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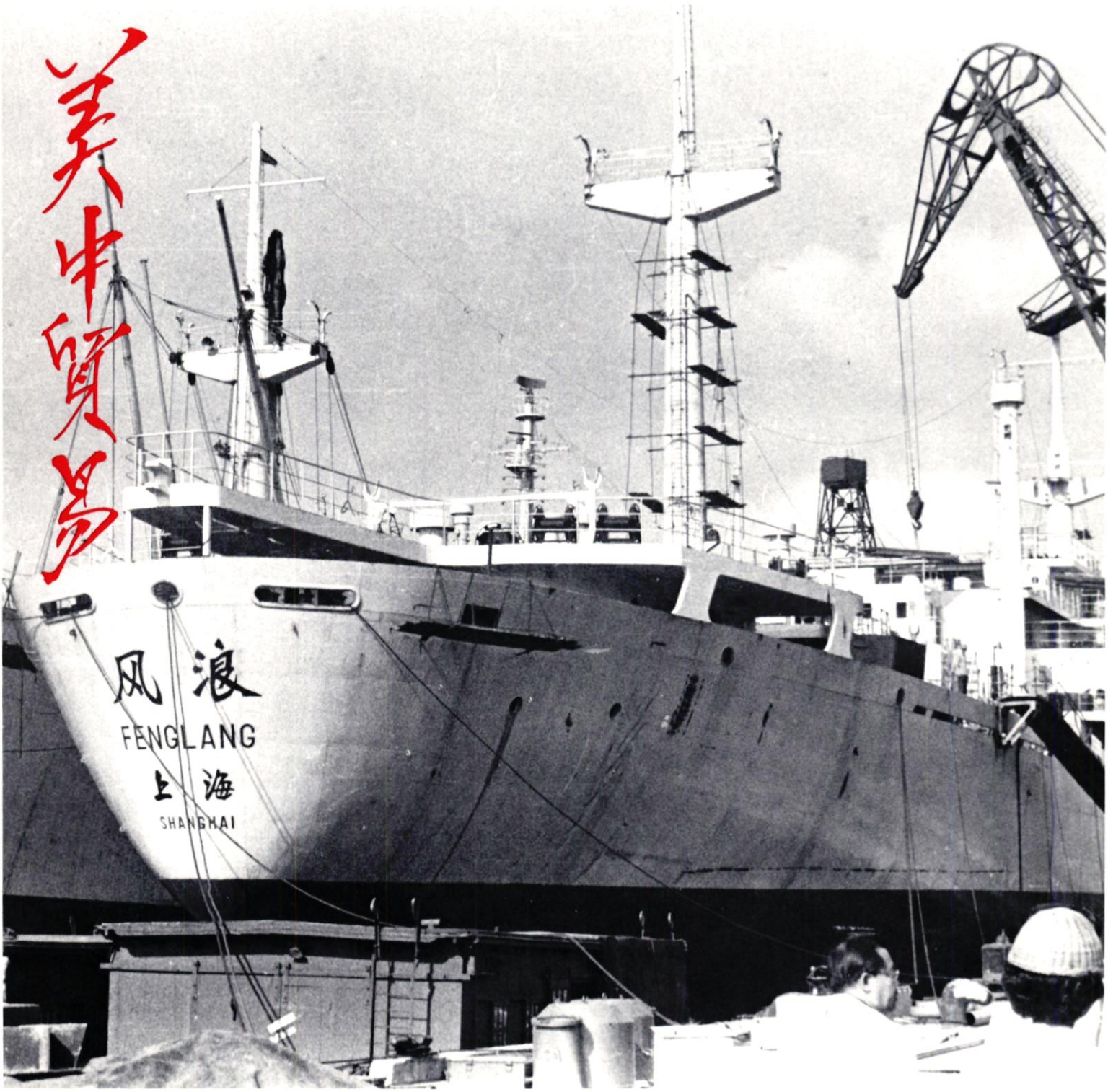

TRANSLATION SERVICES OF THE NATIONAL COUNCIL

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 3—NUMBER 2—MARCH-APRIL 1976

U.S. CHINA BUSINESS REVIEW

EDITOR: N. H. LUDLOW • ASSISTANT EDITOR: P. D. WEINTRAUB • EDITORIAL ASSISTANT: S. R. GREEN

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Front Cover: Feng Lang—The Wind and Waves, a Chinese cargo vessel registered in Shanghai loading in Shanghai harbor. See report on China's merchant marine, page 6.

