THE MAGAZINE OF THE NATIONAL COUNCIL FOR US-CHINA TRADE NOV-DEC 1975

U.S. CHINA BUSINESS REVIEW

NO.6 VOL.2

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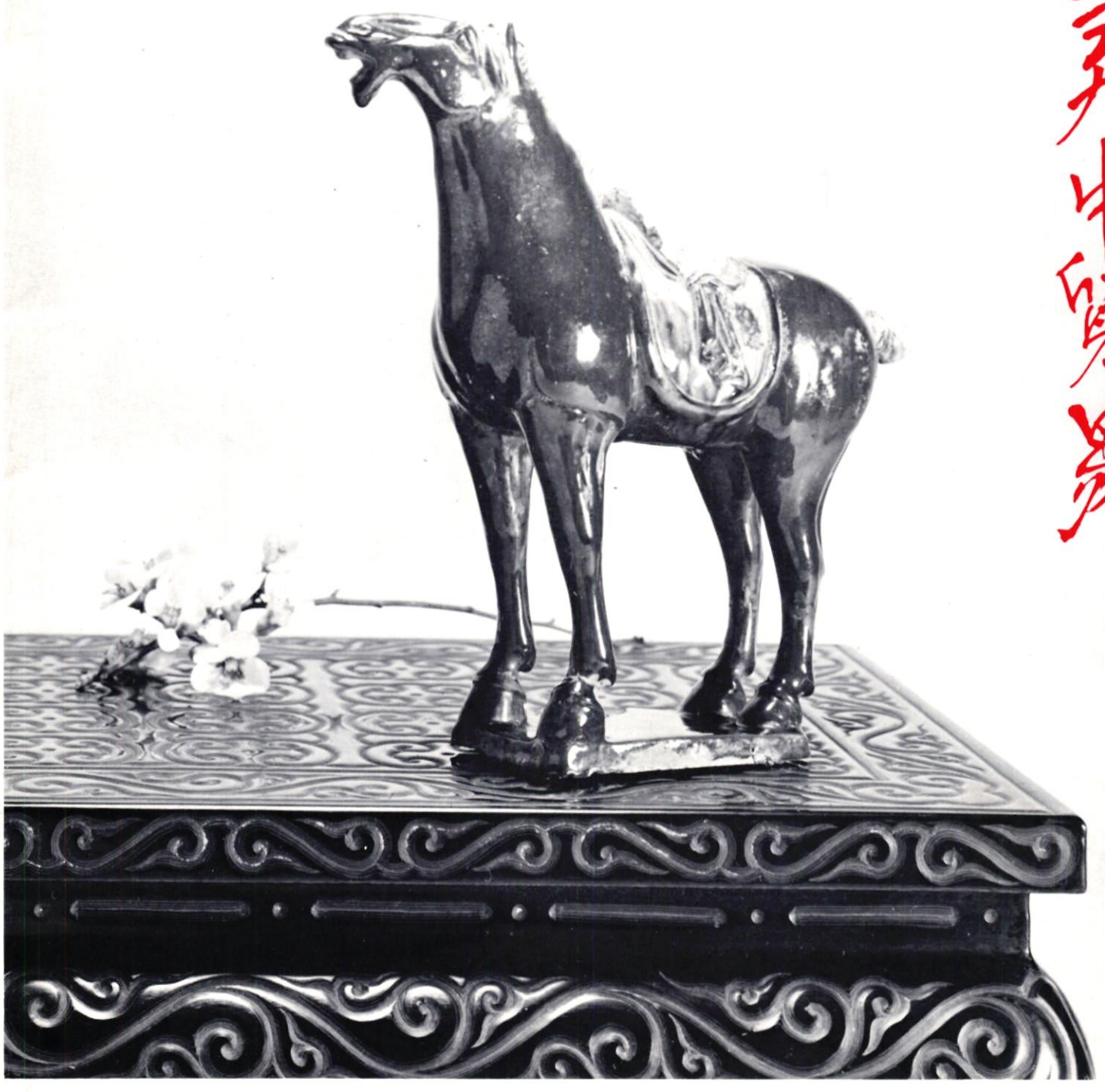

TRANSLATION SERVICES OF THE NATIONAL COUNCIL

The National Council provides translation services for member companies and other firms wishing to have material translated into modern, simplified Chinese characters.

In all business contacts with the People's Republic of China, having correspondence, brochures, and other information translated into the script presently used in China facilitates communications with China's trade organizations. This is because China has limited translation resources: information received in China in Chinese can be disseminated and responded to much faster than if the correspondence is in English.

It is very important for the Chinese characters used in correspondence with Chinese trade authorities to be clear, fluid, and well-drawn. It is important to recognize that present terminology and style of business correspondence used among overseas Chinese differ considerably from that now in use in the People's Republic of China.

Services Offered

The National Council offers a translation service, with strict quality control, for all companies involved in business with China for translation of:

- Correspondence
- Business Cards
- Brochures and Pamphlets
- Summary of Technical Data
- Advertisements
- Catalogues
- Any other form of communication required

These services also include review, revision and correction of translations, both written and oral, made via other agencies in the U.S. and elsewhere, and referral to printing houses possessing modern Chinese ideographic forms. The Council has a simplified-Chinese typewriter.

As information that companies wish to convey to the Chinese normally includes technical terms, the Council's services also include a reference system of leading Chinese-speaking authorities in the U.S. in all major technical fields. These include those of applied mathematics, physics, biochemistry, civil engineering construction, electrical engineering, medical technology, metallurgy, statistics, computer sciences, heavy engineering, textile machinery, electronics and petroleum technology.

The Council also has an extensive set of reference works available including specialized dictionaries, atlases, and recent literature from China.

In the preparation of Chinese script, the following processes are involved: initial translation, research for technical terms, reference to specialized dictionaries, calligraphic copying, and final checking of contents.

To insure strict quality control, the translators used by the Council have been screened by authorities on modern Chinese usage. The services made available by the Council are also often recommended by the Washington Liaison Office of the People's Republic of China.

Charges

Translation charges depend on the type and extend of translation involved. Charges are increased for work needed at short notice. Fees are based on an hourly charge, plus additional cost if additional translation consultations with specialists are involved. There is a reduced hourly rate for members of the National Council. Non-members pay a higher rate. Estimates may be obtained in advance without charge. All services are provided in the strictest confidence.

VOLUME 2—NUMBER 6—NOV.-DEC. 1975

U.S. CHINA BUSINESS REVIEW

EDITOR: NICHOLAS H. LUDLOW • ASSISTANT EDITORS: SUZANNE R. REYNOLDS AND PETER D. WEINTRAUB

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Front Cover: Glazed pottery horses from the T'ang Period (618-906 A.D.) featured in American Heritage's solo mailer. See page 33.

The U.S. CHINA BUSINESS REVIEW is published bimonthly by the National Council for US-China Trade, 1100 17th Street, N.W., Suite 513, Washington, D.C. 20036 USA. The National Council is a non-profit organization incorporated under the laws of the District of Columbia. The U.S. CHINA BUSINESS REVIEW is published principally for members of the National Council. Second class postage pending at Washington, D. C. The magazine is available for subscription in the US and Canada at $60 per year; elsewhere at $75 a year including airmail postage. Single copies are available only to members.

The National Council for United States-China Trade is grateful to His Excellency Huang Chen, Chief of the Liaison Office of The People's Republic of China in Washington, for the calligraphy on the front cover of the U.S. China Business Review.

CHINA TRADE EVENTS

NEW YORK, October 30-31

The Council's New York representative, Arne de Keijzer spoke at a conference on Transportation and Distribution in the Far East, at the World Trade Center, sponsored by the World Trade Institute. Arne de Keijzer's topic was "Moving Goods To and From the PRC."

COLUMBUS, OHIO, November 7

Council President Christopher H. Phillips was one of the speakers at an Ohio State University-sponsored conference on the normalization of US-PRC relations.

WASHINGTON, D.C., November 11

George Driscoll, Director of Business Advisory Services at the Council, spoke at the fall meeting of the Scientific Apparatus Makers Association, Laboratory Apparatus and Optical Sections, on "Trade with the People's Republic of China."

NEW YORK, November 15

Council President Phillips addressed the annual dinner of the American Institute of Marine Underwriters.

BOSTON, December 3

Council President Christopher H. Phillips and Vice President Melvin W. Searls, Jr., will participate in a seminar sponsored by the International Center of New England, Inc., on "Doing Business with the PRC"—Phillips as keynote speaker and Searls as a panelist. For details contact Raymond Belliveau (617) 542-0426.

BOSTON, December 4

Council President Phillips will speak at the Chilton Club on the subject of US-China trade.

NEW YORK, December 9

Vice President Searls will address a meeting of the International Personnel Association at the Yale Club.

WASHINGTON, D.C., December 11

Council President Phillips will speak at a seminar organized by the School of Advanced International Studies (SAIS), Johns Hopkins University. For further information contact James Reardon-Anderson (202) 785-6918.

LOS ANGELES, January

The National Council is tentatively planning a conference on US-China trade, to be co-sponsored by the Port of Los Angeles. For details contact George Driscoll, Director of Business Advisory Services (20) 331-0290.

NEW YORK, January 22-23, 1976

Former Council Vice President Theroux will speak at a conference on "Legal and Business Aspects of Doing Business with China," cosponsored by the Practicing Law Institute and the National Council. Information can be obtained from workshop chairman Howard H. Holtzmann (212) 765-5700.

ANN ARBOR, MICHIGAN, February 9-10, 1976

A two-day workshop on doing business with the PRC will be held, sponsored by the University of Michigan, in cooperation with the National Council. For information call Frixos Massialas, Program Director, Graduate School of Business Administration (313) 763-1387.

WASHINGTON, D.C., December 15

The National Council is moving! We look forward to welcoming members to our new and expanded quarters, just across L Street from our present suite. The address is:

Suite 350
1050 Seventeenth St., N.W.
Washington, D.C. 20036

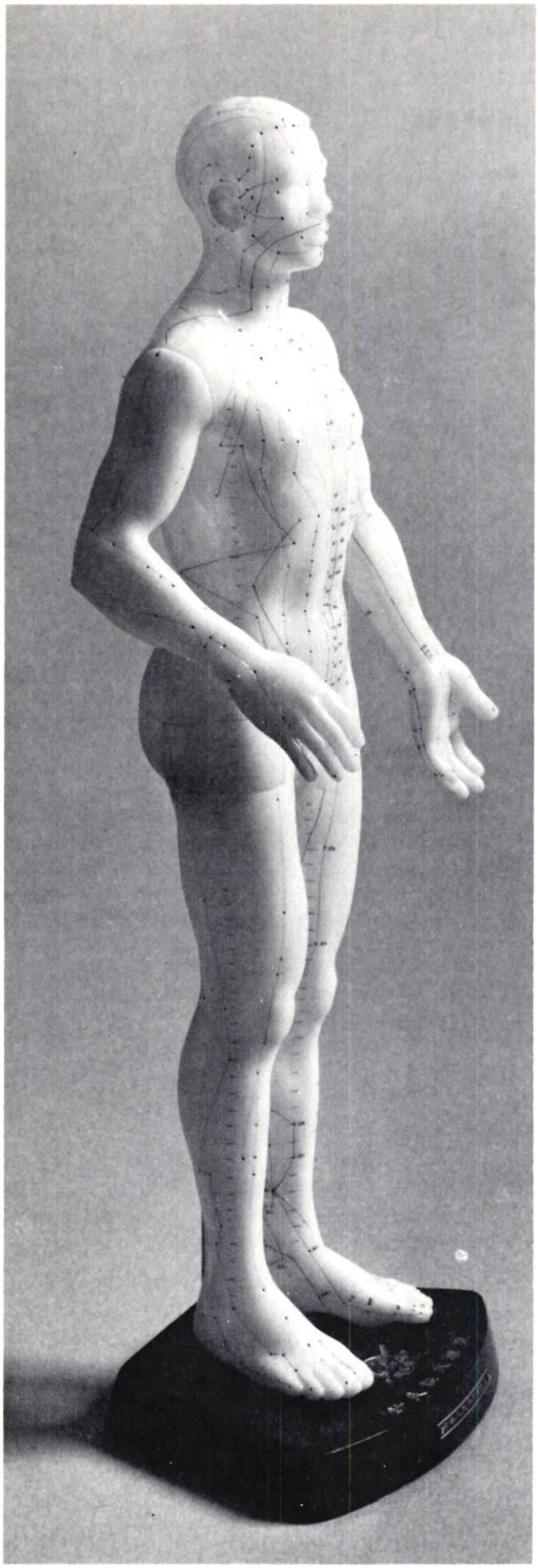
Our telephone numbers will remain the same:

Main Office— (202) 331-0290
Publications— (202) 659-7681
Translation— (202) 659-1456

YOUR MEN IN PEKING

When in Peking, US Commercial Staff at the US Liaison Office will be happy to assist you. Please feel free to call them if you are in China's capital.

Commercial Staff:	William W. Thomas, Jr. (Chief) Robert M. Perito Frank P. Wardlaw
Telephone:	522033 Ext. 215 or 216
Address.	17 Guanghua Road Peking
Cables:	United States Liaison Office Peking
Telex:	None



GOOD HEALTH

The First Chinese Mark Registered in the US

Julian Sobin

Every US importer of Chinese products would like to have an exclusive and if a consumer item is involved, trademark protection as an incentive to improve distribution of the goods. Few importers have obtained exclusives, and only one, so far as is known, has been asked by the Chinese to register a trademark in the US on their behalf. There is no doubt that the Chinese understand the value of trademarks as a marketing tool, but without a bilateral Sino-US trademark agreement (see UCBR Vol. 1, No. 3 and Vol. 2, No. 3) little positive progress has been made in this area of US-China trade relations. But, progress has been made, and in this article, Julian Sobin, Senior Vice President of International Minerals and Chemicals Corporation and President and Chief Executive Officer of Sobin Chemicals, Inc., describes how his firm came to own the first Chinese trademark authorized by China for registration in the US.

The two-foot tall model with an extra-enlarged hand and ear, depicting the 361 acupuncture points and fourteen meridian lines, keyed to a Peking-prepared booklet displaying uniform nomenclature and explaining how to distinguish between the position of the points on your body and mine, is unusual. But what is more unusual is that this Chinese-made acupuncture kit carries probably the only Chinese trademark authorized by the PRC for registration by an American corporation. Another logo, which the

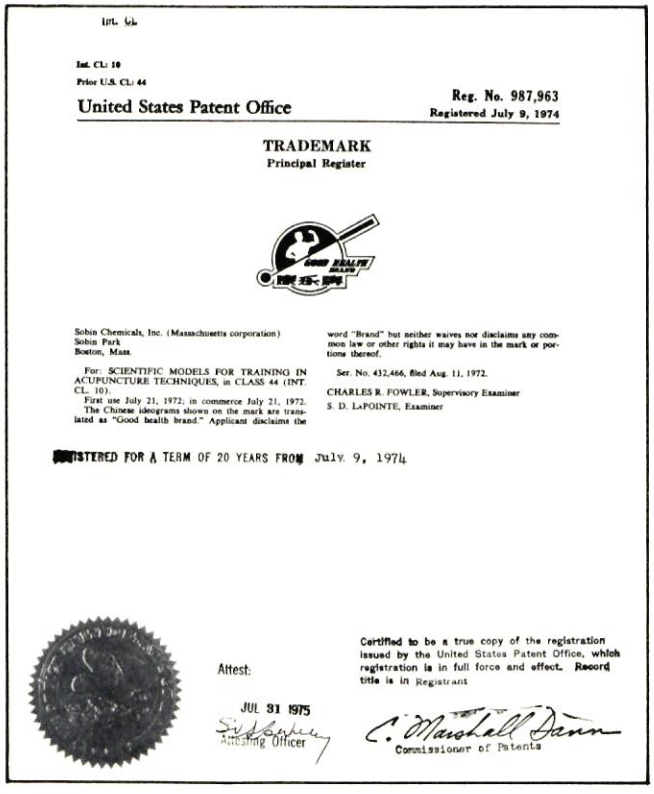
PRC produced for plastic horse model kits for veterinarians, is presently in the process of registration. Sobin Chemicals, Inc., of Boston, holds the exclusive authorization to import and distribute these models in the United States and register as trademarks the Chinese (and English-translated) brand names and designs in the US.

This is how it happened. . . .

Long before acupuncture became a household word in the United States, I passed by a glass-case containing a medical instrument model display in the China National Machinery Import & Export Corporation section of the Canton Fair. That was in the Spring of 1972, when the Fair was held in the old building on the Pearl River. The acupuncture models caught my eye. They were ochre-colored plastic, embossed with Chinese characters describing 361 points on the human body.

At first, it seemed it would be fun to take home two or three models for doctor friends back in Boston. But gradually talks with Chinese officials about preparing this small shipment piqued interest in more extensive shipments. Just prior to that Fair, James Reston of the New York Times had received post-operative treatments by acupuncture in a Chinese hospital. When the account of his recovery made headlines, the Western world caught on to a new craze and Americans were talking about acupuncture at cocktail parties from coast-to-coast.

Registered for a term of twenty years—China's first trademark registration in the US, via Sobin Chemicals Inc.



Int. Cl.: 10
Prior U.S. Cl.: 44

United States Patent Office

Reg. No. 987,963
Registered July 9, 1974

TRADEMARK
Principal Register

Sobin Chemicals, Inc. (Massachusetts corporation)
Sobin Park
Boston, Mass.

For: SCIENTIFIC MODELS FOR TRAINING IN ACUPUNCTURE TECHNIQUES, in CLASS 44 (INT. CL. 10).
First use July 21, 1972; in commerce July 21, 1972.
The Chinese ideograms shown on the mark are translated as "Good health brand." Applicant disclaims the word "Brand" but neither waives nor disclaims any common law or other rights it may have in the mark or portions thereof.

Ser. No. 432,466, filed Aug. 11, 1972.

CHARLES R. FOWLER, Supervisory Examiner
S. D. LaPOINTE, Examiner

REGISTERED FOR A TERM OF 20 YEARS FROM July 9, 1974

Attest:

JUL 31 1975
Attesting Officer

Certified to be a true copy of the registration issued by the United States Patent Office, which registration is in full force and effect. Record title is in Registrant

C. Marshall Dann
Commissioner of Patents

Medical Schools

Fortunately, I was in China trying to begin a chemical dialogue when all this occurred. I began approaching the Chinese with the idea of selling the acupuncture models to medical schools where the classes could use them for scientific study. Now I believe even more that acupuncture anesthesia will become an accredited teaching subject in American medical schools and that beginning students will need the Chinese model kit as a map or atlas—or book of the body—just as they also begin with Gray's "Anatomy." With visions of Boston as "doctor-and-hospital city," I advanced the idea of marketing Chinese acupuncture demonstration kits in the United States from my home-base in Boston.

In 1972, the Chinese never thought of selling more than a handful of mannequins. At that time, and perhaps even now, they viewed acupuncture anesthesia as experimental. The Corporation officials, however, seemed sincerely hopeful that we would become commercially interested in the models, and that this would spur competent people in the American medical profession to advance mutual Sino-American knowledge of acupuncture procedures.

Lengthy negotiations ensued. I persuaded my new Chinese friends that I would not market the models facetiously. They agreed in turn, to "translate" the model into English—to convert the characters on the model into Arabic numerals and to produce a brochure in English and Chinese, with the names and positions of the points and the meridian lines keyed to detailed descriptions in both languages. To do that, the Chinese had to modify the manufacturing process at the Medical Instruments plant in Shanghai where they manufactured the mannequins.

The Chinese also gave the model and its box a slick "new look" for its American debut. They prepared a new plastic model, supported more solidly on a new base. And they packaged it in a resplendent new box—appropriately lithographed in red, white and blue! The box came complete with booklets and with separate, larger-scale models of the human hand and ear that permitted depiction of the points and meridians in more detail than on the full model.

Chinese "suppliers," I was told, viewed this demonstration kit as medically useful in an elementary way—and as an intellectual vehicle of friendship.

"Preventing Lawless Elements From Other Parts"

But still, I needed to protect myself. And for their part, the Chinese were concerned, as they wrote to me, with "preventing lawless elements from other parts, from intruding on the American market-place." So, we embarked upon detailed discussions which led to my trademark landmark.

The Chinese agreed to send me so many thousand kits provided we paid them a deposit to ensure that it was worthwhile to alter their plastic molds. And they agreed to entrust us with exclusive rights to import

and distribute the models and kits in the United States. We would be able to trademark the products; and they would change the brand names to ours everywhere in the world—so that nobody could infringe upon our rights in the United States.

There was another reason why I wanted them to change the brand name. The original brand name was "Happiness"—or "Kang Le"—which would not cut very much mustard in professional American health circles. I convinced the Chinese of this reality, and they promised to develop a more appropriate name tag.

After the Spring 1972 Fair, and a trip to Peking, where I was mainly concerned with my basic chemical business, I returned home. On June 12, 1972, the Machinery Corporation (MACHIMPEX) sent the contract which included the following conditions:

1) We hereby confirm that we shall supply you with: (so many) pieces each for Models 63001, 63002 and 63005 (human figure, hand and ear, respectively) from October till the end of December 1972;
2) Area and time for distribution: It is agreed that you will be our exclusive distributor of the aforesaid three commodities in the U.S.A.;
3) There will be marks for the points of acupuncture models supplied by us in Chinese characters and there are red wooden bases and bronze rods with the models, and also descriptive literature attached, both in Chinese and English;

Not long afterwards, the Chinese discovered a cure for the "Happiness" dilemma. They produced a brand-new brand name: "Good Health," complete with trademark: The red silhouetted figure of a robust man flexing his muscles above a giant-sized acupuncture needle.

On June 29, 1972, they sent us four photos of the new mark for use in registering the name and mark with the proper U. S. authorities.

GOOD HEALTH REGISTERED

Our mutual efforts continued when, in December 1972, the Machinery Corporation sent us the trademark of "Galloping Horse" brand plastic horse models—also complete with acupuncture points in Arabic numerals keyed to a book describing the points and now even the junctions of those points in medical veterinary terminology. This time, instead of catering to patriotic American colors, the veterinary model kit box displayed a motif reminiscent of traditional Chinese culture: black-and-white painted views of three horses, executed in lively brush-strokes with a distinctly oriental brush and ink. In an accompanying letter, the Corporation acknowledged. . . .

"Please contact the authorities concerned directly, for the necessary formalities about the registration of the horse model trademark."

And, two months later, they included the following statement in another letter. . . .

"We especially designed a new trademark (for human acupuncture models) for you, which should be registered in the U.S.A. by you."

Our patent attorneys brought the drama to a climax when they wrote us on March 27, 1974.

". . . the 'Good Health' logo has been found to be registrable as a trademark on the Federal Trademark Register."

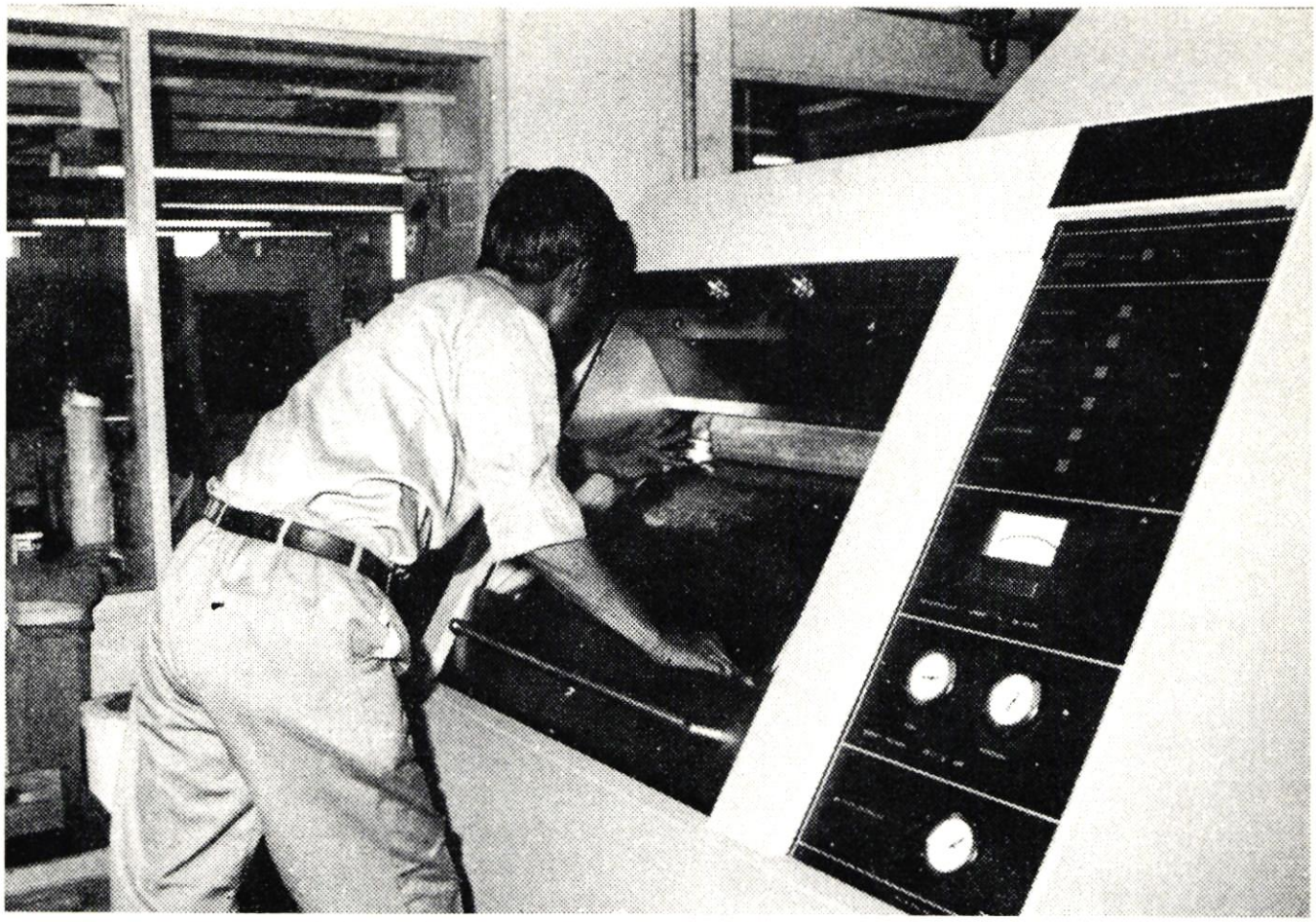
On July 9, 1974, Sobin Chemicals, Inc., was deemed, "entitled to have said Mark (GOOD HEALTH BRAND) registered under the Trademark Act of 1946, and the said Mark has been duly registered this day in the Patent Office on the Principal Register."

And so, we became the first and probably the only American firm to own a Chinese brand name—and soon, hopefully with the registration of "GALLOPING HORSE," we will own two exclusive rights. Thus far—to our knowledge—the Chinese have not themselves registered any trademark in the United States, nor have they authorized any other U.S. entity to register Chinese trademarks in this country.

What's more, as best we know, Chinese Human and Horse Model Kits are *universally* branded with logos designed for us and they resulted from our suggestions and efforts. We boldly assert that we gave our Chinese friends the impetus to explore an entire new world market of which they had not hitherto availed themselves.

Thus, we have become fascinated—not only with acupuncture needle medicine and moxibustion, but also with the Chinese pharmacopeia and, indeed, the entire process by which the People's Republic of China has blended western with traditional oriental medicine, and re-structured its system of medical education and delivery of health care in the process. 完

The Galloping Horse mark sent Sobin Chemicals by China's Machinery Corporation in December 1972—registration pending.



W.R. Grace K.K. promotes printing equipment at Japanese show in China, 1974, at which a number of technical presentations were held. Above: Illustration from the exhibition catalog.

TECHNICAL EXCHANGES IN THE PRC

The Japanese Experience

Alistair Wrightman

Technical presentations in the PRC have been held by relatively few US firms to date, but a growing number have been able to arrange them, mainly in Peking, sponsored by the CCPIT's technical exchange department. The experience of Rohm and Haas was described in an earlier issue of UCBR (Vol. 2, No. 3). In the article below, Alistair Wrightman, a Tokyo-based American writer, describes recent Japanese experience of holding presentations in the PRC, including those related to exhibitions, a case example, and recommendations.

How China effectively profits from foreign technical presentations held in that country will exert a powerful influence on the shape and quality of Chinese life for a long time to come. More than any other single country—save, perhaps, the United States in the more distant future—Japan seems likely at this time to make the largest and most significant contributions in this on-going operation. The Chinese obviously realize that these imported technical presentations (or seminars), which the PRC terms "technical exchanges," help fill in some gaps in their technological knowledge.

Although there have been some foreign technical seminars staged in China on occasion in previous years, Peking has been most actively encouraging foreign countries to hold such presentations in Chinese cities since the beginning of 1972. The authorities in Peking have not disclosed the numbers of "exchanges" held by foreign nations and companies in China in past years, but certainly more of them are being staged than ever before, especially those involving the Japanese. The West Europeans, and Americans, are busy as well, of course.

Two Types of Presentation

There are two types of seminars sponsored by the Japanese in China. The first consists of demonstrations coupled with question-and-answer sessions as part of specific exhibitions, usually of an industrial nature. The second type involves seminars provided by Japanese experts and technicians sent to China by specific manufacturing enterprises intent upon introducing the Chinese to certain of their products. In such latter cases, the seminars are used to expound on the mechanical and technological aspects of the particular item. Again, as in the first type of seminar, there are discussion and question-and-answer activities following demonstrations.

All Japanese seminars in China are sponsored by the Japan International Trade Promotion Associations (Kokubosokus) and sometimes co-sponsored along with the Japan External Trade Organization (JETRO), a semi-governmental operation with headquarters in Tokyo. These bodies, for example, will promote technological symposia and seminars as part of the Japan Exhibition scheduled to be held in Peking from November 18 to December 2.

Kokubosoku executives, it should be noted, mainly serve as intermediaries between those Japanese companies which are members of their organization and the Chinese governmental bodies involved in the proposed exhibitions, demonstrations and seminars. They actually collect company sample products and pamphlets and forward them to the China Council for Promotion of International Trade (CCPIT) for dissemination to the various state corporations and end-users.

However, on a private level, in the case of those Japanese firms which participate in the Kwangchow trade fairs, individual company representatives sometimes find it possible to cultivate prospective end-users through introduction of their own line of products and discussions on a person-to-person basis. Only in this way can the Japanese corporations develop their own mailing lists, such as they are, although by and large the Chinese authorities continue to look with disfavor upon such activities.

Exhibition Exchanges

A considerable step-up in Japanese seminars in association with exhibitions inside the People's Republic of China (PRC) really began early in 1972 with the staging of Japan's Precision Electronic Measuring Instruments Show in Tientsin for 16 days. This was followed by the Japanese Machine Tool Exhibition in Shanghai from March 6 to 20. After this came the Japan Construction Machinery Exhibition at Tientsin between April 1 and 14.

Then, in 1973, between June and July for 15 days the Japanese staged an exhibition of automated and electronic equipment, plus medical machinery in Peking. The following year, the Japanese held a Printing and Packaging Show in Tientsin between November 18 and 30 and an exhibition of agricultural and marine and forestry products technologies in Peking from November 22 to December 12, 1974. And from June 4 to 18 of this year, the Japanese held a showing of electronic production and testing equipment in Shanghai. Some idea of the amount of planning which goes into these Japanese exhibitions can be obtained by noting that planning, preparations and shipments for this last show began in 1972, according to officials of the Japan Electronic Production and Testing Equipment Association.

Another exhibition of considerable importance is being held by the Japanese in Peking between November 18 and December 2. It is intended to prove a showcase of the most advanced Japanese technology. China already has requested that the Japanese send large numbers of technicians to stage a series of seminars on industrial subjects for the benefit of engineers who will attend the show from cities throughout the entire country.

In 1974, according to the annual report published by the Tokyo Kokubosoku, the number of Japanese trade and industrial presentations held in China reached almost 100. Expectations are that the figure for this year may exceed 140. Many of these shows have been one or two-company affairs. Often they are held at the request of the Chinese.

An excellent example of this was the dispatch of a technical mission representing Bridgestone Tire Company, Bridgestone Liquefied Gas Company and Ishikawajima-Harima Heavy Industries which left Tokyo for China on January 20 of this year. The team staged seminars over a two-week period on the subject of manufacturing liquefied gas, storage problems and its transportation.

JETRO

The Japan All-Round Exhibition opened in Peking on schedule on November 18. Approximately 310 Japanese firms and associations are taking part in the fair (see list on page 11) displaying more than 7,800 different industrial commodities and equipment. JETRO authorities anticipate that there will occur frequent exchanges of opinions on various problems concerning many different fields between Japanese and Chinese technicians during the many symposia

NUMBER OF THEMES ON WHICH TECHNOLOGICAL SYMPOSIA WILL BE HELD AT JAPAN'S INDUSTRIAL AND TECHNOLOGICAL EXHIBITION, PEKING 1975.

Classification	Applications		Accepted			
Category	No. of Exhibitors	No. of Themes	No. of Exhibitors		No. of Themes	
Plants	17	32	(16.2)*	11	(19.5)	21
Precision Machinery, Medical Instruments, Office Machines	16	31	(13.2)	9	(11.1)	12
Chemicals, Pharmaceuticals	16	27	(13.2)	9	(9.3)	10
Construction Machinery	9	15	(10.2)	7	(10.2)	11
Light Electric Machinery	5	9	(07.4)	5	(13.9)	15
Machine Tools	9	12	(07.4)	5	(07.4)	8
Transportation Machinery	10	16	(04.4)	3	(02.8)	3
Valves	9	15	(04.4)	3	(03.7)	4
Air Conditioners, Refrigerators, Pumps	4	8	(04.4)	3	(02.8)	3
Textiles	6	16	(04.4)	3	(03.7)	4
Tools	4	7	(02.9)	2	(04.6)	5
Metals	4	8	(02.9)	2	(04.6)	5
Textile Machinery	7	8	(01.5)	1	(00.9)	1
Other Machines	8	10	(01.5)	1	(00.9)	1
Bearings	2	3	(01.5)	1	(00.9)	1
Hydraulic Machinery	2	3	(01.5)	1	(01.9)	2
Negotiation Rooms, Information on Enterprises	1	1	(01.5)	1	(00.9)	1
Paper, Glass, Carbon	3	8	(01.5)	1	(00.9)	1
Printing Machines, Plastic Molding Machines	2	2	(00.0)	0	(00.0)	0
Heavy Electric Machinery	1	1	(00.0)	0	(00.0)	0
Food Processing Machines	2	4	(00.0)	0	(00.0)	0

* Figures in parentheses show percentage of total.
Source: JETRO

currently scheduled to take place during the exhibition. Tokyo apparently sees a strong possibility that most of the seminars and demonstrations will lead directly to specific business talks. Many of the seminars already are scheduled to be held in various conference rooms of Peking hotels.

