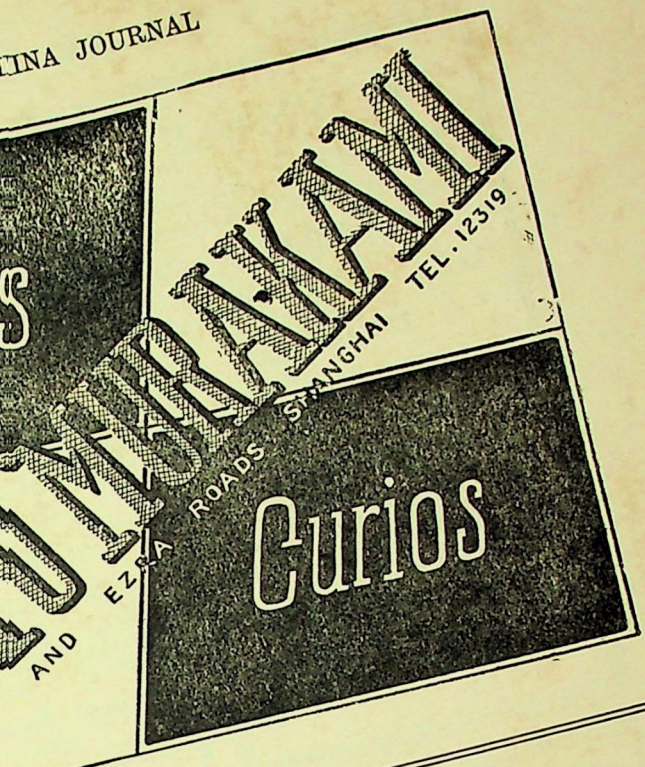
Branch Offices:
PEIPING, TIENTSIN, MOUKDEN, HARBIN, CANTON, HONGKONG

Shirt

TU

KIANGS

T
B



e MERCANTILE
NK of INDIA, LTD.
(Incorporated in England)
CURRENT ACCOUNTS
Opened in
STERLING
and
GOLD CURRENCIES
as well as
Taels and Mex. Dollars
SHANGHAI OFFICE 26 THE BUND

E. LEITZ, OPTICAL WORKS

WETZLAR, GERMANY

MICROSCOPES for Biology
MICROSCOPES for Metallography
MICROSCOPES for Mineralogy
MAGNIFIERS Stereoscopic and plain binocular, hand-lenses, etc.

DISSECTING ACCESSORIES Microscopes to Microscopes
COLORIMETERS and other apparatus for clinical investigations.

MICROTOMES Different types, for Paraffin, Celloidin and frozen preparations.

MICROPHOTO PROJECTION Apparatus and Accessories for any purpose. Apparatus, Epi- and Diascope, Micro-projection.

Known as the Best German Workmanship.

Our speciality of public interest

Leica

The world-wide known tiny monster camera with special ENTIRELY NEW FEATURES

ALSO:

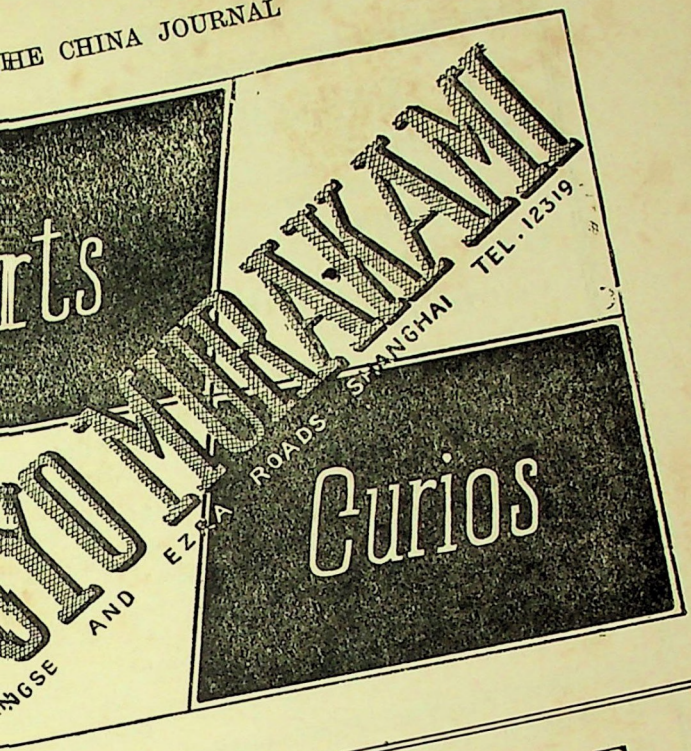
BINOCULAR FIELD GLASSES,
Theatre Glasses, etc. for every purpose

SCHMIDT & CO.

Shanghai 1 Nanking Road Sassoon Bldg.

Branch Offices:

PEIPING, TIENTSIN, MOUKDEN, HARBIN, CANTON, HONGKONG



The MERCANTILE
BANK of INDIA, LTD.
(Incorporated in England)
CURRENT ACCOUNTS
Opened in
STERLING
and
GOLD CURRENCIES
as well as
Taels and Mex. Dollars
SHANGHAI OFFICE 26 THE BUND

E. LEITZ, OPTICAL WORKS

WETZLAR, GERMANY

MICROSCOPES for Biology
MICROSCOPES for Metallography
MICROSCOPES for Mineralogy
MAGNIFIERS Stereoscopic and plain binocular, hand-lenses, etc.

DISSECTING Microscopes
ACCESSORIES to Microscopes
COLORIMETERS and other apparatus for clinical investigations.

MICROTOMES Different types, for Paraffin, Celloidin and frozen preparations.

MICROPHOTO Apparatus and Accessories for any purpose.
PROJECTION Apparatus, Epi- and Diascope, Micro-projection.

Known as the Best German Workmanship.

Our speciality of public interest

Leica

The world-wide known tiny monster camera with special ENTIRELY NEW FEATURES

ALSO:

BINOCULAR FIELD GLASSES,

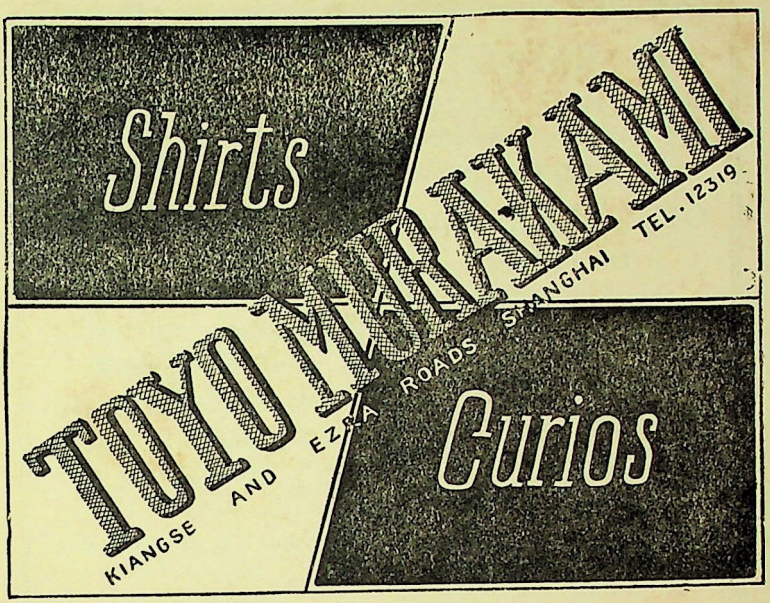
Theatre Glasses, etc. for every purpose

SCHMIDT & CO.

Shanghai 1 Nanking Road Sassoon Bldg.

Branch Offices:

PEIPING, TIENTSIN, MOUKDEN, HARBIN, CANTON, HONGKONG



The MERCANTILE
BANK *of* INDIA, LTD.

(Incorporated in England)

CURRENT ACCOUNTS

Opened in

STERLING

and

GOLD CURRENCIES

as well as

Taels and Mex. Dollars

SHANGHAI OFFICE 26 THE BUND

K. ENSSLE

Most Up-to-date Auto-Electric Service in Shanghai

BUY

OUR ELECTRIC OUTFITS

for

MOTOR CARS and MOTOR BOATS

All kinds of Electric Repair Work done with modern machinery aud by skilled mechanics.

Cr. Avenue Foch and Route Cardinal Mercier

DAIREN KISEN KAISHA

DAIREN—TSINGTAO—SHANGHAI LINE

S.S. CHOSHUN MARU
S.S. HOTEN MARU
S.S. DAIREN MARU

Office: 29a Szechuen Rd., SHANGHAI

Telephone 15466

Eastern Engineering Works, Ltd.

FOR

Steam and Hot Water Heating Installations.
Sanitary and Fire Protection Equipment.
"Independent" Sprinkler Installations.
Zerolit Water Softening Plants.
Artesian Wells and Pumping Equipment.
Air Conditioning and Ventilating Plants.
General Engineering and Contracting.

Address

4 London Road, Tientsin
12 Szechuen Road, Shanghai

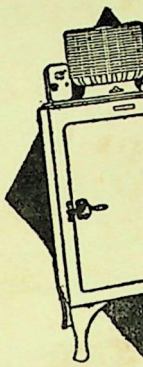
PICUS

PICUS Gaboon Mahogany Panels were used in the construction of the following Buildings:

Sassoon House
Cathay Mansions
Foreign Y.M.C.A.
Intern. Recreation Club
Canidrome
Pearce Apartments
Kings-Lyn Apartments
Estrella Apartments
Wayfoong House
S'hai & Commercial Savings Bank
Foncierc & Immobiliere Bldg.
North-China Daily News Bldg.
Joint Savings Soc. Bldg.
Strand Theatre & Hotel
Denis Apartments
Brookside Apartments
I.S.S. Annexe
Lieu Ong Office Bldg.
Bearne Appartments
Mission Buildings
Avenue Apartments
Lester Memorial Hospital
Hospital St. Marie Extension
S'hai Power Co. Bldg.
Riverscourt Apartments

Buildings not completed:
Royal Asiatic Soc. Bldg.
Elias Apartments
Metropole Hotel
Hamilton House
" Extension
Broadway Mansions
Arco Apartments
Foncim "

KIENHUIZE & CO., 19 Szechuen Road,
Tel. 16764 Shanghai P.O. Box 1569
Agents for China (stocks carried)



ANDE
96 N

W
M
C
L

Simplified Electric Refrigeration

ALL STEEL GENERAL ELECTRIC Refrigerator

Distributors:

SEN, MEYER & COMPANY, LTD.

ınking Road—6 Yuen Ming Yuen Road

Telephone 12590

HITSONS LIMITED

CORPORATED UNDER THE HONGKONG COMPANIES' ORDINANCES

35 CANTON ROAD, SHANGHAI

erchants, Insurance Agents
Importers, Exporters

Telegrams:
ANGLOESE"

Telephone:
11149
(3 lines)

Codes:
A. B. C. 5th Ed.
ACME
BENTLEY'S
SCHOFIELD'S
UNIVERSAL TRADE

'TTON, WOOLLEN and SILK PIECE GOODS
ARTIFICIAL SILK and WOOL YARNS
ATHER, METALS, GENERAL MERCHANDISE

K. ENSSLE

Most Up-to-date Auto-Electric Service in Shanghai

BUY

OUR ELECTRIC OUTFITS

for

MOTOR CARS and MOTOR BOATS

All kinds of Electric Repair Work done with modern machinery aud by skilled mechanics.

Cr. Avenue Foch and Route Cardinal Mercier

DAIREN KISEN KAISHA

DAIREN—TSINGTAO—SHANGHAI LINE

S.S. CHOSHUN MARU
S.S. HOTEN MARU
S.S. DAIREN MARU

Office: 29a Szechuen Rd., SHANGHAI

Telephone 15466

Eastern Engineering Works, Ltd.

FOR

Steam and Hot Water Heating Installations.
Sanitary and Fire Protection Equipment.
"Independent" Sprinkler Installations.
Zerolit Water Softening Plants.
Artesian Wells and Pumping Equipment.
Air Conditioning and Ventilating Plants.
General Engineering and Contracting.

Address
4 London Road, Tientsin
12 Szechuen Road, Shanghai

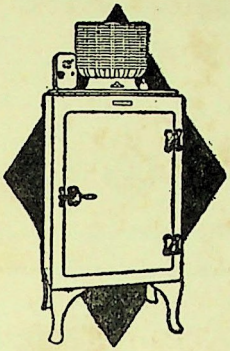
PICUS

PICUS Gaboon Mahogany Panels were used in the construction of the following Buildings:

Sassoon House
Cathay Mansions
Foreign Y.M.C.A.
Intern. Recreation Club
Canidrome
Pearce Apartments
Kings-Lyn Apartments
Estrella Appartments
Wayfoong House
S'hai & Commercial Savings Bank
Fonciere & Immobiliere Bldg.
North-China Daily News Bldg.
Joint Savings Soc. Bldg.
Strand Theatre & Hotel
Denis Apartments
Brookside Apartments
I.S.S. Annexe
Lieu Ong Office Bldg.
Bearne Appartments
Mission Buildings
Avenue Apartments
Lester Memorial Hospital
Hospital St. Marie Extension
S'hai Power Co. Bldg.
Riverscourt Apartments

Buildings not completed:
Royal Asiatic Soc. Bldg.
Elias Apartments
Metropole Hotel
Hamilton House
" " Extension
Broadway Mansions
Arco Apartments
Foncim "

KIENHUIZE & CO., 19 Szechuen Road,
Tel. 16764 Shanghai P.O. Box 1569
Agents for China (stocks carried)



Simplified Electric Refrigeration

ALL STEEL GENERAL ELECTRIC Refrigerator

Distributors :

ANDERSEN, MEYER & COMPANY, LTD.

96 Nanking Road—6 Yuen Ming Yuen Road

Telephone 12590

WHITSONS LIMITED

INCORPORATED UNDER THE HONGKONG COMPANIES' ORDINANCES

35 CANTON ROAD, SHANGHAI

Merchants, Insurance Agents
Importers, Exporters

Telegrams :
"ANGLOESE"
Telephone :
11149
(3 lines)

Codes :
A. B. C. 5th Ed.
ACME
BENTLEY'S
SCHOFIELD'S
UNIVERSAL TRADE

COTTON, WOOLLEN and SILK PIECE GOODS
ARTIFICIAL SILK and WOOL YARNS
LEATHER, METALS, GENERAL MERCHANDISE

SKF

TRANSMISSIONS

DISCOVERY

A Monthly Popular Journal of Knowledge

Trustees:

Sir J. J. THOMSON, O.M., P.R.S. Sir F. G. KENYON, K.C.B., P.B.A.
Prof. A. C. SEWARD, SC.D., F.R.S. Prof. R. S. CONWAY, LITT.D., F.B.A.

We will send a Free Specimen copy of "Discovery" to anyone anywhere. All you have to do is to send us a Post Card with your name and address. The copy will be sent by return of post.

ILLUSTRATED
1/-
MONTHLY

Annual Subscription: 13s. 6d. post free.

BENN BROTHERS, LIMITED

Bouverie House, Fleet Street, London, E.C.4, England

SOCONY
CHANGE TO
WINTER GRADE
MOTOR OIL

SOCONY
GASOLINE
AND
MOTOR OILS

Standard Oil Co. of New York, Inc.

THE NATIONAL CITY BANK
OF NEW YORK
1-A KIUKIANG ROAD,
SHANGHAI

Head Office:
55 Wall Street, New York,
U. S. A.

CAPITAL, SURPLUS AND
UNDIVIDED PROFITS OVER
U.S. $226,600,000

Branches and Affiliates:

ARGENTINE
BELGIUM
BRAZIL
CHILE
CHINA
COLOMBIA
CUBA
DOMINICAN REPUBLIC
ENGLAND
FRANCE
HAITI
INDIA
ITALY
JAPAN
MEXICO
PERU
PHILIPPINE ISLANDS
PORTO RICO
REPUBLIC OF PANAMA
SPAIN
STRAITS SETTLEMENT
URUGUAY
VENEZUELA

FINANCIAL FACILITIES

FOR YOUR EVERY PURPOSE

. . . . for large or small commercial and industrial undertakings;
. . . . for personal needs—a home, an automobile, vacation funds, life insurance premiums, sickness and accident, all emergencies;
. . . . for commodity instalment buying;
. . . . for real estate investment;
. . . . for stabilizing or developing your own business.

Our new industrial banking service is adaptable to your every requirement under a simple, dignified plan of immediate financing.

Consult

CHINA FINANCE CORPORATION

Federal Inc. U.S.A.
INDUSTRIAL BANKERS
4 HANKOW ROAD SHANGHAI

TRADE BURRELL LONDON MARK REGISTERED.

Estd. 1852

BURRELL & CO. LTD., LONDON

Manufacturers of

READY MIXED AND PASTE PAINTS,
ENAMELS AND DISTEMPERS,
CEMENT PAINT, ANTI-CORROSIVES,
PAINT OILS AND VARNISHES

Full particulars from the Agents:

THE GENERAL ELECTRIC CO.,
OF CHINA, LTD.

23-27 NINGPO ROAD, SHANGHAI

ANTHRACITE BRIQUETTES

ECONOMICAL

CLEAN

CONVENIENT

Prices from 1st December, 1931:

Tls. 22.00 per ton

Tls. 11.50 per half ton

Delivered to any address in the Foreign Settlement or French Concession

GEORGE McBAIN

No. 1 THE BUND Tel. 11174

The Shanghai Exploration & Development Company, Ltd.

(Incorporated under the Companies' Ordinances of Hongkong)

TAYLOR GARAGE,

LIMITED

A new DEPOT in the Centre of the City is now at your service.

Call in when you are shopping, it is only a few yards off Nanking Road (corner of Ezra and Central Roads).

Phone 70050 (4 Lines)

50¢ *for* 50

Now you may obtain Lambert & Butler's famous "MAY BLOSSOM" Virginia cigarettes at the remarkably low price of 50 cents for a tin of 50-and 20 cents for a packet of 20. Sold everywhere.

LAMBERT & BUTLER'S FAMOUS

MAY BLOSSOM

CIGARETTES

EX-14 This advertisement is issued by the British-American Tobacco Co. (China) Ltd.

TUCK CHANG & CO., LIMITED

JEWELLERS
WATCHMAKERS

GOLD AND
SILVERSMITHS

TROPHY CUPS
our
SPECIALITY

Established 1901

67 BROADWAY SHANGHAI

BUY YOUR JADE

AT THE

JADE STORE

A Large Selection of

JADE

ANTIQUE AND MODERN

ORNAMENTS, JEWELLERY AND CURIOS

THE JADE STORE

24 NANKING ROAD, SHANGHAI 'Phone 13237

CANTON WARE

OUR SPECIALITY

Get a Set for Your Home

Tea and Dinner Sets of
Artistic Canton Ware

AN EXCELLENT VARIETY IN DESIGN AND COLOURING

TRY OUR STYLISH LINGERIE

All sorts of Ladies' silk embroidered garments sold at extremely low prices.

See our art and curio gallery.

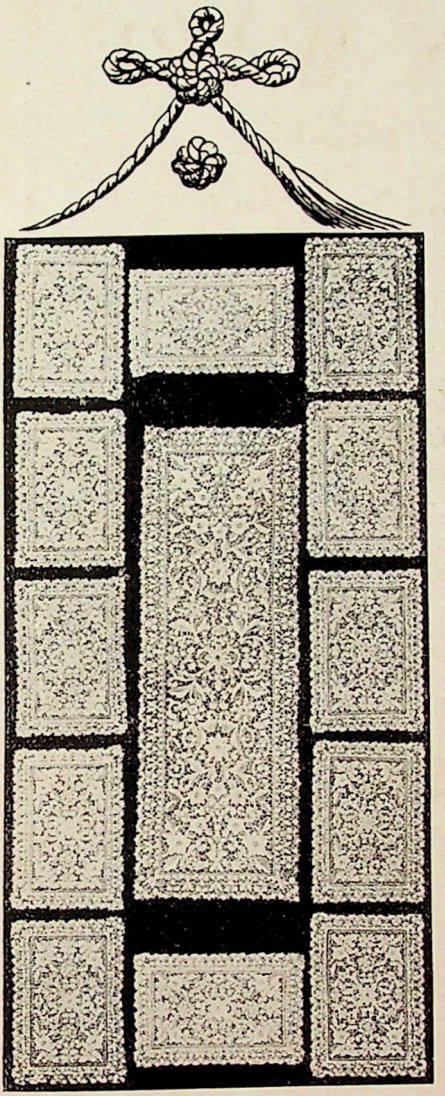
EVERYTHING CHINESE

CHONG WAH EXPORT CO.

Retail and Wholesale

121 Broadway (near Boone Road)

C. T. TAI & SON



EMBROIDERED LINENS
MONOGRAMMED HANDKERCHIEFS, HAND-MADE LACES.
185 ROUTE PROSPER PARIS
(Near Ziccawei)
Tel. No. 70636 SHANGHAI

Laces and Embroideries

ON THE FINEST IRISH AND FRENCH LINENS

Exquisite Oriental and European Patterns every Piece Offered Fully Guaranteed

---

"Daintymaid Embroideries"

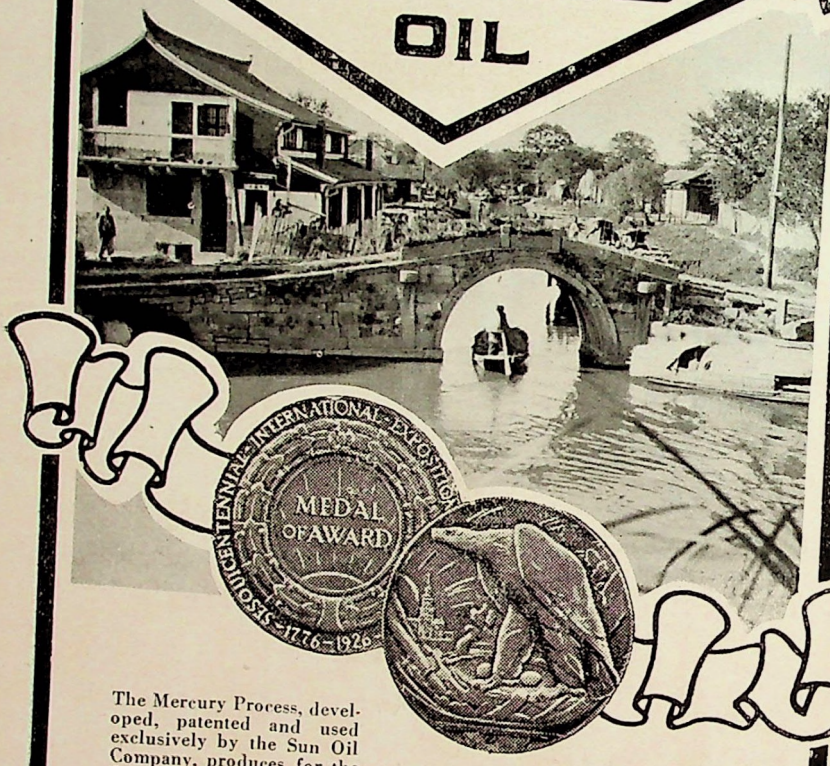
84 SZECHUEN ROAD

ACROSS THE STREET FROM COOK'S

MOTOR

SUNOCO

OIL



The Mercury Process, developed, patented and used exclusively by the Sun Oil Company, produces for the first time pure motor oils which last longer, and form neither hard carbon nor sludge.

THE SUN OIL COMPANY

PHILADELPHIA

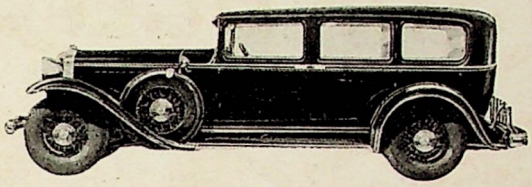
KUNST & ALBERS, *Agents*

29 Szechuen Road Telephone 18739

BUICK

FOR 1932

The Outstanding Buick of all time



FEATURING NEW AUTOMATIC CLUTCH, NEW FREE WHEELING, NEW SILENT SECOND SYNCRO-MESH

ANDERSON & FERROGGIARO

Sales, Service and Showroom :

Cor. Ave. Foch and Ave. du Roi Albert

Federal Inc. U.S.A.

Telephone 70024

'Phone { 70158 / 70159

OAKLAND SALES SERVICE SATISFACTION **OLDSMOBILE**

PONTIAC

You own a good motor car. Upon its performance depends your comfort and peace of mind. Insure its reliable operation with regular inspection and servicing.

TRIANGLE MOTORS

FEDERAL INC., U.S.A.

99 ROUTE CARDINAL MERCIER

OPEL BLITZ DIVISION

Show Room: 310 Bubbling Well Road

THORNYCROFT

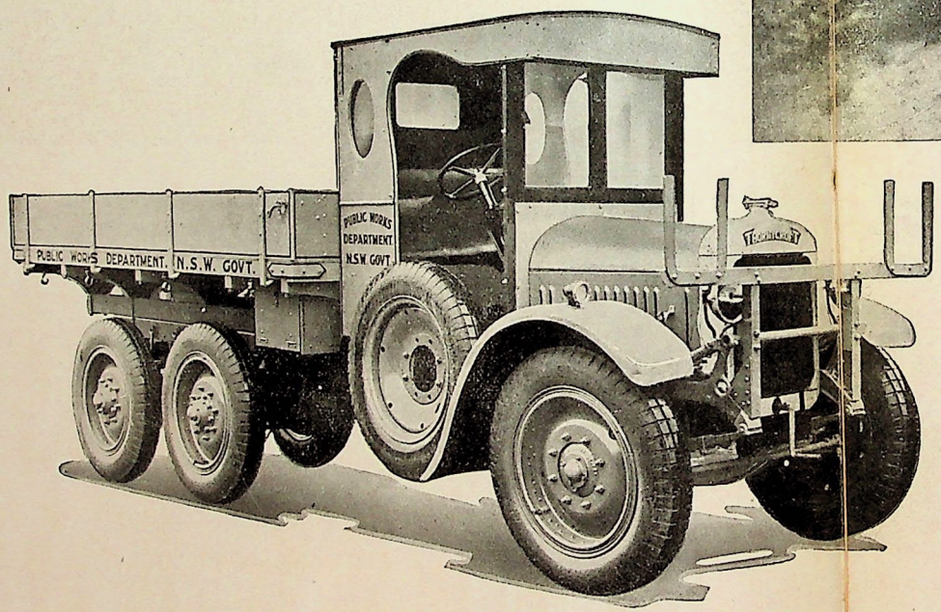
MOTOR VEHICLES

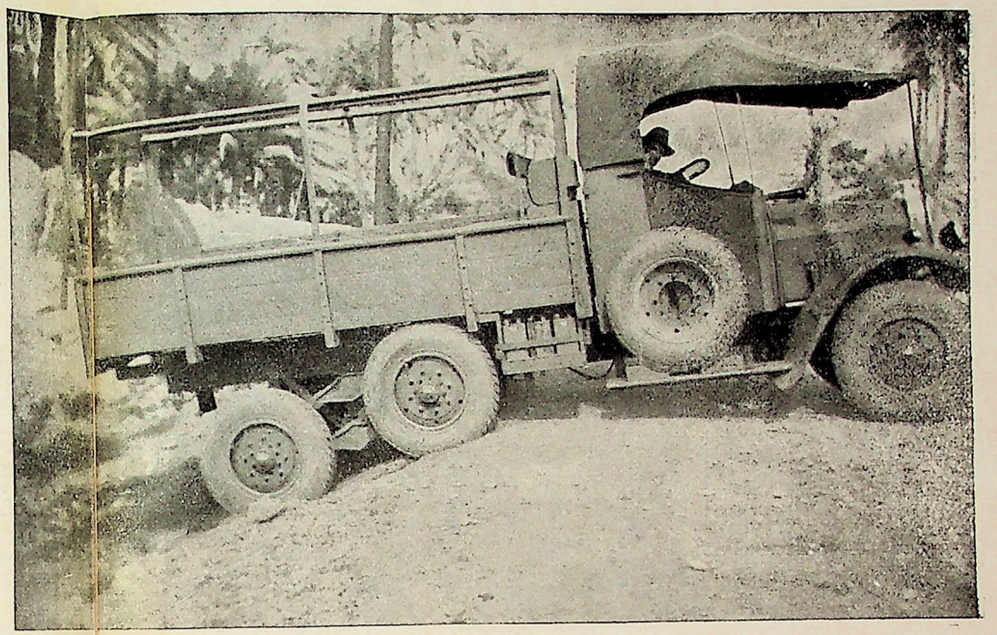
PASSENGER CHASSIS

20 to 70 Passengers

FREIGHT CHASSIS

1½ to 12 Tons Capacity





THORNYCROFT RIGID SIX WHEELERS

Drive on all Four Rear Wheels
Require No Roads
As used
To cross Kalahari Desert
The Sahara
Also by South African Railways
Prices and Demonstration

Apply direct to

JOHN I. THORNYCROFT & CO., LIMITED

Dollar Building, Shanghai

Pioneer Building, Kowloon, Hongkong

MAGDALEN LLOYD

STUDIO OF

CHINA'S ARTS

Antiques that are Authentic.
Jewelry that is different.

GRAND HOTEL DE PÉKIN

Room 108 PEKING

LARGEST Selling Rug in the WORLD

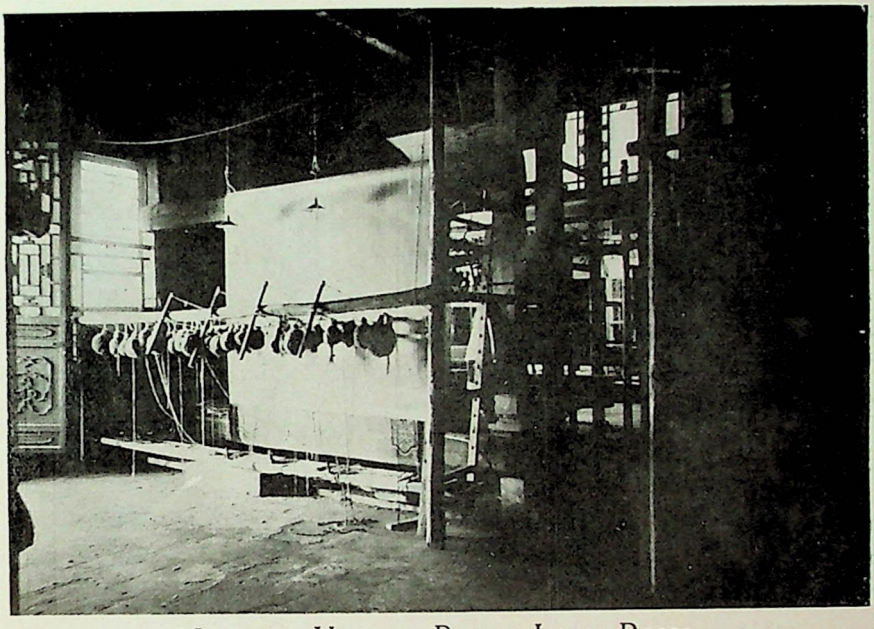
IMPERIAL PAGODA CARPET

A. & M. KARAGHEUSIAN

AMERICAN CORPORATION FOR OVERSEAS

135 RUE PASTEUR TIENTSIN

NICHOLS
MANCHU RUG PALACE
PEKING



INTERIOR VIEW OF PALACE LOOM ROOM

We cordially invite you to visit our Palace Factory whenever you are in the Old Capital. Large assortment of all kinds of Chinese Carpets always in stock.

"Made in a Palace and Fit for a King."

YI WANG FU—166 HATAMEN STREET

Shanghai Office
99 Nanking Road

Tientsin Head Office
104 Taku Road

Chinese Antiques

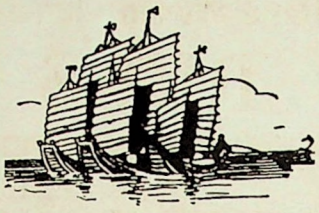
ANTIQUE IVORIES,
PORCELAINS,
BRONZES,
PAINTINGS,
SCROLLS,
LACQUER,
EMBROIDERIES.

PERIOD FURNITURE

made in our own factory
under Foreign Supervision.

THE
CARAVAN
STUDIO

1041 Bubbling Well Road
SHANGHAI, CHINA



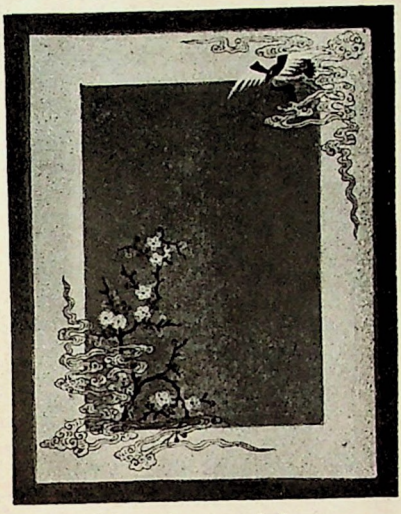
PRACTICAL GIFTS
FROM THE

Sea Captains' Shop

LINGERIE
NEGLIGEES
PYJAMAS
LOUNGING ROBES
JEWELRY
LAMPS
CURIOS
JUNK MODELS
NATIVE GARMENTS

THE SEA
CAPTAINS' SHOP
Mrs. W. Tornroth
27C Central Arcade
Building
49 NANKING ROAD
Telephone 10206

Hand Woven Chinese
RUGS



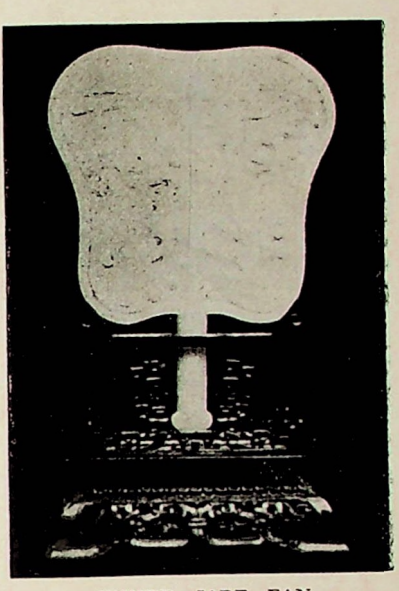
Manufactured by

E. A. Punnett & Co.

Showroom—Main Floor
Room 100
Grand Hotel de Pékin
PEIPING

RUGS
SUCH AS WON
PRIZE AND MEDAL
IN THE
Belgian Centennial Exhibition
BEST IN CHINA

MISS PUNNETT
WAGONS-LITS HOTEL, PEIPING
FURS—JADE—JEWELRY



WHITE JADE FAN
CHIEN LUNG

OLD CATHAY

22 LEGATION ST.
PEKING

Old Rugs, Jades,
Ivories, Embroideries,
Porcelain, Lacquer

Fixed Prices

PEACH & Co. LTD
(INCORPORATED IN HONGKONG)

FURNISHERS & DECORATORS

MODERN FURNITURE
OF
DISTINCTIVE DESIGNS

FURNISHING FABRICS
OF
ALL DESCRIPTIONS

Our wide range of Furnishing Materials Displaying New Modern Designs and Colours Offer a Wealth of Ideas for Distinctive Furnishing Schemes.