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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

NATIONAL, January 23-March 8

A mission from the China National Metals and Minerals Import and Export Corporation wound up a six-week stay in the US after negotiations in Washington, New York, Boston, Chicago, San Francisco, and Los Angeles. (See Importer's Notes.)

CHICAGO, February 25

A round-table discussion on "Selling Products, Plants and Technology and Buying Goods from the People's Republic of China" was successfully held for some 60 participants at the Hyatt-Regency Chicago. The conference was sponsored by the Mid-America Committee for International Business and Government Cooperation, Inc., and in cooperation with the National Council. Melvin W. Searls, Jr., National Council V-P, was on the panel which also included Council members, Julian Sobin, Senior V-P, Sobin Chemicals; Robert Johnson, V-P, Universal Oil Products; Robert McCullough, Senior V-P, First National Bank of Chicago; Eugene Theroux, partner of Baker and McKenzie and panel chairman.

NATIONAL, February 20-April 16

A delegation from the China National Light Industrial Products Import and Export Corporation is visiting the US for two months, sponsored by the National Council. Sporting goods, shoes, stationery and musical instruments are topics of discussion. For information call Suzanne Reynolds at (202) 331 0290.

NEW YORK, March 17

The Association of the Bar of the City of New York held a meeting on "Recent Developments in Chinese-American Trade Relations." Nicholas Ludlow, Director of Publications and Research at the National Council was among the speakers.

LOS ANGELES, March 25

The National Council is planning a conference on US-China Trade, to be co-sponsored by the Ports of Los Angeles and Long Beach. Topic areas cover National Council activities, China's political scene, the PRC economy, prospects for US sales to China, and case examples on exporting to and importing from the PRC. Keynote speaker will be Congressman Paul N. McCloskey. Other speakers include Council President Christopher H. Phillips; Julian Sobin, Sobin Chemicals; Harned Hoose, Hoose China Trade Services, Inc.; Stanley Lubman, Attorney; Stephen Chao, China Native Products; Ralph Delmonte, Chromalloy Corporation; Thomas Christiansen, Hewlett-Packard; Richard K. Bank, State Department; Professors Richard Baum, UCLA, and Benjamin Ward, UC Berkeley; and representatives of the Ports of Los Angeles and Long Beach. For details contact George Driscoll, Director of Business Advisory Services (202) 331 0290.

NEW YORK, March 31

"Economic and Trade Relations with the People's Republic of China" will be the topic of a conference sponsored by the International Study and Research Institute to be held at the Harvard Club. Chairman of the event is Mark E. Buchman, Manufacturers Hanover Trust. Speakers includes Robert Belsky, E. Yuen; Eugene A. Theroux, Baker and McKenzie; and Charles Freeman, State Department.

KWANGCHOW, April 15-May 15

The Chinese Export Commodities Fair will be held, with Vice-President Searls and Business Advisory Services Director Driscoll representing the Council's Washington office. Also attending will be John Kamm, the Council's Hong Kong representative. Irene Kamm and Louisa T. K. Chow will share secretarial responsibilities.

NEW YORK, April 28

Economic relations between the US and China will be the subject of a luncheon address by Council President Phillips sponsored by the Far East-America Council of Commerce and Industry, Inc. The event will be held in the Plaza Hotel.

HOUSTON, June 23

A National Council-sponsored conference planned for April 8 has been tentatively re-scheduled for June 23. Details: George Driscoll, Director of Business Advisory Services (202) 331-0290.

ST. LOUIS, September

The National Council is tentatively planning a conference on US-China trade. For details call George Driscoll (202) 331-0290.

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
Agricultural Representative:	Koy L. Neeley (FAS/USDA)
Telephone:	522033 Ext. 215 or 216
Address:	17 Guanghua Road Peking
Cables:	United States Liaison Office Peking
Telex:	None

AIG President Maurice R. Greenberg in Peking last November with representatives of the People's Insurance Company of China.