Whether this huge exhibition of Japanese products and the scores of accompanying seminars will become an annual event under the sponsorship of JETRO is not yet known. But even so, as a general procedure, it is considered most likely that the Kokubosokus will remain the major vehicle for future Japanese industrial and technical seminars. The Kokubosokus will continue collecting suggestions twice each year from Japanese firms concerning what types of technical seminars they would like to provide the Chinese, it was learned.

Executives of the Kokubosokus compile these suggestions on a regular schedule and then make a composite proposal to the China Council for the Promotion of International Trade (CCPIT). Officials of the CCPIT, in turn, use the list in their consultations with end-users in China—the various ministries, trade bureaus and corporations. These organizations promptly select those seminar subjects of greatest interest to them and this information is relayed by the council to the Kokubosokus.

Electronics Show—Chinese Translations

Some idea of what is occurring during JETRO's Peking exhibition can be obtained through an examination of the developments experienced during this June's electronic production and testing equipment show in Shanghai. The exhibition included displays from 84 manufacturing companies and 33 trading houses spread out in 186 booths. A total of 298 Japanese representatives and technicians were on hand. They were assisted by 170 Chinese experts and interpreters.

By the end of the exhibition, according to the Kokubosokus, almost 110,000 Chinese had viewed the exhibition. Several thousands of Chinese experts and technicians arrived during the fair from metropolitan areas far from the Shanghai region, mainly to attend the 63 technological symposia which were held almost simultaneously at the exhibition site's 17 halls. Most of them also visited and took part in seminars staged at more than 40 booths.

The Japanese recommend allowing a lengthy period for preparation of the seminars and utmost care in preparing and translating the compiled technical data and documents into Chinese. During the fair, explained Keitaro Nakamura, one of Kokubosoku's managing directors, "we discovered how important it was, too, to use care in working out our day-to-day

schedules for the symposia to prevent an overlapping of those which might be of interest to the same Chinese technicians."

In return, the Chinese provided the Japanese with the opportunity as the exhibition continued to visit 40 factories in the Shanghai area and to attend a nearby industrial show. Japanese technicial specialists claim such visits are immensely valuable, offering as they do an unusual chance to determine the extent of sophistication which exists and the level at which their own equipment can be introduced.

Sales discussions, as a matter of fact, began on the very first day of the June exhibition through efforts of the Shanghai branch of the China National Machinery Import and Export Corporation. And towards the end of the show, 10 officials from the corporation's Peking office arrived to join the talks. During the meetings, it was discovered, the Chinese corporation took special trouble to introduce the final end-users of the various products.

Those Japanese who have taken part in a number of seminars and similar activities inside the PRC report they have found the Chinese experts and technicians—even the researchers as well—extremely informed regarding the latest technological information. Their knowledge, it seems, is thorough, but they do not appear to have had the chance to see with their own eyes the machinery items or to observe how the product is applied and the technology used on a practical level.

From this the Japanese have learned to provide a considerable amount of printed matter concerning their products—including much information on how the item is used, how it is maintained and how it is repaired following a breakdown. In addition, they found that it is necessary to take the trouble to provide details on reference materials and even key excerpts from these reference sources.

Top officials of the Ono Testing Instrument Manufacturing Company, one of the Japanese firms whose technicians played an important role in the seminars in June, confirmed the long-held belief that the Chinese often will not place orders for three to five years for goods that apparently attracted their attention. Then, suddenly, there arrives an order. This may be followed up with a second order in another two years—more evidence that the firms dealing with China should take a longer range view than would be considered normal when selling to other customers.

Seminars of Interest to the Chinese

Since the Japanese seminars began in earnest only a few years ago, it was soon discovered that those dealing with agriculture, forestry or marine activities and particularly food processing equipment tended to attract not only Chinese technicians but also those from North Korea and North Vietnam as well.

Attendance records show quite clearly that the Chinese are extremely interested in exhibitions and seminars dealing with the mechanization of rice production, automated seeding equipment, and planting, harvesting and threshing machinery, cultivators and modern tractors. Given the nature of the country's economy, this should not be entirely surprising.

Other types of demonstrations and seminars which tend to attract considerable attention among the Chinese are those pertaining to plywood manufacturing machinery, fish detection equipment and fish pumps, automatic ice-making machinery, fast-freezing facilities, and automated bottle filling equipment.

In the Japanese experience, it is best to match the seminar experts with their Chinese interpreters early in the preparatory stage to allow both to become familiar with each other. This also permits the Chinese to become familiar with the spiel of the Japanese technology specialists.

Additionally, the Japanese make use of photographic panels and video tape recorders to show how the equipment involved is actually used. In such cases, however, the tapes have Chinese narration. When these methods prove most effective, according to those who have taken part in these exhibitions, between 55 and 65 per cent of all equipment and machinery on display is sold before the end of the show.

Orders for much of the remaining products dribble in over the following year or so and it is not unusual for the Japanese firms to be invited back to China for negotiations leading to the sale of some of the more expensive items which were not sold during the exhibition itself.

A Case Example

One example is cited of how this worked in the case of the Uemura Works of Tokyo, makers of equipment using chemicals and polishing materials for metal plating. The firm displayed its products at a machine tool exhibition in March at Shanghai and staged seminars as well. The Chinese selected three engineers and five technicians to attend the firm's demonstrations and symposia. They also provided two of their own interpreters from the Shanghai Scientific Technology Association to assist.

Executives of the Uemura Works sent one special representative from each of three departments—polishing materials, chemicals and equipment departments—to take part in the seminars. There were 13 seminars staged, from three to five hours long each, over a period of nine days.

At the end of the first day, however, it was realized that the Japanese specialists were experiencing difficulties because they did not know to what extent the Chinese had developed their plating techniques and exactly what type of information their audience wanted most. And so the company's representatives proposed to the Chinese that their technicians be allowed to visit the nearest and most representative metal plating factory.

On the second morning the Japanese were taken to a plant plating metal used in the manufacture of bicycles. Chinese engineers and technicians accompanied the Japanese specialists at that time. An exchange of opinions and technical details during factory site discussions provided the Japanese with a much better idea of the type of technology and information which would be of use to their Chinese hosts.

During the first nine seminars, much to the embarrassment of the Japanese, the Chinese attending them asked few questions. It was decided, therefore, that the remainder of the sessions should be devoted to nothing but questions and answers. But, although this proved highly effective, the Chinese became most persistent in seeking the precise composition of all the materials used in the Japanese process, especially the chemical compounds.

The Chinese explained that they had few questions concerning the use of the equipment and the polishing materials, having learned a good deal from the previous seminars and the photos and the video tapes. However, they said, they had many questions to ask concerning the chemicals used.

It was emphasized by the Japanese company's representatives that detailed explanations concerning the chemical compositions would infringe on patents and similar legal restraints on disclosure of technological knowhow. The Japanese would only explain in vague terms, mainly by providing information as to the derivation of certain chemicals involved in the processes. The situation became tense.

However, the Chinese were persistent once more and the Japanese company's technicians then turned to the task of explaining in considerable detail how the patents and technological knowhow systems of a capitalist society prevent disclosure of such information. In the end, nevertheless, the Japanese provided part of the chemical formula involved in some cases and the Chinese appeared to be satisfied.

Seminar Suggestions

Officials of Kokubosoku suggest that those firms preparing seminars for the Chinese should realize that the engineers and technicians who will be attending will have a surprising amount of knowledge of the very latest technical information available outside that country even though in most cases they will not have actually seen the materials or equipment before they went on display. Therefore, Kokubosoku authorities recommend that all data and technical papers made available to the Chinese should be as detailed as possible.

Undoubtedly it is best to prepare all documents for use in seminars in the Chinese language. But the Japanese have found that it is possible in a number of cases to provide pamphlets in either Japanese or English if necessary. Experience also has disclosed that verbal explanations should be fairly brief and to the point; jokes and amusing asides fall flat.

On the other hand, all slides and film showings should be full and detailed to prove most effective. All of the various phases of the manufacturing process should be included as well as examples of how the equipment is used in the plants or in the fields. In addition, the Chinese should be shown the characteristics and advantages of each particular brand of manufactured equipment or product.

The Japanese add that the illustrative materials of all types should stress the ways in which the specific item involved is maintained and repaired following breakdown. Where intricate adjustments are involved, the films or other materials should include such details.

It is the consensus of Japanese firms who have staged seminars in Chinese cities that it helps to have the actual product on hand if that is possible. Maintenance and repairing equipment also should be on display to permit the visiting technicians to demonstrate their lectures. This is one of the reasons why the Japanese contend that companies should take with them to China as many samples, finished products and equipment as the Chinese allow and as is practical.

In the case of Japan, firms which desire to forward to end-users in China the very latest literature and pamphlets extolling the virtues of their products do so through the Kokubosokus. These organizations then mail them to the CCPIT for distribution to the appropriate corporations and end-users. 完

CHINESE-LANGUAGE ADVERTISING PAYS

Caterpillar Far East, Ltd.'s decision to advertise a selection of its pipe-laying equipment in the May, 1975, issue of the Chinese-language *American Industrial Report*, published by China Consultants International in cooperation with the National Council, may have affected China's decision to purchase $3.8 million worth of 38 pipe-layers in early October.

The Caterpillar story in A.I.R. consisted of a one and one-half-page spread illustrated with several photos of equipment. It described the 561C pipe-layer and the D7 and D8 tractors, all designed by Caterpillar's subsidiary, Williams Brothers Company, an engineering consulting firm. The 561C pipe-layer has two major advantages, according to the write-up: it makes the use of a tractor unnecessary, and its better adaptability to difficult terrain increases work efficiency.

The Chinese may well have taken this Caterpillar story into account in their decision to purchase the US firm's equipment.

JAPANESE FIRMS EXHIBITING IN PEKING
November 18-December 2, 1975

1 Aichi-Nagoya Exhibitors Association
  1 Honda Denshi Kogyo KK
  2 Nagoya Elastic Grinding Wheel Mfg Co Ltd
  3 Nishioka Malleable Iron Induco Ltd
  4 Tokai Machinery Works Ltd
  5 Horibe Tekkosho KK
  6 Matsutani Tekkosho KK
  7 Bardan KK
  8 Shishido Shokai KK
2 Akashi Seisakusho Ltd
3 Akita Prefecture Council for Promotion of China Trade
  1 Kanazaki Iron Works Ltd
  2 Sanden Shoji KK
  3 Shonai Tekko KK
  4 Nishigami Kikai Seisakusho KK
4 Asahi Chemical Industry Company Ltd
  1 Asahi Medical KK
5 Asahi Gauge Manufacturing Company Ltd
6 Ataka & Company Ltd
  1 Osaka Kiko Co Ltd
  2 Dainic KK
  3 Kanegafuchi Chemical Industry Co Ltd
  4 Taiyo Kaken KK
  5 Nippon Glass Fiber Co Ltd
  6 Arisawa Seisakusho KK
  7 Hitachi Seiko KK
  8 Tsugami Corp
7 Amino Tekkosho KK
8 Ishikawa Prefecture Council of Peking Exhibition Participants
  1 Otogami Kinzoku KK
9 C. Itoh & Company Ltd
  1 Todo Seisakusho Co Ltd
  2 Mitsui Petrochemical Industries Ltd
  3 Japan Catalytic Chemical Industry Co Ltd
  4 Japan Gasoline Co Ltd
  5 Asahi Chemical Industry Co Ltd
  6 Morita Tokushu Koko KK
10 Iyasaka Kogyo Company Ltd
11 Unozawa-Gumi Iron Works Ltd
12 A. G. International Chemical Ltd*
13 S. Ueda Boeki KK
14 Ebara-Infilco Company Ltd
15 Okura Trading Company Ltd
  1 Okura Engineering KK
16 Oki Electric Industry Company Ltd
17 Olympus Optical Company Ltd
18 Kato Works Company Ltd
19 Kanagawa Prefecture Association for Promotion of Industry and Trade
  1 Kaneko Sangyo Co Ltd
  2 Kawashima Koki Co Ltd
  3 Kyowa Denki Keiki KK
  4 Mikami Industry Co Ltd
  5 Tamagawa Seiko KK
  6 Takamisawa Kogyo KK
  7 Hirata Valve Industry Co Ltd
  8 Yutaka Electric Mfg Co Ltd
  9 Yokohama Trading Corp Ltd
20 Kanebo Ltd
21 Kawasaki Heavy Industries Ltd
22 Kayaba Industry Company Ltd
23 Kanto Special Steel Works Ltd
24 Caterpillar-Mitsubishi Ltd*
25 Kyoei Shoji Company Ltd
26 Kuraray Company Ltd
27 K. M. Cloth Cutting Machine Company Ltd
28 Kohkoku Chemical Industry Company Ltd
29 Konishiroku Photo Industry Company Ltd
30 Kohama Seiko KK
31 Kobe Steel Ltd
162 Kobe Yuko Boeki KK
  1 Shikoku Kenki KK
32 Komatsu Ltd
33 Koyo Seiko Ltd
34 Kowa Company Ltd
35 Satoh Agricultural Machine Manufacturing Company Ltd
36 Satoh Tekkosho KK
37 Sanshin Chemical Industry Company Ltd
38 Sanyo Electric Trading Company Ltd
39 Shigiya Seiki Seisakusho KK
40 Auto Machine Tools Industry Association
  1 Maeda Metal Industries Ltd
  2 Nippon Pneumatic Mfg Co Ltd
  3 Maruma Jusharyo KK
  4 Kuken KK
41 Shimadzu Seisakusho Ltd
160 Japan Incorporated
42 Shinko-Pfaudler Company Ltd*
43 Shinyo Bussan KK
  1 Nippon Tokushu Kento Co Ltd
44 Sumitomo Chemical Company Ltd
45 Sumitomo Shipbuilding & Machinery Company Ltd
46 Sumitomo Shoji Kaisha Ltd
  1 Nippon Kaiyo Sanggyo KK
  2 Sumitomo Metal Industries Ltd
47 Sumito Special Metals Company Ltd
48 Sumitomo Bakelite Company Ltd
49 Sekisui Chemical Company Ltd
50 Sone Tool Manufacturing Company Ltd
51 Daiichi Seiyaku Company Ltd
159 Daito Selki Company Ltd
52 Taiyo Trading Corporation
53 Taka-Ai KK
  1 Suga Shekenki KK
54 Takeda Chemical Industries Company Ltd
55 Tadano Iron Works Company Ltd
56 Tatsumi Knitting Machine Company Ltd
57 Chori Company Ltd
  1 Wakayama Iron Works Ltd
58 Ultra-hard Tool Association
59 Chuetsu Wauekesha KK
60 Teruyoshi Company Ltd
61 Teac Corporation
62 Teijin Limited
  1 Chikuba Sanggyo KK
  2 Nakao Filter KK
  3 Akao & Co Ltd
  4 Naniwa Kenmen KK
  5 Toyo Linoleum Mfg Co Ltd
  6 Hasetora Spinning Co Ltd
  7 Tokyo Rope Mfg Co Ltd
  8 Kinoshita Seimo KK
  9 Nitto Seimo Co Ltd
  10 Nippon High Pile Kogyo KK
  11 Ohtsu Keori Shoji KK
  12 Taishu Tokushu Orimono KK
  13 Nishijin Kikai Kogyo KK
  14 Daiwa Spinning Co Ltd
  15 Taiyo Industry Co Ltd
  16 Shinko Chemical Co Ltd
  17 Fuji Chemi-Cloth KK
  18 Maeda Koshoku KK
  19 Kyowa Leather Co Ltd
  20 Daikoku Shigyo KK
  21 Nisshin Spinning Co Ltd
  22 Kowa Spinning Co Ltd
63 Texos Japan KK
  1 Tokushu Seishi KK
  2 Dainic KK
64 Dentsu Advertising Ltd
65 Tokyo Weighing & Testing Machines Manufacturing Company Ltd
66 Tokyo Testing Machine Manufacturing Company Ltd
67 Tokyo Boeki Company Ltd
  1 Sakai Jukogyo KK
  2 Japan Steel Works Ltd
  3 Japan Rolling Stock Manufacturing Co Ltd (Nippon Sharyo Seizo Kaisha Ltd)
  4 Makita Electric Works Ltd
68 Tokyo Shibaura Electric Company Ltd
69 Tokyo Juki Industrial Company Ltd
70 Toshiba Machine Company Ltd
71 Toho Chemical Industry Company Ltd
72 Toho Bussan Kaisha Ltd
  1 Seiki Kogyosho KK
  2 Nippon Chemical Condenser Company Ltd
73 Tokyo Engineering KK
74 Tohoku Kinmon
75 Toyo Carrier Engineering Company Ltd
76 Tokyo Rubber Industry Company Ltd
77 NTN Toyo Bearing Company Ltd
78 Toyobo Company Ltd
79 Tokuyama Soda Company Ltd
80 Tobata Tekko KK
161 Tominaga Seisakusho KK
81 Toyo Menka Kaisha Ltd
  1 Suzuhide KK
  2 Ohara Tekkosho KK
82 Toyota Motor Sales Company Ltd
  1 Toyota Motor Company Ltd
83 Nagano Prefecture Foreign Trade Association
  1 Art Metal Mfg Co Ltd
  2 Kijima Industrial Co Ltd
  3 Nichiasu Koshoku KK
  4 Hakko Type Caster Mfg Co Ltd
  5 Asablasanggyo KK
84 Nakamura Manufacturing Company Ltd
85 Nara Prefecture Machine Industry Coop
  1 Shinwa Kogyo Co Ltd
  2 Iboh KK
  3 Terada Pump Mfg Co Ltd
  4 Sogo Yoki KK
  5 Shibata Seishin KK
  6 Nomura Kogu KK
86 Niigata Engineering Company Ltd
87 Nikkiso Company Ltd
88 Nichiban Company Ltd
89 Nichimen Company Ltd
  1 Nitto Electric Industrial Co Ltd
  2 Yamatake-Honeywell Co Ltd*
  3 Japan Steel Works Ltd
  4 Hitachi Ltd
90 Nissho-Iwai Company Ltd
  1 Aisin Kikai KK
  2 Keeper Co Ltd
  3 Kobe Steel Ltd
  4 Shinko Engineering Co Ltd
  5 Shinko Seiki Co Ltd
  6 Seiko Seiki KK
  7 Nichicon Capacitor Ltd
  8 Kyokuyo Kikai Kogyo KK
  9 Ichinose Valve KK
  10 Kitazawa Valve KK
  11 Kurimoto Iron Works Ltd
  12 Nippon Glass Co Ltd
  13 Toyooki Kogyo Co Ltd
91 Nissan Motor Company Ltd
92 Nisshin Koki KK
93 Nisso Master Builders Company Ltd
94 Nippei Industrial Company Ltd
95 Japan Exlan Company Ltd
96 Japan Gasoline Company Ltd
97 Nippon Kinsen Kikai KK
98 Japan Wire Rope Association
99 Nippon Koden Kogyo KK
100 Japan Auto Parts Industries Association
  1 Daido Metal Co Ltd
  2 Nippon Dia Clevite Company Ltd*
  3 NHK Spring Co Ltd
  4 Kayaba Industry Co Ltd
  5 Mikuni Kogyo Co Ltd
  6 Tokico Ltd
  7 Daikin Manufacturing Co Ltd
  8 Imasen Electric Industrial Co Ltd
  9 Nikko Electric Industry Co Ltd
  10 Toyo Element Kogyo KK
  11 Akebono Brake Industry Co Ltd
  12 Riken Piston Ring Industry Co Ltd
  13 Nippon Piston Ring Co Ltd
  14 Teikoku Piston Ring Co Ltd
  15 Koito Mfg Co Ltd
101 Nippon Shinku Gijutsu KK
102 Japan Brass Makers Association
103 Nippon Seiko KK
104 Japan Paper Association
105 Nippon Tungsten Company Ltd
106 Japan Iron & Steel Exporters Association
107 Nippon Electric Company Ltd
108 Nippon Electrode Company Ltd
109 Japan Electric Wire & Cable Exporters Association
110 Japan Valve Manufacturers Association
  1 Kitamura Valve Shoji II
  2 Kojima Valve Industry Ltd
  3 Shoritsu Seisakusho KK
  4 Hokuto Valve Mfg Co Ltd
  5 Ishida Valve Mfg Co Ltd
  6 Motoyama Engineering Works Ltd
  7 Nakakita Seisakusho Co Ltd
  8 Okano Valve Mfg Co Ltd
111 Nippon Flushstad KK
112 Nippon Polyurethane Kogyo KK
113 Nomura Trading Company Ltd
  1 Daihatsu Diesel KK
  2 Daito Chemical Ind Co Ltd
  3 Nippon Technicon KK
114 K. Hattori & Company Ltd
115 Hamada Printing Press Manufacturing Company Ltd
116 Hayashi Junyaku Kogyo KK
117 Bando Chemical Industries Ltd
118 Hitachi Metals Ltd
119 Hitachi Kenki KK
120 Hitachi Ltd
121 Hitachi Shipbuilding & Engineering Company Ltd
122 Hino Motors Ltd
123 Hyogo Prefecture Council for Japan Industrial Technology Exhibition
  1 Dai Nippon Metal Industry Co Ltd
  2 Nippon Light KK
  3 Ayumi Kogyo KK
  4 Nezu Kogyo KK
124 Fuji Koki Company Ltd
125 Fujikoshi Ltd
126 Fuji Photo Film Company Ltd
127 Fujitsu Ltd
163 Fujitsu-Fanac KK
128 Fuji Toyuko Company Ltd
129 Brother Industries Ltd
130 Hokkaido Trade & Industry Promotion Association
  1 Hokkaido Netsugaku KK
131 Polyplastic Ltd
132 Honda Motor Company Ltd
133 Maekawa Shoji KK
  1 Okuda Koki Co Ltd
  2 Date Iron Works Ltd
  3 Kobayashi Hamono Kogyo KK
  4 Maekawa Seisaku KK
134 Maeda Seisakusho KK
135 Makino Milling Machine Company Ltd
136 Matsushita Electrical Industrial Company Ltd
137 Matsushita Electric Trading Company Ltd
138 Matsushita Electric Industrial Works Ltd
139 Marunaka Tekkosho Incorporated
  1 Marunaka & Co Ltd
140 Maruzen Koayo Company Ltd
141 Marubeni Corporation
  1 Canon Inc
  2 Kuraray Co Ltd
  3 Nippon Conveyor KK
  4 The Yokohama Rubber Co Ltd
  5 Fuji Heavy Industries Ltd
142 Micron Seiki KK
143 Mita Isdustrial Company Ltd
144 Mitsui Seiki Kogyo Company Ltd
145 Mitsui & Company Ltd
  1 Osaka Transformer KK
  2 Kyowa Leather Co Ltd
  3 Denki Kagaku Kogyo Co Ltd
  4 Japan Steel Works Ltd
  5 Mitsui Ocean Development & Engineering Co Ltd
  6 Mitsui Mining and Smelting Co Ltd
  7 Mitsui Shipbuilding & Engineering Co Ltd
  8 Mitsubishi Heavy Industries Ltd
  9 Aruna Koki KK
  10 Nitto Electric Industrial Co Ltd
  11 UBE-Nitto Chemical Industry Co Ltd
  12 Sumika Color KK
  13 Toyobo Ltd
  14 Nitto Boseki Co Ltd
146 Mitsubishi Heavy Industries Ltd
147 Mitsubishi Corporation
  1 Seibu Polymar Kako KK
148 KKMiyano Tekkosho
149 Murata Seiki Kogyo KK
150 Meiwa Trading Company Ltd
151 Yamaha Motor Company Ltd
152 Yuken Kogyo Company Ltd
153 Unic Corporation
154 The Yokohama Rubber Company Ltd
155 Yoshikawa Tekko KK
156 Yoshida Tokushu Kikai Kogyo KK
157 Lion Fat & Oil Company Ltd
158 Riken Keiki Fine Instrument Company Ltd

Source: NCUSCT based on JETRO data.

*Joint venture with foreign company.

Native Produce and Animal By-products Corporation delegation members Wu Fu-sheng (r), leader Han Piao (2nd from r), and Ma Ke-chin (3rd from l), accompanied by May Li Phipps of the National Council, visit with officials of a North Carolina tobacco farm, October 1975.

CHINESE EXPORTS— The Hard Sell

NATIVE PRODUCE AND ANIMAL BY-PRODUCTS MISSION VISITS US, STARTS "LONG-TERM" SUPPLY ARRANGEMENTS

A seven-member China Native Produce and Animal By-products Import and Export Corporation mission concluded a seven-week tour of the US hosted by the National Council on November 17, 1975, after visiting firms from Maine to California.

Boosting China's exports was a key purpose of the mission, with "long-term" supply contracts, normally of one year, continuity of product flow, stabilized prices, and exclusives—also for one year, among the major points discussed by the delegation with the many US companies visited. Speedier delivery was suggested by the Chinese, via Hong Kong and air freight direct to the US.

While expanding exports was the Chinese objective, the state of the US economy was reflected in requests of US firms for 60-90-day grace periods on payments for shipments. Particularly hurting were those companies with capital rolling in the dust following guillotine price drops—of 40 percent or more, twice in one year—by the Chinese in certain commodity areas.

Among the US companies visited by the mission were Hirsh Company, Liberman's Brush Company, Amicale Industries, Chromalloy, B. C. Ritchie Company, York Feathers Processing Company, A. A. Krejtman, Clipper Industries, Liggett and Myers, Universal Leaf, J. Manheimer Inc., the ICD Group, Ludwig Mueller Company, and Wooster Brush.

(For delegation members, see UCBR 2.5 p. 45. The Mrs. Liu referred to was a member of the mission, not from PRCLO as indicated.)

AND CHINA'S LIGHT INDUSTRIAL CORPORATION SHOWS UP IN NORTH AMERICA

During the past six months, the North American continent has been the scene of four exhibitions of Chinese light industrial products. Two of the shows, on the northern fringe of the US, were held in Montreal and Toronto; a third, in New York; and the fourth, on this country's southern fringe, in Tijuana, Mexico. All four appeared intended to woo American importers. Only one of these events, in Tijuana, was an exhibition in the full sense of the word. The other three were displays set up on a short-term basis during the course of visits by delegations from China's Light Industrial Products Import and Export Corporation.

Tijuana

The Tijuana event, the largest of these exhibitions, was held from October 30 to November 16 as a reciprocal gesture following a Mexican exhibition in China in 1974. Observers theorized that the Chinese chose Tijuana as the exhibition site because it is a "friendly watering hole across the border," and could easily tempt Chinese and American businessmen in southern California, as well as American tourists in Mexico. Tijuana is less than a half hour's drive from downtown San Diego, and is visited by more Americans than any other foreign city. Last year alone, more than 30 million US citizens made the trip.

The 20,000 items on display there included fabrics, foodstuffs, ceramic and jewelry. The merchandise was looked after by about 30 members of the commercial section of China's Mexican embassy, as well as a contingent sent from China's Ministry of Foreign Trade. The event was staged at the Club Campestre, the town's country club.

Montreal and Toronto

On the other US border, "mini-exhibitions" took place in Montreal during the month of June and in Toronto July 12-22. Both were sponsored by China Resources Products (no relation to Hong Kong's China Resources Co., Ltd.). This company is a private organization whose owner is an overseas Chinese and whose vice president is a Canadian Chinese. Representatives from a Light Industrial Products Corporation delegation touring Canada at that time also displayed a number of samples at each event (from one-third to one-half of the total)

and carried out negotiations with old and new customers. The delegates were from Light Industry's arts-and-crafts and jewelry branches in Peking. The display items consisted mostly of jewelry, but also included cloisonné, jade and ivory, carvings, furniture, woolen carpets, toys, straw products, and small gift items. At least a few American importers flew from New York for the events.

New York

The year's other show, and the only one held within US borders, was part of the National Council-sponsored visit of the Light Industrial Products Corporation in September and October. (See Importers' Notes, pp. 57, 58.) During the New York portion of the tour (September 22-October 11), delegation members set up shop with over 3,000 first-time samples in four rooms at the Biltmore Hotel. Crowded into the mini-showrooms were finely woven articles of straw, maize, willow and bamboo; carved jade, stone and ivory objects; embroidered goods; jewelry, porcelain and pottery; and other goods. A great many US importers visited the various rooms and negotiated with the delegation's seven members.

CHINESE IMPORTS– Onward to the Next Plan

PURE TECHNOLOGY, BARTER, AND "VERY FLEXIBLE" TRADE ARRANGEMENTS

China's development priorities in the Fifth Five-Year Plan (1976-1980) appear to be: heavy industry, the steel industry, and light industry in that order. Complete agricultural mechanization by 1980 is also planned. But the focus will be on heavy industry, especially on petroleum-related development, chemicals, shipbuilding, industrial instrumentation, power generation equipment, minerals and metals processing equipment, and electronics.

An important emphasis in the next plan will be on automation, first at selected factories, then in manufacturing generally. Automation is being introduced, according to one Chinese source, for "efficiency," since the People's Republic of China has reached the stage of development attained by the US some years ago.

Implications for Trade

Some indications about the new plan as it relates to trade were given at the Canton Fair (see p. 54). But major clues to China's future foreign trade policies were given in a rare interview, with the Peking correspondent of *Die Welte,* by China's Vice Minister of Foreign Trade Ch'ai Shu-fan in September. Among the key points:

- *China's purchase plans* include complete petrochemical plants and, to a lesser extent, plants for metallurgy, bituminous and brown coal mining, iron ore mining and mining of other minerals. In conjunction with the petrochemical plants, the PRC requires equipment for petroleum exploration and well drilling, as she continues to speed up petroleum industry development on the continent and on the ocean floor. In the transportation field, China needs electric and diesel locomotives and heavy trucks. Peking will continue its purchases of traditional items, including rolled sheets, steel, chemicals and machine construction products.

- *Purchase of Pure Technology.* China "could import," from Germany, not only plants, but also patents and know-how. This is believed to be the first time China has made public mention of buying pure technology from abroad.

- *China's Sales Plans* include coal—the PRC has agreed to discuss German requests for bituminous coal; and petroleum—China feels that in view of the great distance between the two countries, only the use of 100,000-ton tankers would be profitable. Such large tankers would require harbor expansion work, a problem which the Chinese Minister indicated will be resolved in the latter half of 1976.

- *China Will do More Promotion* of its products by sending foreign trade personnel to Germany, and expanding marketing through small-trade exhibitions.

- *Instalment Financing Is Acceptable.* "Some of China's foreign friends may think that the conclusions drawn from the experience with the Russians were too strict, but the Chinese position is not at all entirely rigid." China has used instalment payment terms since 1962. But if German suppliers ask for rates that are too high, such as up to 15 percent, China would prefer to pay cash.

- *China Will Discuss Barter Arrangements.* Sale of German mining equipment for Chinese coal, or pipeline in exchange for oil "could be discussed." Within China's principle of self-reliance, the Chinese foreign trade policy is "very flexible."

- *China's Trade Has Been In Deficit.* China's Minister confirmed Western calculations, though not their figures, on China's foreign trade imbalance. "The PRC's future expansion of trade faces the problem of a 1974 trade deficit of $200 million and, after the first half of 1975, a deficit of $180 million." 完

Captain Jack Rigby of the Somali-registered "Caspian Sea," the first ship bound directly for China from Long Beach, with Transmarine and Port officials at ceremony, December 1973

WHEN WILL YOUR SHIP COME IN?

A Guide to Direct Sino-US Shipping for US Importers and Exporters

Stephanie Green

"We never know the time of a ship's arrival."

"We don't know which steamer is bringing in our cargo or whether it will be transshipped."

"When our shipment is two weeks late, our customers cancel the order and we lose out."

"We ordered some flowers for the summer, but the shipment arrived in the fall."

Complaints of importers of Chinese products during visits of China's Textile Corporation and Light Industrial Products Corporation, 1975.

Lack of scheduled direct Sino-US shipping by American- and Chinese-flag vessels between ports in their respective countries continues to create problems for all US businesses dealing with the PRC—both importers and exporters. For most US firms, the total picture of the process from the time a shipment is ordered until the time it arrives at the other country's port is a cloudy and confused one. Little is currently known about the nature of direct China-US tramp shipping.

For the frustrated importer, deliveries are often very late, advance notice is far too short, and difficulties in documentation are many. He is left to wonder—When and where will his cargo arrive? On

what ship? Have the goods been transshipped or are they coming directly from a Chinese port? How frequently do the ships run? These questions are particularly important in the case of fashion items, which must arrive at precisely the right time for the current season if they are not to be a total loss for the importer. A sweater in March, or a straw purse in September is not appealing to customers.

Although problems are fewer for the exporter, he, too, must contend with lack of information: When will a ship arrive to pick up the cargo? What is the choice of ports from which to ship? And how does he procure a vessel?

The following article fills in some of the details and answers some of these questions, including information about the PRC's shipping organizations; details of the duties and experiences of China's American steamship agents; a summary of direct ship traffic from 1973-1975 and its frequency between Chinese and US ports; and data on PRC-chartered vessels operating on Sino-US routes.

The General Picture

The first Chinese-chartered vessel to dock in a US port called at Houston on April 16, 1973, to load bulk cargo for the first direct US export shipment to the PRC. Since then, 171 ships chartered by the PRC making 298 visits to thirty US ports have carried goods direct to and from China, as of October 31, 1975. Only 15 Chinese-chartered vessels, making 27 calls, have brought PRC-produced goods direct to the US to date (i.e., US imports of Chinese products), principally to East-Coast ports after 45-day passages from China. The eleven-to-one ratio of ships carrying US exports against those with US-bound cargoes closely reflects the Sino-US trade imbalance of 11-to-one and 8-to-one in favor of the US in 1973 and 1974.

Because China prefers to pick up the first freight and insurance tabs whenever possible, direct chartered shipments have been handled primarily by the PRC's chartering agencies. Few, if any, US-chartered vessels have visited China's ports, and few third country flag or chartered vessels have traded directly between Chinese and US ports. This story deals only with the pattern of vessels chartered by the PRC for direct shipping between the US and China.

The number of ships arriving in the US direct from China has dropped less sharply than trade in general during the current year, perhaps indicating a greater responsiveness on the part of Chinese foreign trade corporations to American importers' and exporters' needs. In 1973, Chinese-chartered vessels made a total of 93 calls at US ports and China; in 1974, 133 calls; and in 1975 to date, 73.

The Import Pattern

- Since November 1974, when imports from the PRC began to arrive on a fairly regular basis, Chinese-chartered vessels have unloaded Chinese products in US ports an average of once a month.
- Almost 90 percent of these US import-carrying vessels have berthed at East Coast ports to date; only one ship has docked on the West Coast and only two on the Gulf Coast.
- There is no particular correlation between Canton Fairs and the arrival of Chinese-chartered vessels with import cargoes (see table on page 17).
- Cargoes direct to the US have originated primarily in China's northern ports—Shanghai, Hsinkang (Tientsin), Talien (Dairen), and Tsingtao.
- The China National Chartering Corporation (ZHONGZU) and China Ocean Shipping Company (COSCO) have provided American agents with relatively little notice concerning the arrival date of import vessels. Notice has averaged at about five or six weeks, but has dropped to as low as two days at least once.