SHOWROOM:
SASSOON ARCADE
SHANGHAI
Tel. 12584

FETTÉ RUG CO.

Federal Inc. U.S.A.

F'ACTURERS & EXPORTERS

QUALITY RUGS

Mail Inquiries Receive
Prompt Attention

'UNG TAN ERH T'IAO HUTUNG
PEIPING (PEKING) CHINA

Agents :
Hoggard-Sigler, Shanghai
Helene Griffiths, Manila
The Caravan, Hong Kong
Mrs. C. E. Fetté, Honolulu

PEACH & Co. Ltd

(INCORPORATED IN HONGKONG)

FURNISHERS & DECORATORS

MODERN FURNITURE

OF

DISTINCTIVE DESIGNS

FURNISHING FABRICS

OF

ALL DESCRIPTIONS

Our wide range of Furnishing Materials Displaying New Modern Designs and Colours Offer a Wealth of Ideas for Distinctive Furnishing Schemes.

SHOWROOM :

SASSOON ARCADE Tel. 12584

SHANGHAI

THE FETTÉ RUG CO.

Federal Inc. U.S.A.

MANUFACTURERS & EXPORTERS

QUALITY RUGS

Mail Inquiries Receive
Prompt Attention

8 TUNG TAN ERH T'IAO HUTUNG
PEIPING (PEKING) CHINA

Agents :

Hoggard-Sigler, Shanghai
Helene Griffiths, Manila
The Caravan, Hong Kong
Mrs. C. E. Fetté, Honolulu

JEAN LINDSAY,

Cathay Hotel Entrance

and

22 NANKING ROAD,
THIRD FLOOR

Ivories,
Bronzes,
Porcelain,
Pictures,
Embroideries,
Black Wood,
Jewellery,
Crystal Trees,
Peking Glass,
Screens,
Grave Pottery,
Curios,
Magnificent Wilson super yarn Tientsin rugs.
The famous Jen Li Peking rugs.
Hooked rugs, very moderate.
Mongolian Rugs.

玉塔
Yü Tah

THE JADE PAGODA

THE FINEST
Blackwood
Old Rugs
Crystals
Embroideries
Furs
Ivories
Jades
Antique Lacquer
Brocades
Novelties

3-4 RUE MARCO POLO

Legation Quarter
PEIPING

Collections purchased for Museums and private Collectors

LACES
and
Embroideries

in a wide selection at very reasonable prices

WE EXTEND A CORDIAL INVITATION

to all ladies and gentlemen to inspect our lovely selection of choice :—

ART LINENS CUT-WORK
VENETIAN POINT, SILK
SHAWLS, UNDERWEAR,
HANDKERCHIEFS, SWATOW
MOSAIC WORK, ETC.

WANG'S

248 Rue Prosper Paris

RAND HOTEL DE PÉKIN
PEKING'S UP TO DATE HOTEL
Rooms, 200 Bathrooms and Telephones
looking the Forbidden City and all of Peking
J. Roustan, Manager.

ASTOR HOUSE HOTEL
TIENTSIN
THE LEADING HOTEL IN BEST POSITION OF TOWN
Telegrams: STOR TIENTSIN
PAUL WEINGART, Manager

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 ETCHING
Agent for Y. Yezaki Tortoise Shell Wares, Nagasaki
298 Bubbling Well Road, Shanghai

FROM ONLY
SANZETTI STUDIO
421 Bubbling Well Road
Shanghai
YOU ARE ABLE TO GET PORTRAITS OF HIGH STANDARD AND CHINA VIEWS OF QUALITY
PHONE 30791 or WRITE for an APPOINTMENT!

JEAN LINDSAY,

Cathay Hotel Entrance

and

22 NANKING ROAD,
THIRD FLOOR

Ivories,
Bronzes,
Porcelain,
Pictures,
Embroideries,
Black Wood,
Jewellery,
Crystal Trees,
Peking Glass,
Screens,
Grave Pottery,
Curios,
Magnificent Wilson super yarn Tientsin rugs.
The famous Jen Li Peking rugs.
Hooked rugs, very moderate.
Mongolian Rugs.

玉塔
Yü Tah

THE JADE PAGODA

THE FINEST
Blackwood
Old Rugs
Crystals
Embroideries
Furs
Ivories
Jades
Antique Lacquer
Brocades
Novelties

3-4 RUE MARCO POLO

Legation Quarter
PEIPING

Collections purchased for Museums and private Collectors

LACES
and
Embroideries

in a wide selection at very reasonable prices

WE EXTEND A CORDIAL INVITATION

to all ladies and gentlemen to inspect our lovely selection of choice :—

ART LINENS CUT-WORK
VENETIAN POINT, SILK
SHAWLS, UNDERWEAR,
HANDKERCHIEFS, SWATOW
MOSAIC WORK, ETC.

WANG'S

248 Rue Prosper Paris

HOTEL DE PÉKIN
'S UP TO DATE HOTEL
200 Bathrooms and Telephones
the Forbidden City and all
of Peking
J. Roustan, Manager.

OR HOUSE HOTEL
TIENTSIN
LEADING HOTEL IN BEST
POSITION OF TOWN
ms: PAUL WEINGART,
ENTSIN Manager

S. KOMAI
ACTURER OF DAMASCENE WARE
o the Prince of Wales by the Municipality
iin Honour of His Visit to Japan in 1922
DAMASCENE ETCHING
Y. Yezaki Tortoise Shell Wares, Nagasaki
98 Bubbling Well Road, Shanghai

ONLY
ZETTI STUDIO
421 Bubbling Well Road
Shanghai
YOU ARE ABLE TO GET PORTRAITS
OF HIGH STANDARD AND CHINA
VIEWS OF QUALITY
NE 30791 or WRITE for an APPOINTMENT!

JEAN LINDSAY,

Cathay Hotel Entrance

and

22 NANKING ROAD,
THIRD FLOOR

Ivories,
Bronzes,
Porcelain,
Pictures,
Embroideries,
Black Wood,
Jewellery,
Crystal Trees,
Peking Glass,
Screens,
Grave Pottery,
Curios,
Magnificent Wilson super yarn Tientsin rugs.
The famous Jen Li Peking rugs.
Hooked rugs, very moderate.
Mongolian Rugs.

玉塔
Yü Tah

THE JADE PAGODA

THE FINEST
Blackwood
Old Rugs
Crystals
Embroideries
Furs
Ivories
Jades
Antique Lacquer
Brocades
Novelties

3-4 RUE MARCO POLO

Legation Quarter
PEIPING

Collections purchased for Museums and private Collectors

LACES
and
Embroideries

in a wide selection at very reasonable prices

WE EXTEND A CORDIAL INVITATION

to all ladies and gentlemen to inspect our lovely selection of choice :—

ART LINENS CUT-WORK VENETIAN POINT, SILK SHAWLS, UNDERWEAR, HANDKERCHIEFS, SWATOW MOSAIC WORK, ETC.

WANG'S

248 Rue Prosper Paris

D HOTEL DE PÉKIN
G'S UP TO DATE HOTEL
s:, 200 Bathrooms and Telephones
g the Forbidden City and all of Peking
J. Roustan, *Manager.*

OR HOUSE HOTEL
TIENTSIN
LEADING HOTEL IN BEST
POSITION OF TOWN
is: PAUL WEINGART,
NTSIN Manager

S. KOMAI
CTURER OF DAMASCENE WARE
the Prince of Wales by the Municipality
Honour of His Visit to Japan in 1922
AMASCENE ETCHING
Yezaki Tortoise Shell Wares, Nagasaki
Bubbling Well Road, Shanghai

ONLY
LETTI STUDIO
421 Bubbling Well Road
Shanghai
ARE ABLE TO GET PORTRAITS
OF HIGH STANDARD AND CHINA
VIEWS OF QUALITY
0791 or WRITE for an APPOINTMENT!

JEAN LINDSAY,

Cathay Hotel Entrance

and

22 NANKING ROAD,
THIRD FLOOR

Ivories,
Bronzes,
Porcelain,
Pictures,
Embroideries,
Black Wood,
Jewellery,
Crystal Trees,
Peking Glass,
Screens,
Grave Pottery,
Curios,
Magnificent Wilson super yarn Tientsin rugs.
The famous Jen Li Peking rugs.
Hooked rugs, very moderate.
Mongolian Rugs.

玉塔
Yü Tah

THE JADE PAGODA

THE FINEST
Blackwood
Old Rugs
Crystals
Embroideries
Furs
Ivories
Jades
Antique Lacquer
Brocades
Novelties

3-4 RUE MARCO POLO

Legation Quarter
PEIPING

Collections purchased for Museums and private Collectors

LACES
and
Embroideries

in a wide selection at very reasonable prices

WE EXTEND A CORDIAL INVITATION

to all ladies and gentlemen to inspect our lovely selection of choice :—

ART LINENS CUT-WORK VENETIAN POINT, SILK SHAWLS, UNDERWEAR, HANDKERCHIEFS, SWATOW MOSAIC WORK, ETC.

WANG'S

248 Rue Prosper Paris

GRAND HOTEL DE PÉKIN

PEKING'S UP TO DATE HOTEL

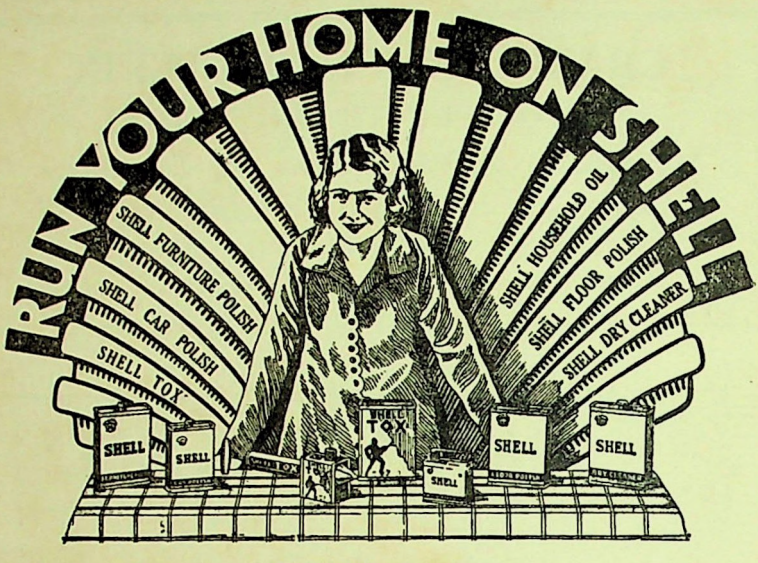
200 Rooms, 200 Bathrooms and Telephones Overlooking the Forbidden City and all of Peking

J. Roustan, *Manager.*

ASTOR HOUSE HOTEL
TIENTSIN
THE LEADING HOTEL IN BEST POSITION OF TOWN
Telegrams: ASTOR TIENTSIN
PAUL WEINGART, Manager

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 ETCHING
Agent for Y. Yezaki Tortoise Shell Wares, Nagasaki
298 Bubbling Well Road, Shanghai

FROM SANZETTI STUDIO ONLY
421 Bubbling Well Road
Shanghai
YOU ARE ABLE TO GET PORTRAITS OF HIGH STANDARD AND CHINA VIEWS OF QUALITY
PHONE 30791 or WRITE for an APPOINTMENT!



Obtainable from—

THE ASIATIC PETROLEUM CO. (North China), LTD.

Local Sales Dept. (Ground Floor), No. 1 The Bund

At "Shell" Service Stations and All Leading Stores.

WINES OF QUALITY

ROEDERER CHAMPAGNES

DE LUZE'S CLARETS

REGNIER'S BURGUNDIES

LIQUEURS

HIRSBRUNNER & CO.

SASSOON ARCADE Tel. 15138

ART PHOTOS

I offer artistic photographs in great variety, principally studies from Life, for the use of Art Students, Artists, and others. A good selection will be sent upon receipt of remittance of 10 shillings or its equivalent, and upwards.

For further particulars apply to

CURT HOINKIS, Hamburg 8 J. S. (Germany)

MALARSAN

is the most powerful remedy against MALARIA FEVER, AMOEBAL DYSENTERY and all other diseases caused by different kinds of Amoebae and Lamblia.

ALL DRUGGISTS

Sole Agents for China :

The Far Eastern Drug Trading Co.

9A HANKOW ROAD
SHANGHAI

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

BIANCHI'S ITALIAN NOUGAT

The Best Candy of the Orient

Bianchi

76 NANKING ROAD
SHANGHAI

SHANGHAI'S LEADING

CONFECTIONERY

CAFE FEDERAL

ESTABLISHED 1909

Well known establishment for High-Class Pastries, Chocolates, Cakes, Chestnuts, Chestnut Cream and Fresh Cream Cakes.

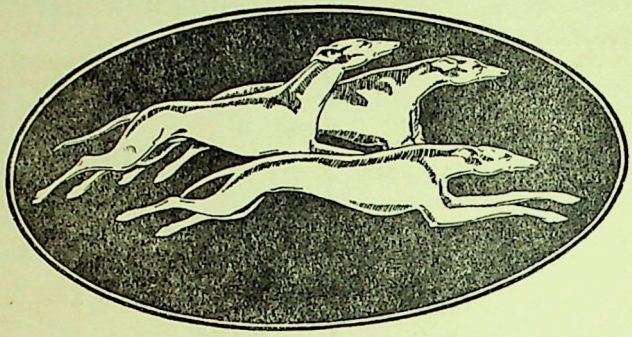
WEDDING CAKES FANCY AND BIRTHDAY CAKES

a Speciality

17 Broadway, Hongkew
Tel. 40911

223 Bubbling Well Road
Tel. 35171

CANIDROME



EVERY WEDNESDAY AND
SATURDAY EVENING

PEKING AND TIENTSIN TIMES

(Established 1894)

The leading daily newspaper of Northern China, British Owned and British Edited.

Entirely independent in its views and criticisms, the "Peking and Tientsin Times" is by far the most influential newspaper in the district.

Proprietor:

TIENTSIN PRESS, LTD.

VICTORIA ROAD

TIENTSIN, NORTH CHINA

GRAFTON FABRICS

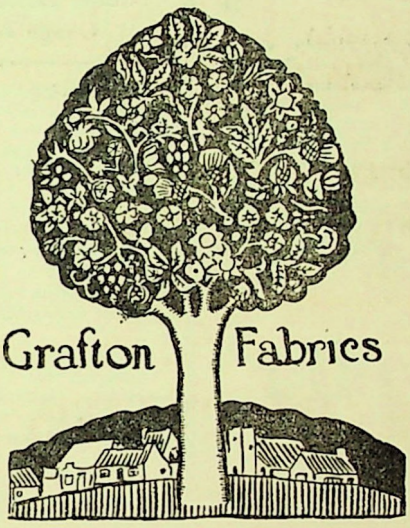
Represent Perfection in

DRESS AND LINGERIE MATERIALS

You Should Wear

GRAFTON AUTUMN AND WINTER FABRICS

BECAUSE of their outstanding originality in design.



BECAUSE of their loveliness and perfection of colouring.

TRADE MARK

BECAUSE

of their steadfastness in colour when exposed to sunlight and washing.

Obtainable from all the Leading Stores

THE CALICO PRINTERS' ASSOCIATION
LIMITED

56 SZECHUEN ROAD, SHANGHAI

Head Office : MANCHESTER, ENGLAND

'He's happy in the cold days' says the VIYELLA GIRL

Viyella DAY & NIGHT WEAR

Equable or Tropic climes come alike to 'Viyella' fine twill flannel. Possessing the unique qualities of absorbing excessive moisture and radiating it, Shirts and Pyjamas of this sturdy British fabric protect and comfort in hot as well as cold weather. The exclusive British Spun 'Viyella' Yarns and the finely woven texture give endurance and freedom from irritation. And 'Viyella' can be tubbed as often as one pleases.

'Viyella'

(Regd.)

From First-Class Stores **throughout the East.** *If any difficulty, please write to Wm. Hollins & Co., Ltd., 'Viyella' House, Old Change, London, E.C.4*

EXPRESS LINE
TO EUROPE
by de luxe steamers
"CONTE ROSSO"
"GANGE"

Duration of voyage from SHANGHAI to ITALY:
Conte Rosso = 24 days
Gange = 25 days

Oil-burning Passenger Steamers known to satisfy the most critical passengers for their superior appointments, speed, safety, comfort and efficient service.—Cuisine unrivalled.

Every convenience for travel in tropical waters as well as in cold climates.

Ventilation on the thermo-tank system throughout.

Surgeon, stewardesses, laundry arrangements, hair dressers, cinema, orchestra, swimming pool, gymnasium, bar, verandahs, spacious promenade decks.

VENICE with its beauty and its many attractions will complete happily the pleasures of this most enjoyable journey.

Through bookings to LONDON overland *via* Venice.

Baggage to London sent free of freight by rail from Trieste.

For rates and information apply to any Agency of the Company, to any Travel Office, or to:

LLOYD TRIESTINO
N. CO.

14 Kiukiang Road,
Ezra Building, Shanghai
Telegrams; Lloydiano-Shanghai
Telephones: 16883-16884-16885
Private Exchange to all Departments)

SHOEMAKER ART LOOMS

HAND WOVEN RUGS

nctive in quality, design and colouring

BRANCH STUDIOS

IPING	SHANGHAI	MANILA
ation St.	271 Kiangse Road	12 San Luis

LITTLE GALLERY—PEKING

hoice collection of antique furniture, jade, ivory, lacquer cabinets, screens and lanterns.

EW TRANS-PACIFIC FIRST CLASS AND TOURIST ROUND-TRIP FARES

Shanghai to Victoria and Vancouver and return

All Year Round-Trip

Tickets valid for 12 months... ... From G.$579 to G.$623

Summer Round-Trip

June 1st to August 31st, 1932, with return limit December 31st, 1932. First Class From G.$496 to G.$534
Tourist Cabin From G.$277 to G.$322

Luxurious, Speedy, and Service Supreme

The Empress of Japan and Empress of Canada Call at Honolulu

CANADIAN PACIFIC

World's Greatest Travel System

'He's happy in the cold days' says the VIYELLA GIRL

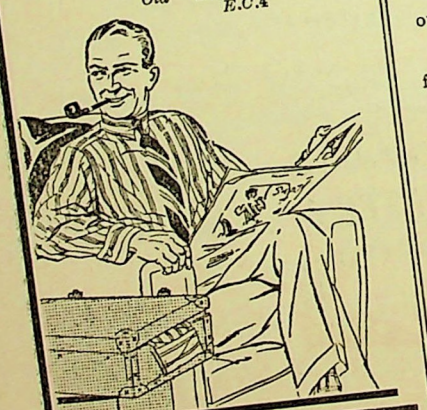
Viyella DAY NIGHT WEAR

Equable or Tropic climes come alike to 'Viyella' fine twill flannel. Possessing the unique qualities of absorbing excessive moisture and radiating it, Shirts and Pyjamas of this sturdy British fabric protect and comfort in hot as well as cold weather. The exclusive British Spun 'Viyella' Yarns and the finely woven texture give endurance and freedom from irritation. And 'Viyella' can be tubbed as often as one pleases.

'Viyella'

(Regd.)

From First-Class Stores **throughout the East.** *If any difficulty, please write to Wm. Hollins & Co., Ltd., 'Viyella' House, Old Change, London, E.C.4*



EXPRESS LINE
TO EUROPE
by de luxe steamers
"CONTE ROSSO"
"GANGE"

Duration of voyage from SHANGHAI to ITALY:
Conte Rosso = 24 days
Gange = 25 days

Oil-burning Passenger Steamers known to satisfy the most critical passengers for their superior appointments, speed, safety, comfort and efficient service.—Cuisine unrivalled.

Every convenience for travel in tropical waters as well as in cold climates.

Ventilation on the thermo-tank system throughout.

Surgeon, stewardesses, laundry arrangements, hair dressers, cinema, orchestra, swimming pool, gymnasium, bar, verandahs, spacious promenade decks.

VENICE with its beauty and its many attractions will complete happily the pleasures of this most enjoyable journey.

Through bookings to LONDON overland *via* Venice.

Baggage to London sent free of freight by rail from Trieste.

For rates and information apply to any Agency of the Company, to any Travel Office, or to:

LLOYD TRIESTINO
N. CO.

14 Kiukiang Road,
Ezra Building, Shanghai
Telegrams; Lloydiano-Shanghai
Telephones: 16883-16884-16885
Private Exchange to all Departments)

Distinctiv

PEIPIN
Legation

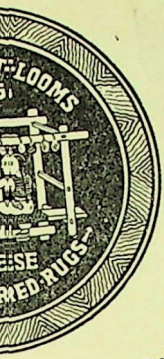
A choice

NEW

SI

Ticke

June



SHOEMAKER ART LOOMS

HAND WOVEN RUGS

e in quality, design and colouring

BRANCH STUDIOS

SHANGHAI 271 Kiangse Road

MANILA 12 San Luis

St.

LITTLE GALLERY—PEKING

collection of antique furniture, jade, ivory, cquer cabinets, screens and lanterns.

TRANS-PACIFIC FIRST CLASS AND TOURIST ROUND-TRIP FARES

nghai to Victoria and Vancouver and return

All Year Round-Trip

valid for 12 months... ... From G.$579 to G.$623

Summer Round-Trip

1st to August 31st, 1932, with return limit

cember 31st, 1932. First Class From G.$496 to G.$534

Tourist Cabin From G.$277 to G.$322

Luxurious, Speedy, and Service Supreme

The Empress of Japan and Empress of Canada Call at Honolulu

CANADIAN PACIFIC

World's Greatest Travel System

'He's happy in the cold days' says the VIYELLA GIRL

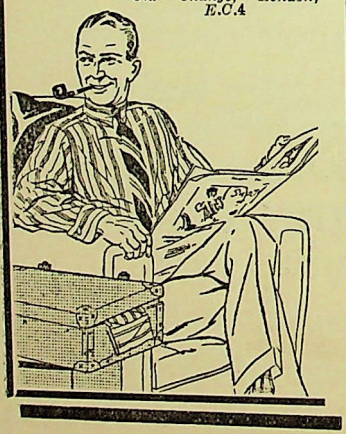
Viyella
DAY & NIGHT WEAR

Equable or Tropic climes come alike to 'Viyella' fine twill flannel. Possessing the unique qualities of absorbing excessive moisture and radiating it, Shirts and Pyjamas of this sturdy British fabric protect and comfort in hot as well as cold weather. The exclusive British Spun 'Viyella' Yarns and the finely woven texture give endurance and freedom from irritation. And 'Viyella' can be tubbed as often as one pleases.

'Viyella'

(Regd.)

From First-Class Stores **throughout the East.** *If any difficulty, please write to Wm. Hollins & Co., Ltd., 'Viyella' House, Old Change, London, E.C.4*



EXPRESS LINE
TO EUROPE
by de luxe steamers
"CONTE ROSSO"
"GANGE"

Duration of voyage from SHANGHAI to ITALY:
Conte Rosso = 24 days
Gange = 25 days

Oil-burning Passenger Steamers known to satisfy the most critical passengers for their superior appointments, speed, safety, comfort and efficient service.—Cuisine unrivalled.

Every convenience for travel in tropical waters as well as in cold climates.

Ventilation on the thermo-tank system throughout.

Surgeon, stewardesses, laundry arrangements, hair dressers, cinema, orchestra, swimming pool, gymnasium, bar, verandahs, spacious promenade decks.

VENICE with its beauty and its many attractions will complete happily the pleasures of this most enjoyable journey.

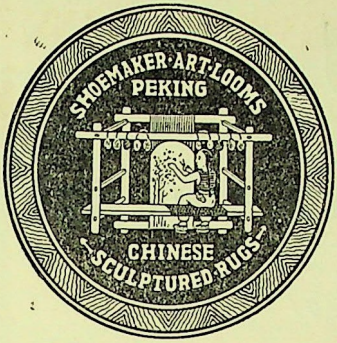
Through bookings to LONDON overland *via* Venice.

Baggage to London sent free of freight by rail from Trieste.

For rates and information apply to any Agency of the Company, to any Travel Office, or to:

LLOYD TRIESTINO
N. CO.

14 Kiukiang Road,
Ezra Building, Shanghai
Telegrams; Lloydiano-Shanghai
Telephones: 16883-16884-16885
Private Exchange to all Departments)



SHOEMAKER ART LOOMS

HAND WOVEN RUGS

Distinctive in quality, design and colouring

BRANCH STUDIOS

PEIPING	SHANGHAI	MANILA
Legation St.	271 Kiangse Road	12 San Luis

LITTLE GALLERY—PEKING

A choice collection of antique furniture, jade, ivory, lacquer cabinets, screens and lanterns.

NEW TRANS-PACIFIC FIRST CLASS AND TOURIST ROUND-TRIP FARES

Shanghai to Victoria and Vancouver and return

All Year Round-Trip

Tickets valid for 12 months... ... From G.$579 to G.$623

Summer Round-Trip

June 1st to August 31st, 1932, with return limit December 31st, 1932. First Class From G.$496 to G.$534
Tourist Cabin From G.$277 to G.$322

Luxurious, Speedy, and Service Supreme

The Empress of Japan and Empress of Canada Call at Honolulu

CANADIAN PACIFIC

World's Greatest Travel System

THE
HONGKONG & SHANGHAI HOTELS, LTD.
(INCORPORATED IN HONGKONG)

Operating :

IN SHANGHAI :
Astor House Hotel
Palace Hotel

IN HONGKONG :
Hongkong Hotel
Peninsula Hotel
Peak Hotel
Repulse Bay Hotel

GORDON & CO., LTD.
137 SZECHUEN ROAD
Telephones 61107-8 SHANGHAI

HEATING
SANITATION
AIR CONDITIONING
FIRE PROTECTION

Estimates and Schemes Submitted

THE CHINA JOURNAL

中國科學美術雜誌

Editor : ARTHUR DE C. SOWERBY, F.Z.S. *Manager :* CLARICE S. MOISE, B.A.
Secretary : H. KAY CAMPBELL

[ENTERED AT THE CHINESE POST OFFICE AS A NEWSPAPER]

VOL. XVI FEBRUARY 1932 No. 2

CONTENTS

		PAGE
LAW V. WAR	BY ARTHUR DE C. SOWERBY	55
T'ANG WANG WANG		57
ANCIENT CHINESE JADES	BY K. C. WONG	59
A NEW ESTIMATE OF THE CHINESE POPULATION UNDER THE T'ANG DYNASTY IN 618 A.D. ...	BY C. P. FITZGERALD	62
ART NOTES		72
REVIEWS		73
THE MYSTERIOUS M'ZAB	BY R. V. C. BODLEY	74
TRAVEL AND EXPLORATION NOTES		80
THE PEKING RUG INDUSTRY	BY ROSE LEIBBRAND	82
ENGINEERING, INDUSTRIAL AND COMMERCIAL NOTES		88
CANNIBALISM	BY ARTHUR DE C. SOWERBY	91
LAWN AND ROADSIDE PLANTS OF SHANGHAI	BY W. M. PORTERFIELD	95
SCIENTIFIC NOTES AND REVIEWS		100
SHOOTING AND FISHING NOTES		102
THE KENNEL		103
THE GARDEN		104
EDUCATIONAL NOTES AND INTELLIGENCE		107
PUBLICATIONS RECEIVED		108

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 10 ; 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, 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 : 8 Museum Road, Shanghai, China.

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

THE
HONGKONG & SHANGHAI HOTELS, LTD.
(INCORPORATED IN HONGKONG)

Operating :

IN SHANGHAI :
Astor House Hotel
Palace Hotel

IN HONGKONG :
Hongkong Hotel
Peninsula Hotel
Peak Hotel
Repulse Bay Hotel

GORDON & CO., LTD.
137 SZECHUEN ROAD
Telephones 61107-8 SHANGHAI

HEATING
SANITATION
AIR CONDITIONING
FIRE PROTECTION

Estimates and Schemes Submitted

THE CHINA JOURNAL

中國科學美術雜誌

Editor : ARTHUR DE C. SOWERBY, F.Z.S. *Manager :* CLARICE S. MOISE, B.A.
Secretary : H. KAY CAMPBELL

[ENTERED AT THE CHINESE POST OFFICE AS A NEWSPAPER]

VOL. XVI FEBRUARY 1932 No. 2

CONTENTS

	PAGE
LAW V. WAR ... ... BY ARTHUR DE C. SOWERBY	55
T'ANG WANG WANG	57
ANCIENT CHINESE JADES ... ... BY K. C. WONG	59
A NEW ESTIMATE OF THE CHINESE POPULATION UNDER THE T'ANG DYNASTY IN 618 A.D. ... BY C. P. FITZGERALD	62
ART NOTES	72
REVIEWS	73
THE MYSTERIOUS M'ZAB ... ... BY R. V. C. BODLEY	74
TRAVEL AND EXPLORATION NOTES	80
THE PEKING RUG INDUSTRY ... ... BY ROSE LEIBBRAND	82
ENGINEERING, INDUSTRIAL AND COMMERCIAL NOTES	88
CANNIBALISM ... ... BY ARTHUR DE C. SOWERBY	91
LAWN AND ROADSIDE PLANTS OF SHANGHAI BY W. M. PORTERFIELD	95
SCIENTIFIC NOTES AND REVIEWS	100
SHOOTING AND FISHING NOTES	102
THE KENNEL	103
THE GARDEN	104
EDUCATIONAL NOTES AND INTELLIGENCE	107
PUBLICATIONS RECEIVED	108

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 10 ; 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, 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 : 8 Museum Road, Shanghai, China.

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

ROYAL ASIATIC SOCIETY CHINA
SHANGHAI
上海

[All Rights Reserved]

RAS CHINA IN SHANGHAI
LIBRARY

DONATED BY:

Classified Index of Advertisers

AERONAUTICAL SUPPLIES :
Icarus Aero Supply Co., Ltd. XLII

ART AND CURIO DEALERS :
Caravan Studio, The .. XX
Chong Wah Export Co.. XII
Golden Dragon, The .. Cover 3
Jade Pagoda, The .. XXIV
Jade Store, The.. .. XI
Komai, S. XXV
Lindsay, Jean XXIV
Lloyd, Magdalen .. XVIII
Murakami, Toyo .. III
Old Cathay XXI
Sea Captains' Shop, The. XX

BANKS AND FINANCE :
China Finance Corporation VII
Mercantile Bank of India, Ltd., The III
National City Bank of New York VI

BOOKS, BOOKSELLERS AND AGENTS, ETC. :
North-China Daily News LIV

BUILDING CONTRACTORS :
Corrit, A. XXXVII

BUILDING MATERIALS :
Arnhold and Company, Limited XXXIV
China Metallisator Co. .. XXXVI
Duncan & Co. XXXIV
Kailan Mining Administration XXXV
Kienhuize & Co. .. IV

CHEMICAL IMPORTERS, LABORATORIES, DRUGGISTS, ETC. :
Allen & Hanburys, Ltd. (Glycerine and Black Currant Pastilles) .. I
Asiatic Petroleum Co. (North China) Ltd. .. XXVI
Behn, Meyer China Co. Ltd. XXXVII
China Export, Import & Bank Co. (Cresival) .. I
Far Eastern Drug Trading Co. (Malarsan) .. XXVII
Grenard & Co., Ltd., (Bilivaccin) XLI
National Aniline and Chemical Co. U.S.A. (Dyestuffs) XXXIX
Scott's Emulsion .. LII

ELECTRICAL ENGINEERS AND CONTRACTORS :
Andersen, Meyer & Co., Ltd. V
China Electric Co., Ltd.. L

ENGINEERS, MACHINERY MERCHANTS, SHIP BUILDERS, ETC. :
Eastern Engineering Works, Ltd. IV
Eickhoff & Co. XXXVI
Ekman Foreign Agencies, Ltd. (S.K.F.) VI
Jensen, G. S., (Bolinder's Engines) XXXVIII
Rose, Downs & Thompson (Far East),Limited XXXVIII
Thornycroft & Co., Ltd., John I.. .. .. XVI-XVII

FABRICS :
Calico Printers' Assn., Ltd. (Grafton Fabrics) XXIX
Hollins & Co., Ltd., Wm. (Viyella) XXX

FOOD PRODUCTS :
Bianchi XXVII
Federal Cafe XXVII
McBain, George (Bovril) XXXIII

FURNITURE MANUFACTURERS :
Caravan Studio, The .. XX
Peach & Co., Ltd. .. XXII

GREYHOUND RACING CLUB :
Le Champ de Course Francais (Canidrome) XXXVIII

HOTELS :
Astor House Hotel, Tientsin XXV
Grand Hotel de Pekin .. XXV
Hongkong & Shanghai Hotels, Ltd., The .. XXXII

INSURANCE :
West Coast Life Insurance Company .. XLV

IMPORTERS AND EXPORTERS, ETC. :
Chong Wah Export Co.. XII
Jardine, Matheson & Co., Ltd. XXXIII
Whitson's, Ltd. .. V

JEWELLERS :
China Jewellery Co., The XXVII
Jade Store, The.. .. XI
Tuck Chang & Co., Ltd.. X

(Continued on next page).