First US Insurance Agreement with PRC Establishes a Good Precedent

The agreement reached last November between the American International Group (AIG) of New York and the People's Insurance Company of China (PICOC) is the first of its kind with a US firm and will serve to facilitate Sino-US trade in a number of ways. Comprising a reinsurance treaty, a claims settlement arrangement, and informal reciprocal technical advisory facilities, the agreement is of as much interest to US exporters to the PRC as to importers of Chinese products. It marks another milestone in the step-by-step development of US trade ties with China.

In a broader context, the agreement has other implications, namely that it shows that China is seriously interested in developing international insurance in a spirit of "equality and mutual benefit." The USSR, buying FOB and selling CIF, more or less shuts out foreign marine underwriters from handling any of the insurance involved in Soviet trade. But the trend is for many African, Asian and Latin American countries to require that insurance for imports must be handled by entities in their own countries; trading partners likewise may insure their own imports.

In 1973 China made a policy decision in this vein to carry out the insurance of its foreign trade on a "mutually advantageous basis," opening the way for buyers to arrange insurance if they wished. Since then importers of goods from the People's Republic of China have noticed a change in the attitudes of China's FTCs regarding insurance. Where previously China preferred to sell CIF, with Peking handling the insurance of shipments, it has become common for foreign buyers to contract C & F, arranging the insurance themselves. For certain export shipments, such as coal and oil, China has agreed to FOB terms, since she has had few vessels of her own to handle these kinds of commodities. Recently, however, there have been indications that FOB may be possible on other kinds of products.

Thus AIG's agreement suggests that, far from shutting US firms out of Sino-US trade underwriting, China is clearly interested in sharing this market and in establishing fully-fledged relations with US underwriters.

The Claims Agreement

The agreement reached last November between AIG and PICOC may help to facilitate settlement of China trade claims if only because it increases PICOC's survey and claims agents in the United States to two.

In the case of a shipment from the PRC, insured by the Chinese themselves, which is frequently, the insurance certificate provided by the People's Insurance Company of China has, for the past few years specified Toplis and Harding, Lloyds of London representatives in New York, who specialize in this kind of inspection. Now AIG will also find its name on those

certificates, and the choice of agent will be up to buyer and/or seller.

Since dispute settlement is a matter occurring almost daily for many importers of Chinese goods, the new agreement can only be beneficial to all concerned.

Reinsurance Agreement

The agreement between AIG and the People's Insurance Company of China is also a reinsurance agreement. Reinsurance is insurance that insurers sell to one another in order to spread the loss so that a disproportionately large loss under a single policy does not fall on one company. One of the most common methods is "treaty" or proportional reinsurance whereby a reinsurer accepts an agreed upon percentage of the risks of a direct insurer. (China does not insure domestic risks but only provides insurance related to its international economic activities.)

In recent years, the People's Insurance Company has moved rapidly into the reinsurance market worldwide, and few major disasters occur today in which it is not involved. According to the People's Insurance Company, China has ten outward reinsurance treaties and maintains relationships with 400 companies in 80 different countries. Thus, the agreement reached between AIG and the People's Insurance Company falls into the pattern of standard international reinsurance practice and covers marine cargo, hull, and aviation insurance.

In interviews with UCBR, AIG officials stressed Chinese competence in this area and their adherence to international standards. According to Maurice R. Greenberg, AIG's President and Chief Executive Officer, "In their insurance technology and their dealings in the international market in these classes of coverage, the Chinese are as capable and well-informed as any other international insurance organization. . . . Treaty wording is certainly clear, concise, acceptable and is a standard used in international markets."

Informal Working Arrangement

Although not a formal part of the present agreement, American International Group and the People's Insurance Company of China also will continue to discuss other ways of working together. AIG has invited representatives from PICOC to the United States, for example, and the two sides have agreed to exchange information and expertise on technical developments in the insurance field. AIG has expertise in many highly technical areas such as offshore oil rigs, petrochemical plants, and so forth, which it feels might be of interest to the PRC. In addition, AIG suggested new risks in which the People's Insurance Company may wish to begin participating.