The Export Pattern

- Since April, 1973, Chinese-chartered ships have carried exports from the US to China once every four days (see table, pages 23-25).
- The majority of export cargo departures were from the Gulf Coast, followed by the East the West, and the Great Lakes.
- Export cargoes have departed from 30 US ports bound for five different Chinese ports.

Regular Service Something of the Past

As is well known to numerous US importers and exporters, regular shipping service between China and the US is a part of the pre-1949 past. In the early part of the nineteenth century, New England clipper ships carried half of China's foreign trade, while after 1850, the China trade continued to be the backbone of

COMPANIES CONTROLLED BY CHINA'S SHIPPING ORGANIZATIONS

China Ocean Shipping Company (COSCO)

	Registration
Ocean Tramping, Ltd.	Hong Kong
Nan Yang Shipping Co.	Macao
Yick Fung Shipping and Enterprise Ltd.	Hong Kong
Subsidiaries: Southern Shipping & Enterprise Ltd.	Hong Kong
Chiao Mao Enterprise Ltd.	Hong Kong
Tat On Shipping & Enterprise Ltd.	Hong Kong
Luen Yick Shipping Co.	Macao
Merchants Steam Navigation Co., Ltd.	Hong Kong

China National Chartering Company (ZHONGZU)

Far East Enterprising Co. (FARENCO)	Hong Kong

American shipping on the trans-Pacific route until the founding of the PRC in 1949. After the subsequent hiatus in Sino-US relations, bilateral trade between the two nations was re-established on June 10, 1971. On November 22, 1972, the US ban was lifted on calls of American-flag vessels at Chinese ports. In mid-1973, direct Sino-US shipping using vessels of third-country registry began.

China's use of third-country vessels and her lack of response to the fledgling efforts of various American parties to reestablish direct flag vessel shipping services stem from the Chinese frozen assets/US private claims questions and the related problem of potential attachment (see UCBR, Vol 2, No 5). Any Chinese-flag vessel calling at an American port could presently find itself attached by US persons. And no Sino-US maritime agreement is likely until the claims/assets problem has been solved. Both of these questions may await recognition of the PRC by the US.

As a result, all shipping operations between China and the US are handled on an irregular charter basis, China leasing tramp steamers from "friendly foreign nations" flying "flags of convenience." Liberia, Somalia and Cyprus lead the group of "friends," although the PRC also employs ships of other more neutral nations such as Greece and Norway. China's activities on the world charter market peaked nearly ten years ago, suggesting that US companies dealing with these tramps are denied the privilege of using the fast-growing and modernizing PRC merchant fleet. But one source estimates that two-thirds of China's foreign trade is still carried on charters.

The Organizations Handling China's Shipping

A US firm has reason to be confused by the interrelationship of the Chinese agencies involved with shipping. Their duties overlap and their descriptions differ in various Chinese sources. Three major organizations share responsibility for China's foreign chartered shipping:

China Ocean Shipping Company (COSCO)—arranges the movement of China's foreign trade goods on Chinese-flag vessels and also charters vessels, as of 1974. It also controls a number of Hong Kong and Macao-registered companies listed in the accompanying box. One of these, the China Merchant Steam Navigation Co., Ltd., oversees import and export cargo in the "south range" of the PRC—from Shanghai south, but excluding Shanghai and including transshipment in Hong Kong.

China National Chartering Corporation (ZHONGZU)—carries out booking and arranging of space on foreign ships and time-chartered vessels. As is listed in the box on page 15, its Hong Kong branch is Far East Enterprising Co. (FARENCO), which is manned by local Hong Kong Chinese civilians but managed by individuals from the PRC. FARENCO controls cargo in ports in the "north range"—including Shanghai and transshipment in Hong Kong. Presently, the PRC has filed their Federal Maritime Commission (FMC) tariffs with Far East Enterprising Co., a Hong Kong "gateway company." Thus, the Chinese have, in effect, sublet to FARENCO. (FARENCO's tariff is available to Council members in Special Report No 9.)

China National Foreign Trade Transportation Corporation (CNFTC)—arranges the shipment of goods on Chinese flag vessels—booking cargoes to be loaded and handling other details such as loading, customs, clearance, freight payment, and insurance. CNFTC, curiously, also charters foreign vessels.

The CNFTC and ZHONGZU are sister organizations. Although each has its own staff, they function under a joint Director who in turn is directly responsible to the Ministry of Foreign Trade. COSCO and the China Ocean Shipping Agency, a PRC port agency, are also under one Director, who reports to the Ministry of Communications. (For details of China's foreign shipping agencies associated with China's ports, see China Shipping Manual, Special Report No. 10, available to Council Members.)

US Steamship Agents Appointed by the Chinese

When shipping between China and the US began in 1973, COSCO and ZHONGZU appointed four North American shipping companies as China's American port agents. (See box on page 20.) Some of these actually solicited the PRC business and were then selected, while others were approached first by the Chinese. The New York-based Kerr Steamship Company was asked to handle the American East Coast; Transmarine Navigation Corporation, with central offices in San Francisco, was appointed for the West Coast; Strachan Shipping Company of New Orleans was given priority for the Gulf of Mexico; March Shipping Company, Ltd.—actually a Canadian firm with headquarters in Montreal—was charged with responsibility for the Great Lakes American ports.

These companies, like all steamship agents, act both as cargo agents and as business agents for their foreign principals. They attend to the business of the ship—berthing arrangements, clearance of vessels and goods, including customs formalities and documentation preparation—and also to the handling of the cargo—loading, unloading, provisioning, bunkering, delivering cargo and receiving cargo from companies, collection of freight, and so forth. When necessary, they also appoint sub-agents. More details about these agents are given later in this article.

Transshipment and Containerization

In addition to arrangements for direct tramp steamer cargoes, COSCO and ZHONGZU arrange for indirect transshipment of cargo by container to the US through Kobe and Hong Kong. Containerization allows for greatest efficiency and economy in packing

ARRIVAL OF CHINESE-CHARTERED VESSELS BRINGING GOODS DIRECT FROM THE PRC TO US PORTS 1974-1975

Ship/*Registry**/*DWT*	Arrival Date/US Port-Chinese Port of Departure
Pelleas *G-15,170*	3.18.74 Baltimore-Tsingtao
Marigo Yemelos *G-15,154*	6.4.74 Philadelphia-Hsinkang
Pindar *G-38,308*	11.7.74 Baltimore-Tsingtao
Naxos *L-16,194*	11.10.74 Philadelphia, New York-Shanghai, Dairen
Dimos Halcoussis *G-15,123*	11.24.74 Baltimore-Tsingtao
Capetan Giannis *G-14,990*	12.12.74 New York-Shanghai
Rhodos *Si-12,930*	1.16.75 Philadelphia, New York, Baltimore-Dairen, Hsinkang, Shanghai
Almut Bornhoffen *WG-16,013*	2.17.75 Philadelphia, New York-Dairen, Hsinkang, Shanghai
Sklerion *G-15,005*	Mid-Mar., 75 Seattle, San Francisco-Hsinkang, Tsingtao, Whampoa
Comet *G-15,178*	3.26.75 New York-Shanghai
Reynolds *GB-29,809*	3.30.75 New Orleans
Naxos *L-16,194*	4.9.75 New York, Savannah-Dairen, Shanghai
Rhodos *Si-12,930*	5.27.75 New York-Shanghai, Dairen
Rhodos *Si-12,930*	**6.4.75 New Orleans-Shanghai, Dairen
Aristonimos *G-11,000 (est.)*	7.1.75 New York-Hsinkang, Shanghai
Stephanos Vergottis *G-15,139*	8.14.75 New York, Baltimore-Tsingtao, Hsinkang, Shanghai
Pelleas *G-15,170*	9.9.75 Charleston-Shanghai, Hsinkang
Atlantis *H-15,406*	10.10.75 Charleston, New York-Shanghai
Rhodos *Si-12,930*	10.26.75 Charleston-Shanghai

* For key see page 25.
** Second visit by ship.

All ships that arrived on the East Coast also stopped in Hong Kong. Frequency of visits: 1974—every 61 days; 1975 (through Oct. 31)—every 25 days.

and for bigger, faster vessels to dock at fewer ports. US importers feel strongly that China should develop this procedure (see UCBR, Vol 2, No 2, p 24). However, China has only very recently shown interest in building container facilities at its own ports: only in 1974 did an article spell out the benefits of containerization in a PRC publication.

This new interest has led to concrete plans for construction of container facilities. Phase One of Whampoa's container facilities will be completed by the end of 1975 and operational by mid-1976. Whampoa container berths will handle 20,000 DWT ships, up to 31 ft. draft on even keel, and are equipped to specialize in bulk grains, minerals and fertilizers. Shanghai will have two berths for "self-handling" container ships equipped by the end of 1975. Hsinkang has a designated area set for containers but no construction has yet begun. Tientsin can now handle very small Japanese containers: In 1974 it handled 50,000 tons of container cargo in the Japanese trade on an experimental basis. The experiment is continuing in 1975.

At the present time containerization is only possible for the most part via Hong Kong and Kobe after cargo is brought from Chinese ports in feeder vessels—a process which has often led to serious delays in cargo shipments and subsequent criticism from US importers. At Hong Kong and Kobe, any of a variety of shipping lines may load the cargo, but this is usually done by Japanese shippers, especially Mitsui O.S.K. Line and K Line (Kawasaki-Kisen Kaisha, Ltd.), both of which made overtures to the Chinese in early 1973 for shipping routes. US Lines, Sealand, Pacific Far East, Waterman, and Lykes Bros. are among the US shipping lines that have transshipped PRC cargo.

The Pattern of Direct PRC-US Shipping to Date

The first cargo vessel bringing exports directly from the US—the Pindar—left Houston on April 16, 1973, with bulk cargo bound for unspecified ports in China. The first ship carrying Chinese cargo direct to the US—the Pelleas, of Greek registry—docked in Baltimore on March 18, 1974, bearing bauxite from Tsingtao. A total of 172 tramp bottoms making 299 US port calls have crossed the Pacific bound to and from China, as of October 1975.

Of this total, 85 vessels—or almost half—have flown the Greek flag. The PRC is the single largest charterer of Greek flag dry cargo ships, and Greece has an estimated two million tons under time charter to Peking.

Aegis Blaze, of Greek registry, has called in New York, Galveston, Los Angeles and Long Beach for cargoes bound for Hsinkang and Shanghai.

The rest of the ships traveling the trans-Pacific route to date have been registered in Liberia (20); Norway (18); Somalia (11); Great Britain (9); West Germany (8); Yugoslavia (4); Cyprus (3); Japan (5); the Netherlands (2); and Sweden, Switzerland, Panama, Czechoslovakia, and Singapore (one apiece). (Seven ships are of undeterminable registry.) Several of the Somalian-registered vessels have Chinese names, such as the Nanhua or Nanwu, an indication of the very close relationship that Somalia has with the PRC. Almost none of these ships is of exactly the same tonnage; the weights range from a low of 1,717 deadweight tons to a high of 51,071 deadweight tons.

Shipping traffic has so far moved between seven Chinese ports—Shanghai, Tsingtao, Talien, Hsinkang, Kwangchow, Hai Kang, and Whampoa; and 30 ports in the US—Los Angeles/Long Beach, San Francisco, Columbia River, Longview, and Seattle on the West Coast; Albany, Baltimore, Boston, Charleston, Jacksonville/Port Everglades, New Haven, Newport, New York, Norfolk, Providence, and Savannah on the East Coast; Brownsville, Corpus Christi, Galveston, Houston, Mobile, New Orleans, Pascagoula, Beaumont, Tampa, and Taft (La.) in the Gulf of Mexico; and Chicago, Detroit, Duluth, and Toledo in the

FREQUENCY OF SHIP DEPARTURES FROM US PORTS TO CHINA

Coast	Number of Ships	Average Intervals Between Departures (days)	Max/Min Interval
	1973		
East	9	31	16/2
Great Lakes	11	33	32/1
West	2	—	——
Gulf	68	4	81/0
	1974		
East	27	13	124/0
Great Lakes	1	—	——
West	15	24	NA
Gulf	71	5	16/0
	1975 (through October 31)		
East	20	15	40/0
Great Lakes	1	—	——
West	10	37	NA
Gulf	17	18	41/4

Great Lakes. China-bound cargoes have left from all coasts, with the greatest concentration in the Gulf region. Import cargoes have been confined to the East, West and Gulf Coasts, with the largest proportion arriving on the East.

Ship Frequency—When Will They Arrive?

What does this information show about the frequency of vessels arriving at and departing from US shores?

Import Cargoes

So far as the number of ships docking in American ports is concerned, US importers have not fared as well as exporters. As already noted, far more export cargoes (92.5 percent) than import cargoes (7.5 percent) have traveled the Sino-US route—understandable, given the Sino-US trade imbalances in favor of the US in past years. Only one import cargo out of 28 total cargoes has so far been handled on the West Coast; only 16 out of 72 on the East Coast; only two out of 157 in the Gulf of Mexico; and none in the Great Lakes. Altogether, 15 vessels averaging 16,360 dead weight tons (DWT) —several making more than one visit—have made 27 stops in eight US ports with US-bound cargoes.

The frequency of arrival of these import cargo vessels has little correlation with orders placed by American importers at the Spring or Fall Kwangchow Fairs, although it does reflect China's desire to increase foreign exchange during 1974. There has been no sudden influx of ships bearing American-ordered merchandise in the few months after the fairs. Though Americans have been attending the Canton Fair since the spring of 1972, no direct shipment of Chinese goods to the US occurred until March, 1974. Between the Spring and Fall 1974 Fairs, only one Chinese-chartered ship arrived in the US.

Then, at the time of the Fall 1974 Fair, three PRC charters docked in November within two and one-half weeks of each other (two coming from Tsingtao to Baltimore). Two of these arrived before the Fair's end on November 15, carrying orders placed at the previous fair. Six more ships left China for the US after the Fall Fair, spread evenly over a five-month period. Following the Spring 1975 Fair, five Chinese-chartered vessels arrived in the US at monthly intervals.

Bound for the East Coast, the greatest number of import cargoes departed from Shanghai (12), followed by Hsinkang (6), Talien (5), and Tsingtao (4). This breakdown is consistent with information from Chinese sources which list Shanghai and Hsinkang as the principal ports for general cargo. (Shanghai has 2,900 foreign ships calling a year; and Hsinkang, 1,600; followed by Talien, with 1,500, and Tsingtao, with 900.)

PRC-chartered ships left Chinese ports for the US on only six occasions in 1974, an average of 52 days apart. During 1975 to date, a total of 12 sailings have been made from Chinese ports. From Shanghai, a ship arrived on the eastern seaboard an average of every 31 days (once a month); from Talien, an average of every 44 days (six weeks); and from Hsinkang, an average of every 59 days. There was only one departure from Tsingtao.

Signs of regularity in these figures can be misleading. The minimum time between sailings from Shanghai was 14 days, the maximum 48 days, indicating a wide discrepancy in departure "schedules." From Hsinkang, the minimum time was 26 days and the maximum time 104 days—an even wider discrepancy. Nevertheless, there has been a significant increase in the number of sailings, from 1974 to 1975. Only two vessels have carried import cargoes to the Gulf Coast (in March, 1974 and June, 1975), and one to the West Coast (in March, 1974).

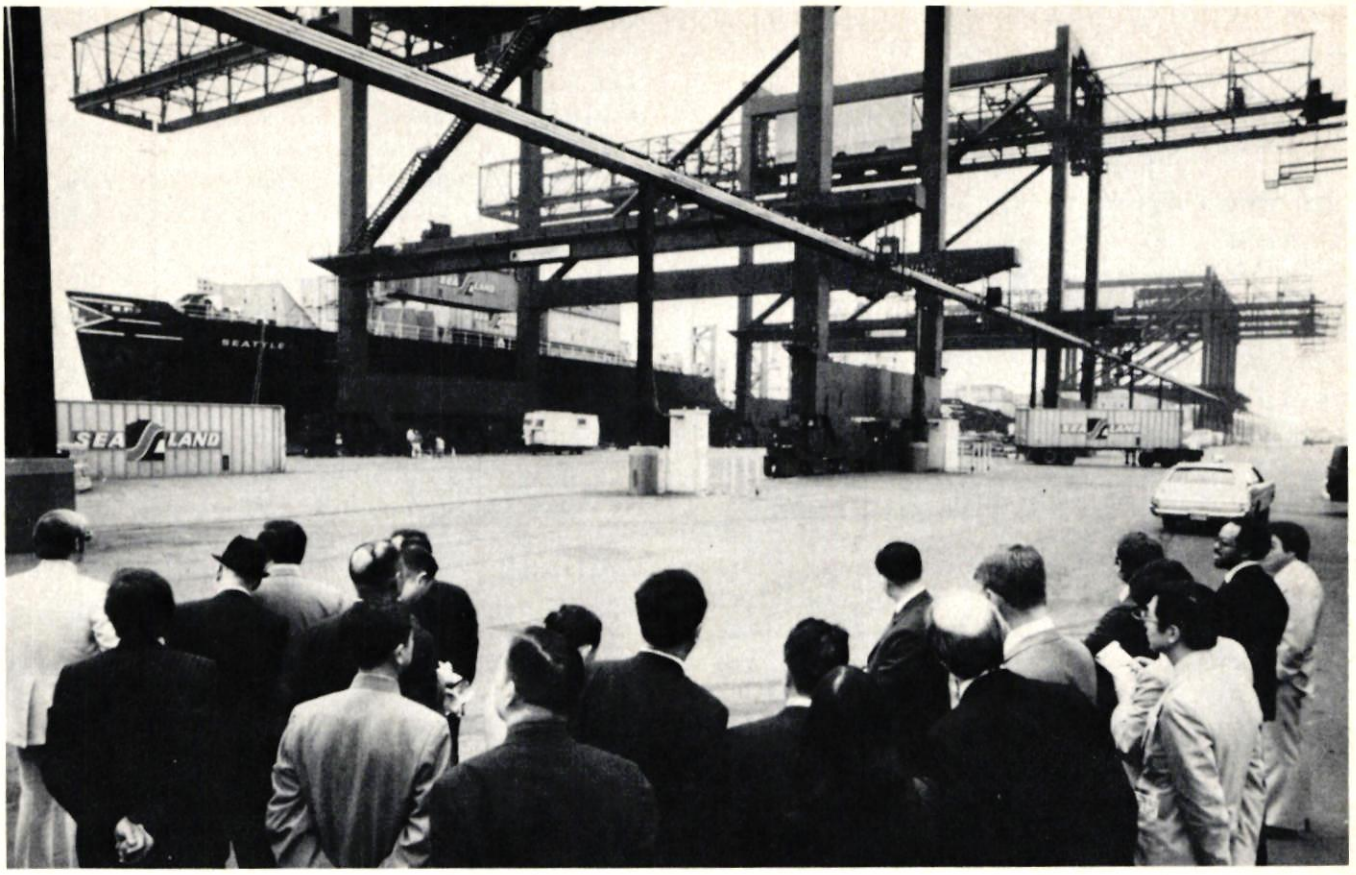
Export Cargoes

US export cargoes bound for the PRC on Chinese-chartered vessels have been far greater in number than import cargoes and greater in frequency.

From all coasts in 1973, 90 ships departed for China; in 1974 this increased to 112 ships; in 1975 to date,

CHINESE DESTINATIONS FOR SHIPS FROM ALL US PORTS

Yr.	Chinese Port	Ships Arriving from All US Ports
1973	Dairen	2
	Hsinkang	3
	Shanghai	—
	Tsingtao	—
	Whampoa	—
	Unspecified (Bulk shipments)	89
	Total	94
1974	Dairen	3
	Hsinkang	1
	Shanghai	7
	Tsingtao	—
	Whampoa	1
	Unspecified	104
	Total	116
1975	Dairen	10
	Hsinkang	12
	Shanghai	11
	Tsingtao	2
	Whampoa	—
	Unspecified	21
	Total	54



Sealand is one of the lines that have transshipped Chinese products to the US: here members of the CCPIT delegation see Sealand's modern container facilities, Port of NY and NJ, September 1975. Photo: Mark Godfrey (Magnum/Fortune.)

it then decreased to 40 ships. The greatest number of these vessels carried bulk cargo, for which a particular Chinese port destination is seldom specified. Of vessels known to have carried cargo to specific PRC ports, the largest number were equally divided between Shanghai and Dairen. Following in volume of ship traffic from the US were Hsinkang, with eight arrivals; Tsingtao, with two; and Whampoa, with one.

The frequency of departure of export vessels from all US ports to China to date has averaged one vessel every four days since April 1973. On the East Coast, the ship departures became more frequent between 1973 and 1974 and remained steady in 1975. Sailings from the East Coast for the PRC occurred once a month in 1973 and every two weeks during the past two years. (The minimum time between sailings ranged from two days in 1973 to less than a day in 1974 and 1975; the maximum time varied from 16 in 1973 to 124 in 1974, and to 40 in 1975.) On the Gulf Coast, ship departures were very frequent in 1973 and 1974—every four or five days—reflecting major grain deals negotiated between the US and China.

With the fall in grain sales during the past year, the number of PRC-bound ships and their frequency also declined. Chinese-chartered ships have left US ports for China at slightly less than monthly intervals during 1975. The minimum time between sailings in 1975 has ranged from less than a day to four days; the maximum from two weeks to seven weeks.

On the West Coast, direct exports to the PRC began in 1974, during which year departures averaged about once a month. In 1975, the number of vessels has fallen, with West Coast departures now about every five weeks. (Full details, pages 23-25.)

Nature of Cargoes

The frequency of Sino-US shipping has, to a large extent, been dictated by the contrasting logistics of a great number of small import cargoes versus a smaller number of bulk exports. While import cargoes to the US have been extremely varied—ranging from tung oil to glassware to bristles to machine tools—export cargoes have been more uniform. The majority of exports to China have been bulk cargoes of commodities such as wheat, corn, soy beans, cotton and scrap; and the rest have included carbide, resin, rock drilling units, and parts for the eight ammonia plants sold to China by Pullman's M.W. Kellogg Company of Houston. Bulk ships always load a full quota of cargo at only one port and almost always sail to unspecified ports in China.

Import transactions are usually much smaller than those for export. Imports from the PRC—listed as 951 different items in 1974 against only 236 export categories—are, to a large extent, small volume items such as textiles, light industrial products, animal by-

products, and chemicals—which come under the heading of "general cargo."

Subletting (Chartering Out)

Because China time-charters its tramp vessels for an average of two years, it sublets or "charters out," the ships at times to optimize usage and avoid idle time. China has instructed its American agents to charter out vessels from the US to other parts of the world, including Spain, Germany, the Netherlands, Portugal, Italy, Mexico, Japan, and Lebanon and also, on occasion for cabotage, or domestic runs between US ports, carrying corn, soybeans and other products. During 1975, at least six ships were sublet from Kerr Steamship Company and a total of 17 were sublet from Strachan. During 1974, five vessels from the Gulf headed for European ports.

The Four Shipping Agents—Appointed in 1973

March Shipping Co., Ltd., of Montreal, agents for the PRC since 1961, was understandably the first steamship agent to be appointed by the Chinese, given Ottawa's early recognition of Peking. The appointment followed the company's own solicitation of PRC business. From 1961 until 1973, March was the sole shipping representative for the Chinese in North America, and has maintained close ties with the PRC embassy in Ottawa. Several groups of March officials have visited China since 1961 for business discussions.

Since 1973, March has also represented China in the US portion of the Great Lakes region. It has dealt mostly with ZHONGZU, although recently COSCO has become more active in its business transactions. It generally receives chartering instructions from the Far East Enterprising Co. (FARENCO) through a broker in London. (ZHONGZU was the leading charterer on the London market in 1973.) Although March was appointed first, it has been the slowest to develop, and has thus far handled only 13 Chinese export cargoes from US Great Lakes ports and no import cargoes. Its shipments have included scrap, corn and wheat during 1974 and 1975.

Whether or not the trade in the Great Lakes region will expand to any significant extent is a matter of conjecture, but is partially determined by the restriction on the size of ships entering the Great Lakes via the St. Lawrence Seaway. Nevertheless, a March official has received at least some indication of plans for future expansion, given that his company was appointed as PRC representative "for the time when China begins trade in the Great Lakes."

Transmarine Navigation Corporation, with headquarters in San Francisco, has four other offices along the West Coast—in Los Angeles, Long Beach, Portland and Seattle. It was appointed as West Coast agent in April, 1973 by ZHONGZU. At that time, its officials were informed by Peking that "we were the first shipping men invited to the PRC and the first to be named as agent" (in the US). Since then, they have handled 27 vessels loading export cargoes on 28 different occasions, with only one import cargo—all general cargo loads. Their 1975 export shipments have included parts for the Kellogg ammonia plants.

Kerr Steamship Company, the PRC's agents on the East Coast, maintains 38 offices throughout the US, Mexico, and Canada. It was appointed by the Chinese in May, 1973, with the arrival of a letter from FARENCO, followed a month later with a corroborating letter from ZHONGZU. The original relationship was negotiated on the basis of trampship bulk cargoes, but now the company is also handling general cargo. Most of their business has been in the ports of New York and Baltimore.

Kerr has handled nine ships in 1973, 33 in 1974,

SHIPPING AGENTS APPOINTED BY THE PRC (MAIN OFFICES)

EAST COAST

Kerr Steamship Co., Inc.
90 Washington Street
New York, New York 10006

Telephone (212) 952-4200

Cable: KERRLINE

WEST COAST

Transmarine Navigation Corporation
550 Kearny Street
San Francisco, California 94108

Telephone: (415) 989-4550

Cable Address: TRANSMARINE

GULF OF MEXICO

Strachan Shipping Company
1600 American Bank Building
New Orleans, Louisiana 70130

Telephone: (504) 522-8561

Cable Address: STRACHAN

GREAT LAKES REGION

March Shipping, Ltd.
400 Craig Street West
Montreal, Canada

Telephone: (514) 842-8841

Cable: MARCH

and 30 through October 1975. All of the 1973 vessels carried export cargoes, while in 1974, there were 27 export cargoes and six import cargoes. In 1975, Kerr has so far handled 20 export cargoes and 10 import cargoes.

Strachan (pronounced "strahn") Shipping Co. of New Orleans, with 18 other offices in the Gulf and on the East Coast, was also selected by ZHONGZU as Gulf Coast agent in July, 1973, after solicitation of Chinese business. In November of that year, three Strachan representatives visited Peking and in May, 1975, two officials returned to China. Since July, 1973, over 100 ships have carried export cargoes to China, and two have transported import cargoes. Early shipments consisted mostly of grain, while after mid-1974, general cargo was included. Since May, 1974, exports have switched from grain largely to cotton, rock drilling units, and parts for the eight Kellogg ammonia plants. Ninety percent of all cargoes are routed through New Orleans, the remainder passing through other ports in the Gulf.

Perspective of Steamship Agents

ZHONGZU and, to a lesser extent, COSCO ultimately control all actions of the PRC's steamship agents and all China's shipping traffic to and from the US. One of the two shipping organizations informs the US agent when it is about to dispatch a cargo from China, and orders the US agent to approach US companies to announce the arrival of a cargo, or to find out if a cargo will be available, at a US port.

While some agents feel that business with the PRC—and the terms on which it is conducted—is "a pleasure," one agent's official pointed out problems with the relationship. The greatest difficulty, he believes, is the "very antiquated system" for exports employed by the PRC. Normally regular ocean freight rates include care of cargo from departure pier to destination pier. But China does not always adhere to normal shipping procedures; so the US agent may be caught with extra responsibilities, such as collecting fees on dock. In some cases China does not provide insurance coverage for the cargoes exported to the US through the entire shipping process, including delivery. The agent questions having to assume the additional responsibility of negotiating claims. In short, this official feels that China "must accept all the obligations of shipping."

M.W. Kellogg item awaits shipment to Dairen from San Francisco, December 1974.

A second problem often arises from the overlapping of jurisdiction among steamship agents. The typical general cargo export vessel chartered by the Chinese often works its way through the Gulf, up the East Coast, and sometimes into the Great Lakes discharging; the typical vessel with US-bound cargo from China moves down the East Coast into the Gulf loading. This pattern sometimes leads to conflicts and confusion among the designated companies over proper division of responsibility.

A third problem is a frequent lack of adequate notice regarding the departure of a ship from China. Whether the chartering company is ZHONGZU or COSCO, it usually gives the American agents five or six weeks notice concerning the arrival of a ship but not the exact day of arrival. The Chinese may not inform an agent that a ship is expected until it has already sailed from China. In at least one instance, they have given only two days notice.

Agents also stressed the lack of free-flowing information from the PRC regarding definitions and procedures.

Conclusion

While direct, scheduled flagship services between the US and the People's Republic of China await resolution of the claims/assets question, a bilateral Sino-US maritime agreement, and probably full diplomatic recognition between the two countries, direct PRC-US shipping has clearly gotten well underway at the initiative of the Chinese. And while US firms have probably had a hazy picture of this tramp trade to date, the details given in this article at least take some of the guessing out of how many and how often ships come and go to China. The general picture is not as bad as some importers may think and appears to be improving all the time. In the event of further progress in Sino-US political relations, one can expect further progress—and regularity—in this important aspect of bilateral Sino-US trade.

One possibility for improving direct Sino-US shipping services would be the establishment of third country scheduled liner services such as that already operating between Europe and the PRC by Scan Dutch, whose agents are the company, East Asiatic. Scan Dutch has scheduled services to Shanghai at least once a month from European ports. The same kind of arrangement between Chinese and US ports could only be beneficial. 完

DIRECT SHIPMENTS TO CHINA 1973-1975

Chinese-Chartered Vessels Shipping Exports to the PRC from US Ports

Ship/*Registry*/*DWT*	Departure Date	US Port-Chinese Port where specified	*Cargo*
1973			
East Coast			
Comet *G–15,178*	7.1	Baltimore	*Corn*
Moldova *G–15,041*	7.11	Boston	*Scrap*
Aegis Bravery *G–25,117*	8.16	New York, Providence	*Scrap*
Tozui Maru *J–24,975*	8.22	Baltimore	*Wheat*
Atlantic Horizon *L–28,703*	9.7	Baltimore	*Wheat*
Marigo *G–14,948**	9.11	Boston	*Scrap*
Despina *G–15,020**	9.22	Providence	*Scrap*
Marina Grande *G–23,967*	10.19	Philadelphia	*Scrap*
Aegis Progress *G–27,417*	11.27	New Haven-Dairen	*Scrap*
Gulf Coast			
Pindar *G–38,308*	4.16	Houston	
Salton Sea *SR–16,880*	7.6	New Orleans (N.O.)	
Elleranta	7.11	Pascagoula	
World Neighbor *L–43,837*	7.15	Pascagoula	
Goeric	7.21	Houston	
Viator *L–12,950*	8.4	Pascagoula	
Pindar *G–38,308*	8.7	Pascagoula	
Aegis Progress *G–27,417*	8.9	Houston	
Evnia *G–14,937*	8.10	N.O.	
Annitsa L. *G–35,068*	8.11	Pascagoula	
Maersk Commander *GB–25,375*	8.13	Beaumont	
Mihalios Xilos *G–19,250*	8.16	Pascagoula	
Giannis N. *G–37,500*	8.17	N.O.	
Nicolaos Pateras *G–30,400*	8.20	Houston	
Kinko Maru *J–*	8.21	Houston, Tampa	
Samjohn Governor *L–18,839*	8.22	N.O.	
Sulu Sea *SR–19,240*	8.25	Pascagoula	
Aghios Nicolaos *G–30,901*	8.28	Pascagoula	
Aqua Gem *L–47,701*	8.28	Pascagoula	
Apollonius *G–27,489*	8.28	Pascagoula	
Strymon *L–26,000**	9.26	Beaumont	
Praha *Cz–31,846*	9.8	N.O.	
Kapetanissa *G–26,190*	9.9	Pascagoula	
Samos *G–27,708*	9.12	Galveston	
Highland Brinks	9.14	Galveston	
Hoegh Miranda *N–24,115*	9.16	Galveston	
Prodromos *G–29,000*	9.16	Houston	
Aquaglory *L–48,348*	9.18	Pascagoula	
Yiannis	9.20	Houston	
Gerlin *N–37,660*	9.22	Galveston	
Venthisikimi *G–28,855*	9.24	Houston	
Forestland *SW–27,314*	9.25	Houston	
Andaman Sea *SR–34,241*	9.28	Pascagoula	
Aegis Destiny *G–26,984*	10.23	N.O.	
Solholt *N–39,900*	10.5	Corpus Christi	
King Leondias *G–24,045*	10.17	N.O.	
Kako Maru *J–17,781*	10.18	N.O.	
Achilles *GB–26,729*	10.18	Baton Rouge	
Tyoto Maru No. 2	10.18	N.O.	
Hamburger Wappen *WG–32,175*	10.19	Galveston	
Tasman Sea *L–41,355*	10.19	N.O.	
Good Friend *G–15,499*	10.23	Houston	
Marina L. *G–35,110*	10.31	Pascagoula	
Timor Sea *SR–*	11.2	Galveston	
Annitsa L.	11.3	N.O.	
Aggeliki *G–16,603*	11.7	N.O.	
Sulu Sea *SR–19,240*	11.15	Galveston	
Aegis Stoic *G–18,694*	11.17	N.O.	
Samjohn Governor *L–18,839*	11.18	N.O.	
Giannis N. *G–37,500*	11.22	Galveston	
Hamburger Flagge *WG–31,650*	11.25	Galveston	
Evnia *G–14,937*	11.28	N.O.	
Prodromos *G–29,000**	12	Pascagoula	
Silva Plana *L–31,901*	12.1	N.O.	
Elmina *C–15,353*	12.4	Pascagoula	
Elocean *G–33,819*	12.4	N.O.	
Zografnia Y. *G–15,174*	12.5	N.O.	
Eleni E. F. *G–15,106*	12.5	N.O.	
Emilia Loverdos *G–23,851*	12.10	Tampa	
China Sea *SR–24,840*	12.11	N.O.	
Uranus *L–31,300*	12.13	N.O.	
Apollonius *G–27,489*	12.15	Mobile	
Marigo M.F. *G–17,130*	12.17	Taft, La.	
Mihalios Xilos *G–19,250*	12.19	Galveston	
Merry Captain *GB–15,926*	12.27	Tampa	
Acritas *G–14,934*	12.27	Houston	
Anchises *GB–26,729*	12.30	Pascagoula	
Solholt *N–39,900*	12.30	Galveston	
West Coast			
Sea Gull *G–14,800*	9	Columbia River	
Caspian Sea *SR–15,944*	12	L.A., Long Beach, San Francisco	
Great Lakes			
Aristandros *G–18,560*	7.6	Duluth	*Wheat*
Yemelos *G–17,659*	8.7	Chicago	*Corn*
Santa Claus *G–17,136*	9.6	Duluth	*Wheat*
Marigo M.F. *G–17,130*	9.9	Toledo	*Scrap*
Good Helmsman *G–18,994*	9.14	Duluth	*Wheat*
Saltnes *GB–21,916*	10.4	Duluth	*Wheat*
Evimera *G–22,630*	10.30	Toledo	*Corn*
Ariel *G–19,945*	11.12	Toledo	*Corn*
Akademos *L–22,589*	11.13	Toledo	*Corn*
Altis *G–12,175*	11.21	Toledo	*Corn*
Amyntas *G–15,175*	11.23	Chicago	*Corn*
1974			
East Coast			
Aegis Bravery *G–25,117*	1.12	Jacksonville, Port Everglades-Dairen	*Scrap*
Aegis Kudu *G–13,874*	2.1	Baltimore	*Corn*
Aqua Glory *L–48,348*	2.13	Baltimore	*Corn*
Dinara *Y–29,956*	2.17	Jacksonville	*Phosphate*