Classified Index of Advertisers *(Contd.)*

MERCHANTS AND COMMISSION AGENTS :
McBain, George VIII
Whitson's Limited .. V

MOTOR VEHICLES & REPAIRS :
Anderson & Ferroggiario XV
Enssle, K. IV
Taylor Garage VIII
Thornycroft & Co., Ltd., John I.. .. .. XVI-XVII
Triangle Motors Fed. Inc. U.S.A. XV

OIL COMPANIES :
Asiatic Petroleum Co. (North China), Ltd. .. XXVI
Kunst & Albers (Sunoco Oil) XIV
Standard Oil Co., of New York VI

OFFICE EQUIPMENT :
Dodwell & Co., Ltd. .. LI

OPTICAL GOODS, ETC. :
Schmidt & Co. II

PAINTS :
General Electric Co., of China, Ltd. (Burrell) VII
Siemssen & Co. (Quick-step) .. .. .. Cover 2

PHOTOGRAPHY :
Agfa China Co. .. XLIII
Carlowitz & Co... .. XLI
Eastman Kodak Company XLVI
Hoinkis, Curt XXVI
Sanzetti Studio XXV

PLUMBING AND HEATING CONTRACTORS :
Andersen, Meyer & Co., Ltd. V
Gordon & Co., Ltd. .. XXXII
Shanghai Waterworks Fittings Co., Ltd., The XXXV

PUBLISHERS, PRINTERS, NEWSPAPERS, ETC. :
Discovery VI
North-China Daily News & Herald, Ltd. .. LIV
Shanghai Times, The .. LIII
Tientsin Press, Ltd. (P. & T. Times) XXVIII

REAL ESTATE AGENTS :
China Realty Co., Fed. Inc. U.S.A. .. .. Cover 2
Cumine & Co., Ltd. .. XXXVII
Shanghai Land Investment Co., Ltd. .. XLIV

RUBBER ESTATES AND RUBBER PRODUCTS :
Burkill & Sons, A. R. .. XXXIX
Wattie & Co., Ltd., J.A. XL

RUGS :
Fetté Rug Company, The XXIII
Karagheusian American Corporation for Overseas, A. & M... .. XVIII
Nichols Super Yarn & Carpets, Fed. Inc., U.S.A. XIX
Punnett & Co., E. A. .. XXI
Shoemaker Art Looms .. XXXI

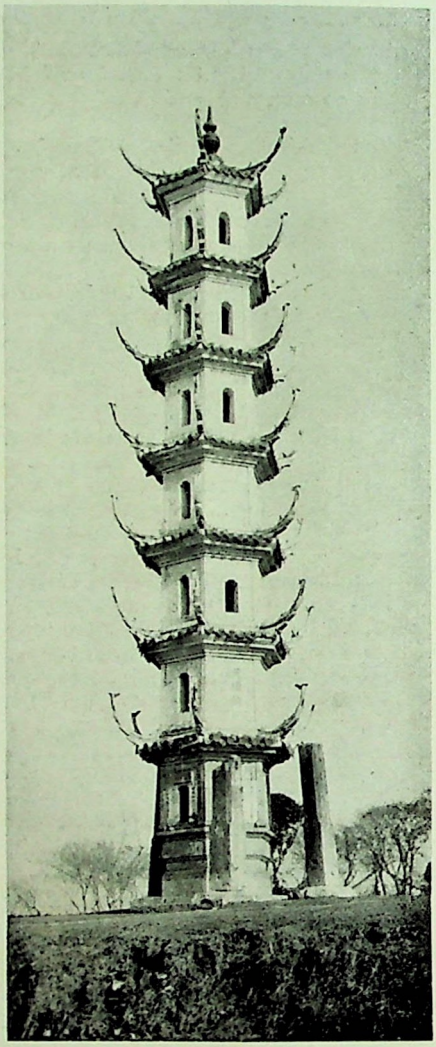
SCIENTIFIC INSTRUMENTS :
American Drug Co. (Microscopes).. .. XLIX
Andersen, Meyer & Co., Ltd. V
Carlowitz & Co... .. XLI
Hanovia Quartz Lamp Company, The .. XLVIII
Schmidt & Co. II

SILKS, LACES AND EMBROIDERIES :
Daintymaid Embroideries XIII
Tai, C. T. XIII
Wang's Laces and Embroideries XXIV

STEAMSHIP, RAILWAY, TRAM AND TAXI COMPANIES :
Canadian Pacific Steamships XXXI
Chinese National Railways XLVII
Dairen Kisen Kaisha .. IV
Lloyd Triestino N. Co... XXX
Mackinnon, Mackenzie & Co. .. .. .. Cover 3
Yangtsze Rapid Steamship Co., Fed. Inc. U. S. A. .... .. Cover 4

TOBACCO :
British-American Tobacco Co. (China), Ltd. (May Blossom) .. IX

WINE MERCHANTS :
Hirsbrunner & Co. .. XXVI
Jardine, Matheson & Co., Ltd., (Marchant Whisky) XXXIII



The Pagoda at Ishin, Kiangsu. From the Photograph by C. Q. Jim shown at the Third Annual Photographic Exhibition of the City Bank Club held last December in Shanghai.

THE CHINA JOURNAL
中國科學美術雜誌

VOL. XVI FEBRUARY 1932 NO. 2

LAW v. WAR

BY

ARTHUR DE C. SOWERBY

It is not the usual policy of *The China Journal* to enter upon discussions of affairs that have a political trend : in fact, its policy has always been to refrain from politics, and to devote itself to the peaceful pursuit of the arts and sciences and all kindred subjects.

The time has come, however, when things have become so grave in the Far East that we feel it incumbent upon us to abandon, for the time being at least, our non-political policy, and, in the interests of humanity, to add our voice to those of all others who are protesting against the present deplorable state of affairs.

First and foremost, be it clearly understood, we are absolutely neutral in regard to the two combatants in the quarrel between China and Japan that is threatening the peace of the whole world. It is not for us at this juncture to judge between these two nations. No doubt in due course, when all the noise and hubbub is over, the matter will be sifted to the bottom and the blame fixed upon the guilty party or parties.

What is most important now is to find a quick and satisfactory way out of the mess into which we have all been plunged. This is by no means an easy task, for, when passions are inflamed and race hatred given rein, when acts of violence have been indulged in and a thirst for revenge called forth, when folly sits in high places and a barrage of lies obscures the whole scene, it is indeed difficult for anybody to do anything but await the issue as things take their natural course.

Yet the idea of sitting down and letting things take their course, which in this case means wholesale death and destruction, is intolerable to any right thinking individual. Somewhere in all this muddle and mess lies a solution. Somewhere is a man or men who hold the key to that solution.

It may be Chiang Kai-shek, who, in spite of all that has transpired of late, comes nearest to being the leading figure on the Chinese side. It may be the Japanese Emperor or his Prime Minister.

The question is, are these or any other leaders of the two belligerent nations of big enough calibre to see what is needed, make the necessary sacrifices, face the criticism of their fellow war-mad nationals and bring about a peaceful solution ?

If not, then where amongst the other great nations of the world are men who have a big enough vision and understanding to do what is necessary ?

One thing is certain: it is not the League of Nations, that foredoomed experiment of the West, that we have no hesitation in characterising as one of the most potent factors in the production of the present war situation in the Far East. Rousing the false hopes of the Chinese by its very existence on the one hand, and angering the Japanese by its seeming prejudice in favour of the Chinese on the other, it has been able to offer no solution of the problem that is acceptable to both Japan and China, nor has it the power to coerce either.*

Over four months ago the long foretold trouble between China and Japan broke out. Steadily the area affected has been growing. To-day the important cities of Shanghai and Nanking are involved, the Chinese Government has moved to Loyang, a city in Honan in the far interior, and, as we write, the boom of artillery comes drifting to us from the direction of Chapei, a once populous section of Greater Shanghai that has been to a considerable extent destroyed by fire and bombardment.

And what has the League of Nations accomplished ? Nothing, except to appoint a commission of enquiry whose members appear none too willing to serve, and which may with luck be on the scene in a month's time.

No, the world must look elsewhere than to the League of Nations for someone who can bring about a settlement of the quarrel between

* Since this was written a *Reuter* message from Geneva dated February 5 states that M. Tardieu on behalf of France has circulated amongst the delegates to the Disarmament Conference proposals for the creation of an international police force and air force to be at the service of the League of Nations ; the limitation of battleships and submarines and the internationalization of the heavier artillery and larger warships ; the prohibition of the use of poison gas and bacteria ; the limitation of bombardment from the air ; and, most important of all, compulsory arbitration between nations.

If the League of Nations were given this power there might be some chance of its functioning successfully to prevent war : without it it can accomplish nothing, as has been very clearly shown by the present Sino-Japanese embroglio.

Incidentally the above proposals made by France are substantially what we recommended in our editorial in the December number of *The China Journal*.

China and Japan, and we cannot help feeling that the matter, as it now stands, rests, not so much with any outside coercive Power, as with the leading men of the two belligerent nations. The responsibility lies upon their shoulders, and, if they fail, it is they who will have to answer to the world and posterity for one more of humanity's crimes.

Meanwhile, when is the world going to devise a means of preventing the kind of thing we are now witnessing from taking place? When are we going to create a World Court that is a tribunal in fact as well as name, with an international Police Force behind it strong enough to prevent individual nations going to war instead of to law?

T'ANG WANG WANG
唐 旺 旺

Many people who are interested in the ornithology of China or who have travelled or done scientific research work in the province of Fukien, will learn with regret of the death on January 6 of this year of Mr. T'ang Wang Wang (唐 旺 旺) of Foochow at the age of sixty-two.

The name of T'ang is intimately associated with the ornithology of China, for a very considerable number of new species and subspecies of birds from this country have been described from specimens collected by this family.

As far as we can ascertain the late Mr. T'ang's history from members of his family in Shanghai, he began life as a field collector of birds and other natural history objects at the age of fifteen, when Mr. J. D. D. La Touche, now one of the leading authorities on China's ornithology, but at that time a young man in the Imperial Maritime Custom's Service at Foochow, taught him how to treat and prepare specimens for museum collections. For many years he was associated with Mr. La Touche as well as with Mr. C. B. Rickett, also stationed at Foochow, and Mr. F. W. Styan, both of whom were keen ornithologists. Mr. T'ang was sent by these gentlemen in 1895, 1896 and 1897 to make zoological collections in the faunistically rich area of North-western Fukien known as Kuatun, which was first discovered by the Jesuit missionary-naturalist l'Abbé Armand David in 1873 and has since become one of China's most famous type localities.

In 1898 he accompanied Mr. and Mrs. La Touche on a visit to the same district, which has never ceased to supply the museums of Europe

and America with new species of animal life,* and from that time on continued to work for or send collections of birds, beasts and other forms of animal life to his benefactor.

Mr. T'ang had six brothers, all of whom became field collectors and from time to time have been employed by various scientific explorers or institutions. Of his three sons, one was employed for years as field collector and taxidermist by Mr. Arthur de C. Sowerby in Fukien, Kiangsu, Anhwei and Chekiang, and is now employed by the National Research Institution at Nanking. Another has for the last ten years been employed as assistant and taxidermist at the Museum of the Royal Asiatic Society in Shanghai.

Mr. T'ang himself was employed at this institution from 1907 to 1920 as taxidermist under the late Dr. Arthur Stanley, who was honorary curator for many years. During this period he made many collecting trips for the museum, and it is no exaggeration to say that he was responsible for the greater part of the specimens in its collections.

It is impossible to give here all the details of his crowded life, but one annecdote told us by his son is worthy of recounting, as it shows him to have been not only a good collector but keenly alive to the value of new discoveries. A sportsman had been out shooting in the Foochow vicinity and had returned with an owl which he sent to Mr. T'ang to be stuffed and mounted. The owl was entirely new to the latter, who at once realized he had in his hands a specimen that was far more important to science than to the sportsman who had shot it. Without any compunction he substituted an ordinary long-eared owl, very common in China, for the new and unknown specimen, sending the former to the sportsman, who was delighted with the good job made of it, and the latter to Mr. Rickett, who was even more delighted with this rare specimen and promptly described it as a new species of barn owl under the name *Strix candida*, now known as *Tyto longimembris*.

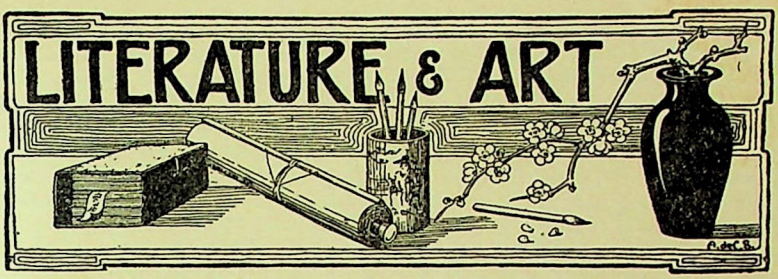
It will be seen that the late Mr. T'ang Wang Wang has played a very important part in the ornithology of China, especially of South-eastern and Middle China, and for this, if for no other reason, we wish publicly to pay our respects to his memory.

He was born in Foochow in the 2nd Moon of the year 1870. In the accompanying illustration from the only available photograph of him he is shown with a beard. This must have been adopted only very recently, for we, as well as all his many other Western friends, remember his genial smiling face as clean shaven. He is survived by a widow, three sons, grand children and several brothers. He was a member of the Roman Catholic Church and was a devout Christian.

A. DE C. S.

*Only a few years ago when Mr. Floyd Tangier Smith on behalf of the China Society of Science and Arts (specimens being sent to the United States National Museum through Mr. A. de C. Sowerby, the President of the Society) and Mr. C. Pope on behalf of the American Museum of Natural History visited this area they discovered a number of new reptiles, amphibians, fishes and even mammals, Mr. Smith's best discovery in the last named group being a large monkey of the macaque type which was given the name *Pithecus pullus* by A. Brazier Howell (*Proc. Biol. Soc. of Wash*, Vol. 41, pp.41.2, 1928).

The late Mr. T'ang Wang Wang (唐 旺 旺), well known Chinese Bird Collector and Taxidermist, who died on January 6, 1932.



ANCIENT CHINESE JADES

BY

K. C. WONG.

Hsun Yu 殉玉 (Burial Jades), Yung 俑 (Jade Figures) and Weng-chung 翁仲 (Jade Statues)

Sumptuous burials were, in general, discountenanced by the ancients; but burial-jades, different in style and shape, have in later ages come to light. They are the *yen-ya* 眼壓 (eye-weights), *mi-ya* 眉壓 (eye-brow-weights), *chi-ya* 臍壓 (navel-amulets), *fa-ku* 髮箍 (hair-hoops), *pi-sa* 鼻塞 (nostril-fillers) and so on. These articles are so distinctly shown to us that we can almost see the burial.

The articles mentioned in the I Li 儀禮 (Decorative Ceremonies), the Official Funeral Ceremonies 士喪禮, and the Great Record of Mourning Dress 喪服大記 (parts of the Book of Rites) in connection with the so-called "Simple and Splendid Funerals" in vogue in ancient days were only clothes, coverlets, head-coverings and dresses; and nothing else is mentioned.

The Hsi Chi 繫辭 (a section of the Canon of Changes) says, "In ancient times corpses were thickly clothed and buried in the wild with fagots, no mounds being thrown up and no trees being planted on the graves." Wise men of later ages used *kuan* 棺 (inner coffins) and *kuo* 槨 (outer coffins) to replace fagots, also with the idea that no sumptuous burials were used in preceding ages. The Yu Fu 玉府 (a part of the Chou Li under this heading) says, "Mouth-amulets (含玉) are offered to the dead in the case of great funerals." The Tien Jui 典瑞 (a section under this heading in the Chou Li) also says, "*Fan-yü* 飯玉 (jade-rice) and *han-yü* 含玉 (mouth-amulets) are offered to the dead in great funerals."

Cheng's commentary says, "The term *Fan-yü* (飯玉) means small jade pieces mixed with rice. Jades that are put into the mouth of a deceased and thrust between the wisdom-teeth on the left and right sides are called *han-yü* 琀玉 (mouth-amulets)." This comment relates

to burial articles of the earliest period. Thus the term *han* 琀 (mouth-amulet) is found in the Shuo Wen 說文 (old Chinese Dictionary), and the explanation says, "These are jade-amulets to be put into the mouth of a deceased." The observance of this ceremony was still found in the time of the Han Dynasty, and has continued up to the present century, though the articles employed for that purpose are not in every case jades. For centuries back jade pieces in the shape of a cicada had always been regarded as mouth-amulets by those who were interested in the ancient jades. Jades of this kind are termed *han* 琀 (mouth-amulet) in the Shuo Wen 說文. This name has also been adopted by Wu Ta-cheng in his work, the Ku Yu Tu Kao (古玉圖攷), and I am now bound to take it as such on account of there being no trace of it in any other text.

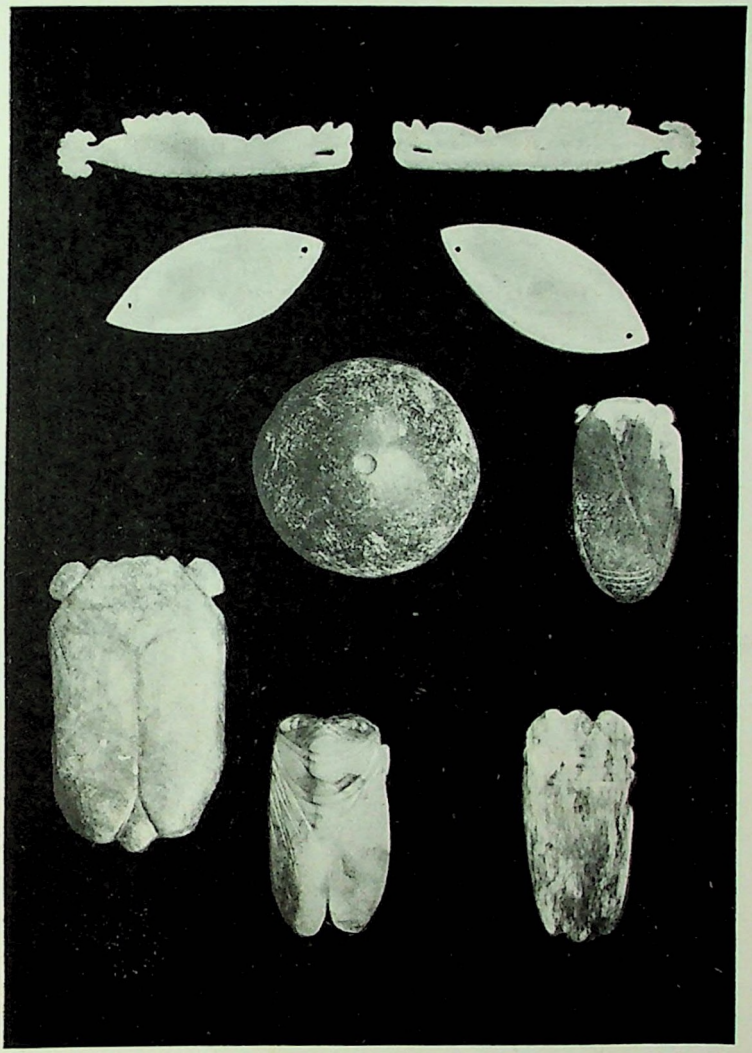
***

The ancients ornamented their dress with sable's fur and imitated cicadas. According to Liu Hsiang's (劉向) memoir in the Annals of Han, the ornaments of ancient dress favoured green and purple colours, their materials being mostly sable's fur, imitation cicadas and birds and leopards' skins. According to the commentaries of old and modern days, the use of sable's fur and imitation cicadas was based on the idea that sables afforded splendid colours, while cicadas possessed a pure and imperturbable character and were sensible to changes.

According to the biography of Prince Tan of Yen (燕王旦) in the Annals of Han, the imperial attendants (eunuchs) wore "*Tiao yu huang chin fu chan*" 貂羽黃金附蟬 (caps adorned with sables' fur and golden cicadas). The note to this insertion says that the term *fu-chan* (附蟬) means golden cicadas fixed on the front of a cap.

In the Annals of Northern Chou it is stated that the head-covering of Tien Yuan Ti (天元帝) was an open-top cap ornamented with gold or golden cicadas. In the Record of Officials in the Annals of the T'ang Dynasty we find the phrase, "Golden cicadas with sables' tails stuck into them." I should think that the existence of golden cicadas must have been followed by that of the jade ones. The Han Kuan I 漢官儀 (Record of Official Costumes of Han Dynasty) says, "Imitation cicadas on the left and sables' hair on the right." Nothing further is stated as to whether the cicadas were made of gold or jade. In the verse by Wang Chien (王建) of the T'ang Dynasty there is the phrase, "Jade cicadas and golden birds."

From this we know that the work of carving jade into cicadas had already been done at a very early period; but there had never been such a saying as that "Mouth-amulets were jade cicadas." Again, according to the Record of Imperial Carriage-dress 輿服志 in the Annals of the Sung Dynasty, we find the term "*Tiao-chan-kuan*" 貂蟬冠 (caps adorned with sables' fur and imitation cicadas) or "*lung-chin*" 籠巾 (gauze-kerchief), the front of which was adorned with a silver flower having a tortoise-shell cicada fixed upon it, and, in addition, there were three small cicadas on each side (left and right) with jade noses into which sables' tails were stuck.



Ancient Chinese Jade Burial Pieces. Top row: Eyebrow Weights, *Mei-ya ;* Second row: Eye Weights, *Yen-ya ;* Centre: Navel Amulet, *Chi-ya ;* Right and Bottom: Cicadas for placing in the Mouth called *Han-yu.*

The above reference is obvious enough to show that jade cicadas were formerly important ornaments for head-coverings and not burial jades. I am not, however, free from doubt as to whether or not the custom of using imitation cicadas as cap-ornaments originated in remote ages.

Articles that have been entombed are called "*ming-chi*" 明器. The Tan Kung 檀弓 (a section of the Book of Rites) says, "Confucius is of opinion that he who first made the *ming-chi* was well acquainted with the funeral system." The most ancient article exhumed from a grave is the "Chi-tsung" 汲冢 (a book of the Chou Dynasty found in a tomb in Chi Hsien, Honan). Bronze and earthen articles that have been dug out from graves in late years are almost numberless. Lately, on the wild plains of Shensi, Shansi and Honan, people have been seen engaged in carrying, basketing, picking out, digging up and carting away large quantities of earthen articles, such as images of men and horses, jugs, jars, and the like. Archæologists are inclined to think that amongst these things there should have been articles of the three remote dynasties, Hsia 夏, Shang 商 and Chou 周. It is impossible, therefore, to decide that no burial articles were ever used by the ancient people. The character "*hsun*" 殉 does not appear in the Shuo Wen (說文), where the character 徇 under the radical 彳 means "to go round and warn." The military code of the Ssu Ma 司馬 (Minister of War) of the Chou Dynasty has the phrase, "to go round with a decapitated head for warning the public (斬以徇)." Tuan's commentary says, "As the characters 勻 and 旬 are interchangeable, the character 徇 can therefore be replaced by 徇."

According the Spring and Autumn Annals, Feudal Prince Hao-jen (好任) of Tsin 秦 died in the sixth year of Wen Kung of Lu (619 B.C.), using three persons of Tzu-chi's family (子車氏) to be buried alive with him, consequently bringing about a sympathetic feeling among the people of the state. The odes under the title "Huang Niao" 黃鳥 (yellow birds), as contained in the Book of Odes, were composed by the people in disapprobation of the cruelty of their deceased sovereign.

The character *hsun* 殉 has already been introduced into the Shih Wen 釋文 (part of the Chinese Encyclopedia) by a quotation from the Tzu Lin 字林 (Collection of Old Literature).

According to the "Tan Kung" 檀弓 (a section in the Book of Rites), Chen Tzu-chi (陳子車) died in the Feudal State Wei (衞), a place in present day Honan, his wife consulting with his officers about burying men alive with her deceased husband. Was it not an adaptation of the ancient practice of "*hsun chuang*" 殉葬?

The Shih Wen (釋文) says, "The term *hsun* 殉 means to bury living persons with the deceased." Confucius said, "The making of straw figures is good while the making of wooden images is against humanity." The note to this says, "The term *yung* 俑 means a wooden human figure having face and eyes, and, when set to move by automatic means it looks like a living person."

The commentary says, "The term *chu ling* (芻靈) means straws bound together to make an image of a man.'

The book of Confucius says, "The person who first made the *yung* (俑) shall have no successor." Here it means the same article for burial.

There often comes to our view in modern days a sort of statue called *weng-chung* 翁仲 (human figure carved out of jade or jade-stone). They are of considerable size and are wrapped all over with silk like the mummies of the ancient Egyptians. These are what we call the *yung* 俑 (human figure for burials).

The tradition says, "Weng-chung was originally a man of the Tsin Dynasty (秦), being a native of Nan Hai with Yuan (阮) as his surname. His height was thirteen feet. He was upright and brave. Shih Huang Ti of Tsin (秦始皇) ordered him to command troops at Lin Tao 臨洮 (a place in Kansu). He inspired awe among the Huns 匈奴 (the Turkic tribe in the west of Kansu). When he died a bronze statue was erected outside the Ssu Ma Men 司馬門 in the Palace of Yen Yang (咸陽宮), Shensi. As soon as the Huns visited Yen Yang, they were terrified by their first glance at the statue, thinking that he was still alive."

Though the above tradition is fabulous, yet actually the name of the bronze statue appears in both the chronicles of Wei 魏 of the first year of Ming Ti (明帝) and the notes on the Classic on Waterways (水經). Hence, in modern days the stone statues found standing in front of grave gates are called *weng-chung*.

Apart from this, there is a kind of small statue carved from jade. It does not exceed two inches in length, having both sleeves folded up and standing upright with both feet close together. It was made after the manner of *weng-chung* (翁仲). It should be a kind of ornament like the *kang-mao* (剛卯), formerly worn by people for warding off evil spirits. It cannot, however, he called a *yung* 俑 (image for burial with the dead).

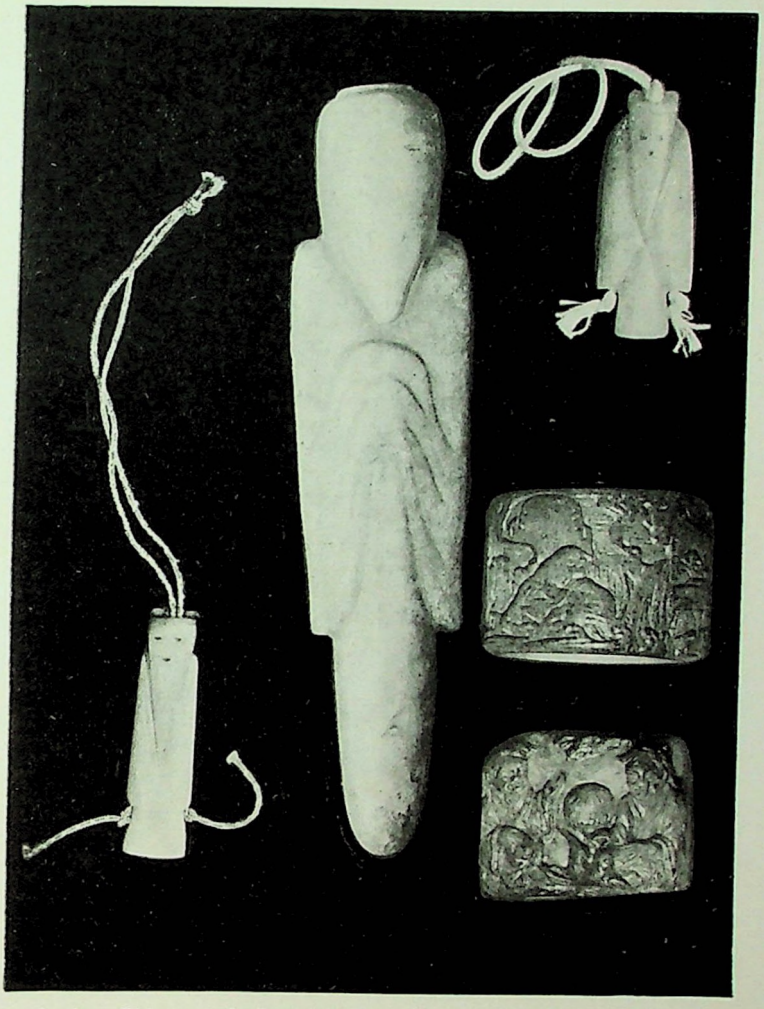
A NEW ESTIMATE OF THE CHINESE POPULATION UNDER THE T'ANG DYNASTY IN 618 A.D.

BY

C. P. FITZGERALD

(*Continued from page 14*)

Various modern historians of China have indicated that there was a phenomenal increase in the population of the country during the reign of the Emperor Ch'ien Lung of the Ch'ing or Manchu Dynasty. According



Ancient Chinese Jade Burial Pieces. Centre : Jade Figure (*Yung*) buried with the Dead ; Top right and Bottom left : Jade Statues (*Weng-chung*) ; Bottom right : Hair Rings called *Fa-ku*.

to these the population of China increased something like ten fold during the period from the middle of the Ming Dynasty to Ch'ien Lung's reign. Their estimates have been based on the census figures given in the Dynastic Histories. Also they have indicated that there was no appreciable increase of population during the previous six hundred years from the T'ang Dynasty to the founding of the Ming Dynasty.

Obviously there is something wrong, and the author of this article seeks an explanation of this remarkable phenomenon. In the first installment he makes an attempt to ascertain the number of walled cities in existence in China at different periods, tabulating the results. He thus tests the estimates of the population of China during the three periods T'ang, Ming and Ch'ing by approaching the subject from a new angle.

***

In the estimates for 618 the figures for the southern provinces, as might be expected, show the Yangtze provinces, (the first four of the southern group) as infinitely more developed than the provinces of the southern littoral. At the beginning of the T'ang Dynasty these latter provinces were a remote region almost outside the empire, in fact it was only during this dynasty that the colonization of the extreme south really became effective. The fact is remembered to this day by the Cantonese who use the expression *T'ang jen* (唐人) to mean a Chinese, whereas in the north the phrase is *Han jen* (漢人) in honour of the first great unifying dynasty.

A reference to Table 1 shows that the building figures for the extreme southern provinces took a sharp rise in the period immediately following the T'ang Dynasty (960-1280), showing that there must have been considerable immigration in the preceding period, a fact which would have been remarkable if there had really been ample room for an expanding population in the old provinces of the north.

The second, more conservative, estimate for cities in the southern provinces in 618 may be accepted.

The figures for the northern provinces require closer scrutiny. According to the first estimate Shensi, Shantung, Honan and Kiangsu all show totals higher than the established totals for 1644 and 1911. In the case of Kiangsu the excess is small, but in the others it is far from negligible. In the second estimate the same provinces show an excess over the figures for 1644 and 1911, though in the case of Shantung and Honan the excess is much smaller. Two other provinces, Shansi and Anhui, show totals in excess of the 1644 totals and equal to the figures for 1911.

Obviously there must be a margin of error in calculations such as these, but the discrepancies can be explained on other grounds. It must be remembered that the statistics refer only to walled cities, to defensive walls, in fact. But a defensive wall need not necessarily enclose a city. It may be nothing more than a fort like Chu-yung Kuan in the Nankou Pass. There is good reason to believe that some of the excessive totals in these estimates are accounted for by the presence of such forts, castles almost, posing as cities in the building lists. Being built for military

purposes, such "cities" cannot be classed in the same category as the economically necessary city defined at the beginning of this article. Therefore, any ratio which can be established between cities and population would not apply to such places.

Until archæological exploration has identified and classified all these sites it is not possible to say with certainty how many of the walled towns appearing in the lists were true economically necessary cities and how many were merely fortresses built to defend a frontier. But by taking into account historical and geographical facts it is possible to form an approximate estimate. For reasons to be explained later it is proposed to ignore Shensi for the moment and concentrate on the four remaining provinces which show excess totals, Shantung, Honan, Anhui and Kiangsu.

It is, I think, probable that all four provinces had more fortified places in 618 than in 1644 or 1911, for military reasons. As has already been pointed out, one of the factors which disturbs the city-to-population ratio is a frontier, more especially a weak man-made frontier, following no real natural boundary. This is exactly what existed across the plains of Eastern Honan, Northern Anhui and Kiangsu and Southern Shantung in the centuries immediately preceding 618.

This was the period of the Northern and Southern Empires, Tartar in the north, Chinese in the south, an age of confusion, an epoch of endless indecisive wars. Unity was only restored by the Chinese Sui Dynasty in 580, less than forty years before the acession of the T'ang Dynasty in 618. Those forty years were not without troubles, including the rebellions which ended the Sui Dynasty, and it is extremely unlikely that the fortresses which had defended, on both sides, the now obliterated north and south frontier, had already been abandoned.*

It is, therefore, safe to conclude that the excess cities appearing in the estimates for these four provinces represent military posts of the former frontier and should be excluded from the total of economically necessary cities. Although the population of this disputed area, which for two centuries was nothing but a battle-ground, cannot have increased and must indeed have fallen well below the normal, nevertheless the number of economically necessary cities established under the Han Dynasty before the division would have remained constant. One agrarian age differing in no important particular from another, the needs of the country under the T'ang Dynasty, when peace had been restored, would be the same as they had been under the Han, or were going to be 1,000 years later under the Ming. The "real" cities of this area were, therefore, almost as numerous under the T'ang as under the Ming Dynasties.

If the figures for the two periods (T'ang and Ming) in the undisturbed provinces of Hupei, Chihli and Kansu, which lay either to the south or to the north of the disputed region, are compared, it will be seen that, though the list in 1644 marks an increase, it is only really considerable

* Tze Chih Tung Chien (資治通鑑) by Ssu Ma Kwang (司馬光, written in the Sung Dynasty, reprinted by the Commercial Press, Shanghai, in which will be found a detailed account of these wars and rebellions.

case of Chihli, which was a remote province in the T'ang Dynasty, d become the metropolitan area and the seat of the court by 1644 as, therefore, well furnished with cities and fortresses.

s has been pointed out the southern provinces of Chekiang, Kiangsi wangsi show an exactly similar case of decreasing totals of cities en the periods 1644 and 1911, and in their case it is not a question culation but of fact, since the figures for 1644 and 1911 are records, timates. Kansu, on the other hand, shows the reverse process the same period, for there the cities increased from 42 in 1644 to 1911, though there is no evidence that the population increased iently. On the contrary, it will later be shown that Kansu has an mely low city-to-population ratio, and the greater number of cities to the Ch'ing Emperors building fortresses to protect the road to lia and Turkestan, territories which did not form part of the Ming ee.

hough a frontier accounted for the excess cities in the provinces central plain, this explanation will not serve for the province of i.. At the present time the population-to-city ratio in this province emely low, suggesting that the cities are more numerous than the mically necessary maximum, but in 618, according to the estimates, were many more cities than exist to-day. For convenience the s are repeated in Table 7.

TABLE 7.

Cities in Shensi at different periods.

	618 (1st est.)	*618 (2nd est.)*	*1644*	*1911*
hensi ...	90	95	71	81

his province was not traversed by a temporary frontier which has disappeared. It is true that it borders on Mongolia, but that is an nging geographical fact and was true of all ages. The fortresses were needed for the defence of that border had been built centuries the T'ang Dynasty, and remained in use centuries after it had ll away. The military explanation is thus inadequate.

here remain the other disturbing factors, climatic change or the of trade routes. Shensi in the T'ang Dynasty was the metropolitan nce. Chang An, the modern Si-an Fu, was one of the largest and niest cities in Asia. It is difficult to believe that the T'ang Emperors, ad all China to choose from, would have deliberately founded their l in the midst of a province marked out by its liability to drought amine, as is the poverty stricken Shensi of to-day. It was not the home country of the T'ang imperial house, which came from ii.*

hensi now is remote from the centres of commerce and the trade s of the world. In the seventh century it was, on the contrary, tarting point of the great overland road from China to Western

*Tze Chin Tung Chien, op. cit. The Li family had been settled in Tai-yuan, i, for some generations, though their original home was Liangchow in modern i.

Asia and Europe. The Nestorian Tablet, among a wealth of other evidence, proves that Chang An was in intimate touch with the culture and commerce of Persia and the Byzantine East.*

In the seventh century Shensi was obviously among the richest and most prosperous provinces in China. Then something happened. With the T'ang Dynasty the importance of Shensi vanishes. Never again was the capital established in the western province. The Sungs removed to Kai-feng Fu in Eastern Honan. Later dynasties preferred Nanking or Peking. Shensi, which since the time of Ch'in Shih Huang Ti had been the seat of government and the centre of the national life, suddenly drops out of history. From the fall of the T'ang Dynasty onwards the rôle of this province is completely insignificant.