For exporters and those involved in selling their plants, equipment or technology to the Chinese, the agreement could mean better service. In Mr. Greenberg's words: "For any American industrial company that had a contract to fulfill in the People's Republic of China and needed information on insurance, we could help them with those needs and we would be in touch immediately with the People's Insurance Company to work out details."

How the Agreement Came About

AIG is America's largest international insurance holding company, embracing five major American subsidiaries and operating in 130 countries. Interestingly, the American International Companies were founded in Shanghai in 1919 by C. V. Starr. Today, the company has assets of over $1.5 billion and writes over $1 billion worth of premiums annually. For the company, a return to working with the Chinese was, in Mr. Greenberg's words, "a natural extension of our business."

For some years, Chinese employees of AIG's Hong Kong subsidiary, American International Underwriters, Ltd. (HK), had traveled in and out of China to visit relatives. While these were private visits and unrelated to business, they did serve to give the company some visibility within China.

Formal planning began after President Nixon's visit to the People's Republic of China in 1972. Officers from the Hong Kong company began to hold informal discussions with their counterparts of the Ming An Insurance Company, a Hong Kong insurance firm owned by PRC interests. Mr. Greenberg subsequently met with Ming An's managing director, marking the beginning of exploratory discussions on doing business directly with China.

In 1974, the company began to communicate directly with the People's Insurance Company in Peking by letter, and simultaneously began to develop a comprehensive proposal. This proposal contained specific suggestions on areas of potential agreement and presented ideas which AIG felt the Chinese might not have considered before.

AIG also engaged the services of a major international bank and a Washington consultant, who helped shape the proposal which was sent directly to the People's Insurance Company in Peking. Shortly thereafter, the proposal was delivered orally at the Spring 1975 Export Commodities Fair and a copy was left for consideration.

Five months later, AIG was invited to begin discussions in Peking. It responded by sending its top management team, headed by Maurice R. Greenberg, and including E. A. G. Manton, AIG Executive Vice President, and Houghton Freeman, Executive Vice President of the subsidiary American International Underwriters Corporation.

The group traveled to China in late November 1975 and concluded a basic agreement within three days. In addition, the two companies agreed to continue discussions on a number of other points which had been made in the AIG proposal.—AdeK/NHL. 完

Chinese packaging was seen in New York in March at the Light Industrial Corporation's exhibition, courtesy of Boxer and Ashfield.

CHINAPACK

New light was shed on this newest of China's foreign trade agencies at the Fall 1975 Canton Fair, as follows:

The China National Export Commodities Packaging Corporation (CNECPC) was established in 1974 to supply packing materials for commodities which are exported. The corporation investigates packaging practice in each country and receives suggestions from abroad to improve China's packaging ability.

The existing structure of the foreign trade corporations is used for the Packaging Corporation's purchasing. For example, they purchase their raw materials from the Light Industrial Corporation and machinery from the Machinery Corporation.

The quantity and quality of the various packaging requirements are decided by each corporation. The Packaging Corporation in effect then acts as an intermediary between the corporation ordering the package and the domestic factories, since it has no factories of its own.

Fully-Fledged Corporation

The Packaging Corporation is a fully-fledged Foreign Trade Corporation on the same footing as the other FTC's. Its address is:

China National Export Commodities Packaging Corporation
c/o Ministry of Foreign Trade
No. 2, Chang An Street
Peking, People's Republic of China
Cables: CHINAPACK PEKING

The Corporation has branches in Tientsin, Shanghai, Tsingtao, and Kwangchow. During the Fall 1975 Canton Fair, CNECPC told National Council representatives that they have received many friends to discuss packaging techniques. 完

Workers constructing a ship hull at the Shanghai Dockyard, 1973. The port of Shanghai handles over 600 ships and 3.4 million tons of cargo annually. Photo: Sy Yuan.