Ship/*Registry*/*DWT*	Departure Date	US Port-Chinese Port where specified	*Cargo*
Andaman Sea *SR–34,241*	2.24	Baltimore	*Corn*
Japan Coach *J–29,562*	3.14	Baltimore	*Wheat*
Marigo Yemelos *G–15,154*	7.15	Albany, New York	*Paper*
Hector *GB–51,072*	7.19	Baltimore	*Wheat*
Flora *WG–2,347*	7.22	Norfolk	*Wheat*
Kaity *G–39,640*	7.23	Charleston	*Wheat*
Archimedes *G–27,912*	7.27	Norfolk	*Wheat*
Belobo *N–78,078*	7.30	Baltimore	*Wheat, soya*
Phaedra *G–1,717*	7.30	Philadelphia-Shanghai	*Wheat*
Brooknes *WG–21,540*	7.31	Providence-Dairen	*Scrap*
Amstellan *D–33,529*	8.2	Philadelphia-Shanghai	*Wheat*
Deltadrecht *D–42,459*	8.13	Baltimore	*Wheat*
Stove Campbell *N–38,406*	8.16	Baltimore	*Wheat*
Areti *G–22,626*	8.17	Philadelphia	*Wheat*
Forestland *Sw–27,314*	8.22	Baltimore	*Wheat*
King Nestor *G–24,162*	8.30	Baltimore	*Wheat*
Solholt *N–39,900*	8.30	Baltimore	*Wheat*
Apollon	9.21	Philadelphia	*Wheat*
Elocean *G–33,819*	10.9	Philadelphia	*Wheat*
Eldea *C–6,515*	10.19	Albany-Shanghai	*Kraft paper*
Zografnia Y. *G–15,174*	10.25	Albany-Shanghai	*Paper, Sugar*
Naxos *L–16,194*	11.10	New York-Shanghai, Dairen	*Machinery*
Pindar *G–38,308*	11.16	Philadelphia	*Corn, Soya*
	Gulf Coast		
Santa Claus *G–17,136*	1.1	N.O.	
Dicto *N–22,224*	1.2	N.O.	*Grain*
Christine G. Chimples *G–13,982*	1.7	N.O.	*Cotton*
Hamburger Wappen	1.11	N.O.	*Grain*
Marigo Yemelos *G–15,154*	1.12	N.O.	*Grain*
Panagos D. Pateras *G–28,712*	1.16	Houston	*Grain*
Aqua Faith *L–46,644*	1.18	Mobile	*Grain*
Blue Master *N–28,420*	1.21	Houston	*Grain*
Strymon *L–26,000**	1.22	N.O.	*Grain*
Reynolds *GB–29,809*	1.26	Houston	*Grain*
Westbulk *N–30,262*	1.26	N.O.	*Grain*
Aegis Eland *G–20,260*	1.29	Houston	*Grain*
Arcturas*	1.30	Galveston	*Cotton*
Good Helmsman *G–18,994*	2.3	N.O.	*General*
Aqua Joy *L–47,585*	2.8	Houston	*Grain*
Aegis Kingdom *G–26,984*	2.10	Houston	*Grain*
Captain Pandelis S. Lyras *G–19,710*	2.12	Houston	*Grain*
Forestland *Sw–27,314*	2.13	Beaumont	*Scrap iron*
Anna *G–26,282*	2.15	Mobile	*Scrap iron*
	2.22	Beaumont	
Stalo Two *G–32,000**	2.18	N.O.	*Grain*
	3.1	N.O.	*Grain*
Gerlin *N–37,660*	2.21	Houston	*Grain*
Despina	3.4	N.O.	*Scrap iron*
Samjohn Governor *L–18,839*	3.12	N.O.	*General*
Master Petros *G–40,501*	4.6	Galveston	*Cotton*
Baugnes *N–21,546*	3.14	Brownsville	*Scrap iron*
Kapetanissa *G–26,190*	3.16	N.O., Galveston	*Cotton*
Tasman Sea *L–41,355*	3.16	N.O.	
Atlantic Hero *L–28,696*	3.28	N.O.	*Grain*
Bulk Promoter *N–37,800*	3.31	N.O.	*Grain*
Aegis Stoic *G–18,694*	4.2	Brownsville	*Cotton*
	4.11	Galveston	*Cotton*
Aquabelle *L–46,753*	4.6	N.O.	*Grain*
Silvretta *Sz–30,235*	4.6	N.O.	*Grain*
Pelleas *G–15,170*	4.7	Pascagoula	*Grain*
Prodromos *G–29,000**	4.10	N.O.	*Grain*
Rytterholm *N–9,223*	4.30	N.O., Galveston-Shanghai, Hsinkang	*Grain*
Aegis Wisdom *G–18,717*	5.16	N.O.	*General*
	5.21	Galveston	*General*
Strymon *L–26,000**	5.28	N.O.	
Solholt *N–39,900*	6.5	N.O.	
Dubrovnik *Y–24,051*	6.16	N.O.	*Grain*
Brisknes *N–28,420*	6.17	N.O.	
Merry Captain *GB–15,926*	6.18	Houston-Whampoa	*General*
Scotspark *GB–27,509*	6.19	N.O.	*Grain*
Atlantic Hero *L–28,696*	6.21	N.O.	*Grain*
Hamburger Flagge *WG–31,650*	6.21	N.O.	*Grain*
Dimos Halcoussis *G–15,123*	6.29	N.O.	*General*
	7.1	Pascagoula	*Grain*
Tasman Sea *L–41,355*	7.2	N.O.	
Carras *G–46,646*	7.7	N.O.	*Grain*
Artiba *L–11,950*	7.12	Galveston	*Cotton*
Aran *G–14,938*	7.15	N.O.	*Grain*
Merry Captain *GB–15,926*	7.18	Galveston	*Cotton*
Norbeth *N–28,420*	7.22	N.O.	*Grain*
Samjohn Governor *L–18,839*	7.26	Galveston	*Cotton*
	8.3	N.O.	*General*
Pistis *G–22,249*	7.28	Pascagoula	*Grain*
Apollonius *G–27,489*	7.31	Pascagoula	*Grain*
Pindar *G–38,308*	7.31	N.O.	*Grain*
Reynolds *GB–29,809*	7.31	N.O.	*Grain*
Sava *Y–32,000*	8.3	N.O.	
Larry L. *G–26,875*	8.6	N.O.	*Grain*
Milena *N–25,541*	8.11	N.O.	*Grain*
Ocean Skipper *L–34,715*	8.8	N.O.	*Grain*
Captain George L. *G–37,765*	8.18	N.O.	*Grain*
Lips *L–30,041*	8.24	N.O.	*Grain*
G. M. Livanos *L–30,000**	9.6	N.O.	*Grain*
Stalo Two *G–32,000**	9.8	Baton Rouge	*Grain*
Silverman *GB–25,540*	9.16	N.O.	*Grain*
Rhodos *SI–12,930*	9.16	Galveston	*General*
	9.27	N.O.	*General*
Dimitris L.F.	10.2	N.O.	*Grain*
Zografnia Y. *G–15,174*	10.12	N.O.-Shanghai	*General*
Strymon *L–26,000**	10.25	Beaumont	*Grain*
Chukchi Sea *SR–17,000*	11.8	N.O.	*Grain*
Treuenfels *WG–17,700*	12.2	Galveston	*General*

Ship/*Registry*/*DWT*	Departure Date	US Port-Chinese Port where specified	*Cargo*
	West Coast		
China Sea *SR–24,840*	1	L.A./Long Beach	
Aegis Bounty *G–14,584*	1	L.A./Long Beach, San Francisco	
Artiba *L–11,950*	1.17	San Francisco	
Cape Kennedy *G–14,934*	1	L.A./Long Beach	
Eleni E.F. *G–15,106*	3.16	L.A./Long Beach, San Francisco	
Rytter *N–9,620*	3	L.A./Long Beach, Columbia River	
Minerva *N–12,468*	4	San Francisco	
Frinton *G–14,935*	5	L.A./Long Beach	
Good Helmsman *G–18,694*	7	Seattle	
Rytterdal *N–9,110*	10	L.A./Long Beach	
Banjaluka *Y–25,770*	10	Columbia River	
Solholt *N–39,900*	11	Columbia River	
Aegis Bravery *G–25,117*	11	Columbia River	
Cape Kennedy *G–14,934*	11	Columbia River	
Treuenfels *WG–12,700*	12	San Francisco	
	Great Lakes		
Forestland *SW–27,314*	8.12	Toledo	*Corn*
	1975		
	East Coast		
Rhodos *Si–12,930*	1.25	Albany, New York-Dairen, Hsinkang, Shanghai	*General*
Aegis Blaze *G–18,717*	2.20	New York-Hsinkang, Shanghai	
Comet *G–15,178*	3.26	New York-Hsinkang	
Naxos *L–16,194*	5.5	New York-Shanghai, Dairen	*Machinery, Chemicals*
Rhodos *Si–12,930*	5.27	New York-Shanghai, Hsinkang	*Machinery, Paper*
Baugnes *N–21,546*	6.13	New York-Shanghai	*Scrap*
Aghios Nicolaus *G–30,901*	7.17	Providence-Dairen	*Scrap*
Nantao *SR–9,800*	7.23	Baltimore-Hsinkang, Shanghai	*Machinery*
Anna *G–26,282*	7.28	Newark	*Scrap*
Ellinora *C–15,858*	7.28	Philadelphia	*Scrap*
Pantazis L.	7.28	Providence-Dairen	*Scrap*
Coral Sea *SR–16,663*	8.14	Charleston-Hsinkang, Shanghai	*Pulp, Cotton, Machinery*
Pelleas *G–15,170*	9.9	New York, Charleston-Shanghai, Dairen	*Lead, Polyester Fiber, Pulp*
Scotspark *GB–27,509*	9.15	Norfolk	*Scrap*
Nanhua *SR–9,800*	9.21	Baltimore-Shanghai, Hsinkang	*Machinery*
Maistros *L–33,336*	10.1	Providence-Dairen	*Scrap*
Aegis Kudu *G–13,874*	10.8	Newport	*Scrap*
Janice L. *G–27,382*	10.10	New York	*Scrap*
Nanwu *SR–9,735*	10.25	Baltimore	
Patricia L. *G–26,885*	10.15	Jacksonville, Port Everglades	*Scrap*
	Gulf Coast		
Naxos *L–16,194*	1.4	N.O.-Dairen	*General*
Aristonimos *G–13,000**	1.11	Galveston-Tsingtao	*Cotton*
Rhodos *Si–12,930*	2.9	N.O.	*Calcium Carbide, Machinery*
Aegis Blaze *G–18,717*	3.8	Galveston-Hsinkang	*Ammonia plant blow-out preventers, Cotton*
Treuenfels *WG–12,700*	3.12	Galveston-Dairen	*Cotton, General*
Dorothea Bolton *WG–7,405*	3.30	Houston-Hsinkang	*Machinery*
Yemelos *G–17,659*	4.13	Galveston-Shanghai	*Cotton*
Antje Schulte *WG–7,325*	4.28	Galveston-Tsingtao	*Cotton*
Naxos *L–16,194*	5.17	N.O.-Hsinkang	*Machinery*
Ocean Pegasus *G–26,382*	6.28	Galveston-Shanghai	*Cotton*
Treuenfels *WG–12,700*	7.6	Galveston-Dairen	*General*
Nantao *SR–9,800*	8.16	Galveston-Hsinkang	*Machinery*
Nanhua *SR–9,800*	10.1	Houston-Shanghai, Hsinkang	*General*
Coral Sea *SR–16,663*	10.5	Houston	*Ammonia plant*
Athos	10.17	N.O.	*General*
Nanwu *SR–9,735*	11.1	Houston, Galveston	*General*
Mindanao Sea *SR–13,400*	11.1	Houston	*General*
	West Coast		
Aegis Stoic *G–18,694*	2	San Francisco	
Dorothea Bolton *WG–7,405*	4	Long Beach	
Aegis Blaze *G–18,717*	5	L.A./Long Beach	
Antje Schulte *WG–7,325*	5	L.A./Long Beach	
Aegis Sonic *G–20,946*	6	San Francisco, Longview	
Altis *G–12,175*	7	Eureka	
Angelina *G–14,800*	7	Longview	
Coral Sea *SR–16,663*	8	San Francisco	
Lips *L–30,041*	8	L.A./Long Beach, San Francisco	
Atlantic Hero *L–28,696*	10.11	Portland-Dairen	
	Great Lakes		
Scotspark *GB–27,509*	9.5	Detroit	

Key

C —Cyprus
Cz—Czechoslovakia
D —Netherlands (Dutch)
GB—Great Britain
G —Greece
J —Japan
L —Liberia
N —Norway
Si —Singapore
SR —Somali Republic
Sw —Sweden
Sz —Switzerland
WG—West Germany
Y —Yugoslavia
* estimated deadweight

Data prepared by Stephanie Green and Stephen Maire.

HOW CHINA VIEWS TERMS FOR DELIVERY OF GOODS IN FOREIGN TRADE

This is the third in a UCBR *series of translations from* Foreign Trade Practice, *published in Shanghai, 1959. The book was reprinted in 1972 and reportedly remains one of the principal texts at Peking's Institute of Foreign Trade.*

Section I. Definitions

Delivery of goods is the transfer of ownership of a product. This means that after a contract has been signed and the goods are in the process of being shipped to the buyer according to the time, place and other specific conditions set by the buyer, a dividing line of liability between the two parties with respect to the transaction is established. For this reason the liability must be clearly specified in the contract. Additionally, one's behavior with regard to the delivery of goods is reflective of the way in which the enterprise views the contract. Because this behavior has a bearing not only on the reputation of the enterprise involved, but even, on occasion, on the reputation of the nation itself, it is essential to regard it very seriously indeed.

Section II. Modes of Delivery

There are two principal types:

Actual or Physical Delivery means that the seller must take the goods and physically hand them over to the buyer, such as delivery to a factory, warehouse, etc.

Symbolic Delivery means that after the seller has loaded the goods, he turns the shipping documents over to the buyer, or the bank appointed by the buyer. This is equivalent to delivery of goods.

Delivery and pricing terms have an intimate relationship. Under both C.I.F. and F.O.B. pricing terms, the second mode of delivery is used.

Section III. Date of Delivery

With regard to the date of delivery, in trade contracts with capitalist countries, the format of "date of shipment" is usually selected. By and large, it contains the following provisions:

1. Short Term Shipment. When specifying "immediate shipment" or "prompt shipment" the former is generally recognized as faster, but among various countries, regions and businesses, there are different interpretations. From the day the contract is signed, up to and including 30 days, is generally designated as "short term shipment." With regard to the time periods for shipment, immediate and prompt, both are regarded by international commercial convention as being shipment within 30 days. In order to avoid the possibility of dispute arising, it is necessary to set forth the date of shipment clearly when the contract is being discussed.

2. Long Term Shipment. (1) Limited to shipment within a certain month such as June shipment, which means shipment starting the 1st of June and no later than the 30th of June. (2) Limited to shipment within any two months such as June/July shipment, that is shipment anytime from the 1st of June to the 31st of July. (3) Limited to shipment prior to a certain month and day, such as shipment before June 15, which is to say shipment from the day the contract is signed and at the very latest before June 15.

3. Shipment with Unspecified Time. (1) Shipping on the first vessel that sails. Because at the time the contract is signed neither definite date of shipment or name of vessel is stipulated, the first vessel that sails after the contract signing is selected. (2) Postponed shipment due to no cargo space. This provision is made because sometimes cargo space is scarce or there is no space suitable for the item in question. (3) Shipment is made after export approval is obtained. The goods are already contracted for, but cannot be shipped until after export approval is forthcoming. (4) According to harvest of the goods for shipment. This refers to agricultural produce having to be harvested before shipment can be made. (5) According to the ability of the ship to move. This is most common when the river or port is frozen over, and shipment cannot take place until after it thaws.

Section IV. Other Conditions Relevant to Delivery

Usually other relevant terms are included within the delivery conditions. These several terms vary with the circumstances of the transaction. Some are speci-

fied particularly by the buyer; some, the buyer hopes to accomplish; some are directly related to price. These various terms must be agreed to and confirmed by the seller; and moreover, clearly specified in the contract. The contents are set forth in general:

1. Specified Route. The purposes of a specified route are to save money and expenses, save time, or guarantee the safety of the goods when certain ports of call cannot be approached.

2. Restrictions on transshipment carriers. For cargo which should not be shifted, restricted transshipment can reduce breakage and damages. Moreover, the risk of theft during shifting in the port can be avoided. During time of war, the specified port of transshipment and the insurance rates are related.

3. Named Vessels. If a particular company's ship, or a certain shipping line sails fast and prompt, shipment on that company's ship or that line may be specified, or because that company's ship, or that line can insure the safety of the cargo, it may be specified, such as by designating: "Shipment: Polish Lines."

4. Specified Shipping Space. If goods are easily spoiled, it is necessary to ship "refrigerated space" or "ventilated space;" highly valuable cargo must be shipped "sealed space" or "watertight space;" items of a dangerous nature must be shipped "on deck." All of these safeguards are for the purpose of cargo integrity.

5. Partial Shipment. (1) Partial not allowed. Partial shipment is not permissible so that shipment must be completed at one time. (2) Partial Shipment. Under the needs of the buyer, partial shipment may be permissible, but it is best to first stipulate the time period and amounts of partial shipments.

6. Optional Ports. Within certain circumstances, the buyer usually demands that "optional ports" be specified. In the practice of foreign trade, on occasion there is not only one port of destination. Besides setting price terms for a port of entry, the buyer may specify a second or third "port of call." This adding of ports results in the term "optional ports." The buyer informs the local shipping company several days (generally 3 days) before the goods arrive, and asks that the specified goods be unloaded at the specified "optional ports." Of course this optional port must first be arranged with the shipping lines along the way, such as "port of destination," Taku, "optional port" Hsinkang, Chinghuangtao, etc. In capitalist countries, importers utilize this provision to go to the second or third "port of option" to sell to customers, while the goods are still in the course of transport, which is to say doing a lot of business in a little time. Then the importer may order the amount of goods sold at the port of transaction to avoid reshipment or incomplete sales of goods, thus saving money and expenses. But the seller still bears the cost of all of this finagling because of added expense in cargo redistribution, etc.

7. Performance Bond. To guarantee after the transaction that the seller ships the goods according to the specific contractual time period, the seller agrees to provide to the buyer's specified bank a total defined percentage value (usually 3% or 5% etc.) irrevocable bond or bank letter of guarantee for assuring performance. If the seller does not deliver on time, the buyer then owns outright the bond for the unreceived item to indemnify losses suffered by the buyer. This provision must be already accepted and agreed to by the seller at the time of the transaction and specified clearly under the contract. This performance bond was in the past generally used by the Hong Kong side importing so-called "embargoed commodities," hence it was necessary to remit the bond, but now it is seldom used.

Section V. Management and Delayed Delivery

1. The principal reasons for delayed goods are two: force majeure and seller's deliberate stalling. The latter does not exist in our export trade.

(1) In general force majeure includes two categories of factors. 1) Natural Factors, e.g. earthquake, typhoon (or hurricane), lightning, colossal floods and drought, epidemics, contagious disease and any others that cannot be prevented or predicted by humans, or controlled by any reasonable measures. 2) Manmade Factors—such as those caused by circumstances of war which influences on time delivery. With regard to capitalist importers usually the named party must present our side with what we consider to be satisfactory evidentiary documents. Otherwise the seller must bear the cost and the losses incurred.

(2) Sellers Deliberate Delay. Some people in capitalist countries whose work style is bad, for speculation and profiteering, often sell goods in advance without the ability to fulfill these orders, or they sell out to a third party at a high price for the goods, deliberately delaying, and later failing to ship the goods.

2. Methods of handling delayed shipments can be principally divided into two categories.

(1) The seller is excused from responsibility. If it is truly because of circumstances beyond human control and evidentiary documents are supplied which the buyer recognizes and is satisfied with, then in principle the seller may be excused from responsibility.

(2) Sellers shall be responsible for indemnification of losses. If as a result of sellers deliberate delay delivery cannot be handled according to the original contract, in general there are several methods of handling the problem: 1) One may agree to shipment at a delayed time, but demand from the seller compensation and indemnification for damages. 2) Cancel the contract and demand indemnification for losses. In short, the above mentioned methods should be clearly specified in the contract and one should look at the actual circumstances and take best advantage of the situation. 完

COMPANY OFFICES IN THE PRC

Few foreign firms have managed yet to open offices in the PRC but with China business steadily growing, a number of firms, including some from the US, have felt that their China operations warranted a continuing presence in the PRC, and have attempted to open "offices" in Peking. Among the firms that have had offices in Peking are Chori, C. Itoh, Boeing, Baker Trading, East Asiatic, Energoinvest of Yugoslavia, and Fiat. Peter D. Weintraub describes the function and logistics of a number of corporate offices in the PRC.

Corporate offices in China, as in any other country, should facilitate a firm's commercial efforts. In the PRC offices can provide on-going liaison with appropriate foreign trade officials and end-users, logistical support during long and arduous negotiations, and special technical assistance consonant with stipulations of a signed contract.

Offices may be established for a relatively short and specified period of time, or they may operate on a more or less permanent basis in order to enhance a firm's overall commercial posture with the Chinese. They may involve only a single individual or a considerable staff.

Who Has an Office?

Who needs an office in China? Thus far, there have been few American or foreign firms whose business activities have justified the expense, both in money and manpower, of establishing an on-going presence in the PRC. The companies that have established offices in Peking fall into the following categories:

- *Firms in China to offer technical training programs stipulated in contracts already signed with one of the Chinese Foreign Trade Corporations (FTC).* Pullman's M. W. Kellogg Division of Houston, which sold Techimport $205 million worth of fertilizer plants, and the Boeing Company (see below) are the two most outstanding examples of this type.
- *Firms involved in negotiations with Chinese FTC's on a prolonged and continuous basis which find the logistical support activity provided by an office arrangement indispensable.* Baker Trading of Houston (see below) which represents a number of U. S. companies in Peking is representative of this type of firm.
- *Other companies, primarily trading houses, whose wide number of clients and large volume of China business necessitates a permanent presence to maintain contact with Chinese trade officials.* Thus far, no

Peking's famous Tien An Men Square, a sight rarely missed by businessmen visiting China's capital.

US firms have fitted this description, but a number of European and Japanese companies have—including East Asiatic of Copenhagen and Tokyo's C. Itoh.

Even if a firm fits one of these descriptions, it should be aware of the considerable expense involved in operating a China office. Though conditions vary somewhat, most companies can count on spending between $1,500 and $2,000 per month, per person, exclusive of salary, to maintain representation in the PRC.

Aside from offices of foreign firms, there are certain other foreign commercial agencies represented in China. Two foreign banks, Chartered of London and Hong Kong and Shanghai, have long maintained facilities in Shanghai. Ethiopian Airlines, Iranair, Pakistan International Airlines and Japan Airlines have offices in Peking and both PIA and JAL have representation in Shanghai as well. Two other foreign carriers which fly to China—Air France and Swissair—are looked after by CAAC, and the Soviet airline, Aeroflot, operates out of the Soviet Embassy in Peking.

Several private Japanese trade associations involved with China, most notably the Japan International Trade Promotion Associations and the Japan-China Economic Association are represented in Peking. There is also a semi-private Australian trade mission in the capital, and of course, almost all foreign embassies in Peking maintain commercial/economic sections. Foreign countries holding exhibitions in Peking and other Chinese cities normally open temporary offices in connection with these shows.

No Accredited Company Offices

US and other foreign firms considering the establishment of a representative office in Peking or anywhere else in China, have discovered that such facilities, in the conventional sense, do not exist in the PRC. There is not a single foreign company accredited by the government to maintain a permanent facility on Chinese soil in the same way that foreign firms have opened accredited offices in Moscow. But while accreditation and all it implies is not yet possible, the Chinese are not adverse to permitting overseas business representatives in the PRC over a long period, with the following limitations:

- Lack of official accreditation means that the foreign business resident's status in China is the same as any other non-diplomatic visitor. The only official record

of this tenure in the PRC is maintained by means of his visa, which is of the same type issued to any casual tourist. Under normal circumstances, visas issued to Americans are good for only thirty to sixty days and must be renewed.

- There is no real office-space, at least as the term is understood in New York, London or Tokyo. All companies in China not engaged in a special project requiring their on-site presence operate from a hotel room, usually adjacent to their representative's living quarters. In some cases, the "office" is the same room in which the executive sleeps.
- There is no guarantee that a firm's location will be permanent. At least one company, established in Peking for more than a year, found itself obliged to change hotels on occasion to accommodate seasonal and diplomatic influxes of visitors.
- There are no private residence facilities. All company representatives live in one of the hotels reserved for foreigners. In Peking, the Hsin Ch'iao and the Peking seem to receive almost all long-term oversees business residents.
- Except in very special cases, such as foreign airlines, private communications outlets do not exist. Reportedly, the Japanese trading company, Chori had been authorized for installation of a private Telex, but if true, it is an exception. And while some other firms are hopeful that their applications for Telex will be approved, state-operated cable lines and conventional switchboard-connected hotel room telephones remain the normal means of overseas communication for the foreign representative in China.
- Chinese do not work for foreign firms in the PRC. This means there is no local assistance of the kind usually available for company offices in other capital cities.

Despite these restrictions, a number of firms have established on-going operations in China. The examples presented below are representative of how some of them have coped and even flourished in the PRC.

Boeing—Anticipating Every Wish

One of the provisions of the Boeing Company's $125 million contract to sell the China National Machinery Import and Export Corporation (MACHIMPEX), ten 707 airplanes stipulated that the Seattle-based aircraft manufacturer would provide the Chinese with flight training in the Shanghai area. In order to accomplish this, arrangements for Boeing's on-going presence in Shanghai and Peking were made in November 1972, following the September contract signing.

The Shanghai facility began operation in August 1973, with the delivery of the first airplane and closed ten months later. The main training base—provided rent-free by the Chinese—was located in an administration building adjacent to the terminal building of the airport. A small airport warehouse was also made available at no charge. Staffed by a Field Service Representative (FSR), six flight training instructors and several air frame systems mechanics and other technicians, this airport office was described by one company executive as "more than adequate." "The Chinese," he said, "anticipated our every wish and the amount of space they provided us with, was certainly sufficient to meet our needs."

The Boeing team brought a variety of training aids including a film reader, as well as normal office supplies such as a typewriter and photocopier. Shipment presented no problems, as all of the material was loaded aboard the first 707 to be delivered.

Throughout their stay in Shanghai, the American training personnel were housed in the Peace Hotel in downtown Shanghai, located some ten miles from the airport. While Boeing assumed expenses for room rent and meals—lunch was normally taken at the airport restaurant—the Chinese did furnish a crew bus which transported Boeing's people to and from the airport each day.

From the hotel, telephone contact with Seattle could be established within 20 or 30 minutes, or if booked ahead, within a few minutes of the reserved time. Though Telex was not available, cable service was fast and efficient.

Boeing's Peking operation began in May 1974, just as the Shanghai facility closed, and the company is still represented there. A company Field Service Representative who arrived in China with the other Peking crew, maintains an office in the Peking Hotel, although he is expected to leave before the year's end.

Boeing's main reason for being in Peking is aircraft ground maintenance. For this purpose, the Chinese provided office space at an airport facility similar to the previous one in Shanghai. As in Shanghai Boeing is paying for hotel and meals, while the airport area is free.

The Field Service Representative's office at the Peking Hotel consists of a working area of the suite in which he lives. It is equipped with the same machinery present at the FSR office in the Peace Hotel in Shanghai. Communication to the US by telephone takes only ten or fifteen minutes and, just as in Shanghai, though Telex facilities are not available, cable contact is convenient.

C. Itoh—A Staff Of Eight

Among the several Japanese trading companies doing business with the PRC, Tokyo-based, C. Itoh is the leader. The firm's New York office, headquarters of C. Itoh America Inc., is also heavily involved in promoting trade with China from the US. Last year the company's China trade turnover was between $550-600 million, a large chunk of Japan's nearly $3.5 billion trade with Peking. In order to facilitate this trade, C. Itoh has maintained a permanent China

office for the past three and one-half years.

Itoh's operation, located in Peking's Hsin Ch'iao Hotel, is probably the largest of any foreign firm on Chinese soil. Eight company representatives—all Japanese nationals and all fluent in Chinese—provide liaison with Foreign Trade Corporations, end-users, Foreign Trade Ministry Officials and occasionally with interested embassies. While the headquarters in Tokyo and New York are responsible for signing contracts, the Peking staff works to iron out any problems arising from contract implementation, such as may occur during plant construction, as well as engaging in claims discussions.

The office itself is one room in the hotel, adjacent to the staff's living quarters. It is equipped with copier, several desks and typewriters, a telephone and a refrigerator. Because of the refrigerator, there is a small surcharge for electricity, generally not more than several RMB per month. Another additional expense is incurred with the rental of electric fans—they go for 0.5 RMB per day apiece, or about $7.50 per month. Daily rent for the office comes to 25 RMB; residence rooms are cheaper at 14 RMB per day, but the company is renting eight of them.

Generally speaking, C. Itoh's China representatives remain in-country only six months before returning to Japan for reassignment. Some however, have remained as long as eight months.

C. Itoh expects that it will be a while before private Telex is permitted. In the meantime, they intend to rely on the adequate cable facility.

East Asiatic—Three Responsibilities

The East Asiatic Company (EAC) of Copenhagen, founded almost eighty years ago, may be the world's largest private trader with China. While its 260 global enterprises employ some 36,000 people on six continents, four offices—Copenhagen, New York, Vancouver and Hong Kong—play the key roles in the firm's commercial relationship with the PRC. With this depth of involvement in the China trade, it is not surprising that three years ago East Asiatic sought to establish a presence in Peking.

EAC's first China representative set up shop in a suite adjacent to his living quarters in a Peking Hotel.

Although the company has only one permanent staffer resident in Peking at any given time, he is joined several times a year by other East Asiatic officials in the PRC for specific commercial ventures or business negotiations. Within the past four months for example, two company-sponsored symposia drew executives from the firm's Hong Kong and Copenhagen offices.

EAC's Peking Office has three principal responsibilities: (a) To maintain liaison with representatives of Foreign Trade Corporations, the Bank of China, the China Council for the Promotion of International Trade (CCPIT) and other agencies involved in international commerce; (b) To take part in continuing negotiations on behalf of the company and its many clients; and (c) Where appropriate, to initiate new commercial discussions.

The office itself is stocked with a typewriter, photocopier, projector and other necessary business equipment. Communications facilities are said to be fully adequate. Through his hotel phone, East Asiatic's man in Peking can be connected virtually anywhere in the world, usually in less than fifteen minutes. The company has registered a cable address (ASIATCO) in the PRC and is presently discussing with Chinese authorities the possibility of installing a Telex machine in its office.

East Asiatic's permanent presence in Peking stemmed from a need the company felt, to have one of its representatives in China on a continuing basis and the company believes the China office has served its interests well.

Baker Trading—Expensive Office Help

Baker Trading Company, a Houston-based firm which represents a number of U. S. petroleum equipment manufacturers, has been in and out of Peking during the past several years with a regularity reminiscent of the New York-Washington shuttle. Negotiations in Peking may take anywhere from several days to several years and the logistical support provided by an office over the long haul can prove invaluable. In 1974, during a particularly prolonged period in the Chinese capital, the firm's president, J. Ray Pace, set up shop in the Hsin Ch'iao Hotel by renting a room adjacent to his own living quarters and affixing a Baker sign to its door.

Pace had with him a full complement of office machinery, and was able to hire clerical help from an embassy on a part-time basis, though the rates he paid—ten RMB per hour—were about $1.50 above the Houston standard. At one point five people were working for Baker in Peking. The importance of Baker's Peking office operation was underscored by a formidable backlog in paperwork, accruing from several recently signed Machimpex contracts.

As with other foreigners, Pace found communications from Peking to the rest of the world adequate, if not convenient. Calls to clients in the U. S. for example, required only ten or fifteen minutes to be put through and the relative smallness of the hotel meant that the name and room number alone, sufficed adequately for cables, where in a larger or more permanent setting, a cable address would be obligatory.

The Cost—Going Up

For U. S. companies whose China trade activities justify full-time representation in Peking, Shanghai or elsewhere in the PRC, the costs of establishing and maintaining such an operation are largely determined by the limitations placed on foreign firms operating

in China. Unlike almost any other major commercial center, foreign business representatives in the PRC work out of their hotel suites, or if necessity demands, and budget permits, from an adjacent room.

The normal per-diem room rates at the Peking and Hsin Ch'iao Hotels are now in the 40-50 RMB range but some companies renting for the long-term are apparently afforded a discount in the neighborhood of twenty-five per cent. C. Itoh's monthly office rental, for example, totals 750 RMB, and their room rates, per person, for the same time period, come to 420 RMB.

Charges for heating, electricity and other utilities are not a factor unless special equipment is involved. C. Itoh's rental of one electric fan and an electrical surcharge for refrigerator amounted to about RMB 30 monthly.

Other major expenses are for transportation and communication, though neither will be too much more than is paid in a large European city. Nevertheless, prices are rising in China (at least for non-Chinese) and many essentials for the foreign businessman are not immune from this trend.

Taxi fares in Peking for example, have soared during the past twenty-four months. If some of this price increase is explained by the shiny new fleet of Toyotas which the Chinese have purchased to replace older Czech Skodas and Russian Mosckvas, it must come as small consolation to the executive who understandably views the taxicab as a sine qua non for intra-urban commutation in the PRC.