The building records for Shensi reveal the same story—vigorous activity up till the end of the T'ang Dynasty (960 A.D.) and then a sudden drop. These are shown in Table 8 abstracted from Table 1.

TABLE 8.

	Before	*722*	*206*	*264*	*618*	*960*	*1280*	*1644*	*Doubtful.*
Shensi	...	21	81	59	59	35	20	36	4

This, of course, may be interpreted as meaning that by 960 there were enough cities and it was no longer necessary to build more, replacement of such as perished by earthquake or other disasters accounting for the subsequent building activity. In that case the population during the T'ang Dynasty must have been far greater than in modern times, for, in addition to fully inhabiting more cities than are now found half empty and decaying, it was still necessary to replace such as were destroyed.

Moreover, it can be proved by historical references that all the cities now found in the Wei Valley, the central and most important part of the province, existed in 618, and that in addition there were many others which have since disappeared.†

There is thus a strong presumption, amounting, indeed, to a certainty, that the population of Shensi in 618 was much greater than in 1644 or 1911. It is not so easy to state positively what caused the population to decline after the T'ang Dynasty. Deforestation and erosion of the stripped hills may have increased the danger of drought and famine. But there is not sufficient evidence to assert that a major climatic change has occurred. On the other hand the trade route to Central and Western Asia began to decay about this time, not so much on account of the increased dessication of Turkestan (which is a disputed question among the geologists), but because the invasion and conquest of Persia and the Byzantine East by the Turks destroyed the civilized population which had made the market for Chinese wares. The decline of the trade route, never to recover, for it was supplanted by the sea route in later

* Tze Chih Tung Chin, op. cit. In the chapters dealing with the establishment of the T'ang Dynasty mention is made of the Western merchants established in Chang An.

† Tze Chih Tung Chien, op. cit. Chapters Sui Yang Ti, Tang Kao Tsu.

times, the increased danger of drought and famine, the political eclipse of the province—all these factors interacting on each other account for the decay of Shensi.

It does not follow that wholesale calamities wiped out millions at a stroke. The decline of Shensi is matched by the contemporary rise of its southern neighbour Szechuan. The surplus population of the older province moved across the mountains into the soft climate of Szechuan, where drought is unknown and the sun shines through a constant haze of mist. Here is the richest soil in China, the mildest climate: it is a farmer's paradise. The building history of Szechuan makes this presumption a very strong one. It is given in Table 9 abstracted from Table 1.

TABLE 9.

City Building Records for Szechuan.

	B.C.		A.D.				
	Before	*722*	*206*	*264*	*618*	*960*	*1280*	*1644*
Szechuan ...	0	9	29	15	21	17	102

From this it is plain that up to the end of the T'ang Dynasty. Szechuan had been but sparsely colonized, although it had been part of the empire for many centuries.* It is equally obvious that under the Mongol (Yuan) and Ming Dynasties, 1280 to 1644, there was a sudden rush of colonists, and it is not unreasonable to suppose that many of these immigrants came from the province on the northern border, where there is such strong evidence of a decrease of population at the same time.

For these reasons the figure of 90 cities in Shensi in 618 (1st estimate) may be accepted. Table 10 gives a revised estimate for the cities per province in 618, after allowing for the disturbing factors noted in Honan, Shantung, Anhui and Kiangsu.

TABLE 10.

	Occupied in 618.	*Occupied in 1644.*	*Occupied in 1911.*
Hopei	104	135	148
Shansi	101	108	112
Shensi	90	71	81
Kansu	35	42	76
Shantung	100	103	108
Honan	100	103	108
Hupei	49	60	68
Anhui	49	52	58
Kiangsu	54	54	58
	685	728	817

* Tze Chih Tung Chien, op. cit. Mentions non-Chinese tribes in the mountainous districts of Northern Szechuan, which were still hostile to and independent of the Chinese throne in the Sui and early T'ang periods.

	Occupied in 618	*Occupied in 1644*	*Occupied in 1911*
Chekiang	27	86	76
Kiangsi	54	95	77
Hunan...	36	73	77
Szechuan	38	119	138
Fukien	3	54	60
Kwangtung	10	85	86
Kwangsi	4	96	73
Yunnan	9	65	94
Kweichow	0	39	63
	181	712	744
Totals	863	1,440	1,516

Having obtained an estimate of the number of cities occupied in 618 and how they were distributed among the provinces of the empire, it remains to establish what ratio existed at that time between the city and the population. Although there is a minimum below which no city can exist and also a maximum after which it becomes necessary to build a new one, there is a wide margin between the two, as is at once revealed by a study of the ratio in the different provinces in modern times.

There are three sets of figures for the modern population of China. The censi of 1885 and 1910, and the Chinese Post Office estimate of 1926.* I have used only the two censi, as the Post Office Estimate, being the most modern, reflects the conditions which have arisen since the building of railways and the advent of other modern industrial and commercial enterprises, which have to some degree upset the economic balance of the old agrarian state.

The position in 1885 and 1910, on the other hand, was still substantially the same as it had been for many centuries. The old economic order still held in the greater number of provinces, although sea borne foreign commerce had begun to disturb the ratio of population-to-cities along the great rivers and the southern coast. Table 11 gives the population-to-city ratio according to the figures of the 1885 and 1910 censi and the city list for 1911.

TABLE 11.

Ratio of population to cities.

	1885	*1910*
Hopei	120,000	220,000
Shansi	96,000	89,000
Shensi	40,000	98,000
Kansu	71,000	65,000

* These figures are given in the "The China Year Book," H.G.W. Woodhead.

	1885	*1910*
Shantung	337,000	274,000
Honan	204,000	237,000
Hupei	494,000	366,000
Anhui	355,000	300,000
Kiangsu	367,000	300,000
Chekiang	154,000	223,000
Kiangsi	318,000	188,000
Hunan	272,000	306,000
Szechuan	514,000	162,000
Fukien	391,000	218,000
Kwangtung	345,000	322,000
Kwangsi	90,000	89,000
Yunnan	124,000	90,000
Kweichow	122,000	179,000

It will be seen, that these figures vary very much, not only from province to province, but also between the two censi. There is, of course, no certainty that either census is at all accurate, There are the widest possible discrepancies between the two, notably in the figures for Szechuan. But they agree on some points. In both, the ratios for the north-western provinces, Shansi, Shensi, and Kansu, are much lower than that of any other member of the northern group. Equally, in both, the three provinces along the Yangtze, Hupei, Anhui and Kiangsu, are the highest of their group. This bears out the fact that the cities of the northwest, as every traveller has noticed, are now too large and too numerous, while those of the Yangtze Valley are surrounded by a dense growth of suburbs, often larger than the old walled town in the centre: in fact, these cities are too small and too few. The true ratio has been destroyed, in the north-west by dessication and the decay of trade routes, in the south by the immense expansion due to the opening of the Yangtze to foreign and overseas trade. In 1885 this had already taken effect: it would be still more noticeable to-day.

For the purposes of this estimate it is necessary to find a normal province, where the old ratio of an agrarian self-supporting state remains undisturbed, a mirror of the ancient world. These conditions will only be found in some province cut off from the modernized areas by natural barriers, but it must be a young and vigorous province, not one dessicated by drought or ruined by constant wars. Such a province should have fully occupied but not overcrowded cities and no heavily defended frontier. No province in the northern group fulfills these conditions. Kansu is sufficiently remote, but overbuilt and devastated, Szechuan might do if the estimates of the population were not so wildly at variance. Kweichow fulfills all the necessary conditions.

It is the youngest of the eighteen intra-mural provinces. Of the 63 cities now occupied none are older than the Ming Dynasty, and 24 were founded by the Ch'ing. In other respects this province is ideal. It is surrounded on all sides by high mountains, crossed only by small paths unfit for wheeled traffic. There are no navigable rivers in the

province. There is no Treaty Port open to foreign trade. Consequently Kweichow hardly trades with the outer world. The transport of freight by coolie carriers becomes prohibitively expensive. Such common necessities as kerosene are luxuries for the rich in Kweichow. The only import on a large scale is salt, the only export, opium.

The cities of Kweichow are well filled, but not encumbered with suburban growths. They still carry on the old handicraft industries, weaving the cloth which the country people buy, forging the tools that the farmers need. Kweichow, being on the way to nowhere in particular, and being the last province to be conquered from the Miao and settled, has never had a frontier which needed to be defended by fortresses. The necessity to draft men into the army proves that the province is not overpopulated, and the absence of bandits is another proof that no unemployment problem troubles this isolated province.

It is, therefore, fair to assume that in Kweichow the ratio of population-to-cities is the true ratio which normally existed in an agrarian country, uninfluenced by any of the disturbing factors or modern changes. According to the census of 1885 the ratio was 122,000. In 1910 the figure was higher, being 179,000. As there is no reason to suppose that one census is more accurate than the other (or that either are accurate at all) it is best to take the average, which is 150,000. This may be taken as a just figure for the ratio of population-to-cities in a purely agrarian age.

If this ratio is applied to the revised estimate of cities occupied in 618 given in Table 10, we arrive at an estimate of the population of China in that year which is more credible than the figures quoted from the works of modern historians at the beginning of this article. This new estimate is given below compared with the censi of 1885 and 1911.

TABLE 13.

Estimate of the population in 618 A.D. compared with the censi of 1885 and 1910.

	Estimate for 618.	*Census of 1885.*	*Census of 1910.*
Hopei	15,600,000	17,900,000	32,571,000
Shansi	15,150,000	10,800,000	10,000,000
Shensi	13,500,000	3,300,000	8,800,000
Kansu	5,250,000	5,400,000	5,000,000
Shantung	15,000,000	36,500,000	29,600,000
Honan	15,000,000	22,100,000	25,600,000
Hupei	7,350,000	33,600,000	24,900,000
Anhui	7,350,000	20,600,000	17,300,000
Kiangsu	8,100,000	21,300,000	17,300,000
	102,300,000	171,500,000	171,071,000
Chekiang	4,050,000	11,700,000	17,000,000
Kiangsi	8,100,000	24,500,000	14,500,000
Hunan...	5,400,000	21,000,000	23,600,000

	Estimate for 618	*Census of 1885*	*Census of 1910*
Szechuan	5,700,000	71,000,000	23,000,000
Fukien	450,000	23,500,000	13,100,000
Kwangtung	1,500,000	29,700,000	27,700,000
Kwangsi	600,000	5,100,000	6,500,000
Yunnan	1,350,000	11,700,000	8,500,000
Kweichow	—	7,700,000	11,300,000
	27,150,000	205,900,000	145,200,000
Totals	129,450,000	377,400,000	316,271,000

It will be seen that though the totals for the two censi are nearly three times as great as that of the estimate, this is due principally to the growth of the south, that is the expansion of the area of China, while the totals for the censi in the old nine northern provinces are not so very much higher than that of the estimate. Moreover, the increase in the northern nine is mainly located in the three youngest of those provinces, the Yangtze provinces, Hupei, Anhui and Kiangsu.

Comparison is unprofitable when the two censi themselves are so contradictory. Consider, for instance, the two figures for Hopei, the metropolitan province, where, at least, one might have expected the most accurate returns. The 1910 figures for Shensi are more than double those of 1885, though it is extremely improbable that the population could have doubled in twenty-five years. Obviously, too, the population of Szechuan cannot have shrunk by two thirds in so short a time.

Inspite of these improbabilities both censi add up to a similar figure and the discrepancies are largely averaged out. If these results can be taken as an approximately accurate record of the population in the last quarter of the 19th century, they lead to the conclusion that the population of China as a whole has only trebled in the past thousand years, that the increase is mainly accounted for by the concurrent expansion of the area of the state, and that the population of the older northern provinces is but slightly greater now than in 618, and in some cases actually less.

These conclusions are not at all in accord with the figures quoted from various modern historians at the beginning of this article, if those figures are accepted at their face value. But it must be realized that they represent a count of households multiplied by five, and were taken for the purposes of taxation. Consequently only taxpaying households were assessed. The poor were of no interest to the government and so no attempt was made to enumerate them. Abstract statistics were not esteemed in the ancient world. There must, too, have been a large class who succeeded in avoiding the invidious distinction of being listed as taxpayers.

The figures quoted at the beginning of this article, viewed in this light, immediately become intelligible. It may be assumed that the authorities succeeded in their object and drew up a fairly complete list

of taxpayers. Then, on the basis of the estimate, the taxpayers in the reign of T'ang Ming Ti, 712 A.D., almost a hundred years after the date of this estimate, were "more than 50,000,000," or about half the population. In view of the fact that the century in question was one of the most prosperous and peaceful ages in all Chinese history, this is not incredible.* Nor is the fact that in 764, after the devastating rebellion of An Lu Shan, the *taxpaying* population had fallen to 17,000,000 in any way surprising. The taxpayers would naturally have suffered from the ravages of the war, the population as a whole would not have been much diminished.†

The same considerations explain the extraordinary legend that the population of China was multiplied by five or even ten in the reign of Ch'ien Lung. That, too, was an age of unbroken peace (internally) and prosperity. That the taxpaying population rapidly increased under the careful and exact scrutiny of Ch'ien Lung's highly efficient administration will cause little surprise. That the population as a whole increased by more than ten times in sixty years is frankly incredible.

Thus the figures quoted from the ancient censi, though not to be taken literally, give a valuable cross bearing which confirms the estimate undertaken in this article and the theory upon which it was constructed.

* Vide Supra. Boulger op. cit.

† Vide Supra. Boulger op. cit.

ART NOTES

RUSSIAN ARTISTS' EXHIBITION OF PICTURES IN SHANGHAI: In our last issue we mentioned an exhibition of pictures held by five Russian artists in Shanghai towards the end of December, and promised a fuller report of it in the present number of this journal. The names of the five artists are Mr. Victor S. Podgoursky, Mr. N. A. Pickulevich, Mr. P. J. Safonoff, Mr. J. L. Lehonos and Mr. M. A. Kitchiguin.

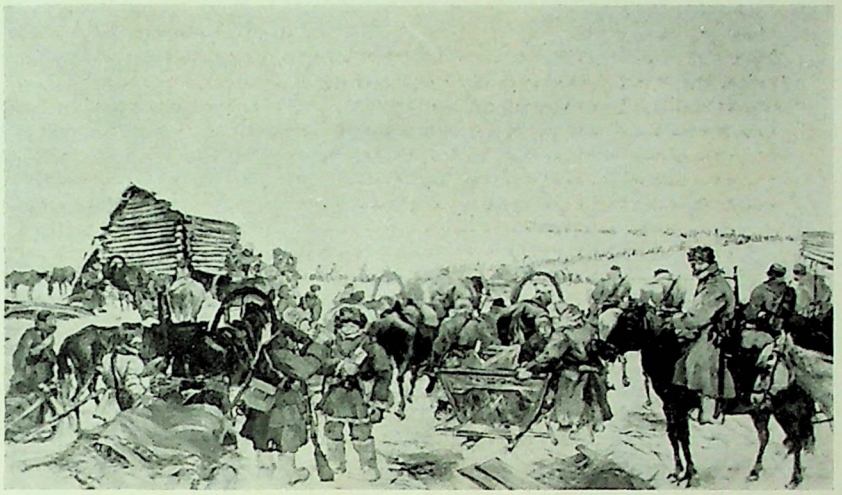
The work of all of these artists has been shown in Shanghai before except that of Mr. Safonoff. This artist had sixty-six pictures on view, the most noteworthy of which was a series dealing with war scenes in Siberia during the terrible period from 1918 to 1920, when Admiral Kolchak was being driven eastward by the Bolshevik armies. These pictures are extremely interesting and show the master hand in their conception and execution.

We have too often expressed admiration of Mr. Podgoursky's work to call for further comment here. Mr. Pickulevitch's work is remarkable for its vigour and strong colours, in which direction he is only surpassed by Mr. Lehonos. The work of the latter is startling as one looks at it closely. The brush strokes appear excessively crude and the colours impossibly bright. Viewed from the proper distance, however, it is astonishing the effect produced. The vivid colours and harsh brush strokes blend to form an harmonious whole resulting in a very pleasing picture.

Mr. Kitchiguin exhibited but a few pictures. His work is too well known to the Shanghai public to call for further remark.

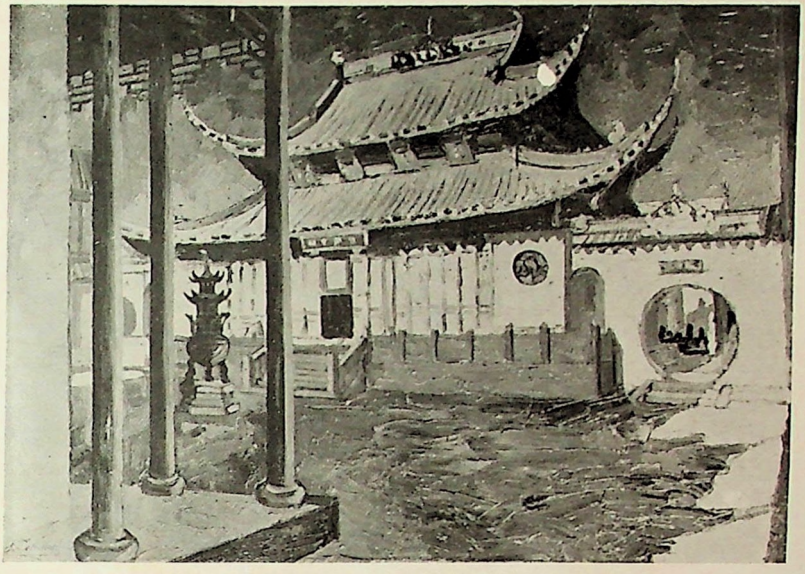
Altogether we may say that the exhibition was a decided success and we trust another will be put on by the same artists when they have some new work to show.

A. DE C. S.



With Kolchak's Army in Siberia. From one of a number of striking Oil Paintings by the Russian Artist P. J. Safonoff exhibited recently in Shanghai.

After the Occupation of Douvan Village, Siberia, in March, 1919. From the Oil Painting by P. J. Safonoff, shown recently in Shanghai.



A Chinese Temple. From the Oil Painting by J. L. Lehonos, shown recently in Shanghai.

The Buddhist Priest. From the Oil Painting by J. L. Lehonos, shown recently in Shanghai.

REVIEWS

SELECTIONS FROM THE WORKS OF SU TUNG-P'O, by Cyril Drummond Le Gros Clark: Jonathan Cape, London. Price 21s net.

Described by the well known authority, Mr. Edward Chalmers Werner, in a Foreword as the best work on a Chinese poet yet published, this attractively got up book with its beautiful wood engravings by the author's wife, Averil Salmond le Gros Clark, should meet with a hearty reception from students of Chinese literature, whether of long standing or merely beginners.

As Mr. Werner says, Mr. Le Gros Clark has proved beyond question that the spirit and meaning of Chinese poetry can actually be conveyed by translations in a foreign language, for the author has done it in this work. Sinologues may rest content that the author has done his work well, for there can be little question that he is well enough qualified for the task, while the material upon which he has worked—early editions of the works of Su Tung-p'o and of annotations to his works by Chinese commentators—assures us of its value and authenticity.

Su Tung-p'o was a famous Chinese poet and philosopher of the Sung Dynasty, his life covering the years from 1036 to 1101 A.D. He was born in Meichou in the province of Szechuan, the son of a high official of considerable literary attainments. Early in life he had added the list of successful candidates in the literary examinations, and was brought to the notice of the Emperor Yin Tsung. During his chequered career he alternately received high honours from the throne and occupied distinguished official positions or spent his time in exile and banishment. His outspokenness always seemed to be getting him into trouble, but nothing could stop the flow of his beautiful verse, nor did he ever hesitate to criticise those in high places where he deemed it necessary.

The selections made by the translator of Su Tung-p'o's writings bear eloquent testimony to the quality of this ancient Chinese writer and poet.

Not only has the author of the book under review succeeded in catching and expressing the spirit of Chinese poetry, a difficult enough thing to do, but the illustrator has also done so, her pictures showing the true Chinese touch as none others we have as yet seen have done. This in itself is a triumph, and both translator and artist are to be congratulated on their accomplishments.

The last section of the book is taken up with useful historical notes and commentaries, without which much of the significance and spirit of the original writing would be lost.

The publishers also are to be congratulated on the splendid printing and excellent get up of a book, which should be on the shelves of every student of China and the Chinese.

A. DE C. S.

CHINATOWN QUEST, by Carol Green Wilson: Stanford University Press, California; Humphrey Milford, London. 1913. G.$3.00.

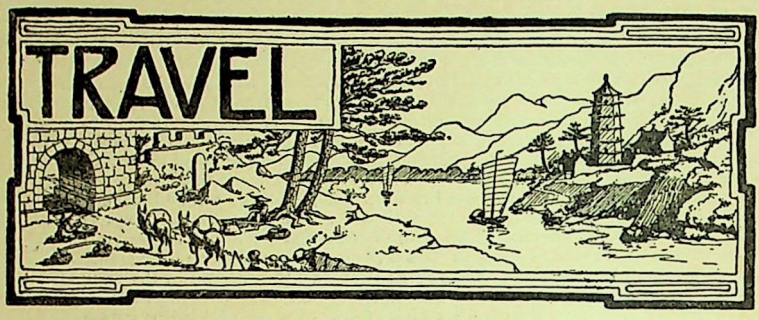
This is an account by the author of the career of Miss Donaldina Cameron, an American lady whose main activity in life over a long period of years has been rescuing Chinese girls in San Francisco from slavery.

Discovering that the deplorable system of slavery was prevalent, a number of American women set about remedying matters as far as possible. With Miss Margaret Culbertson at its head they established a home for the girls they succeeded in rescuing from their illegal owners. It was in 1895 that Miss Cameron joined the establishment and worked with the famous Miss Culbertson, who had rescued so many Chinese girls from the brothels and dens of San Francisco's Chinatown, girls that had for the most part been abducted from their homes in China and brought to America where they fetched a good price.

Needless to say there were many adventures in the rescuing of these girls, and at times serious reprisals on the part of infuriated Chinese were threatened. It can well be imagined the risks that were run when one realizes that these heroic women had even the notorious tongs against them, for the latter "were organized to protect the narcotic, gambling and slave-girl traffic in the country."

The book makes interesting and instructive reading, telling, as it does, of a phase of social welfare work in America that can be familiar to but few.

A. DE C. S.



THE MYSTERIOUS M'ZAB

WHERE MARKETING IS DONE BY AUCTION AND WATER IS MORE PRECIOUS THAN GOLD

BY

R. V. C. BODLEY

In the French Sahara, some five hundred miles due south of the city of Algiers, there is a desolate country known as the M'Zab. It has no natural frontiers, no signposts to announce that the Algeria of the Arabs has been left behind, no custom house officials to stop the traveller and ask him for his passport. Three days' camel journey is the official time required to cross the country, while in a motor car it barely takes eight hours, and yet its people are unique in the world and they consider themselves superior to all other races.

In spite of this, however, countless tourists come every winter to Algeria and pass through the M'Zab without being informed by their mechanical-brained chauffeurs or their inadequate guides that they are among a people whose origin is wrapped in the mists of legend, and whose civilisation dates back to the pre-Christian era.

There are only seven towns in the M'Zab, five of which are all together in a kind of rock crater in the desert. They are, El Ateuf, famous for its two minarets, founded in 1011 A.D., Ghardaia, the largest and from a commercial point of view the most important, Melika perched on its rocky eminence, Bou Noura guarding the dried up bed of the Oued M'Zab and the Holy City of Beni Ysguen.

The other towns are Berrian, forty miles to the north of Ghardaia, and Guerrara, sixty miles to the east, both founded six hundred years after the main group of cities.

The architectural structure of these towns, piling themselves up to the foot of their mosques with their minarets resembling Egyptian

El Ateuf, the double-minaretted City of the M'zab in the Northern Sahara, built in 1100 A.D.

obelisks, is unique and unlike anything else in the world, and yet it does not seem to strike the average conducted traveller as something new and original.

It is the attitude I suppose of the tourist who makes up his mind before starting on his journey that, if he is not shown something, there is nothing to see, and that all he is shown is worth looking at for a moment with a suitable ejaculation such as "Is that so?" with more or less enthusiasm according to whether it is the morning and he is still fresh or the evening when even the cushions of the luxurious charabanc, hired at a dollar a minute, are beginning to feel like boards.

However, we are not bent on discussing the ways of tourists but the customs of the mysterious M'Zabites, the Puritans of the Sahara.

The Abahadite sect of the Kharedjite schism, to which these people belong, might be called the Protestants or Puritans of the Mohammedan religion, and, like all reformers, they have always been persecuted.

Wherever they settled their more orthodox brethren oppressed them, until in despair they gave up trying to live in civilised places, and in the early part of the eleventh century migrated to this desolate rock desert, where nothing grew and where there was practically no water. Here they laid the foundations of their cities, for they said, "If we choose this inhospitable desert far away from all beaten tracks, surely no one will molest us, and we shall be able to practice our religion in peace and Allah will reward us for this act of faith."

It seems that their prayer was heard, for, not only have they been left in peace for a thousand years, but they have multiplied and made of this arid desert a centre of prosperity where hundreds of thousands of palm trees bear dates in abundance and the gardens are more luxuriant than those of the great Saharan oases which have appeared without the aid of man.

It is an amazing achievement when one thinks that every well, and there are thousands, is over a hundred feet deep and has been sunk by hand without the use of any modern implement. Water to these people is a matter of life or death. Though it rains sometimes, this is considered as an extra, and there have been periods of eighteen to twenty years without even a small thunder shower.

Think of it! No rain for a period longer than from now to before the outbreak of the World War! And yet in spite of this there is a greater variety of fruit trees and vegetables in those M'Zabite oases than in many European gardens.

All watering is done by an ingenious system of irrigation which ensures every square inch of ground being flooded at regular intervals with a minimum of labour.

In each garden there are so many wells in proportion to its size. Leading from each of these wells there is an inclined path down which a camel walks pulling a rope. At the other end of the rope is a skin, normally resting on the water level, but which when the camel has reached the extremity of the path comes to the surface and automatically empties itself into channels which carry the water to the gardens, where it is distributed according to the wants of the earth.

It is a primitive way of drawing water, but in the circumstances extremely practical.

The gardeners are usually Arabs who despise the M'Zabites, who reciprocate their contempt and do not allow them to live within the precincts of their towns, relegating them to a separate quarter with the Jews and the Christians.

In the Holy City of Beni Ysguen the gates of the city are actually shut at sunset, and anyone of foreign persuasion found in its sacred precincts after dark is summarily ejected.

It seems incredible, but then Beni Ysguen is one of the most unbelievable places in the world, for it has retained customs and characteristics which it had before William the Conqueror had set foot in Britain.

No one is allowed to smoke within the walls of the town, there are no cafés, no music is permitted, the women never appear out of their houses and all goods are sold by auction! Until one has attended the Auction Market, which is held in the public square every evening two hours before sunset, it is difficult to believe that everything from a bundle of firewood to a rich carpet is bid for in whispers by the silent men who sit solemnly on the ground while the goods are carried round and displayed. It is an unforgettable spectacle.

The Market Place is irregular in shape, being much broader at one end than at the other. At this broader end the Caid of the town sits on a slightly raised platform surrounded by various dignitaries of the Holy City and superintends the market.

If there is any discussion about a bid, or if some question of common justice is to be settled, the litigants approach the Caid and state their case. If necessary, witnesses are called, the Caid listens and after a few moments reflection quietly pronounces his verdict.

That is all, the case has been settled, the litigants go about their business satisfied that what their chief has said is just. Sometimes one sees a man riding round the market place on a donkey or a camel which he wishes to dispose of, but it is always the same procedure, the bid cannot be raised more than a franc at a time and if at sunset the price required has not been offered, the commodity, whatever it may be, is withdrawn, and reappears the next day.

I remember once having to wait three days to obtain a burnous which I wanted. I had the full price in cash on me but I was not permitted to buy the garment outright until everyone had had a chance of bidding.

Another custom which is peculiar to the people of the M'Zab is that no woman is ever allowed to leave the precincts of any of the Seven Towns. The husband or the son will go away and ply his trade in the great cities, but the wife and the daughter must remain behind in the desolation of the M'Zab.

During the last thousand years only three women have been taken away, and out of these three one was re-captured by order of the Elders before she reached Laghouat. One of the things which strikes one most forcibly in the streets of M'Zabite towns is the absence of women.

The Market Square at Ghardaia, the Capital of the M'zab in the Northern Sahara. The White Stones in the Centre are those upon which the M'zab Elders sat over a thousand years ago when they planned this Desert City.

In other Algerian towns the women are, of course, veiled from head to foot, but they are met in the open. In the M'Zab it is not so, and if by chance one does come on a woman outside her house she will turn her veiled face to the wall until the stranger has passed.

It has, of course, been impossible for me to penetrate into the women's quarters, but my wife has been permitted to meet M'Zabite women and she describes her visit as follows :

" We went through a door into a dark tunnel-like room and from there emerged into a cave carved out of rock, the roof of which was composed of an open lattice-work of palm branches through which one could see the sky.

" This cave was the central room, such a strange dwelling-place for the wives and female relations of a rich merchant. It must have been almost identical with the stable-cave of Bethlehem. The rock floor was uncarpeted save for one corner where a few rugs were strewn. The furniture consisted of a low round table and a packing case covered with a tattered piece of faded material which served as a seat for any guests. There were rough arches carved in the stone walls, one of which led into an inner room, so completely dark that at first one thought it merely a black cellar, and was amazed to find that there were three women and a child crouching inside. Behind one of the arches an open fire was burning, and before it an elderly woman was cooking.

" The M'Zabite women are entirely different in appearance from the Arab women. Their faces are broad, pale and expressionless ; their eyes, long and slit-like, are not tinted with kohl, the only touch of artifice being their eyebrows which are apparently shaved off and straight black lines painted in their place. Instead of the heavy woollen braids of artificial hair, which the Arab woman wears looped several times on either side of her face, they have their hair brushed smoothly back over a kind of pad. This gives them an air of severity.

" Otherwise their dress is very much the same as that worn all over Southern Algeria, a long clumsy garment buckled in tightly at the waist with a silver belt, many gold chains worn round the neck, and over the head a brightly coloured scarf."

The children are extremely timid, and scamper away at the approach of Europeans, struggling between fear and curiosity to look upon the strange white women who dare to break the laws of the Elders and go about without veils.

What is most difficult to find out is how these laws are enforced, and though the French Government knows of the existence of the secret government called the Tolba it is not at all certain of its functions or of its composition.

It is a subject of absorbing interest, but, even if one had accurate data to work on, it would take too long in a short article to go into all the details of this clandestine rule in the M'Zab. Suffice it to say that these people, unlike the other inhabitants of Algeria, are still governed by the Elders of the Church.

There are, of course, the Chiefs appointed officially by the French as in other parts of North Africa, but they would have no authority

without European force behind them and the Elders of the Church, who are elected secretly, continue sitting in council in the Mosques and drawing up laws for the people of the Seven Towns.

What the Tolba decrees is done, and, when now and then its orders come into conflict with the Caids or with the French military, the people merely offer a passive resistance, and, if the Government insists on being obeyed, it is obliged to resort to force. There is nothing to be done about it. The M'Zabite is compelled to admit the presence of the foreigner, but that is all, and, even if the French blew up the Seven Towns of the M'Zab and scattered the inhabitants to the four corners of Africa, it is certain that the Tolba would reappear and begin sending out its ordinances to the Faithful wherever they happened to be..

I remember that, on the occasion of the visit of the President of the French Republic to Ghardaia in 1922, orders were given that the tricolour should fly at the top of every minaret. The Tolba decreed that this order should not be carried out. The French Governer said that if the flags were not hoisted on the morning of the President's arrival he would destroy all the minarets.

Nothing further was said, but on the appointed day the flags were there all right, but each one was being held aloft by a negro so that the French flag-pole should not touch or defile the mosque.

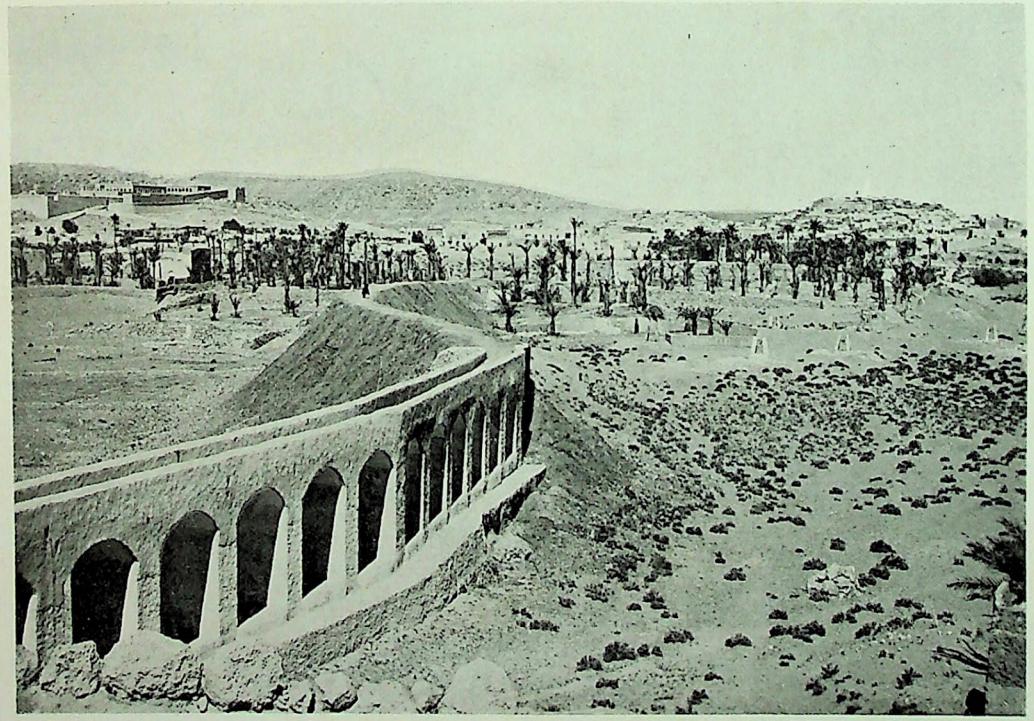
It seems an incredible state of affairs, and, though I have asked French officers and Arabs or prosperous M'Zabites living in luxury in Algiers about the Tolba, in the first two cases I have met with shoulder shrugs indicative of a subject which no outsider can investigate, and in the latter case a polite reminder to mind my own business.

I have often stayed with M'Zabite friends in their lost cities, and I have come away each time completely baffled by their attitude of cold indifference to the doings of the outer world, which, contradictorily, they know more about than the majority of the Arabs.

In Ghardaia itself the traveller will not notice this aloofness so much, as being the central market of the region all tribes from all parts of the Sahara meet in its white square of unsymmetrical arches to barter their goods, but if one walks about the streets of Melika, of Bou Noura or El Ateuf one realises the contemptous attitude of the silent white robed men for the prying, chattering infidel or the High Church Arab who has lowered himself by accepting the Chief's scarlet burnous from the invader.