CHINA'S MERCHANT MARINE

Irwin Millard Heine

With the rapid increase in China's foreign trade during the past few years, the importance of China's merchant marine has grown. As her fleet has increased, by construction, purchase or chartering of vessels, so have China's activities in the world shipping markets grown. Her purchases have included steel to build ships. And along with development of shipping, China's ports and their related equipment have been expanding too. This article, by one of the world's foremost experts on merchant fleets, describes in detail the present maritime policies and structure of the People's Republic of China and looks at what's ahead.

Irwin Millard Heine is widely recognized as a leading expert on maritime and international trade affairs. He has published over thirty articles, monographs and books on international shipping—his latest, a book published in February 1975 entitled "US Merchant Marine: A National Asset." Mr. Heine has served on a number of US Inter-Agency Committees and Boards concerned with international trade and shipping matters. In 1970 he retired from the US Maritime Administration after twenty years, last serving as Chief of the Division of International Affairs. Currently, in addition to writing, Mr. Heine serves as a consultant to the Labor-Management Maritime Committee, the President's Commission on American Shipbuilding, the General Accounting Office, and the General Research Corporation among others. He is a member of the National Maritime Council.

China's maritime origins are lost in the mists and fogs of her rivers and coastal regions.

Land transportation facilities were primitive and inadequate. Moving goods and peoples overland was difficult, slow and costly. Inevitably the Chinese were drawn to their rivers and coastal waters as primary transportation arteries. Records exist indicating that more than two thousand years ago, the Chinese were building various size craft to transport goods and people on their rivers and coastal waters. They even ventured on the deep seas to trade with Japan and South Asian lands.

Apparently, the Chinese of earlier times were becoming highly skilled seamen and administrators in maritime affairs. So much so that Emperor Kimmei of Japan (540-571 A.D.) appointed a Chinese, Wang Sin-i, Controller of Shipping. Wang's brother, Wang Niu, also was designated Controller of Ports and his contributions are remembered for the great advances he caused to be made in the development of Japan's ports; extending and deepening harbors so they could accommodate larger vessels.

Jen Chi-Tung writing in *China Reconstructs* notes that some 1,600 years ago "seven mast ships were sailing her (China's) coasts." In the 15th century China was building ships as large as 469′ x 197′ to trade along Asian and African coasts, trades which the present China Ocean Shipping Company (COSCO) is attempting to develop intensively. Such ships were about seven times larger than the estimates of the lengths and beams Admiral Samuel

Table 1
GROWTH OF THE PRC MERCHANT MARINE *
December 31, 1961—June 30, 1975
(dwt in thousands)

Year	Number	DWT	DWT increase over preceding year	% increase over preceding year
1961	150	760		
1962	165	790	30	3.9
1963	165	793	3	0.4
1964	166	824	31	3.9
1965	171	929	105	12.7
1966	180	1,026	97	10.4
1967	193	1,150	124	12.1
1968	204	1,230	80	7.0
1969	208	1,283	53	4.3
1970	221	1,459	176	13.7
1971	200	1,659	200	13.7
1972	272	2,033	374	22.5
1973	293	2,368	335	16.5
1974	335	3,211	843	35.6
1975	370	3,994	783	24.4

* Oceangoing ships of 1,000 gross tons and over.
Source: U.S. Maritime Administration.

Morrison calculated for Columbus' ships the NINA and PINTA of about the same period.

Feudalism and internal power struggles in China took their tolls politically and economically in succeeding centuries. Shipping, shipbuilding, trade and other economic activities were adversely affected and atrophied. In the 19th century and extending into the early years of the 20th century, domination of China's trade by Western nations' shipping further debilitated Chinese shipping and shipbuilding incentives.

A New Start

The People's Republic of China came into being on October 1, 1949. According to Chang Kung-chen, Manager of COSCO, however, it was not until 1961 that the PRC's merchant marine was established as an entity. Actually, the People's Republic of China had the nucleus of a small merchant marine in 1949. It was a significant segment of the former government's shipping fleet that the PRC had been able to take over. The ships, comprised largely of freighters, a few tankers and passenger vessels, were small in size, very old and were employed principally on the larger rivers and in the coastal trades.