The base rate for the Toyotas is 2 RMB with the fare increasing about 1 RMB per mile. From the Peking Hotel to Erh Li Kou where four of the Foreign Trade Corporations are headquartered, the cost is approximately 20 RMB—close to $10. The permanent or semi-permanent foreigner resident in China's capital could easily spend, on the average, 30 RMB per day on taxi-cabs.

One cost-saving alternative, which may appeal particularly to long-time residents, is the bus. All major Chinese cities are equipped with this form of public transportation. In Peking the average bus ride costs little more than the equivalent of a penny. But buses are extremely crowded and bus routes have obviously not been established with foreigners in mind. Unless the rider speaks Chinese or has come to know the city in which he is staying very well, bus riding in China is not recommended.

Other transportation options, at least in Peking, include tri-cars and the subway. Tri-cars are available for about half the price of a taxi and may be boarded at special stops recognizable by a ticket booth, where one states destination and pays the fare. The Peking subway system, with fares similar to the bus has not yet been completely opened. But when that occurs, foreign businessmen may find it a real convenience.

Communication with the home-office is certainly a priority for the executive in China. In lieu of Telex, the cable system takes on a special importance, and fortunately it is more than adequate in most of China's major cities. It is also rather expensive: 1.44 RMB per word for eight-hour delivery and 0.72 RMB for twenty-four-hour delivery.

Telephone service to the US is very good, both from Peking and Shanghai, though faster from the latter because it is the point through which overseas calls are routed. Three minutes to anywhere in the US costs 37 RMB and an additional 10 RMB are charged per minute thereafter. A non-refundable service charge of 4 RMB is added for placing the call.

The fact that Telex machines are hard to find in China does not mean they are non-existent. Four of the Foreign Trade Corporations have them, as do the airlines and most of the embassies. At least one American businessman parlayed his friendship with staff of a particular embassy into access, albeit irregular, to their Telex.

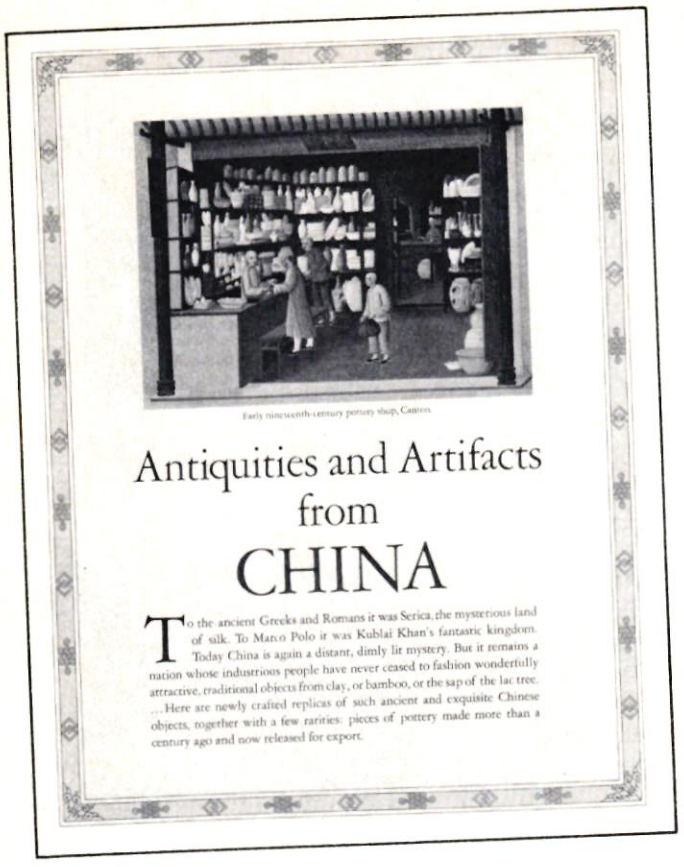
Food—Restaurant Style

With rare exception, every meal taken by the foreigner in China will be in a restaurant. For most, the experience is a constant source of delight, but it also represents a significant portion of the foreign businessman's China budget; how significant, depends on where he goes.

Peking, Shanghai and Canton are all resplendent with fine eating places. For the foreigner in the PRC for the long-term, the trick is to avoid making the ten or fifteen foreigner-oriented Chinese restaurants in the major cities an unceasing eating habit. In addition to stretching the waistline, this sort of indulgence will cost in the vicinity of 30-40 RMB per day, much more than need be spent to eat well in China.

One of the difficulties of escaping such a routine is the Chinese restauranteur's proclivity towards dealing with most foreigners as if they hadn't eaten real food in weeks. Stories are now legion of Americans in search of a simple meal in an ordinary Chinese restaurant being greeted with splendid repasts and bills to match, despite the most eloquent protestations. For the long-term resident, one answer to this problem lies in establishing, through habit, a relationship of mutual understanding with two or three restaurants. In this way, per-diem food budgets can be kept within a manageable 20 RMB range.

The total cost of a Peking operation will take into account lodging/office, transportation, communication and money for food, as well as incidentals, including laundry, entertainment and domestic transportation expenses, such as one or two annual Peking-Canton round-trips for the Export Commodities Fair. With all of this in mind, the operation of an office in Peking involving one individual, will cost in the neighborhood of $1,500-$2,000 monthly, at current prices, not including salary. 完



SOLO MAIL-ORDER FOR PRODUCTS FROM CHINA

American Heritage Pioneers

CHINESE HERITAGE FROM AMERICAN HERITAGE

American Heritage's attractive catalogue features a wide range of Chinese wares. Each article is described giving the history or details on the method used to make the articles. The following are offered:

Bamboo Porcelain Vase . . . $30.

Bamboo Porcelain Tea Service—one-quart, 6½ inch high teapot; 10-inch diameter tray (also bamboo-surfaced porcelain); and four 4½-ounce cups . . . $60.

19th Century Antique Porcelain from the Ch'ing Dynasty (1644–1912)

Cachepots 4′ to 7′ about 5¼″ high with beautifully brushed landscapes or scenes of dragons among clouds . . . $75

Plates, decorated with free-hand drawn flower and leaves between 6½″ and 7½″ . . . $30

Bowls, 7¼″ diameter, 2½″ high, hand decorated . . . $50.

Bamboo Baskets Nests of three double-handled baskets . . . $25. Nest of three cylindrical baskets . . . $20

Decorative Lacquer Objects Carved Bowl and Box, cinnabar lacquer, carved bowl . . . $35. Carved box . . . $30

Nest of Five Laquered Boxes . . . $30

Reproduction Antiques T'ang Horse, 10″ by 10″ . . . $65. Lacquer Table of Ming Dynasty . . . $295.

Chinese arts and handicrafts have recently been sold successfully by mail-order in the United States. The American Heritage Publishing Company, which has long conducted mail-order promotions and sales of books and art objects sent a solo mailer on Chinese products to over 500,000 Americans in April of this year, and has received an encouraging response from many of them. This article describes what happened.

When Paul Gottlieb, then president of American Heritage, learned that the Chinese archaeological exhibit would be touring North America in 1974-1975, he decided that the time was propitious for new promotion of two books published in 1969 by his company, *The Horizon History of China* and *The Horizon Book of the Arts of China*. In order to enhance the promotion, he asked a US company which specializes in acting as agents for American importers of Chinese goods, to look for Chinese handicrafts which could be incorporated into a solo mailer devoted exclusively to Chinese products. Because the US agent had been regularly attending the Canton Fair and had visited the antique warehouses of Shanghai, Peking and Canton, they were able to give Mr. Gottlieb a general idea of available and appealing products.

In the Spring of 1974, Mr. Gottlieb attended the Fair with representatives of their US agents, Lubman and Company, to select the merchandise for use in the promotion. A year later, in April 1975, American

BAMBOO PORCELAIN

Traditional dinner party.

Take a vessel—cup, vase, teapot—made of fine white porcelain. Cut slivers from bamboo until you have a mile or so of bamboo thread. Leave some of the slivers plain, stain some black or light brown. Now weave the bamboo over the entire outside surface of the vessel, as tight as skin, as smooth as silk. Highlight the whole thing with two or three different weaves and with color-patterned borders. Be sure to cover even the teacup handle neatly, flairing the bamboo to meet the cup snugly at either end. Put a clear, waterproof lacquer over the bamboo.

It *can* be done. You're looking at the strikingly handsome results, above.

The bamboo outer surfaces may be washed with soap and warm (not scalding) water, preferably by hand, although they are amazingly hard and durable. The teacups have handles, a concession to western custom. Both vase and teapot are traditional shapes.

THE VASE—just under 10 inches high, 5¼ inches in diameter $30

THE TEA SERVICE—one-quart, 6½-inch-high teapot; 10-inch-diameter tray (also bamboo-surfaced porcelain); and four 4½-ounce cups $60

Heritage was able to send out the first American solo mailer for products from the PRC: objects of bamboo basketry, bamboo over porcelain, lacquer furniture, pottery reproductions, carved lacquer (cinnabar) and lacquer on wood and antique (late Ch'ing) blue and white porcelain. The mailer met with immediate success.

The mailer uses pages of carefully photographed color reproductions, and its designers gave great attention to details of layout and graphics. An effort was made to educate the reader about each object for sale, all of which had been chosen with care to demonstrate traditional crafts made of different materials. Inserts of 19th Century prints and drawings show how some of the objects were formerly used, and color photographs taken from a catalogue of the Light Industrial Products Corporation show craftsmen making similar objects in China today.

Catalogue sales of well-designed and often expensive products have become increasingly popular in the United States, and Chinese handicrafts, art and antiques have begun to find their way into such catalogues. At the Spring Fair in 1975, American Express for the first time had a representative responsible for catalogue sales in attendance, and other catalogues such as the Horchow Collection of Dallas and Kaleidoscope of Atlanta have featured both new and old objects from China.

Mailer Problems

Use of mailers as a medium for merchandising can present many difficulties for the sellers, who often have to guess customer response, and therefore, the size of the inventory they must acquire in advance. In many cases a test mailer is sent out before final decisions on new merchandise are made. However, because of the long lead-time which a purchaser from China must expect, American Heritage had no choice but to take a chance and hope that Gottlieb's selections would be favorably received. He decided to make a total commitment, and before leaving the Fair it was necessary to convince each Branch in which an order had been placed, of the need to take samples of each item purchased to assure the availability of samples for photographing.

Gottlieb also agreed not to send the mailer out until all the stock had been received in the United States in case deliveries were delayed. This proved to be a wise

T'ANG HORSE

For thousands of years the horse was revered in China as a symbol of power and high position. The Chinese invented the stirrup before A.D. 300, and developed the armored knight on an armored horse centuries before medieval Europe got the idea. During the brilliant T'ang period (618-906) glazed pottery horses such as this were often placed in tombs, saddled and ready. Ever since, collectors in and out of China have prized faithful copies of these spirited steeds. The polychrome colors of the 10-by-10-inch horses vary slightly. Each is unique $65

LACQUER TABLE

Lacquer, made from lac, the sap of a poisonous sumac tree, is an ancient discovery and a most durable substance. Lacquerware from 2,000-year-old, flooded tombs is still sound and unfaded. The wood frame of this exquisite copy of a small Ming dynasty (1368-1644) table is covered with 60 or more coats of lacquer, in at least nine alternating layers of black and red, then carved to expose the layers in a traditional cloud pattern. Four Chinese characters incised underneath the table tell us the original was made during the reign of the fifth emperor of the Ming dynasty (1426-1448). Length: 26 in.; width: 13⅛ in.; height: 9½ in. . . . $295

(Shipped in the same wooden crates that brought them from China)

19th-CENTURY ANTIQUE PORCELAIN

Potters at work, early 19th century

Hand-decorated, blue-on-white porcelain, like the pieces above, was common in provincial Chinese households during the Ch'ing dynasty (1644-1912).

We have been able to import a few dozen examples of each of the three pieces pictured above. All are attested antiques. The "cachepots" are Tong Chih period (1862-73)—intended to be filled with sand to hold smoldering joss sticks of incense. The bowls and plates are probably Tao Huang (1821-1850). Most of the pieces have a few tiny, and characteristic, imperfections; and since they are antique, there may be small signs of wear. The red chop mark stamped on the bowl means the antique was approved for export; it is easily scrubbed off.

THE CACHEPOTS are thick-walled and make excellent flower vases. These vary in height from just under 4 inches to 7 inches (most are about 5¼ inches high), and the scenes may be of dragons among clouds, as shown, or beautifully brushed landscapes. We ask you not to specify a given size or picture, since there's really little to choose among them. All are equally valuable and beautiful. . . . $75

THE PLATES, each decorated with a boldly drawn, free-hand flower and leaves, vary in diameter between 6½ and 7½ inches. $30

THE BOWLS are all about 7¼ inches in diameter, 2½ inches high, decorated as shown, with great subtlety and a beauty that grows as you look. $50

One side of American Heritage's colorful fold-out mailer.

decision as some orders took a long time to arrive. Besides lateness, Heritage experienced one partial shipment—the balance of which could not be supplied—some breakage, and in three orders part of the items were not the colors ordered. Inconsistency in color is a disaster for a mail-order catalogue, for unlike the retailer, who can (even if he isn't pleased), put a black lacquer bowl next to a red one, the mail-order buyer expects to receive exactly what is pictured and not a red and natural bamboo basket rather than an all-natural one.

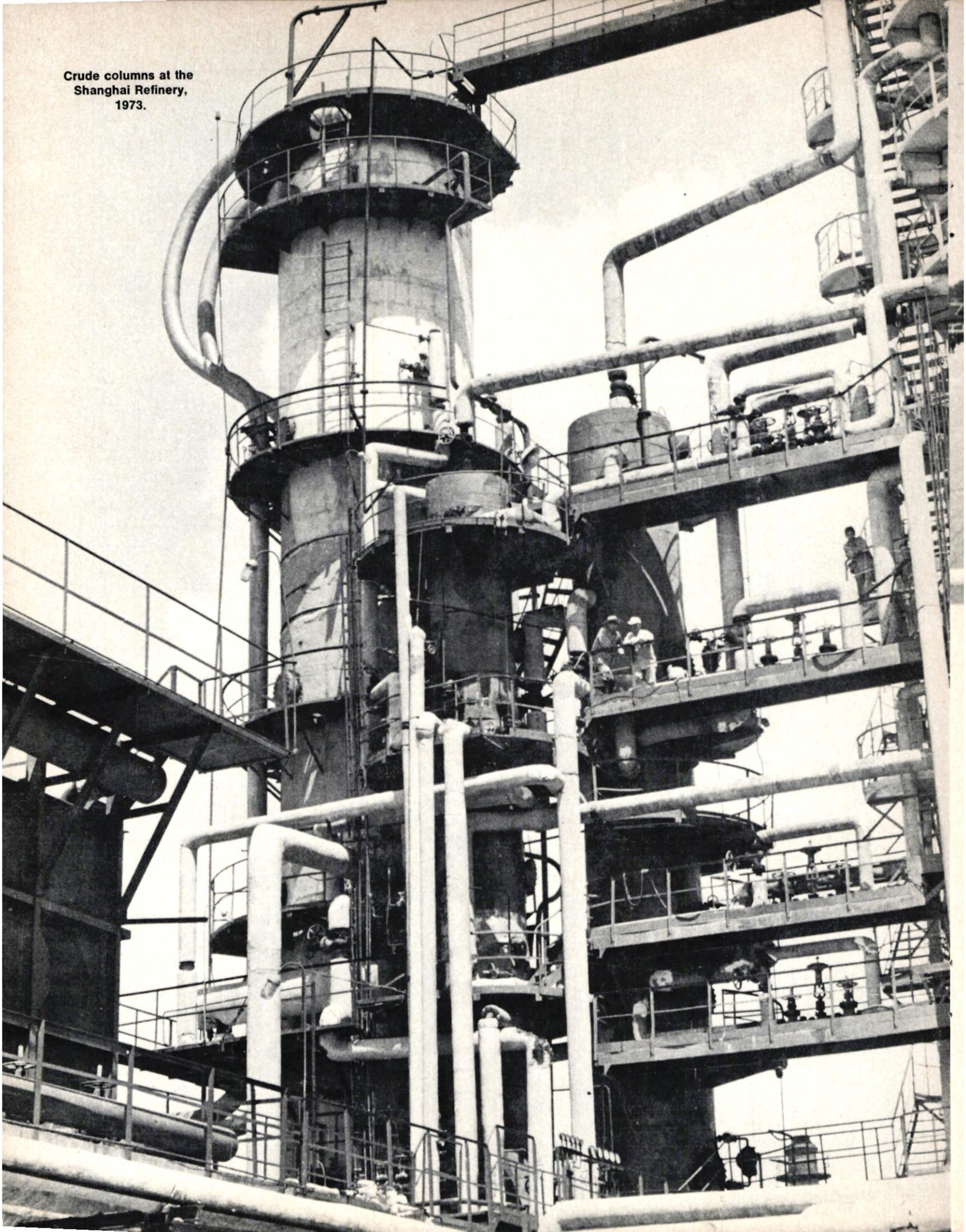
Longer Than Usual

The response from all parts of the country has been enthusiastic, but success has produced other problems. Most items had to be reordered, as Lubman and Company discovered, when they received Gottlieb's cables while they were still attending the Spring, 1975 Fair. Unfortunately, most of the items ordered will not be available until late 1975 or 1976, and this means the mail-order purchaser will have to wait much longer than is usual in the business.

American Heritage will thus have to engage in much correspondence with its customers to reassure them that eventually all or most of their orders will be filled. Unfortunately, one of the objects was no longer in production while another was only available in a slightly smaller size. Also, because no antiques were exhibited at the Spring, 1975 Fair, the Canton Arts and Crafts Branch of China National Light Industrial Products Import and Export Corporation had to make special arrangements to allow Lubman and Company to search out additional antique porcelain for American Heritage's customers.

Despite the long wait for delivery, the uncertainty of customer response, the problems of not being able to re-order the exact merchandise originally purchased, some difficulty in labeling, packaging and color variation, American Heritage views its experiment as a satisfying one. It can be expected that other catalogue sales operations will follow American Heritage's lead in future solo mailers, devoted to China and Chinese products, and American Heritage intends to use some of the merchandise in their regular catalogue in the future.

This mail-order campaign thus places another milestone on the path of progressing US-China trade relations. 完



Crude columns at the Shanghai Refinery, 1973.

CHINA'S CHEMICALS

Sy Yuan

Over the past five years, chemicals have been a major component of China's foreign trade, representing about 5% of the PRC's yearly exports, and as much as 17% of China's annual imports. Of those imports, fertilizer has been a major component; some 1.5 billion metric tons were shipped annually to the PRC in the five years through 1973. Besides trading in chemical products, China has, in recent years, been buying chemical and petrochemical plants in large quantities from Japan, Europe and the US, and most of the more than fifty licenses sold Peking during the past three years in connection with plant sales have involved chemical technology. Such US firms as AMOCO, Atlantic-Richfield, M. W. Kellogg, LUMMUS, SOHIO and UOP are among those companies selling chemical technology to the PRC.

Chemicals have a high priority in China's developmental process: the PRC's basic needs of food and clothing may be met only by the expansion of chemical manufacturing and resources of various kinds. The growth of China's chemical industry raises question about the future of China's trade and economy. What do the PRC's recent plant purchases from abroad portend for future plant sales to China? What are the characteristics of China's foreign chemical trade? Where is China's chemical industry headed? And what is China's response to pollution? This sectoral report by Sy Yuan, who visited nine Chinese cities in 1973, provides some of the answers to these questions, and a visit to Nanking Petrochemical Works, described by Melvin W. Searls, Jr. adds further dimensions to the picture.

Sy Yuan is a Staff Engineer with Chevron Chemical Company, a wholly owned subsidiary of Standard Oil of California. Born in Shanghai, China, Mr. Yuan immigrated to the United States after completing his freshman year at Chio-tung University in Shanghai. He graduated from Illinois Institute of Technology with a BS in Chemical Engineering, 1950, and from the University of Louisville with a MS in Chemical Engineering, 1951. In 1956 he came to California to work in the Chemical Process Development Section of Chevron Research Company, the research subsidiary of Standard Oil Company of California.

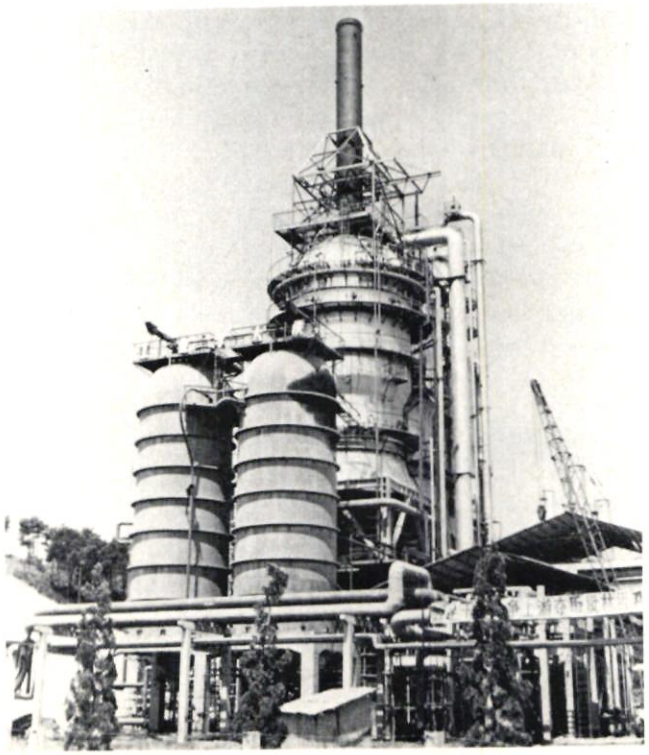
Sy Yuan

"The development of China's chemical industry has not progressed as rapidly as that of the other industries. The reason is that significant development of China's crude oil production did not begin until the 1960's. Therefore, most of the chemical industry was based on coal as raw material which resulted in high production costs. However, as more crude oil is available for chemical production, much emphasis has been placed on developing a new and vital petrochemical industry." Representative of China's Fuels and Chemicals Planning Group, Advisors to the State Council, 1973.

The "petrochemical" industry began in the United States soon after World War II. Until then, coal, air, and water were the basic raw materials of synthetic organic materials. In the next thirty years, the petrochemical industry in the free world developed to the point that most organic commodity chemicals are produced from petroleum. Fully 5-6% of all crude oil output is now devoted to petrochemical production. By 1980, this proportion is expected to reach 8%. In 1974, the total world export of petrochemicals reached $57 billion. Yet, in 1974, the People's Republic of China purchased a meager $20 million worth of chemicals from the United States against total chemical purchases from abroad of $445 million.

Unlike the United States where the production statistics are freely published in government or technical literature, China considers her chemical production capabilities a secret. Any mention in Chinese publications of capacity expansion or production increases is expressed in percentages. This makes it difficult to assess accurately China's capabilities in the chemical industry, or for that matter, any industry. Production statistics contained in this report, as well as in any other Western literature are based, in part, on scant mentions in Chinese literature, but mostly on reports from foreign analysts.

Cracking units at Nanking Petrochemical Works, September 1974. See story, page 52.



China's chemical industry started with a 40,000 ton per year soda plant in 1914. A few plants producing basic industrial chemicals, such as fertilizers and caustic soda, were built before the Japanese invasion in the late 1930s. By 1949, what World War II did not destroy of China's chemical industry, the Russians managed to dismantle and remove.

The present regime spent much effort in building up the PRC's chemical industry. However, most of the plants built since 1949 were small in capacity, particularly those constructed in the late 1950's, and were widely scattered all over the country. For example, it is estimated that more than 50% of China's nitrogen fertilizers are produced in plants with less than 3,000 tons per year capacity. Since then, many of these small plants have been consolidated into larger complexes. Recently, some petrochemical plants and complexes have been built around refineries in Shanghai, Peking and Nanking and also around the oil fields of Taching in the Northeast, Takang near the Bay of Po-hai and Maoming in Kwangtung province.

Fertilizers—Urea Expensive, but Easier to Transport

During the period of the "Great Leap Forward" in the late 1950's many nitrogen fertilizer plants were constructed all over China—almost in every major agricultural commune. These are generally coal based plants, using almost primitive technology. The process consists of (1) converting coal or coke into synthesis gas and separating the carbon dioxide from the H_2; (2) reacting the H_2 with N_2 over catalyst to form ammonia; and (3) reacting the ammonia and the recovered carbon dioxide in water solution to form an aqueous solution of ammonium bicarbonate. (See top section of flow diagram in Figure One.) This type of product is very low in nitrogen content, or fertilizer value, and expensive to transport. The latter disadvantage is not significant since the plants are small in capacity and products are consumed locally. Many of these plants are still in operation today.

In the early 1960's, several ammonia and urea plants using modern technology were purchased from Western Europe. They were small in size and expensive to operate, however, and did little in filling the ever increasing fertilizer demand in China.

Starting in 1972, China went on a shopping spree to purchase ammonia and urea plants from abroad. To date, a total of fifteen ammonia and urea complexes have been ordered from US, Japan and Western Europe. The first ones are due to be on stream in

EXCERPTS FROM CHINESE MEDIA REPORTS

PETROCHEMICAL WORKS IN PEKING AND SHANGHAI

NCNA, September 24, 1975

Peking

Peking General Petrochemical Works has developed into one of the country's large and modernized petrochemical bases. The amount of funds it has accumulated for the State in the five years since it was put into operation is 200 percent larger than the total amount of the State investment and is enough to build two more large and modernized integrated complexes of the same scale. At present, petrochemical products produced by Peking General Petrochemical Works include petrol, kerosene, lubricating oil and paraffin, totaling more than 50 kinds. These petrochemical products of fine quality are being supplied not only to the more than 20 provinces and municipalities throughout the country but also to some foreign countries and regions as exports.

More than 20 essential chemical materials, including phenol, acetone and polystyrene as required for our country's economic and national defense construction have been mass-produced by this Works. Also mass-produced there is synthetic rubber. The synthetic plastic materials, chemical fertilizers, ammonia water for agriculture, and other chemical products produced by the Works have supported agriculture and enabled the markets in the capital to become prosperous. If all the alkyl benzenes produced by the Works were manufactured into synthetic detergents, they would be able to satisfy the needs of Peking Municipality for two years.

In the past, many chemical materials and products produced by our country were derived from grain; now, the Works is fully utilizing the waste gas from petroleum refining to produce these materials. As a result of the output of the whole Works, the grain saved each year is sufficient for a year's consumption by 500,000 people.

The two by-products from petroleum refining—mazut and liquefied petroleum gas—are being continuously supplied to the Works and residents in Peking and other places and are deeply welcomed by the people. At present, there are more than 1,200,000 residents in Peking who are using the liquefied petroleum gas fuel. Some electric power and steel smelting plants are using mazut in their production processes. From these two products alone, the municipality can save 6,000,000 tons of coal each year and also reduce air pollution and improve the capital's environment hygiene.

Peking General Petrochemical Works is the largest construction project in the capital since liberation. It was completed through mass cooperation under the leadership of Peking Municipal CCP Committee and the Ministry of Petroleum and Chemical Industries. In its more than 30 sq. km. of area, there are eight factories and 18 petrochemical installations, as well as railway lines, a waste liquid disposal system and oil and water pipe construction which have been designed and built by our country itself. At present, the Works is building some other projects of much larger scale and more complicated technology, five of which are now under stepped-up construction.

NCNA, August 22 and 28, 1975

Shanghai

On the first of January, 1974, construction workers in Shanghai erected and drove the first piles for Shanghai General Petrochemical Works into the Chinshan beach. In 18 months they drove 8,000 foundation piles into an area of nearly 10,000 mou. A big embankment raised for the project is 14 m wide at the bottom and 4 m wide at the top. The pile-driving machine needed in building the pier was nearly 50 m high. The chimney of the power station of Shanghai General Petrochemical Works is 150 m high, the third chimney with the same height in China. Now the power station has begun to generate electricity. Construction of the railway track on the first large bridge spanning the Huangpu river has been completed. The construction of a Dacron plant, a structure of 34,000 sq. m., was completed in 40 days, after a postponement of fully 4 months due to objective reasons.

Four imported installations and three China-made installations had to be set up in the chemical works. With regard to the equipment imported from abroad, the workers, cadres and technicians understand that the purpose of using foreign equipment or technology is to accelerate our construction and increase our capacity to work on our own in the future. As they pointed out, we may introduce advanced technology from abroad, but we must rely on ourselves in socialist construction.

early 1976. These plants use natural gas as feed to produce synthesis gas by catalytic reforming. The hydrogen and nitrogen gases from the two-stage reforming process are scrubbed free of carbon dioxide using the Benfield process (hot sodium carbonate scrubbing) and are reacted catalytically to form ammonia. The ammonia is then combined with the by-product carbon dioxide to form urea. All the ammonia produced in these plants is converted into urea. (1.6 tons of urea can be made from 1 ton of ammonia.) These plants use some of the most modern technology anyone has to offer (Ammonia: M.W. Kellogg and Urea: Stamicarbon) and are large enough to be competitive. The largest single train ammonia