Or if one goes on certain days of the year to one of the many cemeteries outside the walls of the town, and, standing at a discreet distance, watches the people sitting on the graves of their dead while the dignitaries of the Church distribute kous-kous and dates, one will realise that these men, who are crouching on the ground in silent communion with their ancestors and who will leave a small offering of food on the tomb, are not primitive savages but people of a race which was cultivated and civilised before the Norman Conquest and whose contempt for the European races is greater, perhaps, than their hatred.

At this point people begin asking: "But who are these people? What is their origin? Where do all these customs come from?"



The City of Ghardaia and a Barrage built across the River Bed to hold any Water that might result from Rain. Of late Years Rain has fallen fairly frequently during the Winters, but in 1922 no Rain had fallen for Eighteen Years. On the Hill to the Left is the French Military Fort.

A Well near Ghardaia and a Date Palm, the two most important Features of a M'zab Settlement.

A M'zab Well showing the Mule which pulls the Water up and a small Canal by means of which the Oasis is irrigated.

Unfortunately there is no definite answer to any of these questions, as no one is quite agreed as to the origin of the M'Zabites.

Some people say that they are a tribe of Israel or perhaps Canaanites, but, apart from their rather Semitic appearance, I can find nothing further to support this theory. Others maintain that they are a branch of the Berbers, the original race which inhabited North Africa. I am inclined to oppose this idea on the grounds that the other Berbers still found living in North Africa, such as the Kabyles and the Riffs, are fighting hill-men who have never been properly pacified, whereas the M'Zabite has always been oppressed and unable to defend himself against anyone. The last theory is that they are the descendants of the Carthaginians.

Many people will put forward against this that when Scipio took Carthage he killed all its inhabitants, but it must be remembered that there were many other Phoenician towns on the North African seaboard, and that the inhabitants of these towns must have gone somewhere. Furthermore, when one looks at the squat little men of the M'Zab with their smooth, round, white faces, concentrating all their energies on making money as traders and merchants, one is at once struck with their utter dissimilarity to the fierce rebels of the Riff, to the tall fighting men of the Kabyle Mountains, to the hardy warriors of the Aures uplands, all of whom are Berbers.

The men of the M'Zab are so adverse to war that when the French invaded Algeria in 1830 they sent emissaries to make peace with them thirty years before the Southern Territories, where they live, were wrested from the Arabs after fierce battles. Outside their religion the M'Zabites have only one idea and that is to trade and make money, and in every city of Algeria, whether it be in the Atlas Mountains or in the seaports on the coast, there are always M'Zab quarters and M'Zabite shopmen, not only carrying on business, but actually outdoing the European and the Jew in commercial enterprise.

What could be more Phoenician than this trading instinct? In all the countries where they have settled one finds the M'Zabites building their own mosques, setting aside their own burial ground, for, though they read the same Koran in the same language as the Arabs, they would never enter the Arab places of worship though they are open to them.

Then, quite apart from the M'Zabite's appearance and calling, the decoration of their houses is un-Mohammedan. Pictures of fish, of crescent moons, of suns and stars adorn the walls. The door knockers are sometimes of phallic shape, the cone-like minaret is in no way suggestive of Islam.

Their thrifty habits are quite un-Arab, quite un-Oriental. There have been cases during famine years when all the natives all over Algeria were dying of starvation while the M'Zabites not only refused the aid of the French Government which was feeding the suffering people, but imported grain themselves from America to fill the granaries of Ghardaia.

All these characteristics seem to point to these people's descent from a very definite stock which is certainly not Arab or Berber, and though possibly Semitic is much more likely Carthaginian. However,

I do not suppose that two people will agree on this subject, and the fact can only remain that the M'Zabite belongs to one of the oldest and strangest races of the world whose customs have always been the same and whose attitude to people of any other nationality never alters.

He will receive the traveller with hospitality, he will offer him refreshment in the guest house, but he will not permit anyone not of his own race to penetrate into his home circle or tell him about any matter which is in any way connected with his private life or his beliefs.

The M'Zab has always been a closed book to the foreigner, whatever the latter's race. The M'Zabite has never made a friend outside his own people, whom he considers superior to all others, and, when one recollects that he had his present customs and culture when England was overrun with wild animals and when America was the home of savages, one is not entirely surprised at his attitude. He will accept and use the inventions of the modern world as a means of facilitating his work, but that is the only interest he will take in so-called civilisation, and, even then, it is with the ultimate object of making great the M'Zab.

TRAVEL AND EXPLORATION NOTES

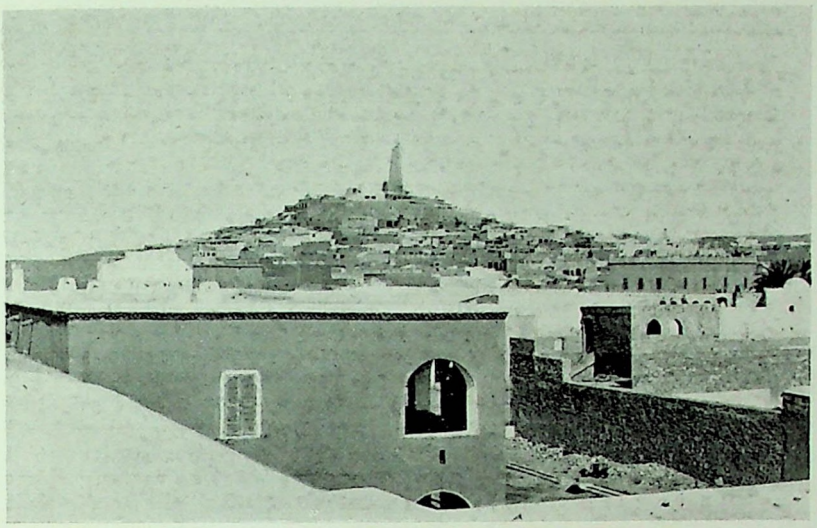
THE DOLAN EXPEDITION TO WESTERN CHINA AND THE TIBETAN BORDER: In our last issue we gave a brief report of this expedition. We are now able to add to this since Mr. B. Dolan II, leader of the expedition and Mr. Gordon T. Bowles, the anthropologist, have both been in Shanghai, where the former is awaiting news of the whereabouts of collections of zoological specimens made on the expedition.

It appears that besides very fine collections of birds made by Dr. H. Weigold, the well known German ornithologist, remarkable collections of mammals, especially of big game animals, have been made. These include large series of roedeer, serows, gorals and blue sheep, as well as two Szechuan takin (*Budorcas thibetanus*) and a giant panda (*Aeluropus melanoleucus*), the last being only the second specimen shot by a European. Mr. Dolan informs us that altogether five giant pandas were seen, most of them in trees, while he actually shot but failed to secure another large specimen. The collections were mainly made in the Wassu country to the north-east of Tachienlu.

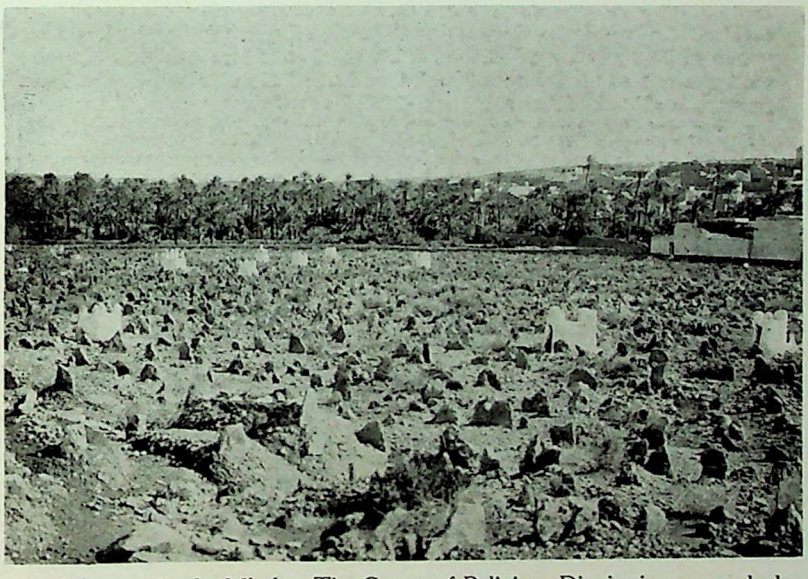
The expedition arrived in China about a year ago, spending a month in Shanghai while permission to make collections was being secured from the Nanking authorities. The terms on which this permission was granted included amongst other things an undertaking to present to the National Research Institute in Nanking duplicate specimens of every species of animal collected.

Mr. Bowles, whose speciality is physical anthropology, was able to make a large series of measurements of the remarkable number of human types to be met with in West China and along the Tibetan borders.

We have already reported on the palaeontological specimens found by the expedition in the *loess* deposits to the north-west of Tachienlu, and hope to be able to give further details concerning these when Mr. J. Huston Edgar returns to Shanghai from a trip to Korea upon which he is now engaged.



Ghardaia, the Capital of the Mysterious M'zab in the Northern Sahara, rising like an Ant-heap to its Cone-like Minaret.



A Cemetery in the M'zab. The Graves of Religious Dignitaries are marked by white Tomb-stones, those of others by ordinary Stones, two for a Man and three for a Woman.

The Dolan Expedition is under the auspices of the Philadelphia Academy of Natural Sciences, and is co-operated with by the Anthropological Museum of the University of Pennsylvania to which Mr. Bowles belongs.

THE LAMB EXPEDITION: By a strange coincidence the members of the Dolan Expedition, discussed above, have met in Shanghai the members of a new expedition headed by Mr. Gene Lamb, which has recently arrived from America and is heading for the Kokonor district of North-eastern Tibet on the western borders of Kansu.

Readers of this journal will remember Mr. Lamb and his plucky wife, as having once before successfully carried out a hazardous expedition to the Kokonor. This was during the years 1923 to 1925, the expedition being called the Trans-Asiatic Photo-Scientific Expedition. It was reported upon in the pages of *The China Journal*, and several extremely interesting articles from the pen of Mr. Lamb were published by us during the latter part of 1925. Mrs. Lamb is again accompanying her husband on his explorations.

Mr. Lamb's present enterprise is for the purpose of making further investigations upon the zoology, botany and ethnology of the country, and the expedition is under the joint auspices of the United States Department of Agriculture, the Brooklyn Museum and the Travellers Club, New York. An interesting and hitherto untried feature is the inclusion of a strong medical section, the purpose of which is, not only to win the confidence of the natives encountered by giving them medical aid, but to investigate diseases prevalent in the areas traversed and the means adopted by the natives to combat them. This section is headed by Dr. Fouad Michael Al-akl, Resident Surgeon and Chief of Resident Staff of the Metropolitan Hospital, New York City. He is an Egyptian by birth, and is very highly qualified, having had experience in many important medical institutions in Europe and America.

The zoologist of the expedition is a young Chinese who was with the recent Roosevelt Expedition to Western China. His name is Jack Theodore Young. Mr. Richard Lloyd Burdsall of New York, another member, is also keenly interested in the collecting of zoological specimens, especially birds.

The other members are Major John A. Logan of Youngstown, Ohio, second in command, Mr. Terris Moore of Haddonfield, New Jersey, Mr. Lewis Thorne of New York and Mr. Arthur Brewster Emmons III of Boston. The last three have all won their spurs as explorers in mountain climbing, and are members of the Traveller's Club, New York.

The proposed route of the expedition is by way of Kalgan and Pao-tou Chen across the desert to Ning-hsia, and thence to the Kokonor, or Ch'ing Hai, as the Chinese call it, by way of Lan-chou Fu, the capital of Kansu.

From there it depends upon conditions which direction the expedition will take, but if possible it is proposed to explore the Tibetan borders, including the famous Golok area, and possibly to reach Lhassa, coming out somewhere on the borders of India.

Amongst the extensive equipment of the expedition are moving picture cameras and voice recording instruments of the latest type, as well as large quantities of medical and surgical supplies.

Mr. Lamb has promised to keep us informed of the progress of the expedition.

The Dolan Expedition is under the auspices of the Philadelphia Academy of Natural Sciences, and is co-operated with by the Anthropological Museum of the University of Pennsylvania to which Mr. Bowles belongs.

THE LAMB EXPEDITION: By a strange coincidence the members of the Dolan Expedition, discussed above, have met in Shanghai the members of a new expedition headed by Mr. Gene Lamb, which has recently arrived from America and is heading for the Kokonor district of North-eastern Tibet on the western borders of Kansu.

Readers of this journal will remember Mr. Lamb and his plucky wife, as having once before successfully carried out a hazardous expedition to the Kokonor. This was during the years 1923 to 1925, the expedition being called the Trans-Asiatic Photo-Scientific Expedition. It was reported upon in the pages of *The China Journal*, and several extremely interesting articles from the pen of Mr. Lamb were published by us during the latter part of 1925. Mrs. Lamb is again accompanying her husband on his explorations.

Mr. Lamb's present enterprise is for the purpose of making further investigations upon the zoology, botany and ethnology of the country, and the expedition is under the joint auspices of the United States Department of Agriculture, the Brooklyn Museum and the Travellers Club, New York. An interesting and hitherto untried feature is the inclusion of a strong medical section, the purpose of which is, not only to win the confidence of the natives encountered by giving them medical aid, but to investigate diseases prevalent in the areas traversed and the means adopted by the natives to combat them. This section is headed by Dr. Fouad Michael Al-akl, Resident Surgeon and Chief of Resident Staff of the Metropolitan Hospital, New York City. He is an Egyptian by birth, and is very highly qualified, having had experience in many important medical institutions in Europe and America.

The zoologist of the expedition is a young Chinese who was with the recent Roosevelt Expedition to Western China. His name is Jack Theodore Young. Mr. Richard Lloyd Burdsall of New York, another member, is also keenly interested in the collecting of zoological specimens, especially birds.

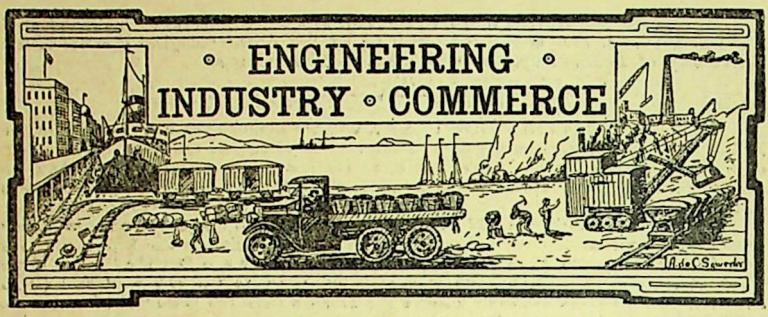
The other members are Major John A. Logan of Youngstown, Ohio, second in command, Mr. Terris Moore of Haddonfield, New Jersey, Mr. Lewis Thorne of New York and Mr. Arthur Brewster Emmons III of Boston. The last three have all won their spurs as explorers in mountain climbing, and are members of the Traveller's Club, New York.

The proposed route of the expedition is by way of Kalgan and Pao-tou Chen across the desert to Ning-hsia, and thence to the Kokonor, or Ch'ing Hai, as the Chinese call it, by way of Lan-chou Fu, the capital of Kansu.

From there it depends upon conditions which direction the expedition will take, but if possible it is proposed to explore the Tibetan borders, including the famous Golok area, and possibly to reach Lhassa, coming out somewhere on the borders of India.

Amongst the extensive equipment of the expedition are moving picture cameras and voice recording instruments of the latest type, as well as large quantities of medical and surgical supplies.

Mr. Lamb has promised to keep us informed of the progress of the expedition.



THE PEKING RUG INDUSTRY

BY

ROSE LEIBBRAND

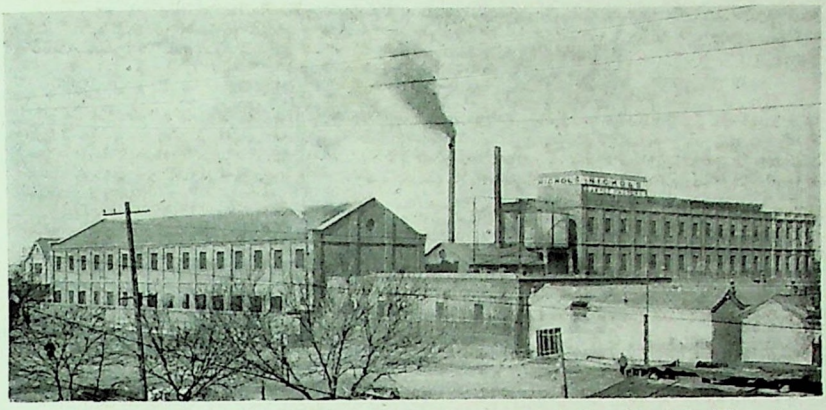
(*Continued from page 29*)

In the first installment of this article on one of China's original and growing industries the author describes the rise and development of the manufacture of what has come to be known as the Peking rug. It was not till the close of the 19th century that the Western world began to appreciate the rugs made by Chinese, but since that date the industry has developed from one of hand-looms in small shops to mass production and great factories.

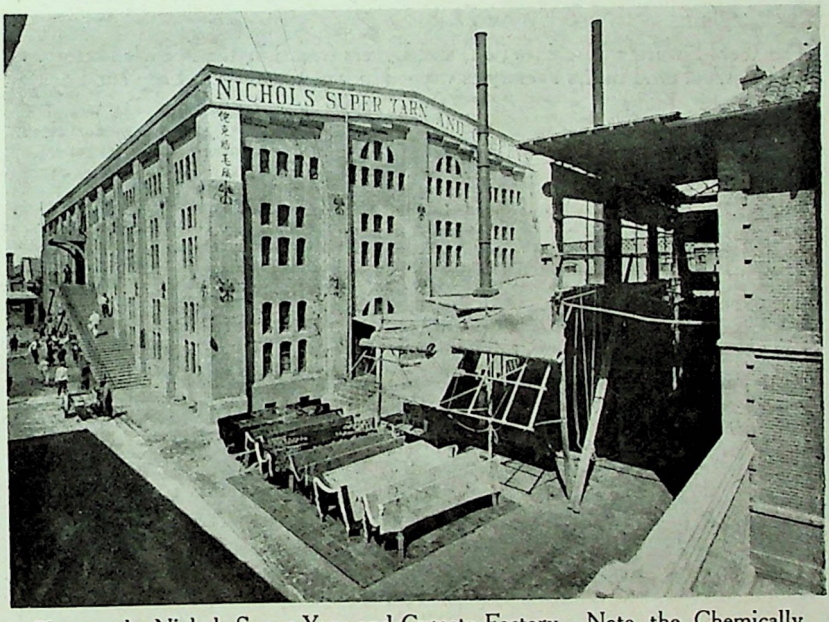
Rug weaving in China had its origin in the cities of the north and north-west bordering Mongolia and Turkestan. It is now centred in Peking and Tientsin, where rugs and carpets are turned out by both small shops and large factories. The treatment of the rug weavers and the conditions under which they work naturally vary greatly according to where they work. They are far from satisfactory in the worst of the small shops, improving in an ascending scale according to the status of the factory, till in the largest under European supervision they are as good as anything in China.

***

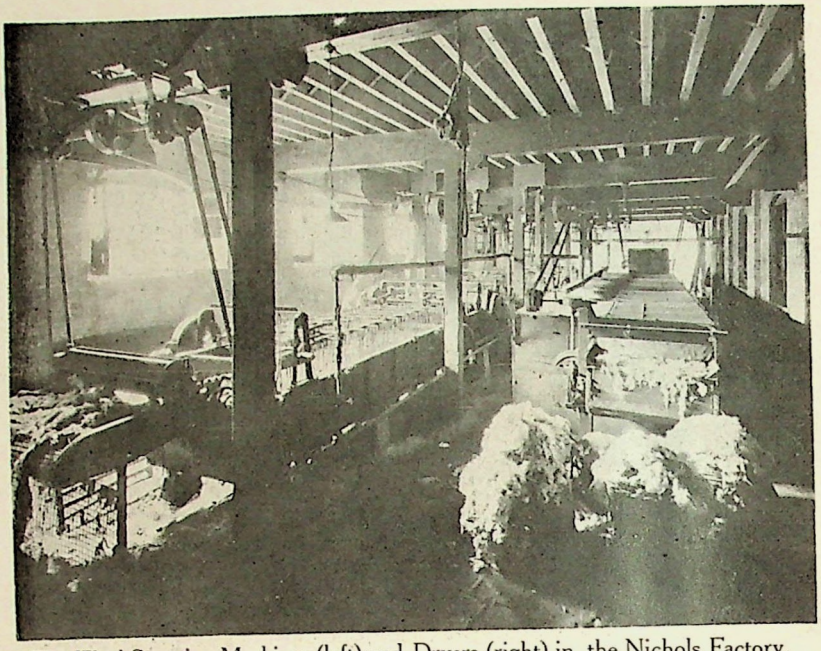
In 1924 there were 4,803 workers and apprentices working a thirteen or fourteen hour day, and 6,450 working a twelve hour day or longer. There were only three shops in Peking working less than the twelve hour day, and these affected only 384 workers and apprentices, or 5.6 per cent. of the total employees in the industry. There are very few shops which observe one day's rest in seven, only four employers observing this rule in 1924. This affected only 52 workers and 405 apprentices, or 6.7 per cent. of the employees in rug shops.



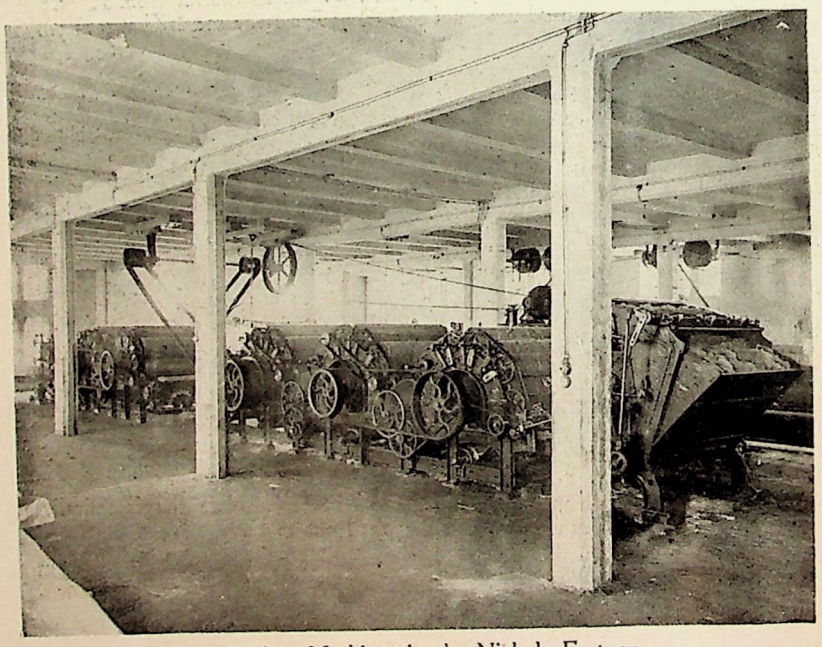
The Nichols Super Yarn and Carpets Factory on Taku Road in Tientsin, North China.



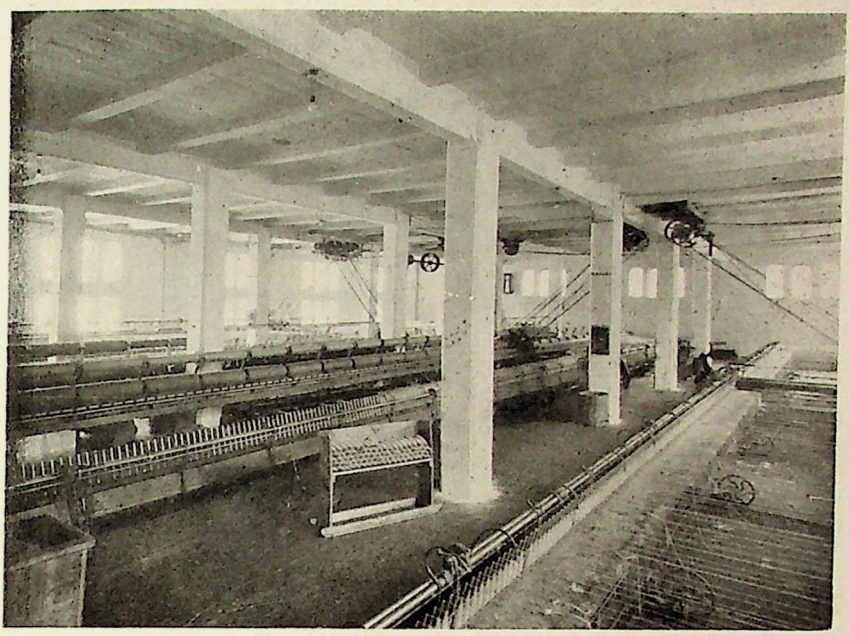
Plant at the Nichols Super Yarn and Carpets Factory. Note the Chemically Washed Rugs in the Yard out to Dry.



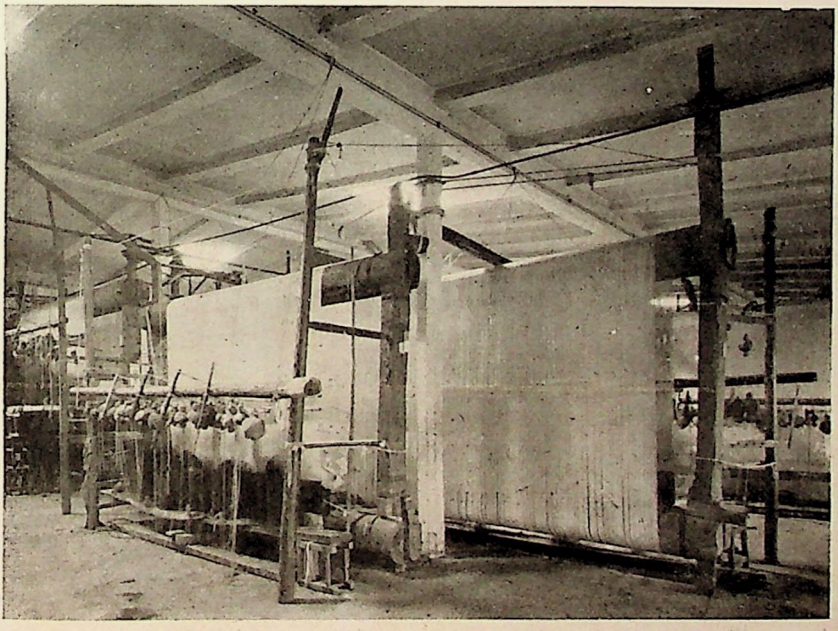
The Wool Scouring Machines (left) and Dryers (right) in the Nichols Factory. All the Wool used in the Factory is washed in Hot Water with Soap and Soda Ash.



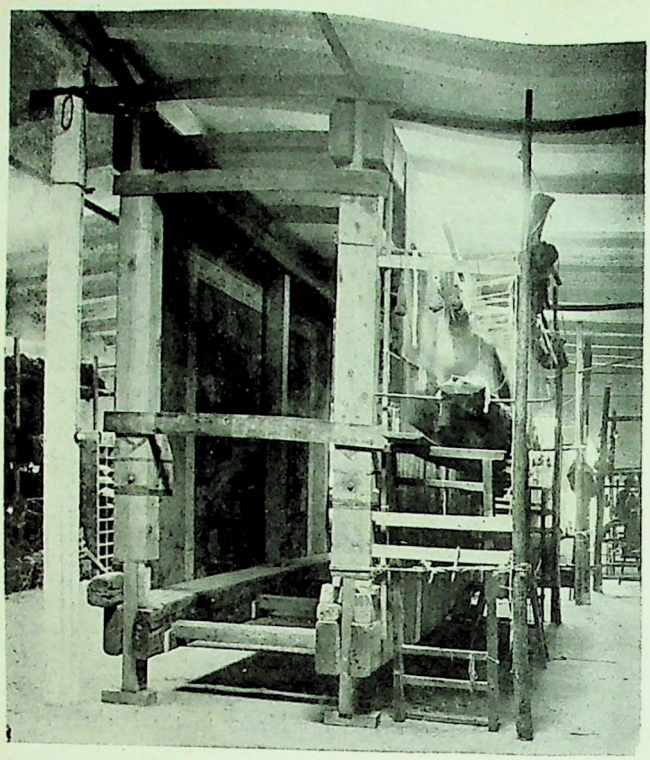
The Carding Machines in the Nichols Factory.



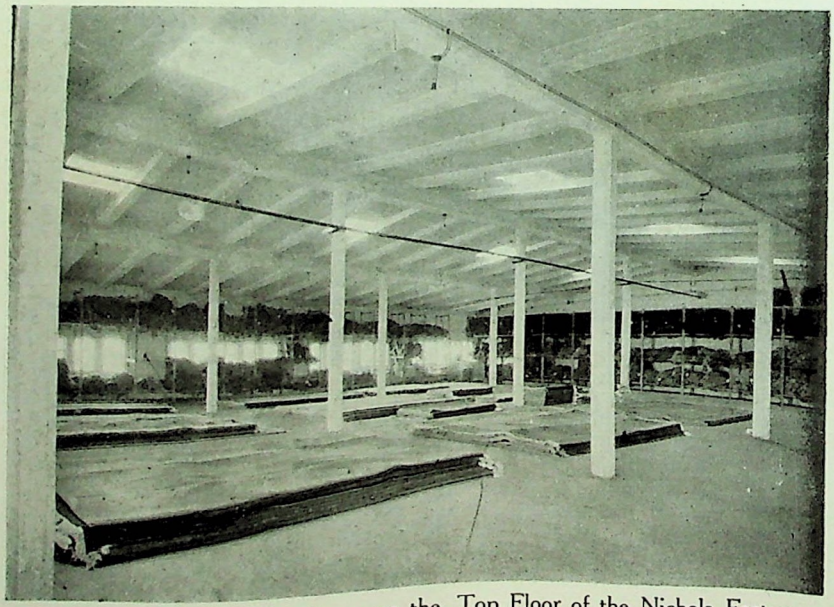
The Yarn-spinning Room and Machinery in the Nichols Factory.



Some of the Two-hundred Looms of the Nichols Super Yarn and Carpets Factory, Tientsin.



The Tandem Looms of the Nichols Factory. By placing the two Looms the proper Distance apart a Rug 60 feet long can be made without Splicing the Warp.



The Carpet and Yarn Warehouse on the Top Floor of the Nichols Factory in Tientsin.

There are regular vacations in Chinese industries which are observed by the rug manufacturers. The *Chinese Social and Political Science Review* lists these holidays as :

1. At Chinese New Year season there is a period of ten days.
2. On the fifth day of the fifth (Chinese) month there are about three days.
3. On the fifteenth of the eighth (Chinese) month there are about three days.

The six-day working week has not been popular with employers, because the industry is so competitive that the shop working the greater number of days can undersell the six-day shops. Those shops that do practice the six-day week doubtless make up in efficiency and in quality of rugs turned out for the work of the lost day, thus making the same margin of profit by doing work sublet by the larger shops.

The wages of the skilled rug weaver are high in comparison with the wage which the apprentice receives, for he is paid on an average from $6 to $9 per month and his "living," although some shops' weavers receive as low as $2.00 per month while others get as high as $20.

The apprentice begins to be paid as soon as his apprenticeship is ended. Sometimes he gets as low as 50 cents a month, but his wage is constantly increased until he receives the wage commensurate with his skill. The margin over the worker's needs for clothing or amusement is so small that there is practically nothing left with which to increase his standard of living.

"Peking Rugs and Peking Boys," published in 1924, gives the following facts regarding the wages of workers :

"The figures show that 1058 workers receive less than nine dollars per month. This is 59.8 per cent of the workers in the industry. To this we must not forget to add the $3.00 (Mex.) which is estimated to be the value of the "living."

Child labour is one of the blots on the escutcheon of the rug industry. The Peking apprentices come for the most part from the country, where guarantors are found for the boys. It is said that these children, having no city connections, make "less trouble." Most of the apprentices come from Chihli, though a few come from Shantung.

Apprentices, during the time of their contracts, are bound to the will of their employers. They live and work in tiny ill-ventilated rooms, sleeping on wadded bedding on the floor and eating the frugal meals with the weavers. They begin by sorting and winding wool, and learn weaving at small looms where they work at what are called "hit and miss" rugs.

The children usually work for three years and one festival, after which they are given a few dollars and are employed as workers. The first year the apprentice is a loss to the shop, the second year his work, over a period of twelve hours a day, pays for his keep, and the third year his work brings in a small profit. The owners of the small shops find apprentices necessary, not only for their work the last year, but to become the skilled workers of the future. The mortality amongst rug weavers is high, due to the carpet lint which they breathe into their

lungs, so that graduated apprentices are always needed to take their places.

One of the glaring evils of the apprentice system is the effect ou the physical development of these children. They sit for hours a day on a backless bench suspended in the air, and breathe in dust and lint which soon sets up an irritation in their lungs and eyes. Tuberculosis is very common among apprentices, and most rug weavers in the small poorly lighted shops are infected with this disease. The irritation of the eyes causes the workers and children to rub them, with the result that most of the weavers have trachoma.

The long hours of work affect the adolescent boy, whose constitution is undermined so that he is poorly fitted for carrying on an active life. Poor food tends to make him a prey to colds, while his system is unable to withstand the onslaught of other infectious diseases.

The writer recently visited the Peking rug factories which are under the supervision of foreign export firms and found that the equipment and living conditions of the weavers were far superior to anything seen in the smaller workshops that were Chinese owned and managed. The work done by the smaller shops for the foreign exporters must go through a most rigid inspection before being graded and prepared for the sales room.

The large modern rug factory, owned by Mr. M. S. Li, and supervised by the Fetté Rug Company, offered a startling contrast to the small workshops, showing how much has been accomplished by foreign supervision in the rug industry. A health clinic, diet study, morning classes, and recreation for workers and apprentices are some of the achievements.

Fetté rugs have been manufactured at Mr. Li's factory for twelve years. Only first grade rugs are exported through this firm. The same grade of Shansi wool is used throughout, with an eight months' supply being kept on hand for emergency orders.

The plant contains a large central weaving room, where 40 looms are set up and 160 skilled weavers are at work. The rooms are modern and are lighted with skylights which occupy almost the entire north slope of the roof, thus preventing any shadows from falling on the looms and making every corner of the establishment fully illuminated.

The floor is kept clean of any refuse, all wool cuttings being carefully swept up and the longer pieces used in weaving "hit and miss" rugs. The rugs made in this plant are of 90 lines, or knots, to the square foot, with an output of from 30,000 to 40,000 square feet per month.