Figure 1
CHINESE FERTILIZER PLANTS

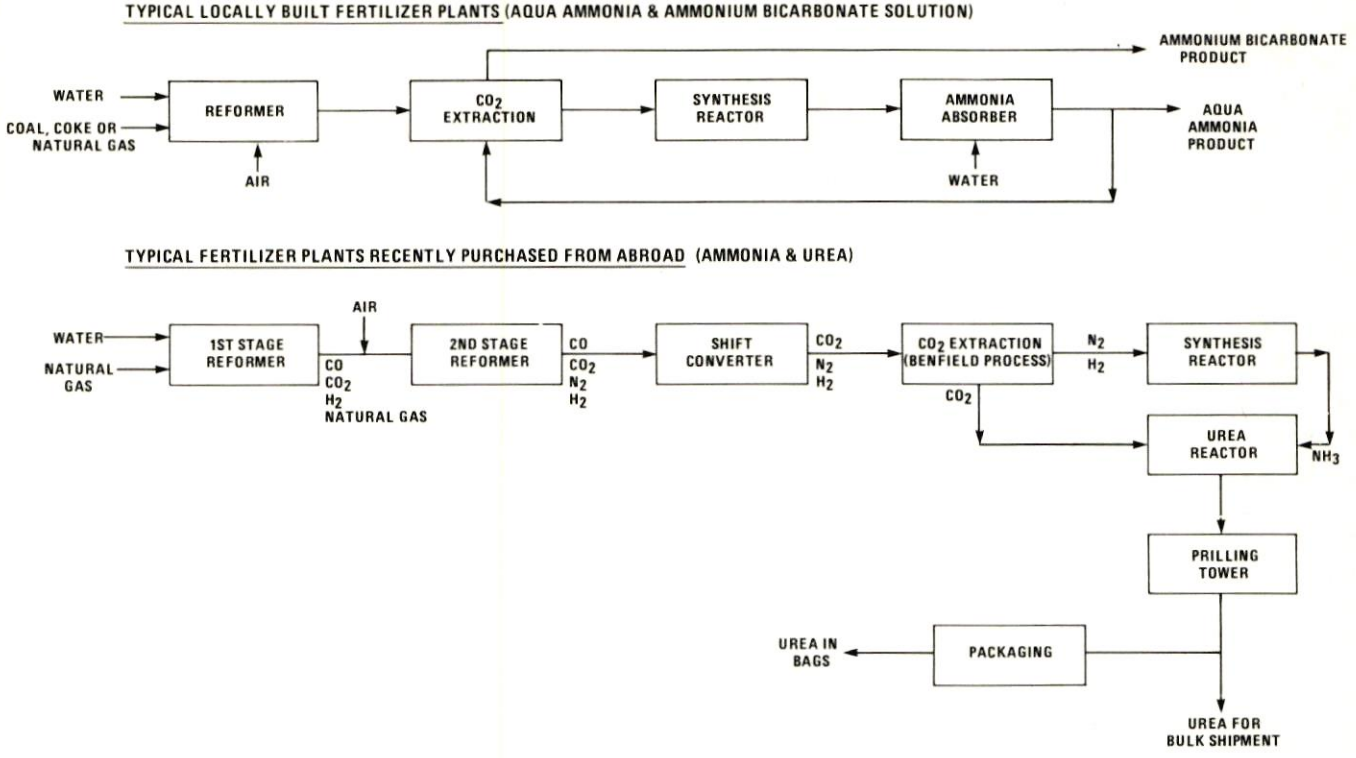


Figure 2
TYPICAL MODERN MULTI-PRODUCT FERTILIZER COMPLEX

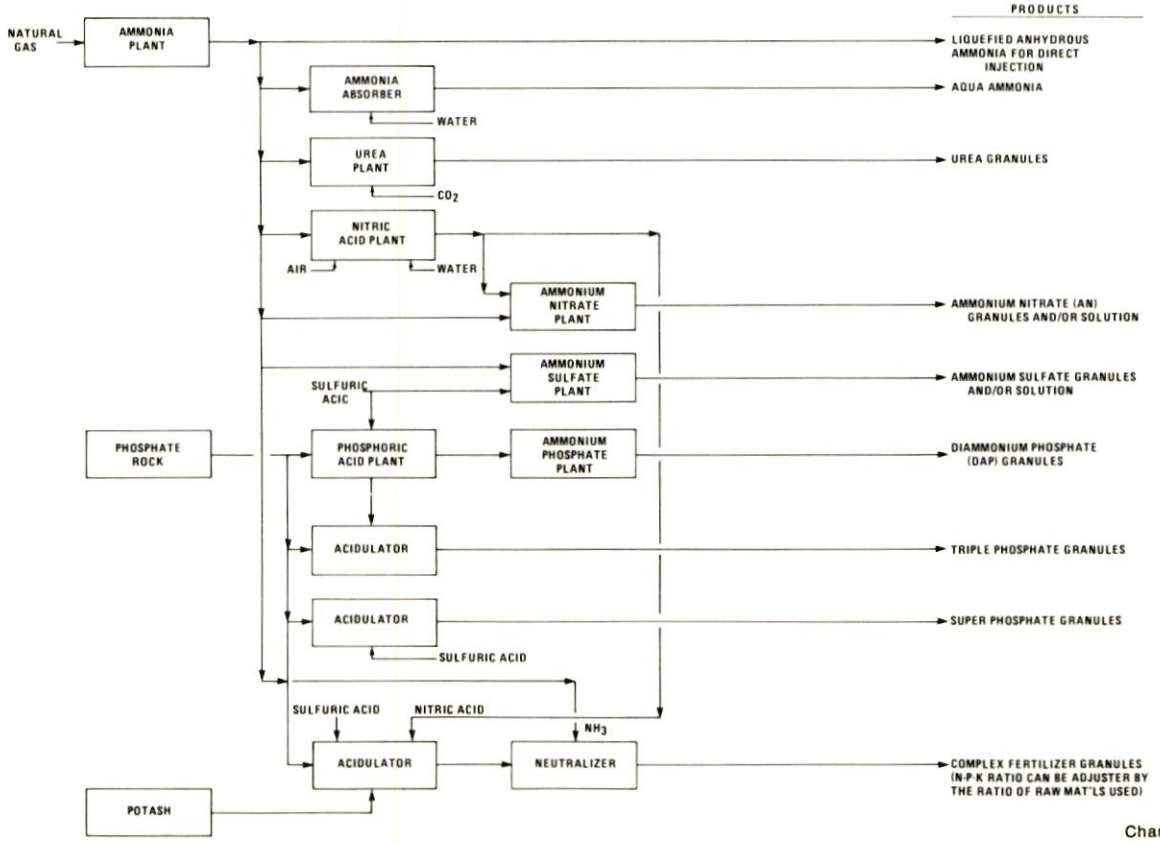


Chart: Sy Yuan

Figure 3

ABBREVIATED FLOW CHART OF EXISTING (OR SOON TO BE BUILT) CHINESE PETROCHEMICAL INDUSTRY

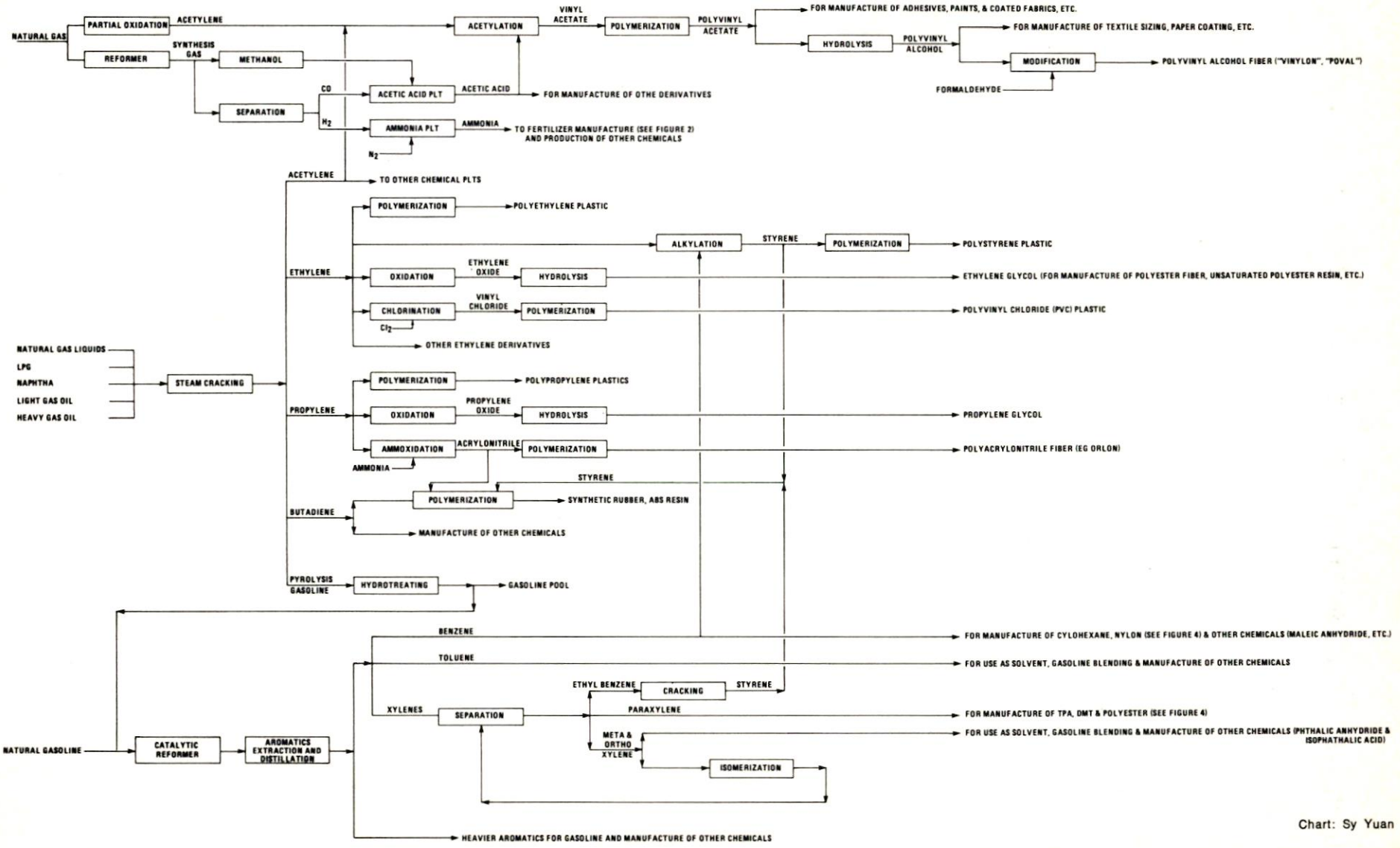


Chart: Sy Yuan

Figure 4

SCHEMATIC FLOW DIAGRAM - SHEN YANG PETROCHEMICAL & FIBER COMPLEX

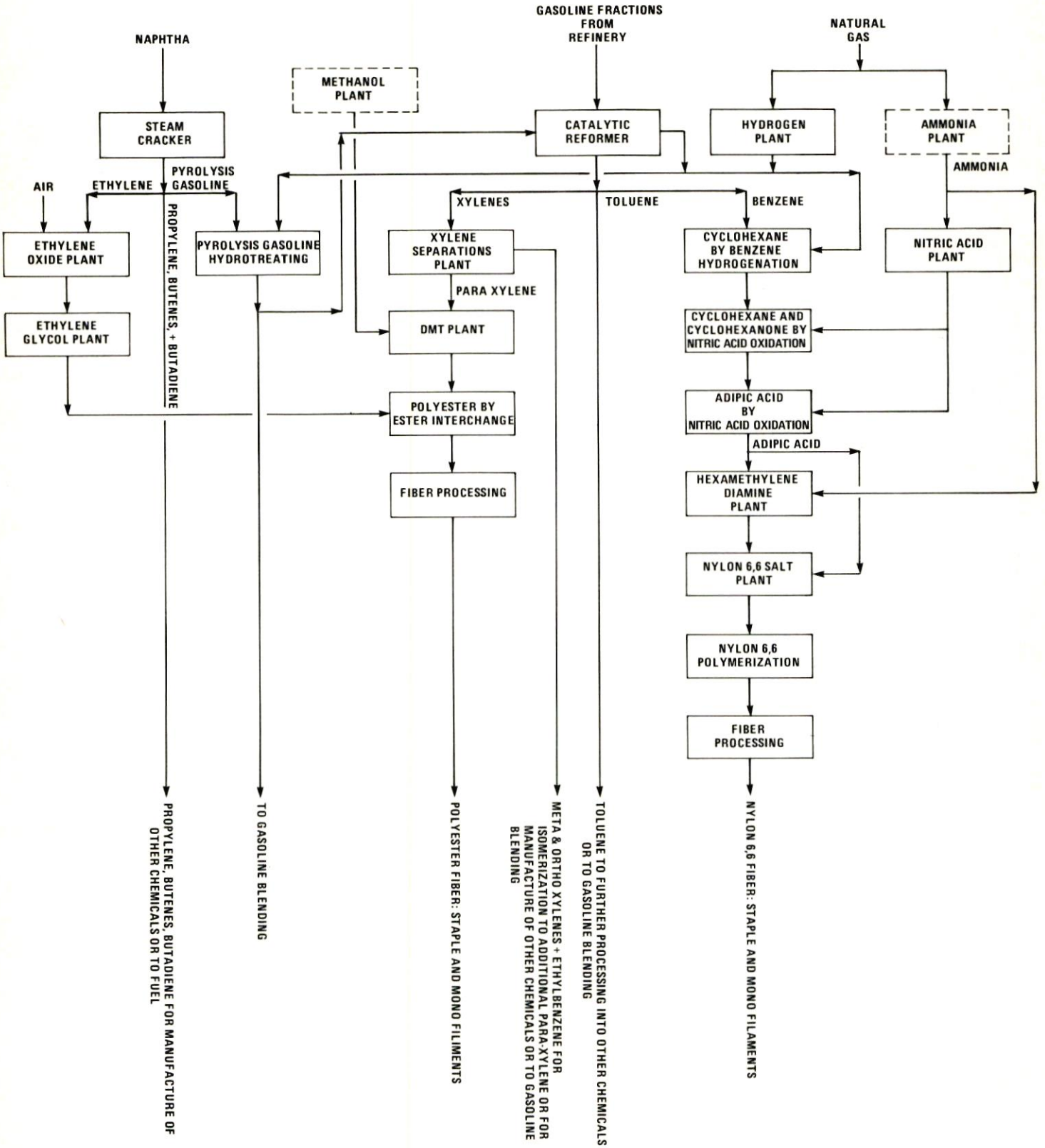


Chart: Sy Yuan

plants produce 1,500 metric tons/day. A schematic flow diagram representing the recently purchased ammonia-urea plants is outlined in the lower half of Figure 1 and a summary of these newly purchased plants is shown on pages 44 and 45.

Apparently, due to the lack of modern transportation facilities such as pressurized railroad tank cars and high pressure pipe lines and to insufficient mechanization on the farms, China chose to convert the ammonia to urea instead of using anhydrous ammonia directly by injection. This conversion (from ammonia to urea) is an extremely expensive process, but does offer a product that is easier to transport and easier to apply. Urea is made in solid granules.

Furthermore, these plants produce only one nutrient —nitrogen, whereas much of the agricultural acreage in China is lacking also in phosphorous and particularly in potassium. Modern fertilizer complexes must be able to produce a variety of products that contain all the essential plant nutrients—N-P-K and must be able to produce them in various ratios to suit particular soil requirements. Such a complex is shown in Figure 2 on page 40.

Most insecticides produced in China today belong to the family of salts of mercury, copper and arsenic or chlorinated hydrocarbons such as DDT. These products are used on a limited scale or banned outright in the US due to their toxicity to humans and/or to environmental considerations. Some modern organic phosphate insecticides are beginning to be produced in China but are not believed to be widely used due to their high costs.

Petrochemicals—$1 Billion Worth of Foreign Plants

When native crude oil supply began to become available in the early 1960's, China started to develop a nucleus of petrochemical industry. Although several petrochemical plants were built using technology developed in China, most of the major petrochemical plants were purchased from Japan and Western Europe between 1960-1965. Most of these more modern units are designed to produce textile fibers and plastic resins. The purchased petrochemical plants and some of the locally built units are listed in Table 4.

After a hiatus of five years China started again in 1972 to purchase chemical plants from abroad. This recent series of purchases included not only individual chemical plants, but entire complexes at "grass roots" locations as well, such as the ones to be located near Shenyang and in Takang. Some of these plants use the most modern technologies, such as SOHIO's acrylonitrite process by propylene ammoxidation, and are large enough to be competitive on a world-wide basis, such as the 660 million lb/yr ethylene plant to be located in Peking. These latest plant purchases have cost China over $1 billion. The earlier orders will begin production in 1976.

Sy Yuan

A fertilizer plant in a commune near Kwangchow, 1973.

All of these new petrochemical plants center around two general types of building blocks—light olefins such as acetylene, ethylene, propylene, and aromatics such as benzene, toluene and xylenes. Acetylene is made either by partial oxidation of natural gas or recovered as a co-product from a steam cracker, which converts LPG, natural gas liquids, naphthas or gas oils to a mixture of light olefins. Choice of feed stock depends on local needs and refinery balances. Aromatics are produced by catalytic reforming of natural or fluid catalytically-cracked or hydrocracked gasolines. They are recovered from the reformate by solvent extraction and separated by distillation into benzene, toluene, xylenes and ethyl benzenes. Paraxylene, the raw material for polyesters, is a particular isomer of C_8 aromatics (xylenes and ethyl benzene) and can be separated from the mixture by fractional freezing or absorption. The rejected isomers can be catalytically isomerized to yield more paraxylene to the extent of the natural equilibrium. A schematic flow diagram describing the process as used in these plants are summarized in Figure 3 on page 41.

China's most significant single petrochemical plant purchase from abroad is the textile fiber complex to be built in Liaoning Province near Shenyang in northeast China to cost almost $300 million. This complex from Technip-Speichim of France is designed to produce nylon 6,6 and polyester fibers on a grassroots site.

CHEMICAL PLANTS PURCHASED BY CHINA SINCE 1972

Plant	Capacity M LB/YR	Location	Date of Contract/Start-up	EST Cost $ US	Remarks
Polyvinyl Alcohol Fiber	NA	NA	1972/NA	NA	Contractor: Kuraray, Japan
Fiber Processing	NA	NA	1972/NA	18.9	Contractor: Kurashiki Rayon, Japan, likely to be Downstream Plant for above
Ethylene	660	Peking	1972/1975	46.0	Contractor: Toyo Engineering, Mitsui Toatsu, C.Itoh: Technology: Ethylene—Lummus; Butadiene (Co-product from steam cracking); Nippon Zeon cracker feed naphtha
Butadiene	99				
Polyester Fiber	200	Shanghai	1972/NA	90.0	Contractor: Toray, Adsorption Xylene Separation Process, Polyester via Dimethyl Terephthalate (DMT)
Acetic Acid	NA	NA	1972/NA	NA	Contractor: Kaisha Japan
Ethylene	264	NA	1972/75	34.0	Contractor: Nippon Zeon/Lummus Cracker uses gas oil feed
Pyrolysis Gasoline Hydrogenation	NA				
Polyvinyl Alcohol Fiber	NA				
Ethylene	145	NA	1973/1976	26.0	Contractor: Kuraray Industries & Bayer. Plant complex has excess capacity in ethylene & polyvinyl acetate with respect to polyvinyl alcohol production capacity
Polyvinyl Acetate	NA				
Polyvinyl Alcohol Fiber	73				
Polyacrylonitrile Fiber	110	Peking	1973/1976	37.0	Contractor: Asahi Chemical, Technology: Sohio cost includes $8 M licensing fee
Polyester Polymerizations	55	NA	1973/1976	49.0	Contractor: Toray Industries; Technology: ICI
Aromatics Extraction (BTX)	130	NA	1973/1976	5.7	Contractor: Sumitomo Chemicals; Technology: UOP
Vinyl Acetate	198	NA	1973/1976	90.0	Contractor & Technology: Speichim, Lurgi, L'Aire Liquide, Rhone—Poulenc, BASF & ICI. Cost includes licensing fees. Product to be used as precursor to polyvinyl alcohol fiber.
Methanol	200	NA			
Polyethylene (low density)	132	NA	1973/1975	22.0	Contractor. Mitsubishi; Technology: BASF
Acetaldehyde	66	Shanghai	1973/1975	4.0	Contractor: F. Uhde; Technology: Hoechst
Polyethylene (low density)	396	Peking	1973/1976	41.0	Contractor: Sumitomo Chemical; Technology: ICI
Catalytic Reformer	341	Shenyang	1972/75–78	282	Contractor: Technip & Speichim; Technology: IFP
Hydrogen Plant	5000 M^3/hr				Technip
Aromatic Extraction	359				IFP
Paraxylene	271				Englehard
DMT	194				Dynamit Nobel
Ethylene	161				IFP & Technip
Pyrolysis Gasoline Hydro-Treating	143				IFP
Ethylene Oxide	77				Hüls
Ethylene Glycol	77				Hüls
Polyester Fiber	191				Rhone-Poulenc

Nitric Acid	119				Rhone-Progil
Cyclohexane	99				IFP
Cyclohexanol & Cyclohexanone	99				IFP
Adipic Acid	121				SUCRP
Hexamethylene Diamine	48				SUCRP
Nylon 66 Salt & Polymer	101				SUCRP
Polypropylene	77	NA	1973/1975–77	15.0	Contractor: Snâm Progetti; Technology. Amoco
Polypropylene (high density)	176	Peking	1973/1974–76	26.0	Contractor: Mitsui Petrochem & C.Itoh, down-stream plant of 660 M lb/yr ethylene cracker listed above contract status clouded
Titanium Trichloride	0.484	Peking	1974/1976	4.7	Contractor: C.Itoh, Toho Titanium. Product used for Ziegler-Natta process above
Catalyst for Reformers	NA	NA	1974/NA	NA	Contractor: Haldor Topsoe
Vinyl Chloride	NA	NA	1974/1976	19.0	Contractor: F. Uhde
Ethylene Oxide	44	NA	1973/1977	17.0	Contractor: Nippon Catalytic Chem
Ethylene Glycol	35	NA			Contractor: Hitachi
Fiber Processing					
Staple	29	NA	1974/1975–76	17.0	Contractor: Toray Industries; Technology: Teijin & Nissho—Iwai Co. Ltd., supposed to be downstream plant of 55M lb/yr polyester polymerization plant purchased in 1973 from Toray
Filament	58(?)				
Acrylic Fiber	NA	NA	1974/?		Contractor: Japan Exlan under negotiation 1974
Synthetic Rubber	NA	NA	1974/?	20.0	Contractor: Polysar (Canada) under negotiation 1974
Polyvinyl Alcohol	99	NA	1974/1976	19.0	Contractor: Kuraray plant will use Chinese technology. Complex includes acetic acid & vinyl acetate plants
Polyethylene (high density)	NA	NA	1974/1976	15.7	Contractor: F. Uhde
Nylon Fiber Processing	NA	NE China	1974/1978	10.0	Contractor: Rhone-Poulenc, probably part of the synthetic fiber complex at Shenyang
Polyvinyl Alcohol	99	Chungking	1974/1976	18.0	Contractor: Kuraray
Liquefied Natural Gas	NX150M t/yr	Takang	1975/NA	NA	Contractor: Bridgestone Liquefied Gas. A 150,000 mt/yr plant was proposed but China wishes to build one "several" times that size, under negotiation.
"Petrochemical Complex"					
Ethylene	660	Takang	1975/NA	NA	Contractor: Toyo Engineering. Part of the contractor still under negotiation.
"Plastics"	NA				
"Ammonia"	NA				
"Rubber"	NA				
"Detergents"	NA				
Acetylene	66	NA	1975/NA	NA	Contractor: Speichem. Technology Lurgi
Benzene	220	NA	1975/1978	NA	Contractor: Linde, A. G.; Feedstock pyrolysis gasoline

Source: Sy Yuan

The purchase order included all the necessary plants leading to the end-products with sizes exactly suited to the complex. (For details of the purchases see UCBR, Vol. 1, No. 1, Pg. 36.) Raw materials for the complex will probably come from the Fushun refinery and in turn from the Taching oil field. Figure 4 outlines the process flow diagram of that complex (page 42).

Several aspects of the PRC's new plant purchases are of interest.

Geographic Viability

Around US Gulf Coast and other petrochemical centers in the Western world, there are pipeline networks and limestone cavern storage facilities for difficult-to-transport and -store basic commodity chemicals such as ethylene, propylene and ammonia. This kind of industrial sophistication does not exist in the PRC. A US chemical plant located in the Gulf Coast that requires these chemical gases as a raw material can purchase and use them from the pipeline as easily as any industrial utility. Conversely, an ethylene, propylene, or ammonia producer need not consume all or any of these products and can feed them into the pipeline network for credit.

For example, an ethylene producer can build a mammoth ethylene cracker for its economy of scale without downstream plants to consume all the ethylene, provided a reasonable product balance is maintained within the geographic area covered by the pipeline network. The planners in the Chinese chemical industry are not so fortunate: in the Shenyang complex for example, the ethylene cracker is sized to supply the ethylene oxide and ethylene glycol plants needed for the particular polyester fiber plant being built. Its size, 161 million lb/yr is too small to be economic.

A modern day ethylene plant would be in the order of 1-1.5 billion lb/yr. It would have multiple cracking furnaces of 100-200M lb/yr each, and perhaps one or two parallel olefin separation trains. Therefore, the Shenyang ethylene plant would be difficult to expand and still take advantage of the economics of a large ethylene plant.

In addition, an ethylene cracker produces not only ethylene, but along with it acetylene, propylene, butenes, butadienes and pyrolysis gasolines (C_5-C_8+ depending on the feed) as well. The ratio of these products is difficult to control and then only to a limited degree. This means downstream plants must still be built around the Shenyang complex to take advantage of these coproducts lest they be wasted.

China's plant purchases in the last four years contained five light olefin crackers with a total capacity of about two billion pounds per year of ethylene. This is a substantial addition to China's present ethylene capacity (about 1 billion pounds per year) but is still very small as compared to US production of 20-40 billion pounds in 1974. Comparing capacities of ethylene—the most versatile building block in the petrochemical industry—is a good yardstick to indicate the status of the development of petrochemical industry in China.

Basic Petrochemicals, Rubbers, Fibers

An inspection of the list of plants purchased so far by China indicates that, for the most part, they are set to produce only the most basic petrochemicals. For example, no plants were purchased for dibasic acids (phthalic and maleic anhydride, etc.) and no fluorocarbons or acrylics. All the plastic plants are limited to the basic resins like polyethylene, polypropylene and polyvinyl chloride. Noticeably absent are tetrafluoro ethylene (such as "Teflon"), or some of the advanced engineering plastics like ABS, polyacetals, polycarbonates, polyimides (temperature resistant plastics) or any of the unsaturated polyesters.

Another area that appears to be little developed is that of synthetic rubbers. Of all the plants ordered, there is apparently only one rubber plant. There are no plants to produce cispolybutadiene or polyisoprene, ethylene-propylene copolymers or any of the more advanced synthetic rubbers.

In the field of textile fibers, China seems to have proportionately more polyvinyl alcohol fiber manufacturing capacity than most other nations. This fiber is not used in large quantity in the US due to its in-

CHARACTERISTICS OF CHINESE OIL

	Taching	Shengli	Minas Crude
S.G. 15/4°C	0.8607	0.9059	0.8500
API Gravity	32.8	24.61	—
BS&W Vol.%	0.15	1.3	—
Water Content Vol.%	0.5	0.7	Trace
Pour Pt. °C	(+) 35	(+) 27.5	(+) 35
Sulfur Content Wt.%	0.11	0.98	0.10
Viscosity at 50°C (CST)	20.13	91.55	11.3
Carbon Residue Wt.%	3.13	7.08	2.78
Salt Content	11 PPM	259 PPM	10 PPM
Ash Content Wt.%	0.01	0.023	0.003

Product Yield

Taching		Vol. %	Shengli		Vol. %
LPG	1BP–35C	0.2	Naphtha	1BP–170	7.3
Light Naphtha	35–90	5.4	Kerosene	170–240	5.0
Naphtha	90–165	3.7	Gas Oil	240–330	9.6
Kerosene	165–220	4.7	Residue	330–EP	77.1
Gas Oil	220–275	6.9	Loss		1.0
HGO	275–320	7.0			
Residue	320–EP	68.0			
Water		2.6			
Loss		1.5			

From Japanese Industry Sources, 1974, based on Spot Analysis Single Samples.

SOME EXISTING CHEMICAL PLANTS OPERATING IN CHINA

Product	Capacity M LB/YR	Location	Remarks
Ethylene	200	Shanghai	Light Diesel Cracking
Propylene	100	"	
Ethylene	20	"	Refinery Gas Cracking
Propylene	10	"	
Cumene	30	"	By Alkylation of Phenol & Propylene, 12-year-old Plant
Phenol	20	"	Produced from Cumene by Peroxidation and Cleavage
Acetone	10	"	Co-product from Phenol Plant
Styrene	4	"	Both Produced by Locally Developed Process
Polystyrene	4	"	
Propylene Tetramer	NA	"	Aluminum Chloride Catalyzed
Hard Detergent Alkylate	"	"	Produced from Tetramer Above
Soft Detergent Alkylate	"	"	Made from Domestically Produced Ziegler C_{12} Olefin
Synthetic Detergents	"	"	Both Hard and Soft, Sodium Salt Detergent Manufactured from above Alkylates
Trisodium Phosphate	"	"	Detergent Builder Used in above Detergent Production
Glycerine	"	"	By-product from Soap Manufacture
Nylon 6	"	"	Judged To Be Too Small and Based on Obsolete Technology
Nylon 6,6	"	"	
Styrene	9	Peking	
Polystyrene	9	"	
1-4 Cis Polybutadiene	7	"	Use Japanese Know-how
Polypropylene	9	"	Natta Process
Polyacryolo Nitrile	7	"	Using Sohio Catalyst
Methyl Methacrylate	4	"	
Polymethyl Methacrylate	4	"	
Caprolactam	7	"	Batch Process from Phenol and Hydroxylamine
Chlorinated Aromatics	NA	"	For Pesticide Application, Plant Being Built in 1973
Sulfonated Fatty Alcohol	2	"	For Soft Detergent
Benzene	NA	Shen Yang Area (NE China)	All the Plants in this Area Are Based on Coal and Coal Tar Feed
Toluene	"	"	
Xylenes	"	"	
Naphthalene	"	"	
Anthracene	"	"	
Phenol	"	"	
Ammonia	"	"	
Naphtha	"	"	
1-4 Cis Polybutadiene	7	Kirin (NE China)	Duplicate of Plant in Peking
Ethylene Hexanol Butanol	600	NA	Purchased from Melle & Speichim in 1963
Vinylon Fiber Plant	24	NA	Polyvinyl Alcohol Fiber, Purchased from Kurashiki Rayon in 1963 for $20 M
Vinylon Fiber Plant	40	NA	Polyvinyl Alcohol Fiber, Purchased from Dai Nippon in 1963 for $30 M
Acetylene	NA	NA	Purchased from Japan in 1964 for $3 M
Perlon (Nylon 6)	NA	Suburb Shanghai	Nylon 6 is Poly Caprolactam. Plant Purchased from F. Uhde in 1964
Ethylene Propylene	100	Lanchow	Plant Includes Heavy Gas Oil Based Steam Cracker and Olefins Separation Unit. Purchased from Lurgi in 1964 for $12.5 M
Polyethylene (LD)	53		Low Density Polymer (High Pressure Process) Purchased from Simon Carves (UK) in 1953, $12.6 M
Polypropylene (LD)	NA		Purchased from UK in 1964 for $7.3 M
Acrylic Resin	NA	Lanchow	Polyacrylonitrile Probably Used for Fiber Production Purchased from Courtaulds, Ltd., for $8.4 M in 1965
Acrylonitrile	22	NA	Probably Used to Supply Polymer Plant Above. Purchased from Lurgi in 1965 $11 M
Ethylene Propylene	NA	NA	Gased on Naphtha Cracking. Purchased from Norway in 1965 for $14 M US
Polyester Resin	NA	NA	Probably to Supply Polyester Fiber Plant. Purchased from Scott Bader in 1965

Source: Sy Yuan, October 1975

CHINESE IMPORTS OF CHEMICAL PRODUCTS

SITC		1955	1956	1957	1958	1959	1960
5	Chemicals	96,600	105,074	108,819	131,813	124,026	77,200
51	Chemical elements and compounds	20,800	12,078	15,847	25,340	36,135	20,589
512	Organic chemicals	—	9,649	10,127	19,185	25,391	12,559
513 & 514	Inorganic & oxygen compounds	—	2,429	5,720	6,155	10,744	8,030
513	Mercury & carbon black	—	—	—	—	—	—
513.25	Mercury	—	—	—	—	—	—
513.27	Carbon black	—	—	—	—	—	—
513 & 514	Inorganic & oxygen compounds, NES	—	2,429	5,720	6,155	10,744	8,030
51_	Other chemical elements, compounds	20,800	—	—	—	—	—
52	Mineral tar, crude chemicals	—	11	—	—	—	—
53	Dyeing, tanning, coloring materials	22,500	5,080	12,827	8,320	18,069	6,949
531	Synthetic organic dyes, indigo	—	3,482	10,605	6,323	12,669	5,024
532	Dyeing, tanning extracts, synthetic	—	1,399	1,829	1,717	4,615	1,465
533	Pigments, paints, varnishes	—	199	393	280	785	460
53_	Other dyeing, tanning, coloring	22,500	—	—	—	—	—
54	Medicinal, pharmaceutical products	9,500	8,693	12,855	11,611	5,152	2,201
55	Essential oils, perfume, cleansing	—	419	998	842	1,369	844
56	Fertilizers, manufactured	38,900	59,418	54,539	67,476	42,487	29,005
561	Fertilizers, manufactured	—	59,418	54,539	67,476	42,487	29,005
561.1	Nitrogenous fertilizers, MFT	—	48,499	48,868	65,157	41,673	28,949
561.1A	Urea	—	—	—	—	—	—
561.1_	Nitrogenous fertilizers, MFT, NES	—	48,499	48,868	65,157	41,673	28,949
561.2	Phosphatic fertilizers, manufactured	—	10,033	5,065	2,025	814	56
561.3	Potassic fertilizers, manufactured	—	780	—	—	—	—
561.9	Other manufactured fertilizers	—	106	606	294	—	—
56_	Fertilizers, crude & manufactured	—	—	—	—	—	—
57	Explosives, pryotechnic products	—	—	—	—	—	—
58	Plastic materials	—	1,937	3,423	3,368	6,066	8,045
59	Chemical materials & products—other	—	—	—	—	—	5,236
599.2	Insecticides, fungicides, disinfectants	—	—	—	—	—	5,236
5_	Chemical materials & products, NES	4,900	17,438	8,330	14,856	14,748	4,331

Source: University of Michigan Center for Chinese Studies-Foreign Trade Project. Some categories have been grouped.

ferior quality as an apparel fiber, though one reason for China's emphasis on this material may be due to its lower cost.

China's emphasis on development of the textile fiber industry in general is also evident in this list of plant purchases. Most modern fibers like nylon 6,6, nylon 6, acrylics and polyesters will be produced in substantial volume by the PRC in years to follow.

More Emphasis on Chemical Development in Future

In summary, China's chemical industry is still in an early developmental stage. However, a solid and diverse foundation has been laid. There is no lack of determination or talent in China to build upon this foundation a strong and viable chemical and particularly petrochemical industry. The Chinese planner interviewed by this author in 1973 indicated that because the development of chemical industry has been behind that of other industries, there will be more emphasis placed on its development in the immediate years to come. The same prognosis was expressed during discussions with the members of the Chinese Petrochemical Delegation visiting the US in August 1975.

One of the most important reasons behind this outlook lie in the rapid development of China's oil resources. Until 1963, China was dependent on imports for its own oil consumption. By 1973, China achieved a production rate estimated at 1 million barrels a day and was able to export 7 million barrels to Japan. The latest 1975 assessement estimates the PRC's production rate was increased to 1.4 million barrels a day by the end of 1974. Exports to Japan in 1974 were 28 million barrels. Japanese sources estimate that China's 1975 oil exports to Japan will be 55-70 million barrels depending on the construction schedules of pipeline and port facility expansion projects now underway. Western oil experts put China's recoverable oil reserve at 25 billion barrels vs. 34 bil-

FROM NON-COMMUNIST COUNTRIES 1955-1973

Units—$1,000

1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
53,205	53,668	96,151	96,306	188,021	205,662	224,218	254,440	244,361	263,096	259,236	288,429	383,945
10,005	16,973	9,234	23,139	35,794	44,702	65,448	75,297	89,976	77,209	87,126	87,246	102,252
6,257	15,145	7,639	12,192	19,268	21,219	44,182	54,181	69,297	51,537	64,050	63,523	34,937
3,748	1,828	1,595	10,947	15,717	20,934	17,727	19,636	20,435	23,385	22,392	23,259	30,627
—	8	16	188	904	782	726	942	—	—	820	697	—
—	—	—	—	—	—	—	—	—	—	—	—	—
—	8	16	188	904	782	726	942	—	—	820	697	—
3,748	1,820	1,579	10,759	14,813	20,152	17,001	18,694	20,435	23,385	21,572	22,562	30,627
—	—	—	—	809	2,549	3,539	1,480	244	2,467	684	464	6,688
—	—	—	—	—	—	—	—	—	—	—	—	—
5,784	4,695	5,554	6,790	8,411	7,317	6,634	9,243	9,359	11,112	8,992	14,601	27,035
5,252	4,277	5,000	6,161	7,605	6,334	5,045	8,495	8,447	9,365	8,289	13,011	22,487
392	273	368	291	458	220	576	72	395	—	—	—	—
140	145	186	338	348	763	1,013	676	517	130	236	1,191	2,007
—	—	—	—	—	—	—	—	—	1,617	467	399	2,541
1,995	1,376	1,154	1,728	2,041	2,072	2,918	2,034	2,031	2,006	2,174	2,881	3,743
382	594	864	732	420	1,115	1,933	1,758	1,733	1,517	3,108	3,579	6,478
29,406	27,114	74,582	50,042	116,308	119,240	116,072	135,096	115,185	127,680	120,965	126,902	168,136
29,406	27,114	74,582	50,042	116,308	119,240	116,072	135,096	115,185	127,680	120,965	126,902	14,343
29,406	27,114	74,582	44,407	101,311	113,894	112,991	128,729	65,872	124,197	117,569	122,687	—
—	—	28,239	26,556	42,212	54,801	36,263	65,729	65,872	83,926	91,320	88,542	—
29,406	27,114	46,343	17,851	59,099	59,093	76,728	63,000	—	40,271	26,249	34,145	—
—	—	—	5,384	7,212	—	—	—	46,713	—	—	1,169	3,557
—	—	—	—	—	7	—	176	107	228	181	754	2,634
—	—	—	251	7,785	5,339	3,081	6,191	2,493	3,255	3,215	2,292	8,152
—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
2,586	2,107	2,748	4,810	8,573	10,000	15,140	17,710	15,564	26,346	18,400	32,674	46,105
2,001	23	694	3,774	9,898	16,421	10,708	9,178	5,122	7,115	9,153	9,285	10,623
2,001	23	694	3,774	9,898	16,421	10,708	9,178	5,122	7,115	9,153	9,285	10,623
1,046	786	1,321	5,291	6,576	4,795	5,365	4,124	5,391	10,111	9,318	11,261	19,573

lion for the US. Some Japanese estimate total possible Chinese reserves at 70 billion barrels. According to projections of a Senate staff study (the JEC Report, July 1975), China will be producing 3.8 million barrels/day of crude and will be exporting 1 million barrels by 1980.

Most of China's oil production development to date has been on land, and has been carried out with local resources. To maintain the present growth rate, which will also mean much more offshore and deep water exploration and production work, western technology and/or equipment will almost certainly be needed. But the availability of domestic crude oil production will assure China of the feed stock needed for a growing petrochemical industry. In addition, the oil exports will provide much needed foreign exchange for the purchase of Western technology and plant equipment to accelerate the construction of chemical plants and to promote the industrialization of China as a whole.

Direction of Chemical Industry

Future growth of China's petrochemical industry will probably be in the direction of agricultural chemicals (what China needs most) and of textile fibers, with which the PRC has earned much foreign exchange in the past. The major concern in the minds of China's economic planners has always been, and will continue to be for some time to come, providing sufficient food for her 800-900 million population. Early in 1975, Vice-Premier Teng Hsiao-ping announced that agriculture, along with oil and steelmaking ranks highest in the list of priorities in China's economic development.