The dyeing rooms have large steam vats where the dyes are kept at a proper temperature. German or American chrome dyes are used. After dyeing, the wool is carefully washed and dried. The warp used in Fetté rugs is made on the premises, so that it is all uniform. The designing department employs ten craftsmen, where the master designs are prepared for application to the looms. The designs consist of foreign *motifs* applied to Chinese rugs, so that any Western home may find patterns which blend in with its scheme of decoration.

A colour chart and pattern of every rug made is filed, and any order can be duplicated. All rugs go to a central inspection room.

The rugs from the smaller units being brought to the same room for a final cutting and thorough inspection.

Three years ago it was found impractical to keep large groups of weavers together, for labour agitators made trouble. The rug industry was forced to decentralize throughout Peking, and Mr. Li now keeps only forty workers at the central plant, with smaller units of thirty weavers placed here and there in the city. This factory owner employs altogether about 2,000 workmen.

One of the outstanding features of his organization is the treatment accorded workers. Not only do they work in well-lighted and well-ventilated rooms, but they have clean comfortable dormitories. They are given meat once every week. Every worker has his own towel and wash basin so as to avoid danger of infection from trachoma.

There is no night work at Mr. Li's factory. Basketball courts, and a playground are available for the apprentices and workers after work hours. Movies and little one act plays are given in the evenings. The playlets are given by the employees themselves, who delight in this form of recreation.

The Peking Union Medical College co-operates with Mr. Li by keeping a full-time nurse in a dispensary at the central plant. This nurse also inspects all the workers in the smaller units. A physician is retained to make periodical examinations and to attend to any emergency cases. Two hospital beds are kept for workers who are taken ill.

Workers are paid on a profit-sharing basis. Financial assistance is given to families for weddings or funerals. There is a savings insurance department to which many of the weavers belong. This allows for wages and hospital expenses to be paid during the disability of a worker. Those weavers who do not belong to this mutual insurance society have their hospital expenses paid, but receive no salary during illness.

A number of apprentices are learning the work in order to replace those weavers who might move away. The children work one hour, then play one hour. Classes are held every morning in a schoolroom by Mrs. Li herself. The apprentices are trained to act as foremen of factory units, and they are taught to write, to read newspapers, do arithmetic and to keep books.

One factory is now being managed by a former apprentice. The apprentices must be at least fourteen years old, Chinese count. There are now a hundred apprentices in Mr. Li's factory, who will be " graduated" as soon as they are proficient, instead of having to serve the customary term of " three years and one festival." They work on " hit and miss" rugs.

The games, a library, plays, movies and a weekly lottery make life for the apprentices and workers comparatively pleasant. The cleanliness and neatness, constant medical inspection and small proportion of trachoma patients prove that sanitary surroundings can be achieved in the rug industry.

Rugs can be made up in all sizes and colours. Fulfilment of orders is not promised under six months, but a rug can usually be completed in three to four months. At the present time Mr. Li reports that export

weavers are plentiful, and that he has more applications from skilled craftsmen than he has work to offer them.

Fetté rugs are guaranteed for dyes, wools, warp, woof and workmanship. The designs are either the original work of artists of the highest rank or are drawn from rare old Chinese vases, Chinese mystic symbols, imperial embroideries of the ancient emperors, palace pictures and other objects of art expressing the age-old culture of the Chinese. The rugs are made under the personal supervision of Mrs. Franklin C. Fetté, a Vassar graduate, who has for many years been a resident of China and a close student of Chinese art.

Nichols Super Yarn & Carpets, Incorporated, another of the big companies engaged in this industry, have adapted a Manchu Palace to serve as an uniquely appropriate setting for their Chinese rugs. Once upon a time Prince Yi owned this palace, now some four centuries old. The reception hall, where the first showroom is placed, is used for serving tea to visitors to the Manchu Palace.

The audience hall, where the principal stocks of Nichols rugs are displayed, lends itself graciously as a background for modern rugs embodying Oriental *motifs* in design and colour. The carved throne chair, which Prince Yi occupied when receiving official callers, is seen in replica placed on the original daïs that has been there for almost half a millennium.

Here, in what is now a rug factory, there once lived a royal prince, with forty eunuchs, forty slave girls and eighteen wives and concubines, in a splendour that time has dimmed but which is still suggested in the ornate decoration of the great building. The workers employed wear suits of Manchu blue with red sashes.

There are now 19 looms and 50 workmen turning out Nichols superrugs. Looms are now being erected which will increase the number of looms to 80 and the workmen to about 400, with an output of about 12,000 square feet per month.

The Nichols Super Yarn & Carpet, Inc., have more than 100,000 square feet of floor space for making yarn and carpets. All the yarn used is made in the factory itself, the one rug factory in China where all processes from spinning the yarn to the chemical washing of the completed product is done under one roof.

Only skilled labour is used at the looms of the Manchu Palace, no apprentices being employed at present. Only first grade rugs are marketed, each rug containing 80 lines or knots to the square foot, and having an exceptionally deep pile, which gives a rich tone to the rug and imparts a silky lustre after the rug has been chemically washed.

The nursery and "hit and miss" rugs are also chemically cleaned. The wool is washed with a special preparation of palm-oil soap, but the final wash in a chemical solution is considered necessary as well as artistic by the Manchu Palace manager.

Rugs may be ordered in any size, colour or design. Conventional, Spanish, Chinese or modernistic patterns may be had in one's favourite colour. All rugs have woollen backs and edges.

The workmen in the Manchu Rug Palace work in clean orderly surroundings, with separate dormitories in which to eat and sleep. Their

clothes are clean and every effort is made to keep down any appearance of disease.

Every process in the manufacture of rugs, from washing the raw wool to supervising the expert rug cutters who outline the pattern in the completed product, is under foreign management. Each rug, as it is taken down from the loom, is subjected to a rigid examination for flaws or imperfections.

The Shoemaker Art Looms and the E. A. Punnett Company have a common source of supply from which they obtain their rugs. Mr. Chin is the Chinese manager of a modern and up-to-date factory, which is owned by himself and three other Chinese manufacturers.

The large central factory of this organization is clean and well-lighted with northern exposure skylights. Sanitary working conditions prevail and the workmen are examined periodically for trachoma, tuberculosis or other diseases.

Only first grade rugs are handled by these foreign export firms. The rugs are ordered, the yarn, patterns and colours being given to the workmen. Rugs graded as "seconds" are only sold on application from the buyer. In the central factory only skilled workers are used.

This Chinese owned foreign supervised factory has also had to suffer decentralization because of labour trouble. In addition to its main factory with about 40 looms, smaller units are situated in different parts of Peking. These smaller units have from 15 to 30 looms apiece. Every rug manufactured must come up to the high standard maintained by the foreign export firms or it is graded as a "second".

So much for the Peking rug industry in its manufacturing phases. The rugs produced in Peking are practically all sold abroad. The foreign export firms such as the Fettè Rug Company, the Shoemaker Art Looms, and the Nichols Super Yarn & Carpets, Inc., have showrooms in Shanghai as well as in Peking. Nichols rugs are also displayed in Tientsin.

Bibiliography

A Sketch of Chinese Arts and Crafts, by Hilda Arthurs Strong : China Booksellers, Ltd. Peking, 1926.

Ostasiatisches Gerat, by Otto Kummel und Ernst Grosse : Bruno Cassirer Verlag, Berlin, 1925.

Chinese Rugs, by Gordon B. Leitch : Dodd, Mead & Company, New York : 1928.

Der Orientteppich, von Werner Grote-Hasenbalg : Scarabaeus-Verlag, Berlin, 1922.

Tientsin Carpet Industry, by Dr. H. D. Fong : The Chihli Press, Incorporated, Tientsin, 1929.

Chinese Art, by S. W. Bushell ; Victoria and Albert Museum, London 1910.

Peking Rugs and Peking Boys, by C. C. Chu and Thos. C. Blaisdell, Jr., Express Press, Peking, 1924.

Arts and Art-crafts of Ancient China, Literary Department, American Women's Club, Shanghai; Presbyterian Mission Press, Shanghai, 1921.

Chinese Rugs, by Mrs. S. M. Cowles.

The Chinese Rug: in *The China Journal* (Industrial Shanghai Number), Vol. XII, No. 5, May, 1930.

ENGINEERING, INDUSTRIAL AND COMMERCIAL NOTES

BUILDING

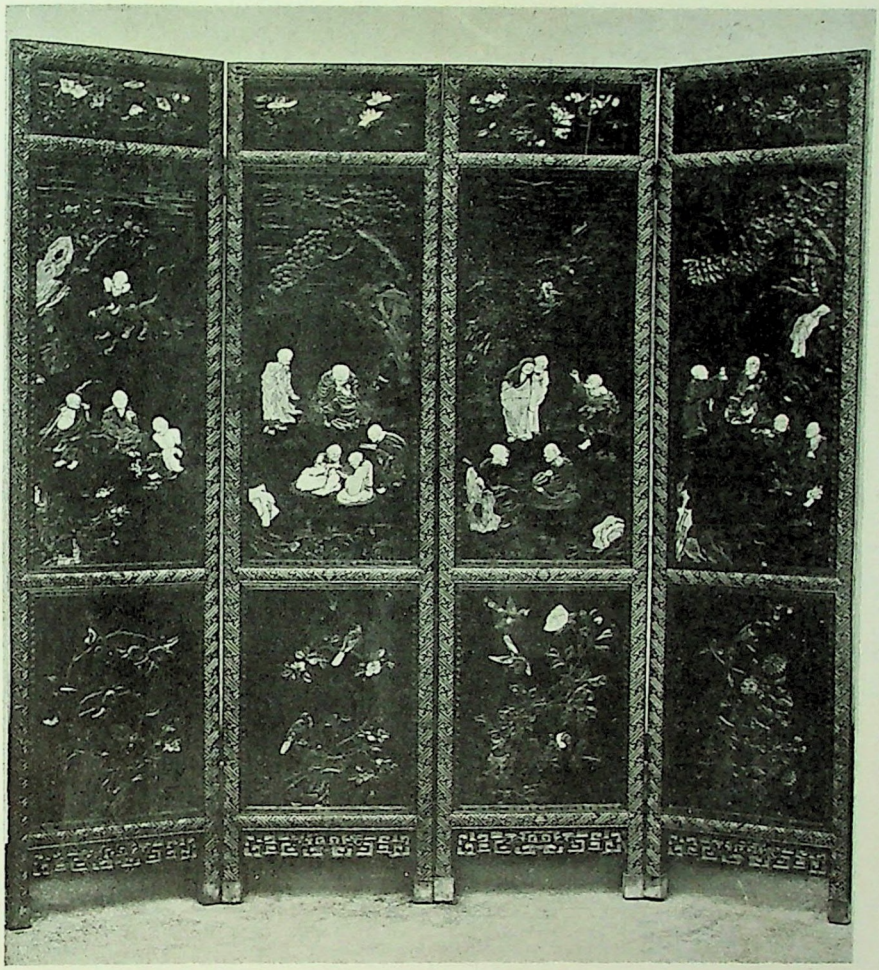
NEW APARTMENTS AND FACTORIES TO BE ERECTED IN SHANGHAI THIS YEAR: Among the building projects for 1932 announced by a leading realty company of Shanghai is a nine storey apartment house to be erected at the corner of Avenue du Roi Albert and Rue Bourgeat which will contain eighteen three and four room apartments and will cost about Tls. 140,000; a series of buildings on nine *mow* of land on Route des Soeurs near Avenue Joffre to contain one hundred flats and twenty duplex apartments at an approximate cost of Tls. 500,000; a number of semi-foreign style houses on Kiaochow Road and Rue Lafayette, and a factory for the R. C. A. Victor Company on Pingliang Road.

ROAD MAKING

HUNAN PROVINCE TO BUILD HIGHWAY CONNECTING TRAIN AND MOTORBUSES BETWEEN HANKOW, CANTON AND CHANGSHA: Reports have been received in Shanghai that the Provincial Government of Hunan has reached an agreement with the Peiping-Hankow Railway Administration for a combination rail and motor bus journey to be arranged between Hankow and Canton and Hankow and Changsha, which would make it possible to travel from Hankow to Ichang (on the border between Hunan and Kwangtung) in two days. It is stated that preliminary steps for the construction of a connecting highway between the railway and highway stations have already been taken. Hunan has more than 2,100 *li* of public highways, according to a *China Press* issue of recent date.

AVIATION

TRIAL FLIGHT ON PROPOSED NEW SHANGHAI-BERLIN AIR ROUTE SUCCESSFUL: A great ovation by the inhabitants of Ti-hua Fu, the capital of Sinkiang Province, was accorded the fliers of the Eurasia Aviation Corporation when they arrived there on December 22 on the trial flight of the proposed new air route between Shanghai and Berlin, stated a recent *Kuo Wen* telegram. The



By Courtesy of Shoemaker Art Looms, Peking.

A fine old Lacquer Screen inlaid with Ivory, said to be of the Ming Period, 1368 to 1644 A.D.

journey between Shanghai and Ti-hua Fu was completed in three days in spite of a delay of a night when the fliers slept in the plane in a deserted old city near Jo-sui-ho, as it was too dark to locate their destination and they were unable to attract attention with the shots they fired into the air. Upon resuming their flight the next morning a camel caravan was spied, the plane landed and the location of the company's gasoline station ascertained from the caravan leader. The night of December 21 was spent at Jo-sui-ho and Ti-hua Fu was reached the following afternoon. News always being a month and a half late in Ti-hua Fu, the Chinese newspapers distributed by Mr. Li Ching-chung, the only Chinese in the party, created quite a sensation. The distance between Shanghai and Ti-hua Fu, is estimated at 4,200 kilometers, the balance of the route to Berlin, *via* T'a-chen and Moscow, at 5,800 kilometers. Thus, when in operation, the proposed 10,000 kilometer overland air route will cover the greatest distance of any similar route in the world at present. At Ili the line will connect with the Moscow-Ili Air Service of the Soviet Government. It is expected to reduce the journey between Shanghai and Berlin to seven days.

SUCCESSFUL TRIAL AIR FLIGHT MADE BETWEEN HANKOW AND LAO-HO-KOW: Early in January a successful flight by aeroplane was made from Hankow to Lao-ho-kow by the China National Aviation Corporation's plane, stated a message of recent date. The journey, which is the first half of the proposed Hankow-Sian air line in Shensi Province, was made in a little less than three hours. The present fastest means of communication over the 200 miles is by motor boats, these taking from one to two weeks to complete the trip.

AIR MAIL SERVICE BETWEEN NANKING AND PEKING SUSPENDED: Owing to several serious accidents recently on the Nanking-Peking air line, one of which resulted in the death of Mr. Hsu Chih-mo, China's famous poet and author, the China National Aviation Corporation suspended service on this line the latter part of last December, according to a *United Press* message.

RAILWAYS

SHUICHOW-LOKCHANG SECTION OF CANTON-HANKOW RAILWAY TO BE COMPLETED NEXT AUGUST: To hasten the completion of the thirty-one mile section of the Canton-Hankow Railway between Shuichow and Lokchang, the Ministry of Railways has applied for a loan of £170,000 from the trustees of the British Boxer Indemnity Refund, stated a recent *Kuo Min* telegram. If granted the loan is to be used to purchase materials in Great Britain for the completion of the railway, which is scheduled for next August.

ENGINEERING

SHANGHAI TO HAVE NEW MODERN WHARF ON WHANGPOO RIVER: The construction of a new modern wharf, approximately half a mile in length, between Yuenfong and Chaoufoong Roads on the Whangpoo River, was announced by the Shanghai and Hongkew Wharf Company, Ltd., last month. The piles are to be of wood and the balance of the structure concrete. The cost is estimated at Tls. 2,000,000 and the time of construction at two years. Accommodation for five ships alongside will be available. Hand labour will continue to be used in loading and unloading cargo, but the construction will be such as to permit of the future installation of mechanical stevedores, derricks and the like, if desirable, without rebuilding the pier.

MR O. J. TODD APPOINTED CONSULTING ENGINEER ON DYKE REPAIRS BY NATIONAL FLOOD RELIEF COMMISSION: To expedite the construction and repairing of dykes as well as to ensure the employment of flood refugees the National Flood Relief Commission has appointed Mr. O. J. Todd, chief engineer of the China International Famine Relief Commission, as its consulting engineer. The combination of the former commission, with its power to allocate construction work and its American wheat, with the Famine Relief Commission, with its machinery for doing such work and its ready money for overhead expenses, should produce the best results possible. Headquarters are to be opened at Kiukiang to supervise reconstruction in both Kiangsi and Anhwei Provinces. A party of engineers is already busy near Nanchang, while 7,000 people are working on the project near Anting. The new Shanghai office is in charge of Dr. C. T. Wang as Chairman, Mr. Edward Lobenstein as Vice-chairman, while Mr. Todd is field manager. According to the latter the labourers, who are mostly farmers, will only be available for about three months of the season, after which their own farm work will commence.

WORK ON HUAI RIVER DYKES COMMENCED - The work of strengthening and repairing the dykes on the Huai River in Anhwei Province was commenced last December with the employment of as many flood refugees as possible, stated a *Kuo Min News Agency* telegram of recent date. The 11th, 12th and 13th sections at Chengyangkuan, Pengpu and Wuno, respectively, are undergoing repairs.

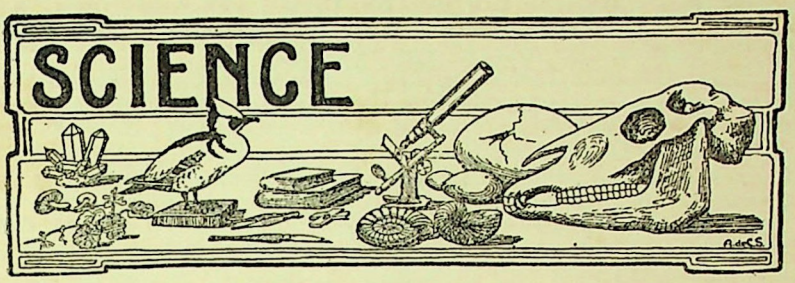
INDUSTRY

FIVE YEAR PLAN FOR CHINA: On January 1 an outline of a five year industrial programme for China was issued in Nanking by the new Minister of Industry, Mr. Chen Kung-po, according to a recent *Reuter* message, proposing to establish within that period of time a central industrial district in the Yangtze Valley as a nucleus for industrial expansion in China. The necessity for the completion of the railway construction undertaken by the Government, which includes trunk lines to connect Nanking with Hankow, Hankow with Canton, Canton with Foochow, Foochow with Hangchow and Hangchow with Nanking, was also pointed out as an essential for the success of the plan. Protection for capitalists and labourers was promised and a welcome extended to foreign capital.

COMMERCE

PACIFIC TRADE CONVENTION TO BE HELD IN HONOLULU IN MAY: The National and Pacific Foreign Trade Convention Committee has issued invitations to leading business men throughout the Orient to attend its convention to be held in Honolulu on May 4, 5 and 6 of this year. Details have been sent to Mr. Julean Arnold, American Commercial Attaché in Shanghai. The industrial and commercial problems of the Pacific region will be taken up and one day is to be devoted exclusively to these problems in China.

AN OMISSION: We omitted to mention in these notes last month that Messrs. Andersen, Meyer & Co., Ltd. the well-known Shanghai engineering firm, are the engineers for the Sunning Railway Bridge being constructed across the Tam River at Kung Yet in South China, as well as for the Joint Savings Society Building being erected next to the Foreign Y.M.C.A. on Bubbling Well Road in Shanghai.



CANNIBALISM

BY

ARTHUR DE C. SOWERBY.

Accustomed as we are to the general beliefs that cannibalism is a thing of the past ; that 20th century civilization so dominates mankind, including the savages of the South Sea Islands and the interior of the dark continent of Africa, as to make the eating of human flesh by humans no longer possible ; that the days of adventure and romance are over, when the intrepid explorer or missionary went in danger of being served up in a stew before some naked potentate, it comes as somewhat of a shock to read in the newspapers authentic reports of recrudescences of this horrible custom in various parts of the world, or to learn that in some countries it has never been suppressed at all.

Last summer two thoroughly authenticated cases of cannibalism were reported, one from New Guinea and the other from the Belgian Congo.

With regard to the former the story is to the effect that a German prospector named Helmuth Baum, who had staked out very large claims in the interior of New Guinea and was returning with a large party of natives to work his claims after having registered them at the coast, was ambushed by Kooka-kooka warriors, a particularly savage Papuan tribe of cannibals, near Surprise Creek in the Watut River vicinity of the Morobe Goldfields. Baum was killed by poisoned arrows and twelve of his eighteen native followers were overpowered and carried off, the body of the prospector subsequently being eaten and the captured members of his party sharing the same fate.

It is reported that Baum had long been a subject of particular interest to the Papuans with whom he came in contact on account of his enormous strength. They used to rub their food on his body before eating it in the belief that by doing so they would gain something of his strength.

A little while later two brothers, British, who were prospecting in the same district as that in which Baum had met his fate, were attacked by the Kooka-kookas, but managed to escape.

Later still Pilot Trist of the New Guinea Airways, while on his way from the coast to Wau in a Junkers plane, had to make a forced landing near a place named Zenag. He walked to a neighbouring Kooka-kooka village in the hopes of obtaining food, but was immediately murdered, and, it is believed, suffered the same fate as Baum, the German gold prospector, and his party.

A punitive expedition was dispatched on receipt of the news of these outrages, and six Papuans who had participated in the massacre and subsequent feast were captured and taken to the coast for trial.

Meanwhile early last July the cannibalistic outbreak in the Belgian Congo already referred to had ocurred at a village near Leopoldsville, where M. Ballot, a district commissioner, who was visiting the place to investigate an assault on a local shopkeeper, was murdered by the natives, cooked and eaten. Subsequently, the culprits, said to be members of the Bapenda tribe, attacked the Administrator of Kikwi, but were beaten off by the police who arrived just in time to save him, seven of the natives being killed in the fight that ensued.

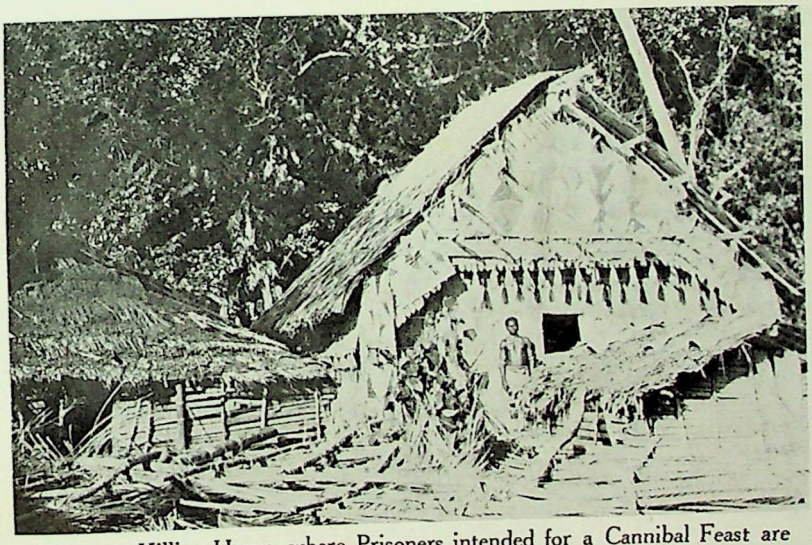
A strong punitive expedition was dispatched from Tukusu as a base, and severe penalties exacted.

While one can, to a certain extent, understand cannibalism amongst savages such as the Papuans and the natives of Africa, since these primitive people are still very much in what scientists have called the Stone Age stage of development, it is not easy to understand, much less condone, the outbreak of this horrible practice amongst civilized races. Yet from time to time this actually takes place. If reports are to be believed there have not been lacking cases of cannibalism in China during recent years as a result of starvation, when cities have been besieged by the armies of one or other of the warring factions that have scourged the country since the outbreak of the Revolution in 1911, or by bandit hordes. The eating of human flesh in such circumstances is, perhaps, the least reprehensible phase of the practice. There is a saying "Necessity knows no law," and we believe it was invoked with telling effect in a distressing case of the trial of some wrecked mariners, cast away in an open boat in the Atlantic, who were ultimately rescued, but not before they had killed and eaten one of their number.

Many years ago, during the great famine that swept North China and caused the death of millions of people in Shantung, Chihli, Shansi and Shensi, a case was brought before the magistrate in Tai-yuan Fu in which a man and his two wives had been discovered selling meat dumplings made from the flesh of children whom they had kidnapped. All three received terrible punishments, being put to lingering deaths, which shows clearly that the Chinese ideal is definitely against such practices.

Another instance of cannibalism as a result of starvation was mentioned in this journal in the last October number in connection with the Russian conquest of the Amur region. It will be remembered that

Papuan Warriors of the Kooka-kooka Tribe that attacked, killed and ate a German Gold Prospector and a British Air Pilot in New Guinea last Summer



A Papuan Killing House, where Prisoners intended for a Cannibal Feast are dispatched with Ceremonial Rites.

the author of the article "Russian Expansion on the Amur," referring to Poyarkov's expedition of 1643, stated that as the members of this expedition on reaching the Amur River found themselves entirely out of provisions they resorted to cannibalism, devouring natives of the country and their own sick people. The horrors of such a thing and the situation in which those hardy explorers and conquerors found themselves is not easy to imagine. But it was necessity that drove them to it.

Very different was the case, during the reign of one of the Jacobite kings of England, of a certain Sawny Bean, an obviously degenerate Scottish lad, who, along with a girl he had taken up with, established his abode in a lonely and well hidden cave somewhere on the wild coasts of Galway, and proceeded to live entirely on human flesh. Lonely travellers were ambushed and killed, their bodies being taken to the cave where they were duly eaten. The greatest cunning was exercised by the horrid couple. They never left any tell-tale evidence of their crimes: their victims simply disappeared. They carried on for over a couple of decades, having sons and daughters, who intermarried and had children, the whole colony finally reaching the number of some twenty individuals, and living in the secret cave. At last, through one of their victims' escaping from their attack and telling the story of what he had seen, the truth dawned upon the authorities, who forthwith organized an expedition and raided the cave. The whole group of cannibals was captured, being taken by surprise as they sat round their fire indulging in one of their horrible feasts. Round the walls hung the limbs and dismembered bodies of recent victims. It is hardly necessary to add that a fate was meted out to them as terrible as that which they had inflicted on countless hapless victims during the long years of their immunity. Not even the babes in arms were spared.

A case of similar degeneracy was reported as having occurred in Shanghai a few years ago, when a mendicant was discovered in the act of cooking a baby preparatory to eating it.

A phase of cannibalism, very different from the foregoing, but reminding us more of that connected with the unfortunate gold prospector, Baum, is very prevalent in China. This is the eating of the hearts of notorious bandits under the belief that the participant of such a gruesome meal will acquire the bravery and strength of the particular bandit involved. Not only are the hearts eaten, being generally reserved for the executioners and their attendants, but loaves of bread are soaked in the blood of the victims and sold for considerable sums to spectators desirous of becoming brave and daring.

It will be remembered that the natives used to rub their food on Baum's body before eating it in order to acquire some of his strength. It is obvious from this that the practice of eating bandits' hearts or bread soaked in their blood is a survival of a very primitive custom. Another phase of the custom in China is the use to which various parts of the body of such animals as tigers are put, the Chinese considering them very efficacious in restoring a sick and weak patient to strength, because the tiger is so strong.

the author of the article "Russian Expansion on the Amur," referring to Poyarkov's expedition of 1643, stated that as the members of this expedition on reaching the Amur River found themselves entirely out of provisions they resorted to cannibalism, devouring natives of the country and their own sick people. The horrors of such a thing and the situation in which those hardy explorers and conquerors found themselves is not easy to imagine. But it was necessity that drove them to it.

Very different was the case, during the reign of one of the Jacobite kings of England, of a certain Sawny Bean, an obviously degenerate Scottish lad, who, along with a girl he had taken up with, established his abode in a lonely and well hidden cave somewhere on the wild coasts of Galway, and proceeded to live entirely on human flesh. Lonely travellers were ambushed and killed, their bodies being taken to the cave where they were duly eaten. The greatest cunning was exercised by the horrid couple. They never left any tell-tale evidence of their crimes: their victims simply disappeared. They carried on for over a couple of decades, having sons and daughters, who intermarried and had children, the whole colony finally reaching the number of some twenty individuals, and living in the secret cave. At last, through one of their victims' escaping from their attack and telling the story of what he had seen, the truth dawned upon the authorities, who forthwith organized an expedition and raided the cave. The whole group of cannibals was captured, being taken by surprise as they sat round their fire indulging in one of their horrible feasts. Round the walls hung the limbs and dismembered bodies of recent victims. It is hardly necessary to add that a fate was meted out to them as terrible as that which they had inflicted on countless hapless victims during the long years of their immunity. Not even the babes in arms were spared.

A case of similar degeneracy was reported as having occurred in Shanghai a few years ago, when a mendicant was discovered in the act of cooking a baby preparatory to eating it.

A phase of cannibalism, very different from the foregoing, but reminding us more of that connected with the unfortunate gold prospector, Baum, is very prevalent in China. This is the eating of the hearts of notorious bandits under the belief that the participant of such a gruesome meal will acquire the bravery and strength of the particular bandit involved. Not only are the hearts eaten, being generally reserved for the executioners and their attendants, but loaves of bread are soaked in the blood of the victims and sold for considerable sums to spectators desirous of becoming brave and daring.

It will be remembered that the natives used to rub their food on Baum's body before eating it in order to acquire some of his strength. It is obvious from this that the practice of eating bandits' hearts or bread soaked in their blood is a survival of a very primitive custom. Another phase of the custom in China is the use to which various parts of the body of such animals as tigers are put, the Chinese considering them very efficacious in restoring a sick and weak patient to strength, because the tiger is so strong.

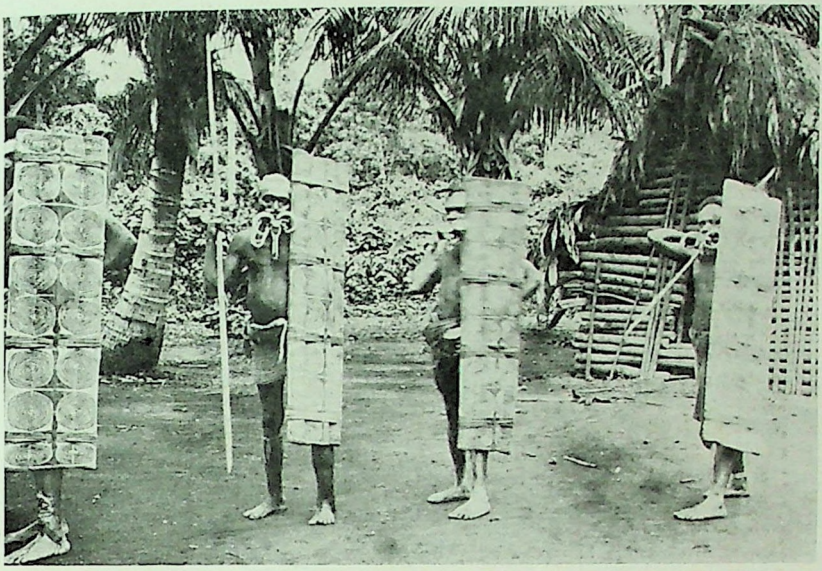
There is yet another phase of cannibalism that occurs in China, and this is in cases where it is desired to exact a terrifying revenge or to express frightfulness. A very good example of this was witnessed in Si-an Fu, the capital of Shensi, at the outbreak of the Chinese Revolution in 1911, when one of the leaders of the revolt in that part of the country, a promiment member of the notorious secret society known as the Ko Lao Huei, or Elder Brother Society, made a vow that he would eat nothing till the Manchus in that city had been wiped out but the ears of Manchu victims. It is reported that during the terrible massacre that took place in and about Si-an Fu at that time, when the ears of every male Manchu who was killed were cut off and sent to headquarters as a tally of the slain, this inhuman monster, who was really nothing but a robber chief, kept his vow and fed for three days on these ghastly trophies.

It must not for a moment be imagined that this kind of thing finds favour in the eyes of the Chinese as a whole. It does not. On the contrary, it is very repellent to them, and is unquestionably atavistic when it appears.

Papuan and South Sea Island cannibalism is not altogether a matter of acquiring the strength of the victim. It is largely mixed up with their religious beliefs, and is mainly accompanied by ceremonial practices of a complex nature. But there is a physiological side to the practice, and that is the need of the human body for flesh food. Flesh is scarce in many of the South Sea Islands, that of the wild pig alone being procurable, and sometimes not even that. " Long pig," as human flesh is called, therefore becomes an item of interest to the flesh-hungry savages, who subsist for the most part on a vegetable and fish diet.

One interesting phase is that in which the deceased, instead of being buried, is ceremoniously eaten by his or her relatives.

It is highly probable that cannibalism was practiced by prehistoric man in Europe of both the Palaeolithic and Neolithic periods, in many cases accompanied by subsequent ceremonial burial of the victim's head. Certain it is that the eating of human flesh by humans is a practice dating back to the remotest antiquity, and the fact that it crops up from time to time in the world to-day, is endemic, in fact, in some countries, bears eloquent testimony to the persistent strength of customs or characteristics acquired by man in the dim dawn of his existence. If so horrible a practice can survive to the present day, need we be so greatly surprised that other equally barbaric but possibly less disgusting practices, such, let us say, as war, still occur to hinder men in their upward progress from beasts to gods ?



Papuan Warriers, bedecked with Wild Boar Tusks and with Bones through their Noses, carrying their huge ornate Shields.

Papuan Cannibal Warriors plumed and painted for War.

LAWN AND ROADSIDE PLANTS OF SHANGHAI

BY

W. M. PORTERFIELD.

(*Continued from page 40*)

Feeling that there must be many people in China who are sufficiently interested in the botany of this country to wish to know at least the common wild plants of the garden and road-side, the author of this article sets out to describe a series of twenty-five species commonly met with in the Shanghai area, illustrating each description with a pen-and-ink drawing of the plant in question. Besides the names and works of the authorities quoted, a classified list of the species to be described is given in the first installment of this article appearing in the January number of this journal, as well as descriptions and drawings of the first six species. The paper will be continued in installments till the series has been completed, after which further series may be given. Meanwhile six further species are described and illustrated below.

***

Fig. 7. *Houttuynia cordata* Thunb. 蕺 (魚腥菜, 菹菜, 黃蒾).
a, enlarged view of a single flower of the spike ; b, a leaf, surface view.

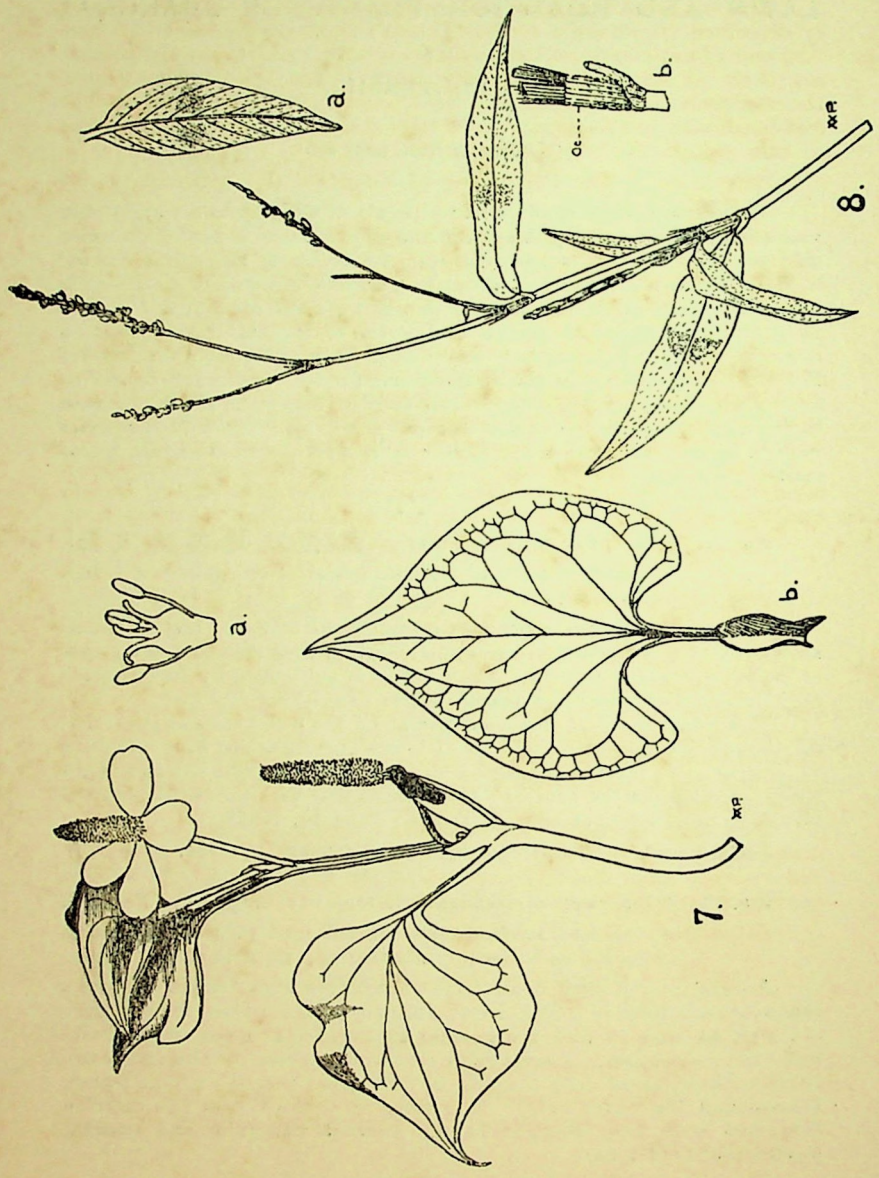
Herbs 30 to 50 cm. high with creeping rhizome and erect glabrous stems bearing heart-shaped acuminate leaves and stalked erect spikes of small apetalous flowers. Each spike is subtended by four obovate slightly notched petal-like bracts, white in colour.

This plant is found in abundance along the moist somewhat sheltered though uncultivated borders of lawns and roadsides from late June to August. The four expanded white bracts are of good size and might easily be mistaken for petals by those unfamiliar with the variety in floral structure and arrangement. (Collected June 21, 1931).

References : Flora Hongkongensis (Bentham), p. 334.

Fig. 8. *Polygonum caespitosum* Blume, var. *longisetum* Steward.
a, the leaf, surface view ; b, enlarged view of leaf-base to show the ocrea (oc), or stipular sheath, with ciliate margin.

Annual plants with ovate-lanceolate leaves and "spikes" of small rose-coloured flowers. The outer surface of the petals more deeply coloured so that in bud the general appearance is more emphatically red. Stems reddish. Leaves with scattered appressed hairs and sometimes with a pair of deep purplish or dark areas near the middle region. Ocreae and leaf-bases hairy. The margins of the ocreae and ocreolae furnished with long straight hairs. Achenes triangular and smooth. September to October.


a.
b.
8.
a.
b.
7.

This is a gregarious plant and seems to succeed the one just previously described (*Houttuynia cordata* Thunb.) in about the same localities. The pair of dark spots on the leaves is variable, many leaves not possessing them at all, and others only faintly. The spicate inflorescence, the obviously jointed stems, and the alternate almost sessile leaves with leaf-bases attached to membranous stem sheaths are constant characters of this group. (Collected October 3, 1931).

References: The Polygoneae of Eastern Asia (Steward), p. 67.

Fig. 9. *Polygonum jucundum* Meisn.

a, the "spike" in full bloom; b, magnified view of a single flower; c, a single leaf; d, a half-grown achene enlarged to show its smooth and triangular character.

An herb like the last but larger. Leaves oblong-lanceolate and short petioled. Stems green turning red in late autumn. Ocreae green, weakly ciliate. Ocreolae red and possessing short cilia. Flowers larger than the last, 3 mm. across, exserted, and flesh-pink to white in colour. Spikes loosely flowered. Achenes smooth, black, and shining.

This plant like the last is gregarious, but is found in more exposed situations and along canals. The leaves are silky as to surface texture and turn pinkish at the margins in late autumn when the stems turn.

References: The Polygoneae of Eastern Asia (Steward), p. 56.

Fig. 10. *Portulaca oleracea* Linn. 馬齒莧

The Common Purslane.

a, view of plant from above to show the shape of the leaves.

A prostrate fleshy annual with glabrous stems and thick succulent leaves, never attaining more than 15 cm. in height. Leaves oblong-obovate with somewhat wedge-shaped base. Flowers sessile in few-flowered close axillary or terminal inflorescences. Petals yellow, scarcely, exceeding the sepals, fading early. Flower-buds flattened. Flowering all summer.

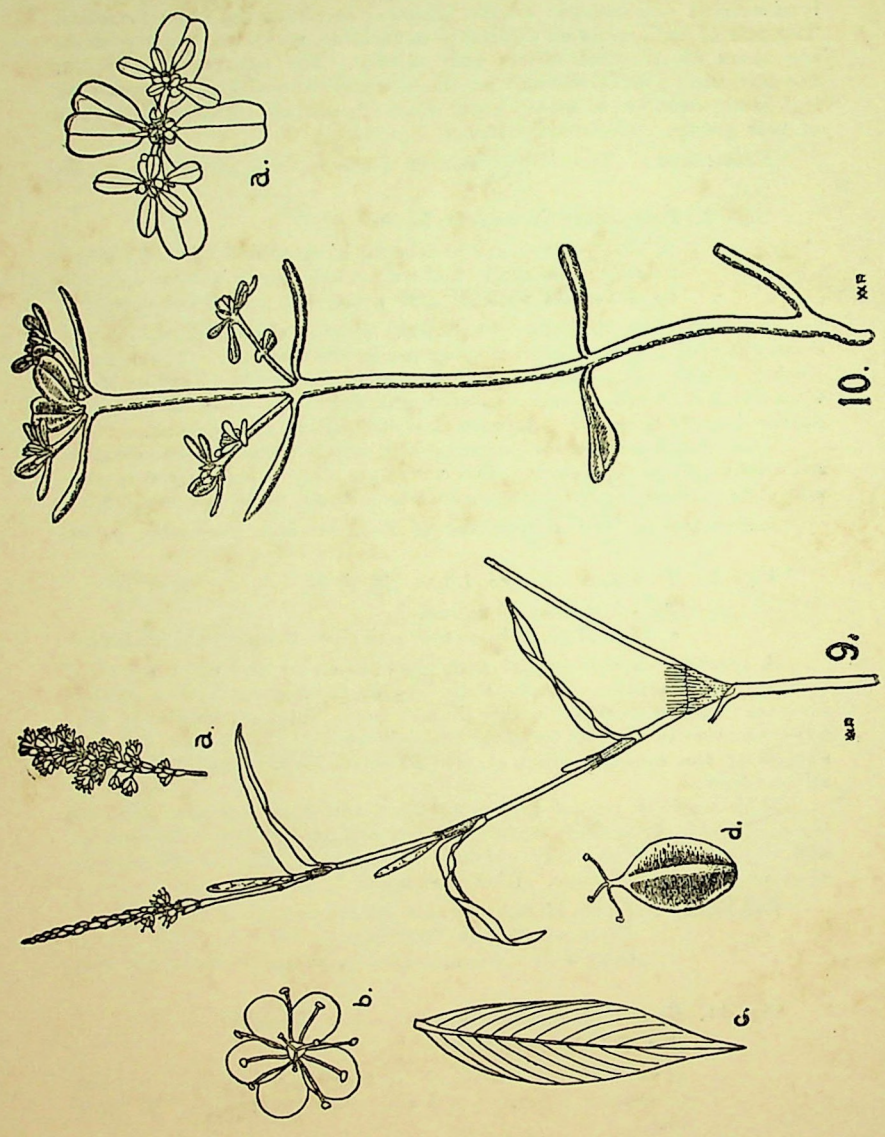
This weed is one of the commonest and most cosmopolitan. It is one of the early settlers on bare ground being sometimes quite dwarfed and reddish when severely exposed to the sun. The flowers usually open only on sunny days. (Collected Sept. 7, 1931).

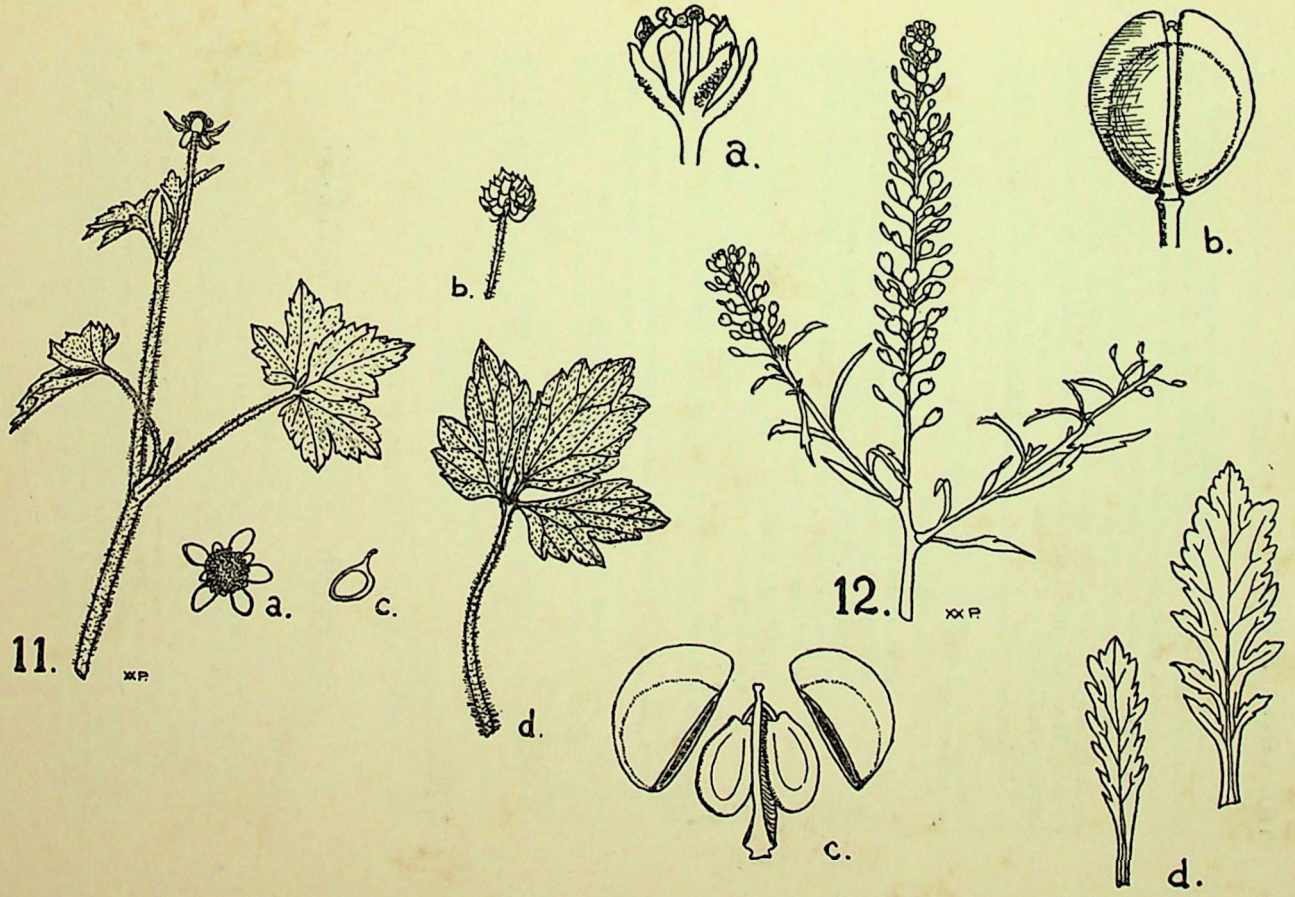
References: Flora Hongkongensis (Bentham), p. 127.
Flora of Manila (Merrill), p. 200.
Gray's New Manual (Robinson and Fernald), p. 389.

Fig. 11. *Ranunculus pennsylvanicus* Linn. 鴨脚板

The Bristly Crowfoot.

a, view of flower from above showing oval petals; b, head of mature achenes; c, a single achene enlarged; d, basal leaf.


a.
10.
9.
a.
d.
b.
c.


11.
a.
c.
b.
d.
a.
b.
12.
c.
d.

A stout bristly herb with trifoliate leaves and solitary yellow inconspicuous flowers. Spreading bristly hairs all over the plant. The leaflets stalked, unequally cleft, and sharply toothed. Petals yellow, sepals reflexed. July and August.

A very common and widely distributed roadside herb. It inhabits moist places in the eastern part of the United States as well as in East China. It varies quite a bit in respect to size, being fairly dwarfed under certain conditions. (Collected July 3, 1931.)

References : Gray's New Manual (Robinson and Fernald), p. 398.

Fig. 12. *Lepidium virginicum* Linn.

Wild Peppergrass.

a, enlarged view of flower showing two stamens, four petals and growing ovary ; b, profile view of seed-pod, or silicle, magnified, showing expanded margin above with notch in the middle ; c, valves removed to show suspended ovules ; d, middle and basal leaves.

A weed with leafy branches and close racemes of orbicular pods. Flowers at tip of racemes very small. Petals white. Stamens two. Upper leaves linear with few teeth, middle ones oblong and coarsely toothed, the lowest ones toothed and partly pinnatified. June to September.

A cosmopolitan weed common along roadsides and in waste places. It is very hardy and can be seen on dry ash heaps and in exposed places enduring the hottest sun. It may be distinguished from *L. ruderale* Linn. by the presence of petals and by the shape of its leaves. (Collected June 23, 1931).

References : Gray's New Manual (Robinson and Fernald), p. 425.
Liste des Récoltes Botaniques, Kiangsou, 1918, (Courtois), p. 33.

(*To be continued*)

SCIENTIFIC NOTES AND REVIEWS

BIOLOGY

THE INSECT MENACE : Under this title Dr. L. O. Howard, the world famous entomologist and up till recently head of the United States Government Bureau of Entomology, has written one of the most interesting and delightful insect books it has ever been our good fortune to read.

No branch of animal life on this earth has proved as successful as that of the immense class *Insecta*. Even man, who has imposed his dominion over practically every living thing except the insects, cannot claim a greater degree of success in meeting and overcoming the vicissitudes of life. Indeed, the only serious rivals on the earth that man has for a permanent " place in the sun " are the insects, which at times actually threaten his existence over wide areas.

Dr. Howard appreciates to the full this threat to mankind, and his book gives us a very vivid picture of the war that eternally takes place between the members of the insect world and the rest of nature, including man. It is full of startling facts, with which as a basis it does not call for much imagination on the part of the reader to realize how easily the balance in man's favour might be upset and the insects in their countless myriads gain the upper hand.

Here is one. Discussing the fecundity of insects he mentions Professor Herrick's recent estimates regarding the possible increase through the process known as parthenogenesis, or virigin birth, of the aphis or plant louse that lives upon the cabbage. Were there food enough a single aphis could in one season multiply to the extent that the total weight of its offspring would amount to 822,000,000 tons, or 1,644,000,000,000 pounds, or over five times the weight of all the people in the world.

Again, after going carefully over the estimates of a number of entomological experts regarding the number of different species of insects in the world, Dr. Howard ends up by saying it would not surprise him if it were shown that there were more than 4,000,000.

The damage done and losses caused by insects in the United States of America, where statistics have been gathered on an extensive scale, leave one breathless. Twenty years ago the annual economic losses to the American people as a result of typhoid (now fortunately under control) was estimated at $100,000,000. The total annual losses through insects suffered in the United States in terms of money have been placed by Metcalf and Flint at $1,590,044,500. Dr. Howard considers this figure too low by several hundred million dollars. At the 1930 conference of the Empire entomologists held in London it was estimated that losses caused by insects in Canada amounted to £30,000,000 per annum, in Queensland they amounted to £2,000,000, and in India to £151,000,000.

In one highly significant chapter Dr. Howard tells how the world is waking up to this menace, and what is being done to combat it. Perhaps this part of his book will prove the most interesting. The use of insect parasites to fight insects is described in detail, and some wonderful revelations are made in connection with this phase of the subject.

METEOROLOGY

A MILD WINTER IN CHINA: Inspite of the cold snap experienced about the middle of December, we must now pronounce the winter to have been an unusually mild and pleasant one in China, though elsewhere in the world severe weather conditions have been recorded. In the Lower Yangtze area the weather throughout January has been dry and comparatively warm with plenty of sunshine during the day and frost of greater or lesser intensity at night.

A light fall of snow was recorded in the Shanghai area during the early hours of January 7, this being the only snow which has fallen here this winter. A very heavy deposit of hoarfrost on the night of January 10 gave the impression of a fall of snow.

SEISMOLOGY

WALES AND ENGLAND REGISTER SHOCKS: A *Reuter* telegram of January 14 states that the citizens of Pwllheli in North Wales experienced a slight earthquake early in the day. A wide area was affected. On January 17 early in the morning six violent earth tremors were felt in England, particularly in the Manchester district. The disturbance has been attributed to the Pendleton fault movement which caused an earthquake in Manchester last May.

VOLCANOLOGY

ALASKAN AND GUATEMALAN VOLCANOES ACTIVE: On January 19 it was reported that Mount Cleveland in Alaska, long dormant, was active again; while two days later, on January 21, Guatemala City was rocked by earthquakes resulting from the bursting into eruption of Fuego and Acatenago Volcanoes.

ASTRONOMY

SOUTH ENGLAND AND LISBON WITNESS PHENOMENALLY BRIGHT METEORS: On the night of December 28 an exceedingly bright meteor passed over Lisbon disappearing in the direction of the sea. The following night another exceptionally bright meteor was seen in the south of England passing down the English Channel. Both meteors burnt out before reaching the earth's surface.

It will be remembered that on December 13 a very large meteor struck the ground close to the suburb of Gothenburg, Sweden, while shortly afterwards another fell into Lake Maelar.

MEDICINE

PLAGUE IN NORTH SHENSI AND WEST SHANSI: A report issued on January 18 by the Health Department of the Ministry of Home Affairs, Nanking, places the death roll of the outbreak of bubonic plague in West Shansi and North Shensi at 20,000, over 500 villages being involved. The plague did not affect the cities and towns, but was prevalent on farms and in villages. Common rats were responsible for carrying and spreading the disease through the usual channel of fleas. It may be noted that plague has been endemic in this general region for the past eight years.

MENINGITIS OUTBREAK IN TANGSHAN AND HUCHOW: Reports to hand reveal the fact that there have been cases of cerebral spinal meningitis in Tangshan, the hot-springs area fifteen miles from Nanking, and at Huchow in Northern Chekiang, during the past month.

SMALLPOX IN SHANGHAI: Smallpox has been unusually bad in Shanghai during the past month, and all who have not been vaccinated recently are warned to resort to this necessary precaution.

"PLASMOQUINE" THE NEW MALARIA REMEDY: In our last issue we mentioned a new remedy for malaria without, however, giving its name. It now transpires that the remedy referred to is none other than the Bayer preparation known as "Plasmoquine," originally issued for testing purposes under the name "Beprochin," and extensively experimented with by Lieut.-Colonel S. P. James in collaboration with Dr. W. P. Nicol and Mr. P. G. Shute at the Institute of Pathology and Research at St. Mary's Hospital. Plasmoquine is the name under which the drug is available to the public.

A. DE C. S.

SHOOTING AND FISHING NOTES

SHOOTING

THE MANCHURIAN GRIZZLY: It is with the greatest interest that we have received from Mr. Peter Moguchy, the professional hunter and guide of Harbin, a letter and photograph which we publish here dealing with the shooting of a huge grizzly bear near Handaohetze Station on the Chinese Eastern Railway last November, the more so that we were the first to prove the existence of grizzlies in Manchuria, and claim to be the first foreigner, other than professional Russian hunters, to have shot one of these fierce animals.

An 800 lb. Grizzly Bear (*Spelaeus cavifrons*, Heude) shot by Mr. Peter Moguchy, Professional Hunter and Guide, at Handaohetze Station on the Chinese Eastern Railway, North Manchuria, on November 15, 1931.

In the autumn of 1914, while on an expedition into the Manchurian forested area of Nothern Kirin with the well known station of Imienpo as our base, we came across and shot a full grown male bear, the skin and skull of which were sent to the United States National Museum, where they were identified as being those of a true grizzly. The species had been described by Heude of Zikawei Museum, Shanghai, under the name *Melanarctos cavifrons* from a specimen from the forests near Tsi-tsi-har on the Eastern Section of the Chinese Eastern Railway. There is some divergence of opinion as to the correct generic name for the grizzly bears, but certainly *Melanarctos* cannot be used, and we consider the correct name to be *Spelæus*, originally used by Joshua Brookes in 1828 for the prehistoric cave bears of Europe, to which group, strangely enough, the modern grizzlies belong. The name of the Manchurian grizzly, then, should be *Spelæus cavifrons* (Heude).

There can be no mistaking this animal, for it is very different from both the brown bears and the black bears, both in shape and colour. It is larger than the latter and very much more savage than either. A full description of the species is to be found in our " Naturalist in Manchuria," Volume II, pages 56 to 58, as well as photographs of the specimen we shot in the Imienpo area. A description of the shooting of this animal appears in Volume I of the same work, Chapter IV.

Following is Mr. Moguchy's letter :

Dear Mr. Sowerby,

I send for your Journal this photograph of my big black bear which I killed near the station Handaohetze, Chinese Eastern Railway.

His weight was over 800 pounds without the stomach. From nose to legs he was 3 metres long. Between point of ears, 48 cm. Colour of his skin was black, but the head was dark brown. In your description you can write that the best time for shooting bears in Northern Manchuria is in the Autumn, in September, October and November, and also in the spring, in April and May. Should any sportsmen wish to shoot bears, wild boars and wapiti in Northern Manchuria I will be very glad to give full information about this big game shooting as well as about bird shooting and fishing.

Yours very truly,

PETER MOGUCHY.

St. Handaohetze,
Chinese Eastern Railway.
(Via Harbin.)

FISHING

WELL KNOWN FISHERMAN RETURNS TO CHINA : Members of the angling fraternity will welcome Mr. H. P. Wilkinson, formerly of Shanghai, on his return to China after several years ' absence. Mr. Wilkinson was one of the pioneers in the fine sport of sea-bass fishing at Wei-hai-wei, and it is largely due to his enterprise some years ago that this sport can be enjoyed to-day. In back numbers of this journal we have several times reported upon catches made by this enthusiastic disciple of Isaac Walton.

A. de C. S.

THE KENNEL

A BEAUTIFUL DOG BOOK : We wish to advise all dog lovers amongst our readers to get themselves a copy of one of the most delightful dog books it has been our pleasure to see. This is a new publication called " About Our Dogs " issued by Ward, Lock and Co., Ltd., London, at the very reasonable price of 21s. net.

Its author is the well known authority and writer on dogs, Mr. A Croxton Smith, and in it he covers the whole field of dog owning, breeding and exhibiting.

An introduction by Countess Howe and a number of beautiful coloured plates from paintings by Ward Binks in addition to the 64 other full-page illustrations enhance the value of this exceedingly useful book.

As far as we can ascertain there is not a known breed of dog that is not adequately dealt with, while illustrations of most of them are given. The latter half of the book is devoted to the different breeds, the first half covering all the many other phases of dog breeding, rearing, choosing, buying, training and care. It will prove invaluable to dog owners and breeders in China; and may be specially recommended to members of the China Kennel Club.

DO NOT DESERT YOUR DOG: At a time of stress like the present, when once more foreign residents in China, and especially Shanghai, are facing the possible contingency of having to evacuate their homes and seek safety elsewhere, a special plea may be made for their dogs. It is hard to believe that such a plea is necessary, yet the fact remains that in the past foreign refugees from danger in China have at times been guilty of leaving their dogs behind to fend for themselves or to the tender mercies of thoroughly frightened Chinese servants. This is really too horrible to contemplate with equanimity, and our suggestion is that if it is impossible to take one's dogs with one when evacuating one's home, then one should take steps to destroy them before leaving.

A DE C. S.

THE GARDEN

JANUARY TO FEBRUARY

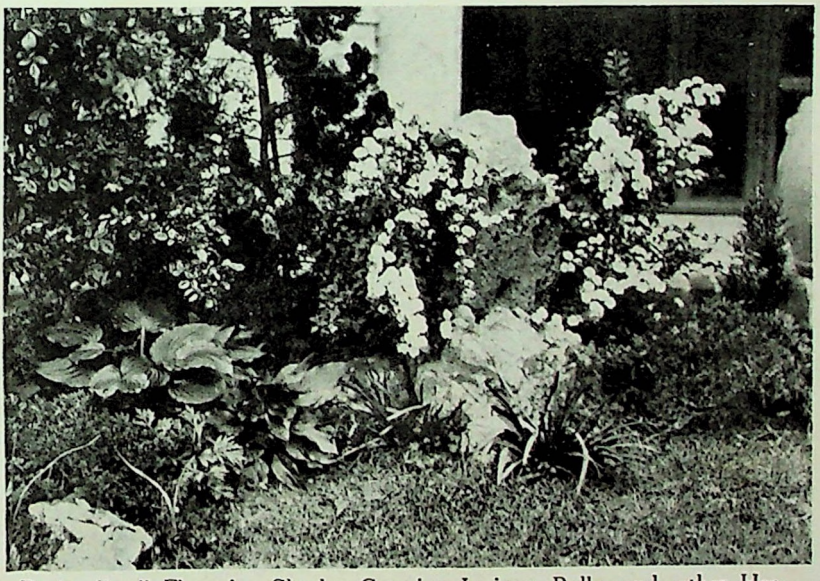
A ROCK GARDEN: As little work can be done in the open garden at this season we may make plans for a rock garden. There are many places in corners and on steep slopes where a rock garden will be charming and give variety to the landscape.

Choose a sunny position with some protection to the north. This can be provided by the planting of shrubbery or small trees. Tall trees should be avoided as their roots might undermine the rocks and take all the nourishment from the smaller plants. Having chosen a sunny site, we must consider the natural shape of the rock garden. Much depends upon the locality we live in, as the rock garden must maintain the semblance of a natural setting. Low mildly undulating mounds will be more in harmony with our Shanghai surrounding country. Even with these we can get delightful effects.

Simplicity should be the keynote. The arrangement of the rocks should appear as a natural feature of the landscape and not as an artifical banking up of rocks lacking harmony with the whole country. This conformity to nature is of the utmost importance.

In laying the rocks begin at the ground level first and build upwards and incline the rocks inwards. This is necessary to prevent the rain washing away too much earth. If a tilt is desired all rocks must have the same inclination, so as to provide the natural effect of rock strata. All stones must be firmly imbedded, as no plants can root and grow amongst loose rocks. Where space is limited we must content ourselves with a few good effective stones and not be tempted to pile up a lot of ordinary stones. The most perfect and largest rocks should be laid down first with great care, as they constitute the dominant feature of the rock garden. It is absolutely wrong to place the rocks next in size on these, as this would cause them to appear smaller than they are in reality; rather place the second size stones some distance away, where they too can form dominant features. The large stones should have the small stones about them, when they will appear as though they were part of the larger stones. Where there is danger of the large stones slipping or sinking cement blocks may be rammed in and covered with earth. Above the big rocks smaller stones can be laid, the smallest at the back firmly intrenched.

Flowering Shrubs and Rocks in a Small Shanghai Garden.



Rocks, Small Flowering Shrubs, Creeping Juniper, Bulbs and other Herbaceous Plants nestling in a corner of a Small Shanghai Garden.

A large part must lie buried in the soil so that only a half or two-thirds of the surface is exposed.

Having arranged our rocks and left little pockets and crevices for plants, we must consider the soil which must be suitable to each plant. Some rock plants can withstand draught and heat and some love the cool dampness of rock shade. However, most rock plants like a gritty composition of crushed limestone, leaf mould and sand. The leaf mould and rich soil keep the roots moist, even if the summer sun parches the leaves of the plant. Moisture must be conserved, for which reason we in our warm climate mulch the plants early in spring by working in very old cow manure and sand. After having worked the ground around the plants, cover the roots well with old manure. This prevents evaporation and will preserve the rock plants through the summer months, for many of these plants have their home in the Alps, and would otherwise find our China sun too torrid and merciless.

Some plants do not like lime, and for them we must make a compost of broken granite, rich soil and sand. Among plants not liking lime are the *Draba* and some species of *Dianthus* and *Ranunculus* as well as *Silenes*. Peat moss is a great favourite of some rock plants, but is difficult for us to obtain in China. As a general rule rock plants like a gritty soil. It is astounding to see them flourishing in their native homes with almost no earth for nourishment. They just cling to the mountain rocks and seem to gather strength from the air and sun.

Having placed the rocks and filled the pockets with the desired soil, we may begin with plants for the background. Avoid tall trees, as they are too out of proportion to the dwarf plants. Shrubbery harmonizing in size and variety will enhance the beauty of such a spot, and appeals by the charm of its flowers, brilliant foliage or bright berries. These shrubs range from a few inches in height to several feet. Some are hanging or creeping, some upright, some spreading. The creeping juniper and some dwarf pines (such as *Pinus cembra* and *P. parviflora*), the azaleas, *Daphne japonica*, *Berberis*, *Buddleia prostrata*, *Cistus*, rhododendrons, *Thuya* and *Veronica* are only a very few of the many delightful shrubs which do well among rocks.

And now, having arranged our background of evergreens and flowering bushes all harmonizing in size with the rock work (which must mot be made to appear smaller), we may choose dwarf plants to fill the crevices and pockets.

Dwarf plants suitable for a rock garden are innumerable. Fill the pockets with the desired mixture of soil and plant firmly so that no air will remain. Some crevices are quite deep, these must be filled with crushed granite and made firm, as loose planting dries out the roots of the plants. There must be no hollows beneath.

In North China, where the climate is more like that of Central Europe, some of the following plants might be tried. The lavender-pink, grey-leafed and rose-mauve heathers (*Erica*) would make a brilliant and fragrant carpet under the pine and spruce trees, while within the moraine *Linaria alpina*, the violet blue alpweed, *Saxifragia caesia*, *S. aizoides*, the various sun-loving gentians, *Clematis alpina*, *Cyclamen europaeum*, the *Akanthus* thistle, *Carlina acaulis*, anemones, *Ranunculus repens*, dwarf marguerites, *Chrysanthemum atratum*, and *Arabis alpina* are only a few of the many hardy northern rock plants that may be mentioned.

Naturally the flowers in a rock garden vary with the place and seasons. Amongst those which should do well in Central China are the following. Various varieties of profusely blooming *Phlox*, the finest of which is *Phlox douglassi*, whose native home is in the Rocky Mountains and the Sierra Nevada, where in April the flowers cover the rocks so completely that even their leaves are scarcely visible. This plant is difficult to propagate, as the seed is sparse and transplanting difficult. *Plox stolonifera*, also called *P. reptans*, with its scarlet umbels of flowers and its broad hairy leaves, is unlike the other dwarf *Phlox*. Its height is about six inches and it blooms from April to June and frequently again in the autumn. Its little tendrils root themselves into every crevice, thus forming new plants. The winter's frost does not affect this hardy little *Phlox*.

The members of the genus *Draba* are dwarf rock plants of the arctic and temperate zones with white and yellow blossoms. The species of *Draba* grow from four to six inches in height, their spindly roots penetrating walls and crevices and even extending to the open garden if there are any scattered loose stones. These plants are invaluable for rock gardens as they blossom annually and send their rootlets

into the narrowest crevices where they find a bit of earth to cling to. They love sun and a light gritty soil, but are sensitive, like all rock-clinging plants, to stagnant dampness. They seed themselves. *Draba aizoides*, an evergreen with rosy leaves, grows in little clumps to a height of two to five inches and has flowers of a golden yellow. The Pyrenees and the Balkans are its native home. Among other species of this genus is *Draba rigida*, also bearing golden yellow flowers, its height being not over four inches. It is found in Armenia.

From the Caucauses we have *D. bruniaefolia*, whose bright yellow blossoms are a delight, and from the Alps comes *D. sauter*. We need mention only one other yellow variety which differs from the above mentioned in that it spreads rapidly over large surfaces like a fresh green lawn, while the little golden flowers, which open in abundances in April, form a pleasing contrast to the lovely green. *Draba repens*, whose home is Siberia and Asia Minor, is another attractives species with yellow blossoms.

Among white flowering species the choice is almost as great as among the yellow ones. From the Pyrenees comes the dainty and prolific flowering *D. dedeana*, also the *D. salomonii* and *D. sundermanii*, which in seson are completely covered with white blossoms. Norway is the home of *D. rupestris*, equally beautiful and prolific. There are many other species of the *Draba* family. Those mentioned are only a few of the most prolific flowering ones which have been successfully cultivated.

The very desirable *Saxifraga* or rockfoils, with their vari-coloured tints of rose, white and yellow, are among the best known rock plants. The taller species, such as *S. cotyledon pyramidalis*, form a fine colourful background, while the mat-like growing species are more suited for level planting.

The numerous members of the gentian family, *Silene* and *Lewisia* all flourish in our warm climate. The beautiful pink *Silene hookeri*, growing between blue gentians or the brilliant blue *Penstemon* and intermingling with *Aster yunnanense*, pink *Dianthus* and blue *Veronica prostrata*, make a charmingly gay picture.

The various species of *Helianthemum*, or rockrose, related to *Kalmia* and *Loiseleuria*, have comparatively large rose-like blossoms of pink and mauve colours. Two lovely pink flowering plants are the heat-resisting *Actinomeris* with grey foliage and *Malvestrum coccineum* with grey leaves and blue flowers.

Another beautiful flower for the rock garden is *Veronica lutea*. Whether planted in sunny or shady spots, in sandy soil or richer earth, the *Veronica* will produce a profusion of bright yellow hanging grape-like blossoms. According to a legend this flower is called *Veronica ageria* after a nymph from whom Numa Pompilius received his laws. The mosslike *Selaginella* grows like a thick carpet and settles itself snugly between crevices and fissures.