For many years, China has held the dubious honor of being the world's highest fertilizer importer. Vice-Premier Teng indicated that in 1974 Chinese farmers would be encouraged to increase average fertilizer application rate from 50 kgs. per hectare to 200 kgs. per hectare. Although China will almost double her nitrogen fertilizer production capacity when her newly

CHINESE EXPORTS OF CHEMICAL PRODUCTS

SITC		1955	1956	1957	1958	1959	1960
5	Chemicals	15,900	23,156	26,608	36,000	24,419	19,232
51	Chemical elements and compounds	3,100	3,807	8,408	14,384	11,464	6,445
512	Organic chemicals	—	2,335	3,029	4,843	3,740	2,039
513 & 514	Inorganic & oxygen compounds	—	1,472	5,379	9,541	7,724	4,406
513	Mercury & carbon black	—	—	—	—	—	—
513.25	Mercury	—	—	—	—	—	—
513.27	Carbon black	—	—	—	—	—	—
513 & 514	Inorganic & oxygen compounds, NES	—	1,472	5,379	9,541	7,724	4,406
51_	Other chemical elements, compounds	3,100	—	—	—	—	—
52	Mineral tar, crude chemicals	400	128	87	153	—	83
53	Dyeing, tanning, coloring materials	—	1,454	1,472	3,100	1,677	2,489
531	Synthetic organic dyes, indigo	—	78	397	597	638	864
532	Dyeing, tanning extracts, synthetic	—	—	—	—	—	—
533	Pigments, paints, varnishes	—	1,244	1,075	2,503	1,039	1,625
53_	Other dyeing, tanning, coloring	—	132	—	—	—	—
54	Medicinal, pharmaceutical products	1,200	1,349	1,485	2,345	1,935	1,535
55	Essential oils, perfume, cleansing	—	5,861	5,471	5,391	2,891	2,212
56	Fertilizers, manufactured	—	—	—	—	—	—
561	Fertilizers, manufactured	—	—	—	—	—	—
561.1	Nitrogenous fertilizers, MFT	—	—	—	—	—	—
561.1A	Urea	—	—	—	—	—	—
561.1_	Nitrogenous fertilizers, MFT, NES	—	—	—	—	—	—
561.2	Phosphatic fertilizers, manufactured	—	—	—	—	—	—
561.3	Potassic fertilizers, manufactured	—	—	—	—	—	—
561.9	Other manufactured fertilizers	—	—	—	—	—	—
56_	Fertilizers, crude & manufactured	—	—	—	—	—	—
57	Explosives, pryotechnic products	—	—	—	—	—	—
58	Plastic materials	—	—	—	11	52	143
59	Chemical materials & products—other	—	—	—	—	—	—
599.2	Insecticides, fungicides, disinfectants	—	—	—	—	—	—
5_	Chemical materials & products, NES	11,200	10,557	9,685	10,616	6,400	6,325

Source: University of Michigan Center for Chinese Studies-Foreign Trade Project. Some categories have been grouped.

purchased ammonia-urea plants go on stream in 1976-77, the increased application rate, plus new acreage put into production, will necessitate continued reliance on imported fertilizer for some time to come. For example, in 1974 Japan exported to China 955,000 metric tons of urea, 180,000 metric tons of ammonium sulfate and 410,000 metric tons of ammonium chloride.

For the 1975 fertilizer year China has, at time of writing, ordered 550,000 metric tons of urea, 50,000 metric tons of ammonium sulfate and 210,000 metric tons of ammonium chloride. In addition, 400,000-500,000 tons of fertilizer (mostly urea) were purchased from Nitrex, an export association of European fertilizer producers, to be delivered between July and December, 1975. This shortage will, in all likelihood, result in additional ammonia plant purchases from the West as well. Furthermore, China's fertilizer production is not balanced as far as the three most important plant nutrients are concerned. Much of the land in China is lacking in phosphates and potash in addition to nitrogen. China will continue to need to import phosphates and potash, and perhaps the technology and equipment to explore and develop these resources domestically as well. According to one estimate, China will have to import two million metric tons a year of potash by 1980.

Agricultural Chemicals and Textiles

In addition to fertilizer, China's agricultural industry is in need of modern agricultural chemicals, pesticides, insecticides, fungicides and herbicides—of the types that are of low toxicity to warm-blooded animals and compatible to the environment. China is not in a position now to produce these materials in the quantities nor at the cost required for modern agricultural practice. For many years to come she will need imports of these materials and/or the technology for producing them. The systems approach to agriculture, so successfully demonstrated in the United States, could

TO NON-COMMUNIST COUNTRIES 1955-1973

Units—$1,000

1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
16,929	20,490	24,171	34,394	51,794	59,338	59,714	64,272	75,753	90,536	97,221	114,665	200,123
5,915	7,342	7,020	11,988	19,707	21,930	21,399	20,308	23,256	19,626	25,297	26,279	49,188
2,312	2,019	2,437	4,502	6,540	10,484	10,242	8,828	9,355	8,952	10,438	11,206	19,359
3,603	5,323	4,583	7,486	12,142	11,446	11,157	9,763	11,502	10,269	13,516	14,472	26,463
—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
3,603	5,323	4,583	7,486	12,142	11,446	11,157	9,763	11,502	10,269	13,516	14,472	26,463
—	—	—	—	1,025	—	—	1,717	2,399	405	1,343	601	3,366
—	—	—	10	20	—	1	—	—	—	—	—	—
1,971	1,963	2,208	3,094	3,970	2,488	3,175	4,117	4,001	3,951	4,527	5,861	14,361
1,028	687	439	925	1,845	1,329	1,253	2,120	1,604	1,357	2,350	2,647	7,685
—	—	—	—	—	—	—	—	—	—	—	—	—
943	—	—	—	—	—	—	—	—	—	—	—	—
—	1,276	1,769	2,169	2,125	1,159	1,922	1,997	2,397	2,594	2,177	3,214	6,676
1,245	1,552	1,544	2,590	3,684	4,367	5,257	6,703	6,883	8,555	11,095	16,649	27,225
2,804	3,266	3,581	4,669	6,410	8,979	7,073	9,912	9,907	12,121	7,163	8,522	15,697
—	—	3	—	—	—	59	—	11	23	—	93	11
—	—	3	—	—	—	59	—	11	23	—	93	11
—	—	3	—	—	—	7	—	—	—	—	93	11
—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	3	—	—	—	7	—	—	—	—	93	11
—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	52	—	11	23	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	2,934	4,125	5,215	5,291	8,485
72	—	3	950	144	236	243	310	424	556	1,279	1,775	2,701
—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
4,922	6,367	9,812	11,093	17,859	21,338	22,507	22,892	28,337	41,579	42,645	50,195	82,455

be beneficial to China's agricultural industry.

China has been very successful in developing a viable textile industry. Before oil revenue became a significant factor, textiles and foodstuffs were the PRC's two top foreign exchange earners. In spite of the new plants she has purchased recently, China will need more synthetic fiber producing capacity. Recent estimates show rapidly rising world demand for synthetic fibers. For example, 40% of paraxylene production to satisfy world-wide consumption of polyester fiber in 1980 will have to come from new capacity. China will need synthetic fiber not only for export but for domestic consumption as well. Much emphasis has been placed recently in providing more consumer goods and raising living standards in China. There has been a significant increase in the availability of colorful synthetic fabric on the Chinese consumer market in the past year or two. Switching from natural fiber to synthetics would free more arable land for food production.

In addition to fiber resin plants, fiber spinning, textile processing (weaving, printing, dying, etc.) machinery will also be high on China's shopping list. Dyestuffs and textile sizing chemicals will almost certainly be needed from abroad for some time to come.

As a consequence of the growth of the PRC's petrochemical and agricultural chemical industries, two other areas must expand. China is now producing industrial chemicals in quantities adequate for current needs, but these products are still being produced in small plants, costly to operate by modern world standards. The present capacity in the PRC for these materials does not appear to be high enough to support China's industrial growth in the years to come. For instance, half of US sulfuric acid output is used for fertilizer production. To develop China's fertilizer industry, which apparently is what she has set out to do, much new sulfuric acid capacity will be needed. Modern technology and plants for these materials will also, likely, be purchased from abroad.

Pollution Equipment

Along with industrialization, inevitably, pollution has been recognized as a problem in China. China is luckier than most countries as her major oil fields (Taching and Takang) produce a crude with a very low sulfur content, less than 0.1%, which contributes little to air pollution. Nevertheless, all the fertilizer and other petrochemical plants China has purchased could create serious air and water pollution problems unless properly handled. Having new industry has its advantages: Pollution abatement features can be designed in the plant at the beginning. This way, potential problems are nipped in the bud, making it more economical than correcting problems in an existing plant. Technologies developed in this area may be of interest to China.

With an industry as diverse as chemicals, the foregoing analyses can only touch upon the general direction of the future growth in China's chemical industry. There are almost unlimited possibilities in this industry in which the US and China could become trading partners from which both could derive "mutual benefits"—to quote the 1972 Shanghai Communique. Some US chemical producers may be discouraged in developing this China trade by the PRC's policy of "self-reliance."

China's Vice-Premier Teng Hsiao-ping himself clarified this policy in 1975. In essence, "self-reliance" does not mean that China wants to remain isolated technologically to "re-invent the wheel." It only means that China will not permit foreign ownership and control of her industries. Although China would prefer to purchase plants and technology to produce their own, it would be many years before this goal could be realized. Until then, she must rely on imports of certain materials for which the PRC does not have enough capacity, advanced technology or depth in industrial infrastructure to produce.

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A Visit to the NANKING PETROCHEMICAL WORKS

On September 4, 1974, a group of traders from Hong Kong visited Nanking Petrochemical Works as part of an 18-day tour of China at the invitation of China Resources and China Merchant Steam Navigation. This account, from the diary of Council Vice-President Melvin W. Searls, Jr., provides some insight as to the state of the art of petrochemicals in China, the operation of a Chinese chemical plant, and the attitude of the Chinese towards industrial development in this sector.

Following our arrival, Mr. Li, Manager of the Nanking branch of China International Travel Service, briefed us about Nanking. He specifically mentioned the Nanking Oil Refinery as an example of industrial progress, and that this refinery had a capacity of three million tons per year (60 MB/D*), producing 30 products. We took advantage of his comments to request that a visit to the refinery be included in our program. As with all our other requests during this trip, this one was granted, and we visited the refinery the next day, September 4, 1974.

We were met at the refinery by Mr. Shun, Vice Chairman of the Administrative Office, and Mr. Wong, a staff member of the Administrative Office, and spent almost three hours at the refinery, called the Nanking Petrochemical Works. The plant is located on the southern bank of the Yangtze River, approximately 20 miles east of Nanking, built in an undulating area with units separated by hills.

Plant Operations

The works is a small refinery using modern advanced Western technology, such as platforming and liquid catalytic cracking. In addition to production of fuel products, it manufactures the basic range of aromatics for the petrochemical industry, benzene, toluene, xylene and liquid parrafin, through the molecular sieve process, for detergent manufacture. The layout and design of the plant are not as com-

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* 60 thousand barrels a day

pact as Western standards. Planning and managment controls may not be advanced, but there also seems to be a minimum of paper work. In addition, the plant is "overstaffed,' with 3,800 employees (including 1,100 women) or about 63 men/B/D, as opposed to perhaps one fourth or so as many men in US refineries—though a US company would contract out many of the services carried out at this refinery. The technology at the plant appears to have come via Soviet, Rumanian and Japanese sources, and the basic platforming, and probably also fluid catalytic crackings, process is UOP.

According to Mr. Shun, the refinery was planned in 1958 and civil works and construction were carried out until 1960. As the result of the policies of Liu Shao-chi and difficulties with the Soviets, construction was suspended. Under the policy of self-reliance, the Taching Oil Field was opened in 1963, and China attained petroleum self-sufficiency. Construction of the refinery was resumed, and the refinery was completed in 22 months, inaugurated on October 1, 1965.

The plant initially had a capacity of one million tons, had five sets of equipment, produced 15 basic fuel products, and had a thousand workers. With the advent of the Great Proletarian Cultural Revolution, said Mr. Shun, the political consciousness of the workers was raised, and with the adoption of the "3-in-1 combination," the capacity of the refinery was increased to three million tons. Five addtional sets were added during the Cultural Revolution, basically the Chemical units.

Waste Reduction

The refinery is still in the process of development, and the staff are striving to overcome the "three wastes": refinery water, gas, and residues. Unless these wastes can be eliminated, the environment will be harmed, and they are concentrating on research to overcome these three wastes. They already have a pool to sterilize effluent, and this water is used for irrigation. The waste gas was formerly burned, but is now recycled for refinery fuel. They use 25,000 tons/year this way. From the waste residues, they produce Sodium Sulphate and Sodium Sulfide.

In spite of the progress, there are still some shortcomings, but step by step they intend to overcome them, and to produce more and better products. In later discussions, Mr. Shun identified shortcomings in management skills, worker skills and leakages of gases and liquid products.

The refinery uses both Taching and Shengli crudes, about 50/50 each. The crude is transported principally by tankers of 18 MDWT (thousand tons deadweight) with an approximate maximum draft of 35 feet. Lightering is required on occasion, depending on the tide. Tankers take about 24 hours to discharge through steam-traced pipelines. A pipeline from the fields to Nanking is being considered. Crude requirements are tabled by the refinery and approved by the State.

Crude storage capacity is adequate for one week's coverage and refined products vary from one to several weeks. Distribution from the refinery is all by barge and rail to intermediate storage points or direct to the consumers, and the refinery supply area includes Kansu Province and some small amounts to neighboring provinces.

The refinery produces gasoline (66 octane), kerosene (for lighting), turbo fuel A 1, light diesel oil, fuel oil, liquid paraffin (raw material for detergent xylene, sodium sulphate for dyes and printing, petroleum acid for timber (creosote), and asphalt. All products are manufactured to meet the specifications established by the State.

Equipment at the Plant

As noted above, the original five units were commissioned in 1965 with the additional five put on stream in 1968/69. A platforming unit was built in 1969 to produce aromatics. The feedstock is naptha and platinum is the catalyst, the process similar to a UOP design. Also in 1969, a unit was commissioned for the production of liquid paraffin, the basic raw material for the manufacture of bio-degradable detergents. Molecular sieves (5A°) are used to dewax a kerosene/diesel cut. There are four towers, two for absorption and two for extraction of the wax from the molecular sieves, 20 minutes for absorption cycle. The fluid catalytic cracker appears to use a basic process, with gas oil as the feedstock and probably a kind of clay as the catalyst.

Generally, the equipment for the refinery is manufactured in China, with some others, such as pumps coming from Japan and Europe and East Europe. It is generally of modern design; for example, we noticed Selas type furnaces in operation, and all we saw were gas fired from underneath. The control rooms for the distillation and platforming units use a computer of Chinese design. The units were instrumented in the usual fashion. The refinery has its own firefighting equipment.

Obtaining Technical Data

The refinery carries out training programs for its own workers as well as for other refinery personnel. Technical information is obtained from the "College of Petroleum Institute" in Peking. This seems to be consistent with other industries such as the textile industry, which have institutes to support their research, training and development of new techniques/technology. It is doubtful that modern management controls, planning and research have been introduced. Emphasis is upon production and results and overcoming specific problems such as the one of wastes. Discussion was open and frank, and almost all questions were answered exactly. 完

A computer manufactured by the Shanghai No. 13 Radio Factory on show at the Fall Fair.

CANTON FAIR FALL 1975

Up from the Spring Doldrums

CANTON, FALL 1975 UP FROM SPRING DOLDRUMS, SIGNPOST TO THE NEXT PLAN

In the Fall of 1975, most of the three hundred or so US firms which came to do business at the 38th Kwangchow Fair found their Chinese hosts eager to sell, and in some cases to buy, on terms generally regarded as more realistic . . . and accommodating . . . than any available since 1973.

No less important were the subtle, but as the Fair progressed, increasingly recognizable signals that the Chinese were preparing to re-enter the international marketplace as serious buyers of capital equipment and plant after a hiatus of 18 months.

No doubt with this in mind, one-out-of-five of the American firms represented at this Fair were interested in selling, and perhaps half of those held export-related discussions with the Machinery Corporation.

Three Changes

On the importers side, important developments took place as well, though fairgoers, particularly veterans, were having a difficult time deciding how their overall positions had been affected by the changes.

In one shift from earlier policy, Fair negotiators indicated a new willingness to give exclusives to US importers. Indicative was the granting of exclusivity to US buyers for such items as straw bags from the Tientsin and Shanghai branches of the Light Industrial Products Corporation, as well as certain greige goods from the Textiles Corporation.

Another change involved the tightening of controls on Fair invitations for Hong Kong businessmen, many of whom have direct or indirect connections with US firms. Under the new regulations, authorities now issue non-transferable invitations to specifically named representatives of the Hong Kong companies, providing those companies have given the appropriate foreign trade corporation a list of designated representatives six weeks before the beginning of the Fair. This new practice is seen as a Chinese attempt to discourage businessmen from arbitrarily distributing Fair invitations to individuals not necessarily affiliated with their companies.

A third reported shift involved China Travel Service's new responsibility in Hong Kong trans-shipment. According to US buyers with offices in the Colony, CTS now handles the details of trans-shipment, including loading merchandise on departing vessels and maintaining liaison with buyers. Long-time traders hope that this new arrangement will help shorten traditionally lengthy transport times.

Problems, As Usual . . .

There were problems, as usual, and a veritable litany of complaints, as usual. Chinese negotiators voiced their familiar concern with the Sino-American trade imbalance now only two-to-one in favor of the US, and continued to air displeasure over what they described as "obstacles on the US side to the further growth of US-China trade." These "obstacles" presumably include the PRC's Column 2 tariff status in the US. Mention was not made of the US's Column 2 Status in China.

There were reports of Chinese concern over the apparent low level of Japanese purchases, particularly in the area of textiles. According to one source associated with a major Tokyo based trading company, Chinese negotiators made it clear that continued Japanese reluctance to buy would mean seriously reduced PRC imports from Japan.

For their part, American importers expressed displeasure over the length of delivery times for almost all categories of goods. Unfavorable remarks about the quality of Chinese merchandise were heard less often than in the past though, and some progress was reported in foodstuff packaging and labeling, long a major problem for US buyers.

A few Fair veterans claim that the presence at this Fair of a new crop of relatively inexperienced Chinese negotiators, combined with the emergence of the inter-Canton mini fairs, tended to diminish the over-all importance of the Fair. This viewpoint was quickly dismissed by Chinese officials, however, who pointed to the activity in the negotiation halls to prove their contention that the bi-annual Canton event has lost none of its prestige.

Even Fair veterans seemed infected by the commercial spirit. By the second week the traditional laments of the "old friends" who tend to measure every offer against 1960's price levels trailed off into virtual oblivion. Their silence testified to more than a simple realization that the golden days of the 300% markup were gone forever. For if this Fair proved anything, it was that if China was willing to sell on fair and equitable terms, the world was more than willing

to buy. Question marks still persist, for this was only a happy Fair, not an ecstatic one. But there was little doubt that the 38th marked a much welcome turnabout from some of the disappointing performances of the past.

Light Industrial Products—A Sell Out

In a discussion with National Council representatives at the Fair, Lo Syin, Deputy Secretary General of the Light Industrial Products Corporation delegation made it clear that the quality of China's exports is only now beginning to reach acceptable standards. He went on to indicate, however, that his corporation was becoming aware of what it had to do to satisfy American consumers and pledged that every effort would be made to meet the challenge of producing goods of high quality in adequate quantity.

American buyers at the Fair seemed to be aware of these efforts. The bulk of the Corporation's thirteen export departments registered impressive sales gains over the Spring Fair, spurred on, in part, by lower prices.

Jewelry was a particularly busy section and one of the more noteworthy areas of interest for the Japanese, whose overall impact on this Fair was probably less than at any other time during the past two or three years. During this Fair, dozens of jade buyers from Tokyo and Osaka were attracted by the 15 percent drop in price since the spring.

Porcelain prices were down by a similar measure, in no small way influenced by a bull market in Hong Kong, where comparable items were undercutting the Kwangchow prices. Hand tool prices had also declined about 15 percent from the Spring Fair, and US activity in this section was led by one New York buyer who placed a 300,000 unit order.

Arts and crafts was another busy section and late comers were disappointed to learn that many popular straw articles, among them shoppers, had sold out by the second week of the Fair. Rattan articles sold very well, though the five-month delivery time may have dissuaded some potential buyers.

Several porcelain importers, mostly newcomers, were discouraged to find that China would not consider manufacturing their U.S. designs.

On the import side, little progress had been registered on sales of paper and pulp products to the Chinese. Light industry negotiators were asking for a 400 RMB/metric ton quote for pulp, with no takers in evidence.

Minmetals—Buying Oil Drilling Pipe and Steel

Minerals and Metals invited some 40 American firms to the Fall Fair, more than ever before, many of whom were reported to have concluded contracts—both import and export—far outvaluing those signed during the Spring Fair. Many deals involved American purchases of such regular items as antimony oxide and tungsten—some on a trial basis with first-time China traders. Strong Chinese sales of antimony regulus were also registered. Prices generally reflected world market standards.

Americans signed contracts with all three of Minmetals' Export Departments, but interest was keen on the import side as well. Twenty-five pieces of special tubing and oil drill pipe were among the major sales made to the Corporation by US firms.

One of the outstanding transactions of the first half of the Fair involved Minmetals, as the Corporation agreed to purchase some 2,000,000 tons of Japanese steel for November-April delivery, some 240,000 tons of which were of the tube variety, the bulk of the remainder being molded and seamed. Tube steel prices have dropped 20-30 percent since the last Fair, inducing the Chinese to engage in what some observers characterized as a buying spree. Prices for plate steel were up, however, and representatives fom Thyssen and some of the other large German steel firms were digging in for a possible post-Fair stay, in an attempt to break a deadlock which had developed with their Chinese customers.

One disappointment to American buyers was the apparent shortage of tin ingots, which thus far this year has been the largest Chinese export in dollar terms to the US. Chinese negotiators cited rising domestic need as the reason for quantity limitations.

Foodstuffs—Shrimps to the US Again

Prices US buyers paid for the products of the Cereals, Oils and Foodstuffs Corporation were mixed in relation to the Spring Fair, particularly in the area of canned goods. Nevertheless sales showed a moderate increase with some American directed exports of short supply items made with the long-range potential of the US market in mind. At the same time, Chinese negotiators continued to work closely with traditional customers from Hong Kong and other Southeast Asia locations. Many items were sold out to these buyers during the opening days of the Fair.

The Corporation is apparently still undecided about how far they are willing to go in complying with FDA low-acid food regulations and importers of Chinese prawns have made little headway in their efforts to buy rejection insurance under satisfactory terms. Nevertheless good gains were chalked up in both of these areas. Perhaps the best known US importer of Chinese shrimp contracted for 200 tons at $6,000 per ton, demonstrating their confidence in the ability of the prawns to pass inspection at port of entry, a test that has presented problems in the past.

Pumpkin seeds were in short supply as well, though again special provisions were made to satisfy US demand. Some American buyers showed a reluctance in this area, mindful of the host of legal difficulties confronting them when their product arrives in the US: both the FDA and the Consumer Protection Agency have the authority to delay the entry of this item almost indefinitely.

Native Produce—Down Up, Prices Lower

Together, the nine departments of the Export Branch of the Native Produce Corporation posted good sales gains against the Spring Fair standard. In general, prices were down 10-15 percent.

The lifting of the 20 percent duty on feather products last April is the major—perhaps the sole—factor in the $2 million worth of feathers China will sell to the US this year (trade in this item in 1974 was negligible) and some industry observers speculate that the potential annual market for Chinese feathers and down in America is $20 million.

Fur trading was characterized by long waits as buyers queued up to make offers for the low quantity of saleable inventory. Some buyers pointed out that jackets on display were poorly tanned, which could lead to a drying out of the skin and eventual fur fall-off. However, the general five percent reduction in prices from the Spring Fair helped to stifle these complaints.

Sales of essential oils were very active. Hog bristle activity seemed unusually light, probably due to the Native Produce Team's visit to buyers in the US. Shoes, priced about the same as the last Fair, were in good supply, but the six-month lead time worried some potential purchasers. There was great interest in the wide variety of carpets that China displayed, though again buyers expressed concern over delivery times. Receipt of superfine carpets would take a year, the Chinese said, with standard quality items arriving in eight or nine months. Prices for some Tientsin carpets were down as much as 15 percent.

A Native Produce representative confirmed that the Tientsin Carpet Fair would be an annual event but said that in no way should this be construed to mean that the importance of the Carpets Department's activities at the Kwangchow Fairs was in any way diminished.

Textiles—Jeans Move Well, Labels Too

The Textiles Corporation, represented by five export departments at the Fair—Cotton and Woolen Piece Goods, Silk, Woven Fabric Garments, Knitwear, and Embroideries—registered a modest upturn in business over the previous Fair. Griege goods in the wide 48″ and 54″ shirtings and sheetings categories reportedly sold very well, virtually exhausting Chinese inventory during the first five days of the Fair, though it was believed that some stocks were being held back in case reluctant Japanese customers decided to make a late move.

Jeans were moving well, and one importer reported that Chinese shrinkage control had improved noticeably in this area. T-shirts proved similarly popular: orders were being accepted through the end of 1976, a clear departure from the usual practice of booking only one Fair ahead. Prices for painted cloth were lower, but silk prices had climbed a few percentage points over Spring Fair levels.

In one of the most rapidly concluded major sales deals on record at any Fair, two Los Angeles wholesalers negotiated the purchase of RMB one million worth of cotton goods in a single day. But this was not the only important news involving the Corporation and American firms to emerge from the Fair. American buyers reported that Chinese were now permitting them to insert their own labels in imported clothing, though indications were that some branches were lagging behind others in acknowledging the acceptability of this practice.

Chemicals—Sellers by the Dozen

The Chemicals Hall buzzed with continuous activity. But, for the Chinese, all the action seemed to be going the wrong way. From a selling point of view, no other corporation—with the exception of Machinery—appeared to have a more difficult time.

As many as 40 US chemical and pharmaceutical firms joined their counterparts from the West and Japan in a concerted effort to interest Chinese buyers in a wide range of items, and if the Corporation was taking, it was not necessarily doing so with a smile. Persistent Chinese complaints about unfair prices tended to trail off in the end, however, as important contracts were signed. Among them was a large urea (46% N) deal with a US firm.

Corporation officials said that China's lack of MFN status was an important factor in adversely affecting sales in the US. At the same time, they pointed to FDA inspection regulations on pharmaceuticals as complicating export efforts, and noted that high freight rates to US ports put many of their products at a competitive disadvantage.

Apparently the Chinese made some attempt to counter this with some price cutting of their own. Caustic soda declined from 650 RMB/metric ton to 430 RMB/metric ton since the last Fair, but buyers were few here, as offers still were way above domestic American price standards. The Corporation raised its prices on petroleum-related products—paraffin was up by as much as 30 percent—citing oil price hikes as justification, but bidders were few.

Machinery—Lining Up Offers to Sell Technology

Chinese negotiators from the Machinery Corporation experienced serious difficulty in selling their products despite the awesome display of PRC mechanical and technical progress which took center stage at the Fair Exhibition Halls. Some potential buyers, while acknowledging the growing quality of goods produced, said that limited supplies made purchasing difficult.

The real news in this sector, though, was on the Chinese import end, as more than two dozen US firms—and a host of companies from other industrialized nations—queued up to sell the Chinese their wares. The increased number of invitations to firms which Corporation officials surely knew were primarily interested in sales, kindled speculation that after a relatively subdued period, the Chinese may once again be preparing to buy capital equipment and plant at levels equal to or higher than in 1973.

A number of factors appeared to be converging to make this possible, chief among them, new allocations of funds occasioned by the inauguration of the Fifth Five-Year Plan and the growing confidence Peking now feels in the foreign exchange earning capabilities of its oil exports.

This presumed buying spurt is by no means assured, though, and among interested parties at the Fair, there was a wide range of opinion on the course it is likely to take. Some veteran traders pointed out that China is having difficulty selling the oil it is producing now, and that export levels will be seriously restrained by growing domestic demand. The Chinese themselves repeated assertions that real growth in crude petroleum sales will not occur for at least another decade.

The answer to the riddle of Chinese policy on plant and capital equipment acquisition may well emerge from PRC interaction with the capital markets of Japan and Western Europe. While Chinese use of instalment payments to finance important purchases has in the past been reluctant, some observers in Kwangchow believe this may change. They argue that China's economic planners are now convinced that the promise of oil provides the requisite insurance to borrow—and in effect buy—now.

END RESULTS—350 US FIRMS

By November 15, 1975, the final day of the Fair, final US turnover was estimated to be worth at least $55 million, of which about $40 million represented purchases from China. Negotiations continued past the end of the Fair. A total of 25,000 people attended the Fair, according to the local Chinese paper *Southern Daily*, on the last day. By that time a record 350 US firms had been to negotiate at the Fall Fair of 1975. 完

IMPORTER'S NOTES

LIGHT INDUSTRIAL MISSION FRIENDS, OLD AND NEW—PROBLEMS, OLD AND NEW

On September 11th, 1975, a delegation from the Arts and Crafts Division of China National Light Industrial Products Import and Export Corporation arrived in the US at the invitation of the National Council. Leading the delegation was Mr. Kao Feng, Deputy Managing Director of the Corporation (see last issue of UCBR p. 45). Mr. Chen Chi-yun, Deputy Managing Director of the Arts and Crafts Division, was deputy leader. The other members of the delegation were: Mr. Hsu from Peking, (interpreter), Mr. Tu—Tientsin, Mr. Chang—Kwangtung, Mr. Wang—Tsingtao, and Mr. Lao from Shanghai. For some of the delegates this was their first trip outside of the People's Republic of China.

The delegation spent seven tightly scheduled weeks studying a market that is the most demanding and the most sophisticated in the world. They visited importers, wholesale and retail establishments, warehouses, shopping centers, the finest department stores and discount stores.

The delegation brought over 3,000 first-time samples including finely woven articles of straw, maize, willow and bamboo; carved jade, stone, and ivory objects; embroidered goods; jewelry, porcelain and pottery; exquisite silk rugs, paintings and scrolls; small multicolored boxes and toys; and a variety of miscellaneous arts and crafts.

The majority of firms the delegation visited or were visited by, were old customers. The visit afforded the delegation an opportunity to hear constructive suggestions as to how they could improve and increase their business with the US. Some of the main points discussed follow—

IMPORTERS

Importers, the First Promoters . . . Importers select goods and advise department stores on what to carry. Importers advise China on designs needed and are responsible for introducing these designs to the US market. It does not matter greatly to department stores whether they carry Chinese goods or not: it is up to importers to convince stores to carry Chinese merchandise. Thus the importer becomes the most important proponent of Chinese goods—he is the first promoter. **Exclusivity** . . . Most importers want their own designs, or to be exclusive agents for a certain product or similar products from one branch. A number of US firms have already arranged for this. **Prices—Realism** . . . To boost sales in the US, the PRC must meet price of other competitive manufacturers—they must meet price of, say, South Korea—or go up only 10 percent but not 30 or 40 percent! If design and quality are better, customers will pay higher prices.

NEW DESIGNS, TRENDS

Simplicity . . . The delegation was briefed on what the trends in home decorating and fashion are, such as no decoration on baskets—simplicity, natural colors and natural materials. For instance, at present there is a need for ceramic planters—and one piece is better (i.e., no plate under the pot) because the duty is high on two pieces. There is a growing importance of well-designed but functional items—the trend toward the functional, the practical. The US economy is poor at the moment for purely decorative objects.

PRODUCTION AND SHIPPING

Timing Counts . . . The importance of timing—i.e., products arriving on the dates promised in the US market—cannot be overemphasized. The change of fashion from season to season makes it essential that products arrive when promised so that they are on time for a certain season. If they are late, disaster! For example, straw bags for the spring and summer season—late and arriving before winter season—are of no use to importer. They cannot be sold next year because the style is already out of date if they arrive past the promised delivery date.

US companies emphasized the importance of visiting Chinese factories, of working with Chinese manufacturers, and having merchandise made exactly to specification and finished on time. Some Chinese factories appear to be slower than others. For instance Shanghai factories are fast, Tsingtao factories slow. **Shipping Time Still Six Months** . . . Shipping time has improved between Shanghai and the US because of direct shipment but, even so, shipping time in most cases seems to be six months (shipping time refers to production period as well as delivery of goods).

COMMUNICATIONS

Frustrating Experiences . . . All companies emphasized the importance of rapid communication. Many importers were frustrated by the lack of communication from China—the failure on the part of the head office and branch office to reply to letters and cables. Samples would be sent to the importer, the importer would cable back asking the price; when no answer was forthcoming, cables were sent again. Even after hundreds and thousands of dollars spent on cables, there is often no reply from China; this is particularly aggravating when samples have been sent, as importers never know whether their sample is being worked on or not.

US companies would like to develop new designs and new products on an on-going basis—through the continuous exchange of samples. They do not want to travel again and again to China to develop new merchandise but rather to sign contracts and see friends, with product development carried out by mail. If an importer asks China to make samples, or send specific merchandise, China should not just say "no" but offer explanations, and offer to send a sample as soon as possible.

INSPECTION

Are Chinese Inspection Procedures Serious? . . . Many US companies complain they often order one thing and receive another! (This is true for other Chinese corporations, too.) For example, a firm orders 10-inch plate, receives nine-inch; orders white lining in bag, receives a dark red lining; and so forth. Chinese inspection procedures need to be improved at production level. One US company has $37,000 worth of broken glass in a warehouse. China's

insurance company usually expects five percent breakage, but China's agents in the US, Toplis and Harding, did an independent survey, reporting 20 to 50 percent breakage on the merchandise. The glass broke not because of packing but because it was not well made: the stems were too weak. And porcelain often arrives very dirty—why? Imperfections in porcelain have been found—sometimes there is dirt in the glaze, sometimes pieces are not well printed, and are sloppily made. Do those Chinese factories really care about the quality of their goods?

PACKAGING AND PACKING

Too Many Plain Brown Wrappers . . . China makes too many plain brown wrappers—expensive articles are packed the same way as inexpensive articles. Better items should have fancier boxes. (In other countries even cheap items come in nice boxes.) The importance of attractive packages was emphasized during the delegation's visit as a means of attracting US buyers. The PRC should consider supplying "dump displays," decorated cartons shipped directly from manufacturer to importers, opened and displayed as is. **Crushing Experiences** . . . Chinese packing techniques also need to be improved. In porcelain shipment there is some breakage. One FTC branch packs silk flowers too closely together, which causes them to arrive crushed and virtually worthless to the importer. Expensive items should not be packed so closely together as cheap items (i.e., for expensive porcelain, four to a box, and for cheap eight pieces to a box).