Among the numerous bulbs from Asia Minor is *Puschkinia scilloides* with its charming delicate blue flowers resembling the grape hyacinths. It is a native of Asia Minor, and resembles the hyacinth in general appearance and habit of growth. The *Chinodoxa* is also a joy. All bulbs should be planted in the autumn and such bulbs as anemones, crocuses, grape hyacinths, dwarf tulips, narcissuses and irises all do well in a rock garden. Any dwarf annual helps to bring more colour, such as *Alyssum, Aubretia, Abronia, Anagalis.* ice plant, *Lobelia, Kaulfussia, Nastu rtium, Portulacca, Saponaria, Nemophila*, in fact, any plant not more than ten inches in height.

In no other part of one's grounds is it possible to obtain so many and varied changes as in the rock garden. There is always life in a rock garden, and it can be made most interesting if planted with wild roots, bulbs or shrubs brought home by the traveller. Miniature mountains, miniature waterfalls, bridges, lowlands, tiny gnarled trees—the imagination runs away with the enthusiast ! The Japanese rock garden is almost perfect, there is so much variety, so much life, so much character and charm that we must consider such a rock garden in a later issue of this journal.

From Tennyson we have these thoughtful lines :

Flower in the crannied wall,
I pluck you out of the crannies,
I hold you here, root and all, in my hand,
Little flower—but if I could understand
What you are, root and all, and all in all,
I should know what God and man is.

Part of a Rock-Garden in Shanghai showing a Figure of the Laughing Buddha in a Niche with suitable small Shrubs planted about.

Heaths snuggling at the Base of an upright stone in a small Rock-Garden in Shanghai.

CALENDAR : We are still busy in our conservatories where poinsettias will soon be fading. They can be allowed to dry gradually until the time either for repotting or slipping in early April.

If necessary repot ferns. Dead fronds should always be cut away. It is not necessary to repot ferns every spring. They do not like changes. A little fresh earth may be beneficial.

Seed boxes and soil for the sowing of annuals must be made ready, as *Salvia, Ageratum*, marigolds, sunflowers, zinnias and nearly all annuals can be started early in these. Lettuce, too, must not be forgotten.

Feed the lawns and commence weeding. If artificial fertiliser is used, do so only on a rainy day and not when the sun is shining.

L. L.

EDUCATIONAL NOTES AND INTELLIGENCE

EDUCATION BY MEANS OF THE CINEMA : In December and January Baron Alessandro Sardi of Italy visited Shanghai, Peking and Tientsin at the request of the Chinese delegation to the League of Nations, to demonstrate the mass education system by means of the cinema which has been successfully used in Italy, and to investigate the Chinese educational system and the practicability of introducing a similar system in China. The Baron is President of the Luce National Institute for Educational Cinematography in Italy, which is controlled by the state and has for its object the diffusion of culture by means of films. All important national events are filmed, according to Baron Sardi, and films on methods of agriculture, natural history, archaeology, geography and even propaganda are sent all over the country to the cinema houses. Where these are lacking small projectors are installed on motor trucks and sent out for the education of the people. Baron Sardi advised this means of mass education for China, as the size of the country makes it impossible to achieve the same results as quickly by means of books.

CHANGE OF NAMES IN SHANGHAI MUNICIPAL COUNCIL SCHOOLS : The names of half of the fourteen schools in the International Settlement of Shanghai which are controlled by the Municipal Council have been changed from "public" to "middle" schools since January of this year, the other half having been named according to the roads on which they are located. This has been done to avoid confusion in the minds of the public and to facilitate locating the schools.

FINANCIAL DIFFICULTIES ENCOUNTERED BY PEKING NATIONAL UNIVERSITY : Chancellor Shen Yu-mu and the Deans of the Peking National University were compelled to resign their positions last month owing to their inability to continue any longer without pay, stated a recent *Kuo Wen* telegram. The University, it is stated, had received no funds from the National Government since last September. A later message, however, reports that the Government has sent $50,000 to Peking to meet the immediate expenses of its universities and colleges, while a further remittance of $250,000 has been promised to be remitted shortly by the Ministry of Education.

NEW SCHOOL OF CHINESE MUSIC AND DRAMATIC ARTS TO BE ESTABLISHED IN PEKING : The Chinese Dramatic Arts Club of Peking, recently organized by Messrs. Mei Lan-fang, Cheng Yen-chiu, Li Shih-tseng and others, is planning to open a school in Peking in the near future for the purpose of training amateurs in classical drama, stated a recent message from the north.

NEW DIRECTORS OF CHINA FOUNDATION BOARD : At its meeting held in Shanghai on January 6 the China Foundation elected Dr. Y. T. Tsur and

Mr. Hsu Hsin-loh to succeed Drs. Chiang Mou-lin and Chao Yuan-jen on its Board of Directors. To assist the board in making its appropriations an advisory finance committee was appointed consisting of Mr. Hsu Hsin-loh, Mr. Ku Yi-chun and Mr. C. S. Bennett. The meeting approved the report of the building committee regarding $1,400,000 spent on the construction of the Peking National Library, and voted an additional $120,000 to the Central Research Academy, Shanghai, for its Chemistry and Engineering Building, for which $500,000 had been previously appropriated.

PUBLICATIONS RECEIVED

BOOKS:

About Our Dogs, by A. Croxton Smith: Ward Lock and Co., Ltd. Warwick House, Salisbury Square, London, E. C. 4, ENGLAND.

The Insect Menace, by L. O. Howard: D. Appleton and Co., 34 Bedford Street, London, W.C. 2, England.

Across the Gobi Desert, by Sven Hedin: G. Routledge and Co., Broadway House, 68-74 Carter Lane, Ludgate Hill, London, E.C. 4, England.

Creative Energy, by I. Mears and L. E. Mears: John Murray, 65 Clerkenwell Road, London, E.C. 1, England.

Proceedings of Ceremonies to Mark the Formal Opening of the New Building of the American Academy of Arts and Letters.

Proceedings in Commemoration of the Twenty-fifth Anniversary of the Founding of the American Academy of Arts and Letters.

The Geology of the Tsinlingshan and Szechuan, by Y. T. Chao and T. K. Huang: Geological Memoirs, Series A. No. 9. (with Atlas). The Geological Survey of China, Peiping.

Abstracts of Papers Contributed for the Seventh Annual Meeting of the American Society of Parasitologists, New Orleans, Louisiana, December 29, 30 and 31, 1931.

Report of the Secretary of the Smithsonian Institution, 1931

China Through The American Window, Compiled by Julean Arnold: The American Chamber of Commerce, Shanghai.

A Reconnaissance Survey of a Railway Line from Chungching to Kuangchouwan, by V. K. Ting and S. Y. Tseng, The National Geological Survey of China, Peiping.

PERIODICALS:

The Far Eastern Traveller's Gazette—Manchuria Monitor—Chinese Economic Journal—Bulletin of the Pan-Pacific Union—Chinese Economic Bulletin—The Shipping Review—Philippine Magazine—The Countryman—Science—La Revue Nationale Chinoise—The Salmon and Trout Magazine—The Naturalist—Journal of the Pan-Pacific Research Institution—The Chinese Nation—The Chinese Recorder—The Far Eastern Review—The Geological Bulletin—Palaeontologia Sinica—Game and Gun—Electrical Communication—The Lloyd Mail—Tourism—The China Medical Journal—The Science Journal—The Metropolitan Vickers Gazette—The Travel Bulletin—The Annals and Magazine of Natural History—The American Journal of Science—The Journal of the Society of Chemical Industry, Japan—World Unity—Contributions from the Biological Laboratory of the Science Society of China—Natural History—Mid-Pacific Magazine—Discovery—Man—The Philippine Journal of Science—The Modern Review—Smithsonian Miscellaneous Collections—Present Day Japan.

MARCHANT'S
OLD HIGHLAND
WHISKY

Sole Agents

Jardine, Matheson & Co., Ltd.
27 THE BUND

TAKE
THE IDEAL NUTRIENT
STIMULANT
BOVRIL
IT GIVES YOU STRENGTH
WHEN YOU NEED IT MOST

CARTER & CO., LTD.

ENGLAND

MANUFACTURERS OF:

WHITE GLAZED TILES
FLOOR TILES AND QUARRIES
CERAMIC MOSAICS
COLOURED GLAZED TILES
DULL GLAZED TILES

ARNHOLD & COMPANY LIMITED

DUNCAN & CO.

BUILDING SUPPLIES

Specializing in :

ROOFING
FLOOR AND WALL TILES
MASTIC FLOORS
FLOOR COVERINGS
PAINTS
TERRAZZO
MARBLE

9 Foochow Road, Shanghai **Phone: 61439**

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 50 oz.
Best quality

HEATING
SANITATION
FIRE PROTECTION

THE SHANGHAI WATERWORKS FITTINGS COMPANY, LIMITED

(INCORPORATED UNDER THE COMPANIES ORDINANCES, HONGKONG)

Repairs Promptly Executed **All Work Guaranteed**

484 KIANGSE ROAD Tel. 15577-6-5-4-3

DAY AND NIGHT SERVICE

BOMBS

are unpleasant things and best avoided whenever possible, and so is Rust ! Therefore, before the value of your Steelwork has

DROPPED

considerably, follow the precautions taken by others and have a good coat of zinc sprayed

ON

all steel and iron-work which is liable to be exposed to the action of Rust. No paints will protect you efficiently. Property owners in

SHANGHAI

will therefore be well advised to consult us before building in any Steel-work, Metal Windows, etc. Advice and Estimates free.

CHINA METALLISATOR COMPANY

Factory : 102 EDINBURGH ROAD

Town Office : EICKHOFF & CO., 451 Kiangse Road

CUMINE & CO., LTD.

(Incorporated in Hongkong)

LAND, ESTATE AND INSURANCE AGENTS

HEAD OFFICE:
No. 48 Szechuen Road, Shanghai

Telephones: 14375 & 16151
Tel. Add.: COLUMNA, Shanghai
P. O. Box: No. 1457

This Company undertakes:—

1. Management of Properties
2. Collection of Rentals
3. Arrangement for letting Houses
4. Registration of Land
5. Negotiation of Mortgages. Sales and Purchases of Properties
6. Fire Insurance Transactions
7. Advising on Investments (Mortgages, etc.)

etc., etc.

Agents:

The West End Estates, Ltd.

The Central China Commercial Co., Ltd.

SACHSENWERK

Electric Motors
Generators
Switch-Plants

Reliable Goods at Reasonable Prices.

Agents:

Behn, Meyer China Co.,
LIMITED

421 Kiangse Road, Shanghai

FOUNDATIONS

ON

COMPOSITE PILES,

COMPRESSED CONCRETE PILES,

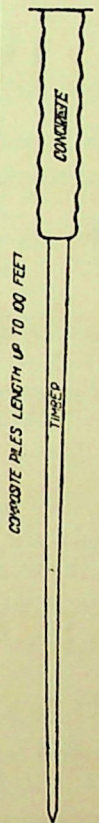
ROUND TIMBER PILES,

Large Stock of Timber Piles

STRUCTURAL STEEL

AND

CONCRETE WORKS



ECONOMY
PERMANENCY
A BETTER
FOUNDATION

ESTIMATES FREE OF CHARGE

A. CORRIT,

C.E. M.I.C.E. DEN.

278 KIANGSE ROAD

BOLINDER'S

CRUDE OIL
MARINE AND STATIONARY
ENGINES

Direct Coupled Crude Oil Engines and Generators

The new BOLINDER'S Engine is the latest in Crude Oil Engines. No matter what service may be, driving a cargo boat or for generating electric light, the BOLINDER'S will do the work to your satisfaction. A cheap power and a business investment. For reliability and economy the BOLINDER'S engine cannot be beaten.

Sole Agent for China and Hongkong:—

G. S. JENSEN

106 SZECHUEN ROAD, SHANGHAI

MACHINE BELTING

THE "GANDY" PATENT COTTON BELT

Represents the Highest Quality British Manufacture. It is a Perfect Driving Belt and is the most Reliable and Cheapest in the Long Run. Stocked in all sizes up to 18" wide.

Stocks also of

"GANDY" IMPROVED HAIR BELTING
"GANDY" HIGHEST GRADE LEATHER BELTING
CONVEYOR AND ELEVATOR BELTING
BELT FASTENERS AND BELT HOOKS
BELTING SYRUP, Etc. Etc.

ROSE, DOWNS & THOMPSON

(FAR EAST), LIMITED

29 CANTON ROAD, SHANGHAI

COAL TAR DYE-STUFFS
BIOLOGICAL STAINS
INDICATORS
ACRIFLAVINE

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

NEW YORK CHINA
14 CANTON ROAD, SHANGHAI

A. R. BURKILL & SONS,

2 CANTON ROAD, SHANGHAI

Secretaries and/or General Managers

The Shanghai Kedah Plantations, Limited,
The Padang Rubber Company, Limited,
The Bute Plantations (1913) Limited,
The Tanah Merah Estates (1916) Limited,
The Kota Bahroe Rubber Estates (1921) Limited,
The Dominion Rubber Company, Limited,
The Sungei Duri Rubber Estate, Limited,
The Shanghai Pahang Rubber Estates, Limited,
The Consolidated Rubber Estates (1914) Limited.

J. A. WATTIE & CO., LTD.

(Incorporated under the Companies Ordinances, Hongkong)

Financial, General and Commission Agents

Head Office :

10 CANTON ROAD, SHANGHAI

(also at London, Sourabaya and Batavia)

Secretaries or General Managers for :

Alma Estates, Limited
New Amherst Rubber Estate, Limited
Anglo-Dutch (Java) Plantations, Limited
Anglo-Java Estates, Limited
Batu Anam (Johore) Rubber Estates, Limited
Bukit Toh Alang Rubber Estates, Limited
Chemor United Rubber Company, Limited
Chempedak Rubber and Gambier Estate, Limited
Cheng Rubber Estates, Limited
Java Consolidated Rubber and Coffee Estates, Limited
Kali Glidik 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
Ziangbe Rubber Company, Limited
The Rubber Trust, Limited

BILIVACCIN

Anti-Cholera, Anti-Dysentery, Anti-Typhoid

The Effective Vaccine to be taken by MOUTH

NO DISCOMFORT, NO REACTION

Used by Government and Municipal Health Authorities for Public Health Work

Lt.-Col. RUSSEL, Director of Public Health, Madras, said before the Congress of Far Eastern Association of Tropical Medicine, that 100,000 Vaccinations were done in Madras city within one month with

NO SINGLE CASE OF DEATH FROM CHOLERA AMONG THE VACCINATED

CHOLERA, DYSENTERY, TYPHOID, will soon be in Shanghai. **DO NOT DELAY, NO HOME IS SAFE WITHOUT A SUPPLY OF BILIVACCIN**

Sold at All Chemists

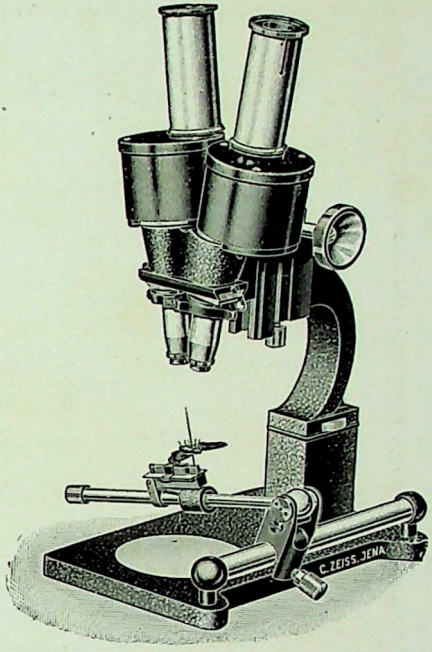
L. GRENARD & CO.

PHARMACIE FRANCAISE

57 NANKING ROAD

SHANGHAI

Sole Agents for China



ZEISS

Binocular Dissecting MICROSCOPES

Special Microscopes for Research work, Travelling and any other purposes

Catalogues are sent to you on application free of charge by the

Sole-Agents:

CARLOWITZ & CO.,

Showroom: Corner of Szechuen and Soochow Roads

SHANGHAI

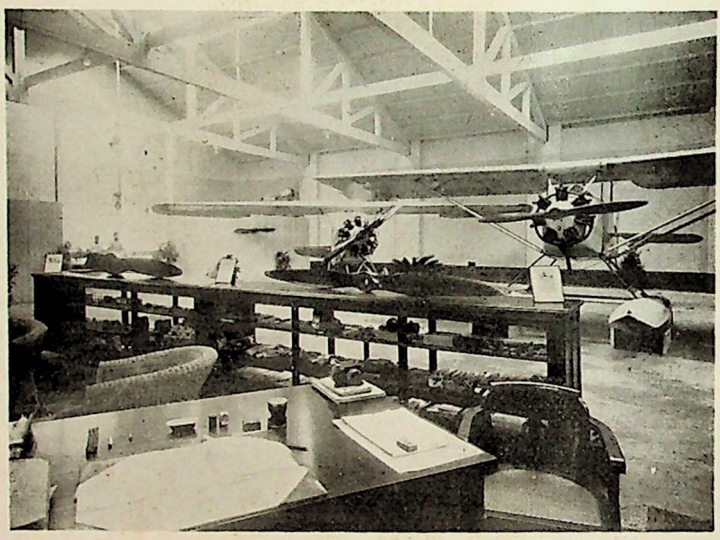
ICARUS AERO SUPPLY CO., LTD.

CONSULTING ENGINEERS
FOR ALL
AERONAUTICAL PROBLEMS

HEAD OFFICE:
320 KIANGSE ROAD,
SHANGHAI
Telephones {10597 / 11674

Incorporated under the Hongkong Companies' Ordinances

SHOW ROOM
60 MACGREGOR ROAD
Telephone 50388
Telegraphic Address:
"AEROSUPPLY"

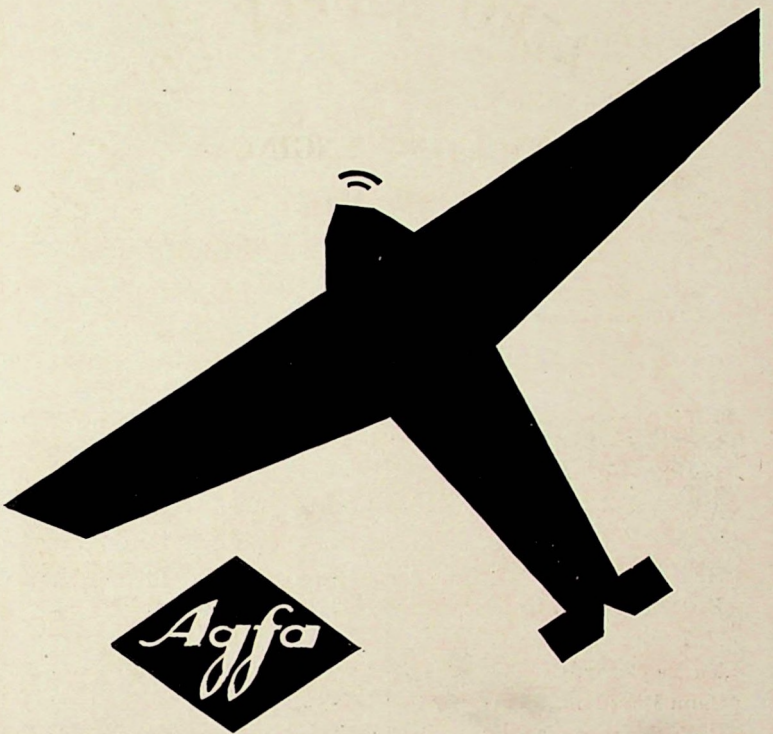


DISTRIBUTORS for:

All kinds of airplane construction material such as :

Aluminium
Carbon and Chrome Molybdenum Steel
Steel Tubing
Turn Buckles
Bolts, Screws, Rivets, etc.
Bracing Cable and Wire
Plywood
Airplane Cloth
Varnishes and Dopes
Airplane Tires
Low Pressure Landing Wheels
Passenger Planes
Survey Planes
Combat Planes
Observation Planes
Bombers
Airplane Engines
Airplane Instruments
All Metal Propellers
Wood Propellers
Parachutes
Airplane Hangers
Airfield Equipment

ICARUS AERO SUPPLY CO., LTD.



KINE-CAMERA

Movex

For particulars apply to your dealer or to

AGFA CHINA CO.

OTTO & CO.

68 Szechuen Road Shanghai

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:

A. M. Cannan, Esq. *(Chairman)*
H. E. Arnhold, Esq.
B. D. F. Beith, Esq.
M. Benjamin, Esq.
Yu Ya Ching, Esq.
Chun Bing Him, Esq.
P. W. Massey, 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

28 JINKEE ROAD SHANGHAI

AN OLDER MAN SPEAKS HIS MIND

"It's not how much you make, but what you hang onto that counts in the long run. When I was young I put my savings into nothing that brought less than 10 per cent. But now I'd be glad to have just the capital I've sunk, without the interest. The only investment I've ever made on which I am certain to get back all I've put in, plus a guaranteed rate of compound interest, is life insurance. My only regret is that I did not buy more when I was young and the rate low."

Let us advise you.

WEST COAST LIFE
INSURANCE COMPANY
SAN FRANCISCO-CALIFORNIA

W. R. RICE & Co.
GENERAL AGENTS

TELEPHONE 16910-16919

3 CANTON ROAD
SHANGHAI

FOR BETTER PICTURES

Kodak Verichrome Film doubles the fun of picture-taking. For it gets clear, crisp snapshots in shade as well as in sun . . . *and even in rain.*

You need not be an expert in judging light. Verichrome corrects mistakes.

Insist on Kodak Verichrome Film . . . in the yellow box with checkered stripes. Made by an exclusive Eastman process. Packed specially for this climate.

Obtainable from all Kodak Dealers or from

EASTMAN KODAK CO.

24 YUEN MING YUEN ROAD, SHANGHAI

CHINESE NATIONAL RAILWAYS

TRAVEL BY THE

NANKING-SHANGHAI AND SHANGHAI-HANGCHOW-NINGPO LINES

FOR

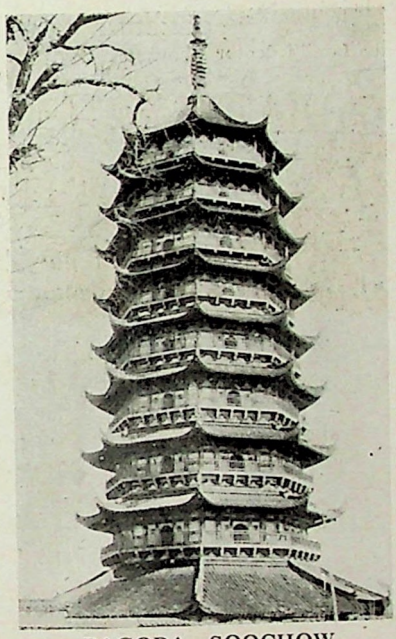
SAFETY

SPEED

SPORT

SCENERY

SATISFACTION



PAGODA, SOOCHOW

For further information, please apply to the Enquiry Office, Shanghai North Station.

Telephone 43199

Effective . . . *and Safe* this famous Sun Lamp

Selected by the world's best medical men . . .

FAMOUS DOCTORS—hospitals—sanitaria—guardians of the world's health—they render keen, impartial judgment on each new development in the medical world.

A quarter-century ago it was they who discovered and acclaimed the remarkable benefits of true ultra-violet rays. And it was that same imposing array of world-famous medical men who selected the one sun lamp which produces a scientifically correct concentration of ultra-violet rays with absolute safety to the user.

Not only did they select the Hanovia Alpine Sun Lamp and thus stamp it with their approval, but to-day more than 263,000 doctors, hospitals and sanitaria use and prescribe the Alpine Sun Lamp. And now this distinguished tonic equipment is available to everyone in a safe, convenient Home Model.

NOT JUST HEAT—NOT JUST LIGHT

Laboratory tests prove that the Home Model Alpine Sun Lamp produces the most beneficial type of ultra-violet rays for tonic use. Yet disturbing elements such as excessive heat and light rays are entirely excluded.

CONSULT YOUR PHYSICIAN!

Ask your family doctor about the Hanovia Alpine Sun Lamp. He will tell you of the tonic benefits it brings. But he will tell you, also, that regardless of the claims made for any health equipment self-diagnosis and self-treatment of sickness should be avoided. And there we agree—when you are sick, let the doctor prescribe.

But if you are seeking to maintain and enhance your enjoyment of life through new energy and increased health—and if you are anxious to have your money buy the full and complete benefits of true ultra-violet rays—then you are cordially invited to visit our showrooms for a demonstration.

(SPECIAL PLAN)

The "Home Sun" Model Alpine Sun Lamp may now be had, either on hire or on a hire-purchase plan direct from the company. Upon request a free authentic booklet giving the whole story of ultra-violet rays will be mailed to you promptly.

The **HANOVIA QUARTZ LAMP** COMPANY

Tel. No. 35419 **1201-3 Bubbling Well Road**

REICHERT

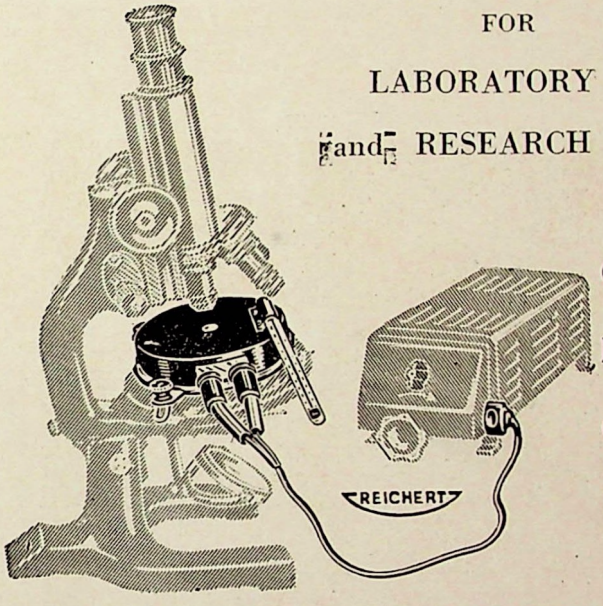
HIGH QUALITY

MICROSCOPES

FOR

LABORATORY USE

and RESEARCH WORK



Greatest Reliability

Greatest Durability

THE ACME OF PERFECTION

Over 80,000 Microscopes delivered 1876-1926. Innumerable Testimonials and Diplomas, Gold Medals from Government Offices, Colleges and International Exhibitions.

Catalogues will be sent on application.

Sole Distributors for China:

KOFA

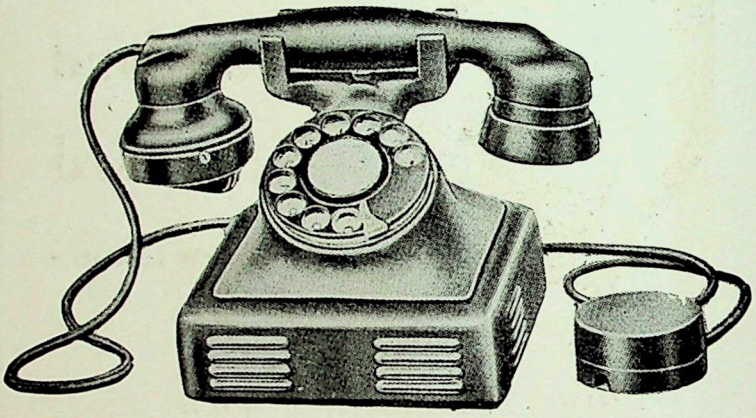
藥 AMERICAN DRUG COMPANY 科

FEDERAL INC., U.S.A.

房 號十二百一 120 NANKING ROAD 路京南海上 發

SHANGHAI

China Electric Company.
LIMITED



Manufacturers and Importers of Manual and Automatic Telephone Equipment.

HARBIN *MUKDEN* *PEIPING*
TIENTSIN *SHANGHAI* *HANKOW*
CANTON *HONGKONG*

The New

UNDERWOOD PORTABLE

4 BANK

Standard Keyboard

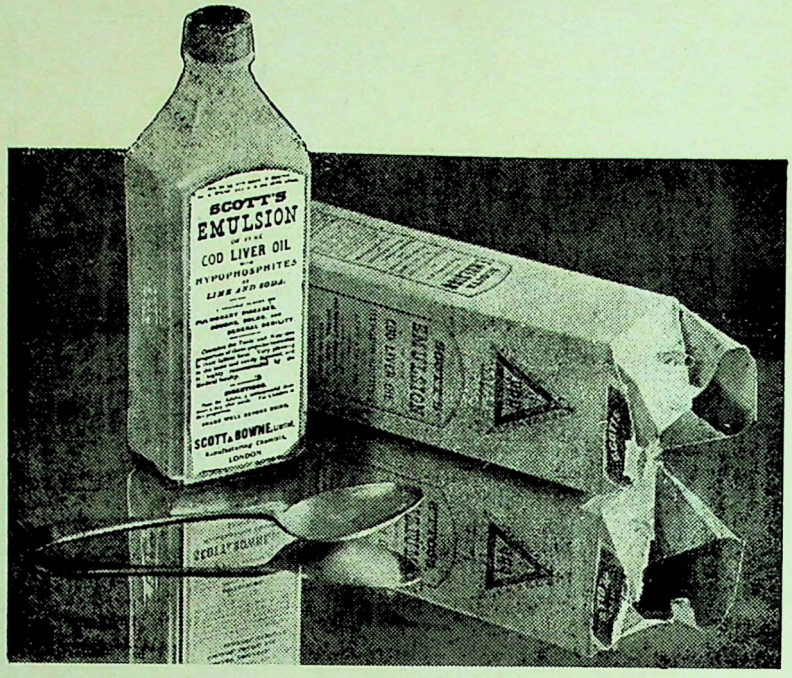
With new features

including: —

Quiet carriage return
Quiet key action
Quiet Shift key mechanism
Variable line spacer
Automatic ribbon reverse

DODWELL & CO., LTD.

1 CANTON ROAD, SHANGHAI



You need it now—

to fight the early winter which already threatens the health of your family,

to prevent coughs, colds, lung troubles, bronchitis and influenza,

to strengthen and protect the aged, the young, the weak and the run-down.

SCOTT'S Emulsion contains the world's finest vitamin-rich cod liver oil and tonic health salts. No substitute is "just as good." Insist on genuine

SCOTT'S EMULSION

For health this winter

The Newsiest Daily Paper

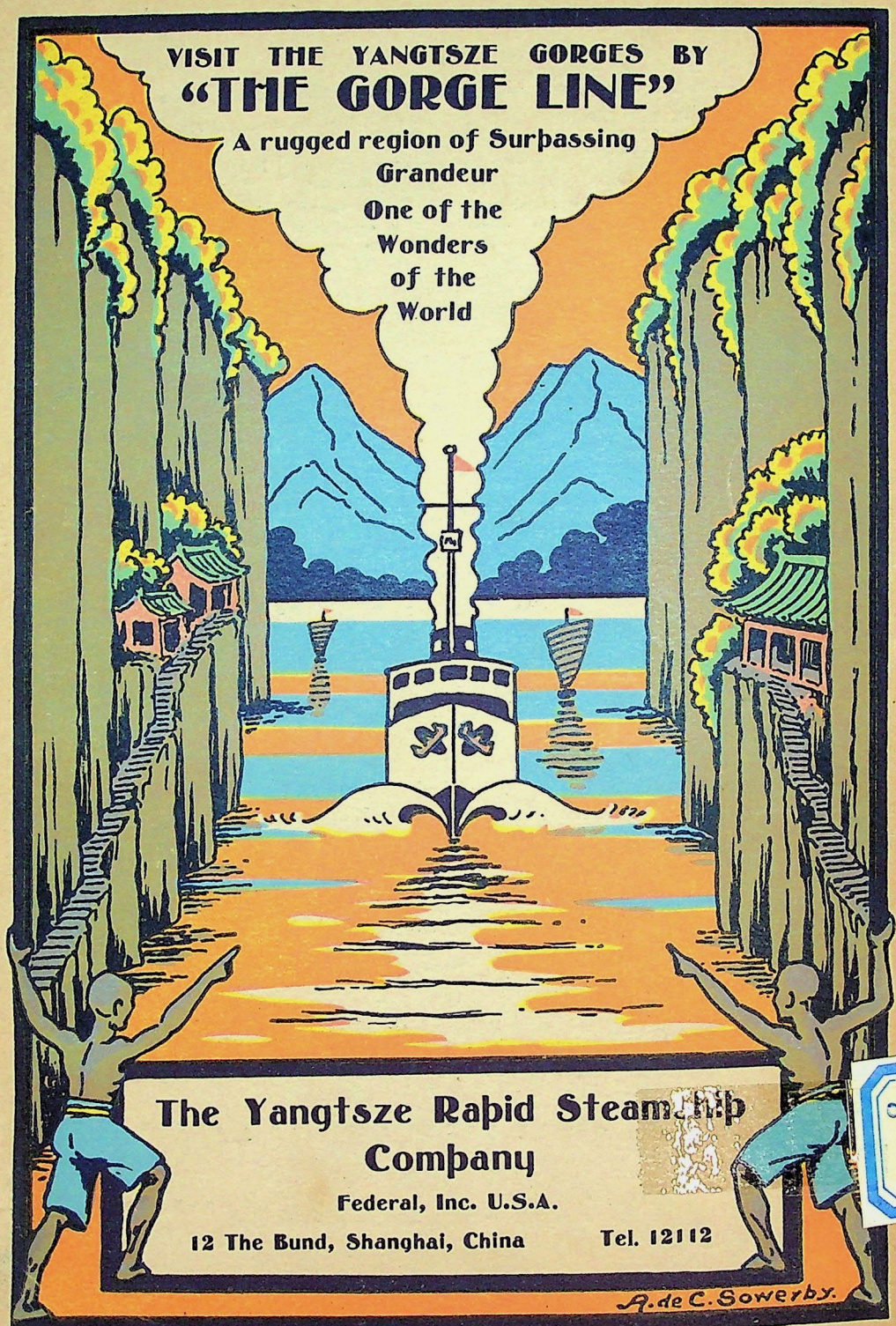
THE SHANGHAI TIMES

and
the brightest Sunday Paper

THE SHANGHAI SUNDAY TIMES

Delivered to your address for the combined rate of $24.00 a year
(Postage to Outports EXTRA)

THE SHANGHAI TIMES
Telephones : 16866, 16867, 16868, 16869, 16870
38 AVENUE EDWARD VII, SHANGHAI


VISIT THE YANGTSZE GORGES BY
"THE GORGE LINE"
A rugged region of Surpassing Grandeur
One of the Wonders of the World
The Yangtsze Rapid Steamship Company
Federal, Inc. U.S.A.
12 The Bund, Shanghai, China
Tel. 12112
A. de C. Sowerby.