IDENTIFICATION OF GOODS

Labels, Marking—How to Waste Time and Money . . . Labels must be securely affixed. US Customs does not allow stick-on labels—they must be permanently affixed (i.e., sewed). The biggest problem is marking on packages. One example: A company received 24 dozen cases, and sent them to a well-known US retailer. But the inner cases were not marked with the style numbers as specified in the contract so the retailer did not known what was in each inner pack, hence the retailer sent them back to the importing company, which had to open each case. The importer, subsequently, could not repack the items in the same cartons after opening. Thus a great deal of time and expense was necessary due primarily to carelessness of the Chinese, which does little good for Chinese export sales. **Invoice Data Required** . . . Some Chinese invoices do not show weights and cubic measurements of each carton expected to arrive. This information is very necessary to the importer so that he and his customer know what to expect. It is standard procedure to include this data required on the invoice—the *gross weight* of all cartons and *weight of each* individual carton, as well as *number of cartons* to be shipped. **Numbers Game** . . . Some packages sent from the PRC have the same article number (the same number should mean the items are the same, both in shape and color), but the articles are different—this was found in porcelain. A silk flower importer complained that the color white was given the same number but two different shades and weight arrived; colors should be standardized, with a number for each shade—i.e., standard for all factories in China. And when samples arrive, often several samples are in one box, thus confusing identification. Each sample should have an article number so the importer can order the sample. 完

Light Industrial Products Corporation on show at the Biltmore: Lao Pei-sen, from Shanghai, with samples brought by the mission.

RMB: DOLLAR RATE, FROM SEPTEMBER, 1975

Date		*RMB:$*	*US¢/ RMB*	*Change %*
September 2	Bid	1.9638	50.9216	
	Offer	1.9540	51.1770	
	Median	1.9589	51.0490	−0.70
September 4	Bid	1.9520	51.2295	
	Offer	1.9422	51.4880	
	Median	1.9471	51.3584	+0.60
September 12	Bid	1.9598	51.0256	
	Offer	1.9500	51.2820	
	Median	1.9549	51.1535	−0.40
September 16	Bid	1.9696	50.7717	
	Offer	1.9598	51.0256	
	Median	1.9647	50.8983	−0.50
September 20	Bid	1.9775	50.5689	
	Offer	1.9677	50.8207	
	Median	1.9726	50.6945	−0.40
September 23	Bid	1.9894	50.2664	
	Offer	1.9794	50.5203	
	Median	1.9844	50.3930	−0.60
October 2	Bid	1.9734	50.6739	
	Offer	1.9636	50.9268	
	Median	1.9685	50.8001	+0.80
October 14	Bid	1.9537	51.1849	
	Offer	1.9439	51.4429	
	Median	1.9488	51.3136	+1.00
October 15	Bid	1.9615	50.9813	
	Offer	1.9517	51.2373	
	Median	1.9566	51.1090	−0.31
October 17	Bid	1.9517	51.2373	
	Offer	1.9419	51.4959	
	Median	1.9468	51.3663	+0.50
October 23	Bid	1.9419	51.4959	
	Offer	1.9323	51.7517	
	Median	1.9371	51.6235	+0.50

Source: NCUSCI based on data supplied by the Chartered Bank

CHINA ECONOMIC NOTES

From Chinese Media Reports

MANUFACTURING

Vertical Milling Machine—A vertical milling machine which can be operated manually as well as automatically has been successfully manufactured by the Tsinghai No. 1 machine tool plant, according to the Sining Tsinghai Provincial Service in August.

Printing Machine—The Shanghai city service reports the successful production of a new five-meter-long printing machine using heat and pressure to transfer patterns from a roll of paper to a roll of cloth.

TRANSPORTATION AND SHIPPING

Large Road Tractor-Trailer—The National China News Agency reports the successful production of the largest tractor-trailer in China—a 450-ton platform trailer pulled by two 400 hp truck tractors. The trailer is 22.7m long and 3.8m wide and is mounted on 112 wheels. Each truck tractor, built on a 9.2m frame weighing over two tons, is equipped with a 50Kw generator, a high-pressure oil pump, an air compressor and a winch with a 12-ton tractive effort. Manufacture was principally by the Szechwan road construction machinery works and the diesel motor repair works.

Light Jet Aircraft—*Flying* magazine reported in September that China has under development a new, light jet transport aircraft similar to France's Corvette. It was learned at the Paris Air Show that JT15D-4 turbofans have been ordered from Pratt & Whitney of Canada for the new planes, and the first of these has already been shipped.

Steam Locomotives on the Way Out—The Owen-Sound, Ontario, *Sun-Times* in a dispatch from Tang Shan reports that the largest steam locomotive plant in China has been ordered to phase out steam locomotive production by 1980.

First Electric Railway—Electrification of the 676 kilometer railway linking southwest China with the rest of the country's rail network has been completed, according to *China Reconstructs*, October 1975. Construction of the line across the mountains between Paoki in Shensi province and Chengtu in Szechuan was completed in 1957, but the steep grades and sharp curves restricted the speed and cargo capacity of the steam locomotives. Aluminum-steel conductors, rather than copper conductors, were used in the electrification process.

Ports—Shanghai city service announced the completion of China's first 25,000-ton class large coastal pier. The pier, which was planned in 1972, is on the northern shore of Hangchow bay in Chinshan and is equipped with oil loading and unloading facilities.

SCIENCE AND TECHNOLOGY

Iodine—NCNA reports production costs for iodine have been reduced by more than 30% through a new method developed by Chinghai Saline Lakes Research Institute, using chlorine water instead of sulphuric and hydrochloric acids.

Electron Microscope—According to NCNA, the Peking scientific instrument works of the Chinese Academy of Sciences has developed a sweeping electron microscope with a magnification range of 20 to 100,000 times, capable of handling details as minute as .000001 cm.

Ion-selective Electrodes—NCNA also reports that several kinds of ion-selective electrodes, which work on the principle of electrochemistry to measure the concentrations of specific ions in solution, have been devised by the Nanking Institute of Soil Research.

Electronics—August NCNA reported the development of a one-million-operations-per-second electronic computer with integrated circuits. The computer, trial-produced, brings the total number of electronic products produced in China to 700 as opposed to 80 in 1966. Color television relay cars are also in production.

Photo-finish Timers—The Yunnan Electronic Equipment Factory in Kunming has devised photo-finish timers for track events and electronic timers for swimming meets, reports *Ta Kung Pao*. The photo-finish device produces prints within a minute and the timer for swimming races, consisting of an electronic computer, touch panels and an electric scoreboard all hooked up to the starter's gun, measures in 1,000ths of a second.

Stronger Metals—Theoretical findings of research conducted by the Chiaotung University of Sian have been applied toward strengthening metals, reducing the weight and volume of metal products and lengthening their lifespan

CHINA'S ENERGY SUPPLIES

Quantity

	Mil MT of Coal Equivalents				
	Total	Coal	Crude Oil	Natural Gas	Hydro
1952	49.3	47.5	1.6	....	0.2
1957	99.0	92.7	4.9	0.8	0.6
1965	197.8	167.7	16.7	12.3	1.1
1974	419.0	286.9	90.7	38.4	3.0

Data are for coal, crude oil, natural gas, and hydroelectric power expressed in terms of coal equivalents (calorific value of 7,000 kilocalories per kilogram) and exclude minor fuels such as peat, shale, and fuelwood.

Relative Proportions

	Percent of Total				
	Total	Coal	Crude Oil	Natural Gas	Hydro
1952	100.0	96.4	3.2	....	0.4
1957	100.0	93.6	4.9	0.8	0.7
1965	100.0	84.8	8.4	6.2	0.6
1974	100.0	68.5	21.6	9.2	0.7

Source: Central Intelligence Agency Research Aid (A(ER)75-72), August 1975.

through redesigning. The research was conducted on "the law of repeated cycle impact resistance" and "low carbon martensite hardening."

OIL AND GAS

Methane—*Ta Kung Pao* reports that hundreds of thousands of people in China's Szechuan Province now produce their own individual supply of methane for cooking, heating and lighting, thus releasing coal and kerosene for industrial use. The methane (marsh gas) is produced in sealed stone fermentation pits, about 10.8 cubic meters in volume, into which peasants drop crop residues, weeds, tree leaves and barnyard manure, plus water. The gas, thus fermented, is piped to the home for cooking and lighting and the fermented compost used as fertilizer. Larger pits produce enough methane to power small internal combustion engines, water pumps, rice threshers, flour mills and electric generators.

Pipeline to Peking—The pipeline from the Taching oil field in northeast China to Chinwangtao on the coast of Hopei province has been extended to Peking. According to *China Reconstructs* (October 1975), the 355km extension was completed in June and is now in operation.

POWER GENERATION

Thermonuclear Research—In its quest for new sources of energy, China has developed a TOKAMAK device for experiments with controlled thermonuclear reactions. The TOKAMAK is used to produce toroidal discharges in a strong quasi-stable magnetic field, and, according to *China Reconstructs,* it has been aligned and has already performed many experiments.

MISCELLANEOUS

No Conversion to Pinyin—On September 4, 1975, Chinese officials announced, without elaboration, that conversion to the new pinyin (phonetic) system of transliterating Chinese characters into the Western alphabet, scheduled to have taken place in September, had been indefinitely postponed.

Taxes—An article in the September 12, 1975, *Peking Review* describes China's tax policy and lists eight kinds of taxes levied. The taxes are as follows: [1] Industrial and commercial consolidated tax on production of industrial goods, purchases of farm produce, imports of foreign goods, retail sales, transport and communications and service trades undertaken by units or individuals (the rate varies according to production and supply levels); [2] Industrial and commercial income tax on profits by industrial and commercial enterprises not under the ownership by the whole people (rates adjusted for different enterprises in accordance with their position and role in the national economy); [3] Agricultural tax on units and individuals engaged in farm production with income derived from it (the total amount fixed for certain period of time); [4] Customs duties; [5] Tax on salt production; [6] Tax on slaughterhouses; [7] Tax on real estate in the cities; and [8] License fees for vehicles and ships. The article mentions that bicycle licenses cost only RMB 2.2 a year (just over $1.00), equivalent to seven kilograms of rice.

AGRICULTURE

New Rice Planting Method—According to Hong Kong's *Ta Kung Pao,* Peking's Academy of Agricultural Science has developed a new rice planting method adapted to weather conditions in the Peking area which is often hit by drought in the spring and waterlogged in the rainy summer season. Under the new method spring-seeded late rice or semi-late and early-ripening rice is sown on dry land either between rows of wheat or immediately after the wheat harvest. The land remains unirrigated until the fields are flooded in the rainy season and thereafter the crop is managed as usual. On experimental plots, rice sown this way yielded an average of 6.9 tons per hectare and when interplanted with wheat, the two crops averaged 9.15 tons per hectare.

Fertilizer—Yields of rice, wheat and maize have been substantially increased in field experiments conducted by the Nanking Institute of Pedology by granulating ammonium bicarbonate and applying it deep underground, reports NCNA. Granulating machines and application devices to facilitate use on large acreage have been trial manufactured by the Institute.

Saline Water Conversion—An experimental installation for the conversion of saline water into fresh water has been produced by the Lanchow Institute of Glaciology, Cryopedology and Deserts. The Institute began work on the project in 1971 and developed a reverse osmosis conduit installation which was tested for four months in desert areas.

INDUSTRIAL AUTOMATION GROUP TOURS US

An 11-person industrial automation delegation from the PRC, led by Su Tien, a member of the Standing Committee of the Chinese Mechanical Engineering Society, completes a month-long tour of nine US cities on December 6. The group, sponsored by the Washington-based Committee on Scholarly Communication with the People's Republic of China, visited facilities of the Philadelphia Electric Company, Leeds and Northrop, Fischer and Porter Draper Labs, Digital Equipment Company, Data General Corporation, Foxboro Company, Armco Steel, Mobil, Inland Steel, Union Carbide, Amoco, Texas Instruments, and the Pacific Gas and Electric Company. They also visited MIT and Purdue University.

The delegation's Deputy Leader was Liu Shih-hua, a member of the Committee of the Chinese Automation Society and the Chief Engineer of the Institute of the Application of Electronic Techniques. Other members included the following: Ma Shao-mei, Engineer, Chinese Mechanical Engineering Society; Wang Kuei-yu, Deputy Director of the Tientsin Electronic Instruments Plan; Chou Chih-en, Engineer, Harbin Electric Generator Plant; Wu Chin-wei, Engineer, Chinese Mechanical Engineering Society; Li Shu-tien, Engineer, Peking Bureau of Instruments (Interpreter for the Delegation); Wang Bing-hsing, Engineer, Anhwei Radio Factory; Chao Ai-min, Assistant Research Fellow, Shanghai Institute of Computing Technology; Liu Tzu-hou, Engineer, Electronic Design Institute; and Huang Chi-gu, Engineer, Tientsin Steel Plant.

INTERNATIONAL CHINA NOTES

CHINA BUYING REPORTS

Fertilizer Deal—Japanese fertilizer manufacturers, in a dramatic reversal in their fortunes, have been forced to substantially lower their selling prices to China for this year. This is the major result of six weeks of bargaining in the export talks held in Tokyo, according to a September report. The Japanese agreed to supply China with 500,000 tons of urea and 220,000 tons of ammonium sulphate in the period up to the end of January next year. The Japanese are offering 60-day deferred payment and settlement in US dollars. Altogether Japan expects to supply China with 1.2 m. tons of urea and 700,000 tons of ammonium sulphate in the present fertilizer year.

Meanwhile . . . More Fertilizer Negotiations—Negotiations on China's fertilizer imports from Japan for the second half of the 1975 fertilizer year (February-July 1976) got underway in Peking in the middle of October, Japanese industrial sources announced on October 1.

Military Equipment—China placed its first order for British military equipment in July, reported a London newspaper. The Paris embassy bought electronic components for British pattern naval radar. While this appears intended to be used as Chinese aid for two frigates Pakistan recently bought from China, British sources speculate that the order is much bigger than the two could possibly require. In addition, the UK's Harrier VTOL and French military aircraft engine Atar 9 K-50 have been of interest to the Chinese. And November 3, a French team left Peking following negotiations for Mirage fighter planes.

PVC from Japan—The China National Chemical Products I & E Corporation has negotiated the purchase of 11,700 tons of polyvinyl chloride resin (PVC) from Japan, industry sources announced in October. It is believed that the price was the same as at the Spring Kwangchow Fair—about ¥120 (yen) per kilogram FOB. So far this year, Japan has sold China 25,700 tons of PVC—2,700 in March, 6,000 at the spring fair, 5,300 in August, plus the latest amount.

British Metals—Platinum and other metals of the platinum group accounted for over £1 m. of British export to China last year, over £2 m. in 1973 and almost £3 m. in 1972. According to a September report, the largest item is unwrought platinum, with rhodium and iridium also very well represented.

Characters System for Computers—China has bought a system from Takachibo Koheki Company of Osaka which enables Chinese character writing to be used in computer processing.

Copper—Three countries have recently negotiated large sales of copper to China. The Philippines' Philex Mining Corporation (registered in Hong Kong) shipped 4000 tons of copper concentrate to China in August. The PRC had formerly bought copper cathode from the company. Chile's Chuquicamata mines shipped 10,000 tons of copper to China from the Port of Tocopila on August 29. Papua New Guinea sold a trial shipment of £1.76 m. worth of copper concentrate (10,000 net tons) from its Bougainville mines to China in early September.

Thai Rubber Purchase—China bought 3500 tons of rubber directly from Thailand on a commercial basis in September. The purchase consists of 2500 tons of Thai Tested Rubber (TTR) and 1000 tons of smoked sheet rubber worth £1 million. Negotiations are underway for 3500 more tons.

Metallurgy—It was reported in July that the PRC purchased an $850,000 isostatic press from ASEA, a Swedish company, for use in powder metallurgy research and production.

Aluminum Imports—China reportedly has approached Mitsubishi Chemical Industries concerning the possibility of importing aluminum from Japan on a long-term basis. China's yearly import requirements of the metal are normally between 10,000 and 20,000 tons.

New Zealand Logs—New Zealand announced in September that it would make its first trial shipment of logs to China. Although the shipment is small—only 12,000 cubic meters—New Zealand believes it could lead to future sales of processed wood products.

Wire Rope—Minmetals is planning to start serious negotiations with seven Japanese companies for the purchase of wire rope during the latter half of this fiscal year, according to a September broadcast.

Electric Bulbs—The Japan Electric Bulb Manufacturers' Association reported in September that China sharply increased electric bulb imports from Japan two and one-half times to 1.7 million bulbs and tripled the value to ¥12 million (yen) in June this year over the comparable period last year.

Aluminum Ingots—During the first nine months of 1975, China appears to have bought over $200 million worth of aluminum ingots worldwide at prices reported as low as 25 cents a pound. Prices quoted (25-35¢/lb) reflected depressed world market conditions and heavy stockpiling. A Chinese mission visited Ottawa in early September to negotiate with Canadian and US firms. Purchases were primarily from French, Canadian and Norwegian firms. Among the firms reported to have sold were Associated Metals and Minerals Corporation, Intsel Corporation (representing Howmet Corporation), and Kaiser Aluminum and Chemical Corporation.

Concordes?—Britain and China held discussions at the UN in early September regarding the possible purchase by China of a Concorde air liner and efforts by the Rolls-Royce company to obtain aircraft engineering orders from Peking. No decisions were reached, although visits are planned by James Callaghan, British Foreign Secretary, and Chiao Kuan-hua, Chinese Foreign Minister—both for early 1976.

West German Aircraft—The PRC has indicated interest in the BO-105 helicopter developed by the German firm Messerschmitt-Boelkow-Blohm, and in the German-Dutch short-distance aircraft VWF-614. Talks regarding the former have already taken place between the Chinese and representatives of the firm who attended the recent Technogerma exhibition in Peking, and will continue in West Germany and Peking in the near future. Previously, the Chinese have bought helicopters mainly from France and the Soviet Union.

Paraxylene Plant—The Chinese have approached the Japanese firm Toray concerning the possibility of buying

their second complete paraxylene plant from the company, reported Japanese industrial sources in early October. The plant, which would manufacture 60,000 tons annually (35,000 tons more than the earlier plant built in 1973), is scheduled to be constructed on the outskirts of Peking. Paraxylene is a material used in the manufacture of polyester fiber.

Finnish Lifting Gear—The Finnish firm of Raume-Repola has agreed to supply China with 40 sets of mobile lifting gear of two types—25- and 36-ton capacity, reported Helsinki Radio on August 13.

Romanian Diesel-electric Locomotives—China has bought 20 diesel-electric locomotives of 2,100 hp rating currently being constructed at the Electroputere works in Craiova, Romania, according to a Romanian broadcast on August 13.

Synthetic Rubber—With the conclusion of a contract between Japan and China for the purchase of 9,000 tons of synthetic rubber by China, a downward trend in Japan's sales of that product has been reversed. From a peak of 22,800 tons exported to China in 1971, sales fell to 11,700 tons last year. The current purchase is for the period October, 1975, to March, 1976. In the first half of this fiscal year, Japan sold 7,860 tons.

Sugar Bagging Plant—It was reported in August that China has purchased a bagging plant established ten years ago at the port of Townesville, Australia. The plant will be reassembled at a Chinese port (as yet unspecified) to enable bagging of raw sugar as soon as it arrives.

Benzene Plant—Techimport has ordered a benzene plant from Linde, according to an August report. The plant, which has a 100,000 tons/year capacity, comprises a two-stage hydrogenation system for the feedstock and a catalytic dealkylation based on the pyrotol process. Start-up of the complex is expected in 1978.

Steel Prices Too Low?—China has quoted very low prices for purchasing Japanese steel products in the second half of this year, reported steel industry sources in October, leading Japan to consider suspending further talks with the Chinese. The PRC has offered only $140 FOB per ton for heavy plates and less than $140 for hot coils. These quotes are much lower than the export levels fixed in the first half of the year and much cheaper than present Japanese and US domestic market prices. Japanese steel export prices in October were about $250 FOB per ton.

Copper Technology—The PRC has indicated interest in importing copper electrolysis technology from Mitsubishi Metals, reported Japanese trade sources on October 15. Meanwhile, Furukawa Mining earlier concluded a contract with the Chinese for the sale of copper pre-treatment and converter equipment.

Malaysian Rubber—Malaysia is exploring the possibility of increasing sales of rubber and other raw materials to China, according to an October dispatch.

CHINA SELLING REPORTS

Goods for Sudan—Sudan has agreed to import Chinese commodities worth £18,000,000 in the period from January 1-December 31, 1975; China will buy the same amount from Sudan.

New Iron Ore—Chinese authorities revealed in September that China has discovered a new iron ore deposit in northern Szechwan and plans to export the ore to Japan after mining is begun. Until now it was thought that China lacked sufficient iron ore, although the country possesses rich deposits of coking coal. Japanese steel industry officials, surprised at this latest news, feel it is too early to predict whether the newly announced supply of iron ore will actually be exported, due to various internal Chinese problems such as inadequate rail and export facilities.

Industrial Salt—Three Japanese firms—Mitsubishi Chemical, Ube Industries and Sumitomo Chemical—have arranged to import 600,000 tons of industrial salt from China, according to an August report from Japan. The firms also have contracted to export 9,600 tons of caprolactam to China so far this year.

Pharmaceuticals, Oil to Brazil—Arrangements for the sale of Chinese pharmaceuticals to Brazil had almost been completed, and negotiations for a sale of Chinese oil to that country were about to be concluded, it was reported in September. China will import Brazilian sugar, soybeans and iron ore, and has indicated further interest in cotton and other raw materials.

Australian Import Restrictions—The Australian government declared import quotas for China on July 1, following the PRC's refusal to impose voluntary restraints on the flow of textile garments into Australia. China was the first Asian country to refuse to agree to Australia's request, made at the urging of the Textile Council, which had asked the government to impose restrictions on imported knitted outwear garments.

Long-Term Oil Agreement Talks Hit Snag—Japan's Ministry of International Trade and Industry (MITI) attempts to arrange long-term oil imports from China have hit a new snag. A Japanese oil purchasing mission that returned from Peking late in September reported that Chinese officials are showing an unexpectedly cautious attitude toward Japanese proposals that crude oil imports from China be arranged on a long-term basis covering at least five years. Japan imported a million tons of Chinese crude in 1974, 3.1 million tons in 1974, and is scheduled to import 7.8 million tons this year. However, China's cool response is at least partially responsible for Japanese buyers declining to buy the 10 million tons that the Chinese pressed for. MITI is still planning new negotiations, and is considering steps to unify the channels of importing crude from the two present organizations—the Japanese Crude Oil Import Council and the International Oil Trading Company—to only one. If Japan can obtain a long-term agreement, it would probably import about 50 millions tons of oil annually in 1976-80. Tokyo is offering low-cost financing from the Japan's Eximbank, technical assistance to increase the productivity of China's oil fields and expand and improve ports, and help with design and construction of refineries. The PRC's sale of 5.4 million tons of crude to Japan's International Oil Trading Company is being shipped at $12.10 a barrel—70 cents less than the usual price for crude sold to Japan and 50 cents less than the present price of Indonesian crude.

EXHIBITIONS AND EXCHANGES

EEC Talks—Chinese officials held a second round of talks in August with a top representative of the European Economic Community (EEC), following the establishment of official relations last May.

Steel Negotiations—Representatives of the Japanese steel industry visited Peking in September to begin negotiations with Chinese officials for the sale of Japanese steel products.

Tokyo already has contracts for the supply of 1.7 million tons of steel to Peking in the first half of the 1975 fiscal year, on the basis of the Sino-Japanese quantitative accord calling for an annual supply of three million tons.

Chinese-Vietnamese Friendship—The new Vietnamese government in Saigon recently sent an economic delegation on a friendship visit to China, according to an August 12 broadcast from Peking.

Thailand—A Thai trade mission visited Peking in late August.

Japan Scores—Bakers, investors and petrochemists traveled from Japan to China in late August. A group from the bankers' association of Japan, a petrochemical delegation and an investment group delegation met with Chinese officials.

Ethiopia—An Ethiopian civil aviation delegation visited China in late August, reported NCNA.

Yugoslav Tools—Yugoslavia is planning a machine tool exhibition in China in April, 1976. Last year China bought one million dollars worth of tools from Yugoslavia and total two-way trade was approximately $138 million.

Medicinal Plants—A Chinese medicinal plants study group spent over three months in Mauritania collecting more than 100 samples of herbs. They departed in July.

Chemists in Germany—A chemists delegation from the Chinese Academy of Sciences left West Germany on July 4 after spending four weeks touring and presenting academic reports.

Bank Delegation—One of the few bank groups ever to go abroad from China completed a tour of several African countries, including Zambia, Tanzania and Somalia, last August. The group was from the People's Bank of China.

Ethiopian Industry Team—A small-scale industry study team from Ethiopia visited the PRC at the invitation of the CCPIT, reported NCNA in August.

Damascus Fair—China participated in the 22nd Damascus International Fair this year.

Japan Technical Exchange—It was reported in August that Yokogawa Electric Works Ltd. would soon be starting talks with China to arrange technical exchange between the two countries. The Japanese company expects this to pave the way for stabilized and long-term export of its equipment to China.

Keidanren—In response to a Chinese invitation, leaders of Japan's Federation of Economic Organizations (Keidanren) visited China at the beginning of October. Their discussion included development of oil and other natural resources in the PRC.

Japan Trade Council—The Japan Trade Council has organized a mission of leaders from 16 major trading firms to visit China in early December. Informed sources report that China is making a new assessment of the marketing capacity of these firms in order to utilize them for increased sales of Chinese products.

China-Thailand—The late August visit to China of a Thai trade mission was reciprocated in November by a visit to Thailand of the CCPIT, led by its Chairman, Wang Yao-ting.

Exhibition in Switzerland—During September, China manned an exhibit at the 56th Swiss National Fair at Lausanne.

More Bank Exchanges—A delegation from the National Bank of Panama met with officials of the Bank of China on September 21.

Albania—An Albanian posts and telecommunications delegation arrived in Peking on September 21, followed by a scientific and technical cooperation delegation on September 28.

Italian Visit—A delegation representing Confindustria (the Federation of Italian Industrialists) arrived on a one-week visit to China on October 2. They were expected to hold general talks on strengthening Sino-Italian economic ties.

Japanese Investment Visit—A Japanese fuyo (investment) group delegation visited China in late August.

Civil Aviation—A Chinese government civil aviation delegation arrived in West Germany on September 12 for a "friendly visit." At the end of the month, a similar delegation from Finland visited the PRC.

Oil Delegates—Peking Radio reported that in late September, a Chinese petroleum delegation visited Norway at the invitation of the Norwegian government.

Japanese Oil Mission—As part of the intense Japanese drive to increase oil imports from China on a long-term basis, the Ministry of International Trade and Industry (MITI) sent a mission to Peking on September 22. During its four-day visit, the group met with officials of the government and the China National Chemicals Import and Export Corporation to propose an oil import contract covering a period of at least five years (see Selling Reports).

PRC Scientists to US—A 14-member delegation from the Scientific and Technical Association of China arrived in the US on September 25 for a one-month visit at the invitation of the Committee on Scholarly Communication with the People's Republic of China of the National Academy of Sciences. It was led by China's best-known scientist, Chou Pei-yuan, and included other specialists with interests in theoretical physics, plasma physics, fluid dynamics, stellar physics, solar physics, oceanology, aerodynamics, petroleum prospecting, environmental geology, environmental chemistry, controlled thermonuclear fusion, and other areas.

US Scientists to PRC—Eleven entomology specialists from US government and university organizations visited China from August 4 to 29 to compare information on insect control with their Chinese counterparts. The group was sponsored by the CSCPRC.

Two Japanese Exhibitions—In September, 1976, the Japanese will hold two exhibitions in Peking—one featuring pollution prevention apparatus, and the other specializing in hydraulic and pneumatic equipment. The anti-pollution show, which is being planned at the request of the Chinese, will be held from September 2–15 under the sponsorship of the Association for Promotion of International Trade, Japan.

AIR AND SEA

China Ship—The first Chinese freighter to call in Iceland, the *Hanchuan*, dropped anchor at the port of Straumsvik in Hafnarfjorour City on July 21 to load aluminum ingots purchased by China.

Airline Relations—West Germany and China have agreed to begin regular commercial airline flights, according to a September report from Bonn.

Yugloslav Ships—The Three Maj shipbuilding yard at Rijeka, Yugloslavia, has contracted with the Chinese to build two freighters of 45,000 DWT each for China, according to a Yuglosalav broadcast on September 17.

FOREIGN AID

China-Pakistan—A team of Chinese experts traveled to Pakistan recently, carrying with them architectural plans for a new Islamabad sports complex, construction of which is scheduled to begin later this year. The complex will cost 350 million rupees, according to a September broadcast from Karachi.

Aid to Vietnam—China and Vietnam Hanoi conducted a series of high-level meetings in September on China's 1976 aid to Vietnam and on the development of long-range economic cooperation between the two countries.

Oil for Laos—Vientiane Radio announced in August that Laos and China had reached an agreement with the Shell Company in Hong Kong for the shipment of 7,500 tons of PRC aid oil.

A Bridge for Iraq—In accordance with the Sino-Iraqi agreement on economic and technical cooperation signed in 1971, the PRC in August announced plans to assist in the construction of a bridge in the city of Mosul, northern Iraq. The bridge, 666 meters long and 20 meters wide, will link the Baghdad-Mosul express highway with the International road from Mosul to Turkey, and connect Mosul city on the west bank of the Tigris River with the newly-developing east bank.

Trolley-bus System for Nepal—A British source reports that China is building a trolley-bus system in the Katmandu valley which will operate about 20 buses between Katmandhu, Patan and Bhadgaon. The surrounding mountain area will provide the necessary hydroelectric power for the project. Its actual cost is unknown, but some sources suggest it may be around $20 million.

Factories for Zaire—China is scheduled to build a sugar refinery and machine-tools factory, reported the Zaire press in September.

Metallurgy Aid—Assisted by the PRC, Thailand is building a steel mill at Luu Xa in the Nguyen iron and steel complex. The mill's operational area covers 6,300 square miles, according to a Thai broadcast in September.

Textile Mill—Karachi Radio reported in September that the PRC is providing aid for the construction of a textile mill at Khalabat near Haripur.

Yemen Hospital—The new Taiz Revolution General Hospital donated by the PRC opened in Taiz, Yemen Arab Republic, on September 28.

AGREEMENTS

Sino-Soviet Trade Pact—China and the Soviet Union concluded their 1975 trade and payments agreement, which calls for a bilateral trade volume of 211 million rubles, early in August. The Soviet Union will provide China with civil aeronautical technology and spare parts, electricity generators of 200 MW capacity, heavy dump trucks, motor vehicles, tractors, rolled steel, industrial equipment, spare parts for agricultural machinery and other goods. China will export non-ferrous metals and ores, raw materials, fruits and consumer goods to the Soviet Union. As in other years, machinery items and industrial equipment will make up 75% of China's imports from its large neighbor.

With Papua New Guinea—A Chinese trade delegation which visited the world's newest nation, Papua New Guinea, from August 22 to September 3, reached trade agreements on cocoa, copper ores and other products, according to the New China News Agency.

Dutch Shipping Agreement—China and the Netherlands signed a maritime transport agreement in Peking on August 4.

Sino-Japanese Agreements—As part of the recent trend toward smoother Sino-Japanese relations, Peking and Tokyo signed two agreements in August: a fisheries pact and a decision to establish consulate-generals in each other's country. Both new consulates will be set up in trade centers—the Japanese in Shanghai and the Chinese in Osaka.

China and Cambodia—An agreement on economic and technical cooperation between the PRC and Cambodia, including Chinese aid, was signed in Peking on August 18, according to Hong Kong's *Ta Kung Pao*.

Scientific Cooperation—On July 4, China and the Democratic People's Republic of Korea announced the signing of a scientific agreement between research facilities in the two countries, reported NCNA.

Trademarks—Greece recently became the sixteenth country to conclude a trademark-registration agreement with China.

Mexico—On September 9, Mexico and the PRC signed an agreement for scientific and technical cooperation.

Fishing Protocol—A three-year protocol calling for safety in fishing operation was initialled on September 22 in Peking by the Fishery Association of China and the Japan-China Fishery Association of Japan.

North Vietnam—Peking and Hanoi signed an agreement on September 25 providing for an interest-free loan to Vietnam by China and a protocol on the supply of general goods by China in 1976.

MISCELLANEOUS

Bank of America Opens Correspondent Ties With Bank of China—The Bank of America has become the second U.S. bank to establish a non-trade correspondent relationship with the Chinese. On October 7, 1975 the $53.9 billion-deposit institution joined the $34.2 billion-deposit Chase Manhattan Bank—which set up its ties in July, 1973—in opening a relationship for the handling of mail remittances and telegraphic transfers of non-trade connected funds between individuals in the United States and the PRC.

Bank Ties Cut—The Bank of China ceased all transactions via the Toronto Dominion Bank early this year.

New Japanese Trade Organization—The Japan-China Association was established at the end of September to promote exchanges with China.

Sino-USSR Trade—An August study by JETRO (Japan External Trade Organization) revealed that Sino-Soviet trade increased only slightly in 1974 to a total of $284,000,000—up 5.1 percent over 1973. China exports accounted for $140,700,000—up 3.9 percent, and Soviet exports to $143,300,000—up 6.1 percent. Chinese exports were largely textiles and related products (47 percent), while machinery represented 74 percent of total Soviet sales to China. 完

CORRECTION

On page 30 of the last issue of UCBR, the caption should have read "Peking", not "Shanghai", and on page 31, the last sentence of the first paragraph inadvertently read "April", instead of "February".

China has been in fashion this year, and we hope will be next: from Cathy Hardwick, cotton, traditional print from China, quilted, lined in lacquer red.

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FULL MEMBERSHIP

Membership in the National Council for United States-China Trade is open to American firms interested in doing business with the People's Republic of China. The principal categories of membership are (1) corporations or business entities with sales or gross income equal to or greater than $50 million for the fiscal year immediately preceding the date of application for membership, for whom the annual dues are $2,500; (2) those with sales or gross income of between $20 million and $50 million for the fiscal year immediately preceding the date of application for membership, for whom the annual dues are $1,000; and (3) those with sales or gross income of less than $20 million for the fiscal year immediately preceding the date of application for membership, for whom the annual dues are $500.

IMPORTERS AFFILIATE MEMBERSHIP

In a special effort to assist smaller American firms interested in importing goods from China, the National Council has a special category of affiliated membership. Companies engaged primarily in importing, and having sales or gross income of less than $10 million in the year immediately preceding the date of application for membership, may join the National Council upon payment of annual dues of $250.

Importers in the National Council constitute a special committee whose activities are designed not only to acquaint importers and potential importers with Chinese manufacturing, sales and trading practices, but also to aid the Chinese Foreign Trade Corporations in understanding the import regulations, consumer tastes and other market conditions in the United States.