By 1961, the PRC merchant marine consisted of 150 oceangoing ships, 1,000 gross tons and over, and totaled about 760,000 dead-weight (dwt) tons. It ranked 26th among the 75 maritime nations. Except for the addition of a few new ships built in Chinese shipyards, and some purchases of second-hand tonnage, the ships, on average, continued to be small in size and over-aged.

The growth rate of the PRC fleet in the intervening 14 years has been one of the highest among maritime nations. On July 1, 1975, there were 370 merchant ships totaling 4 million dwt, a gain of 147 percent in the number of ships and 426 percent in tonnage over 1961. Unlike the fleet of that year, the present merchant marine is comprised of more modern, diversified types, larger in size and faster.

The foregoing data showing ships under PRC registry, however, do not begin to give a true picture of the real growth of Chinese shipping capability. In consonance with government policy involving political, economic and personnel considerations, Chinese

Table 2
COMPOSITION OF THE PRC MERCHANT MARINE *
As of June 30, 1975
(tonnage in thousands)

Type	Number	Gross	DWT
Freighter	242	1,544.9	2,169.2
Reefer	8	45.9	66.4
Bulk Carrier	46	503.9	804.2
Partial Container	4	40.2	58.0
Containership	1	9.7	12.5
Tanker	44	502.7	816.9
Passenger	25	115.2	69.0
Total	370	2,762.5	3,996.2

* Oceangoing ships of 1,000 gross tons and over.
Source: U.S. Maritime Administration.

shipping authorities resorted to the use of wholly owned and absolutely controlled shipping companies registered in Hong Kong and Macao. Their ships, however, were registered under Somali and Hong Kong flags of convenience. By mid-1975, it is estimated that four foreign registered shipping companies with their four subsidiary companies, all of which were owned by the Chinese government, owned and operated a total of 137 ships aggregating 1.7 million dwt. They accounted for almost two-thirds of the entire Somali flag fleet.

Taken as a whole, therefore, the ships owned and absolutely controlled by the PRC, and the shipping companies administered by the Ministry of Communications under the three flags, were estimated at 5.7 million dwt at mid-1975.

The steep decline in world shipping activities during the past two years, particularly in the tanker and dry bulk trades, resulted in very depressed ship prices in the second-hand market. This situation, however, gave the Chinese authorities an excellent opportunity to buy substantial tonnages of tankers, bulk carriers, and general cargo ships at very favorable prices. For example, between June and October 1975, four large tankers totaling 365,000 dwt, ranging in size from 86,000 dwt to 95,000 dwt, and built within the last nine years, were reported sold to the Ocean Tramping Co., controlled by the Chinese government, for only $24.7 million. Additionally, four tankers and a bulk carrier, aggregating about 145,000 dwt, also were reported purchased by China for PRC registry during the same period at very favorable prices.

An analysis of PRC purchases during the last six months of 1975, for Chinese registry or by PRC owned shipping lines for operation under Somali flag, indicates the total tonnage owned and controlled by the People's Republic of China under its own, Somali and Hong Kong registries could reach 6.5 million dwt by the end of 1975. And this does not include the hundreds of small ships of less than 1,000 gross tons plying the rivers and coastal waters in China's domestic waterborne commerce.

THE STRUCTURE OF CHINESE MARITIME ACTIVITIES

The Ministry of Communications derives its authority from the State Council and exercises control over China's shipping activities through six Bureaus: Water Transport; First Navigation; Ocean Shipping; Ship's Registration; Harbor Superintendent; and Foreign Affairs. That segment of the PRC flag merchant fleet engaged in foreign trade is administered by the China Ocean Shipping Company (COSCO). COSCO, however, does not appear to have any jurisdiction over China's coastal and river shipping operations, which are administered by the Shanghai Maritime Administration, the Canton Maritime Administration and the Yangtze River Navigation Authority, probably to some degree under provincial control. The Ministry of Communications, under the direction of Minister Yeh Fei, is the coordinating authority in formulating shipping policies affecting the overall foreign and domestic segments of the PRC merchant marine.

Domestic Shipping

It is estimated that about 160 of the 370 oceangoing ships in the PRC flag merchant fleet operate in China's domestic coastal trades and on rivers such as the Yangtze having ports which can accommodate oceangoing vessels. The 160 ships are exclusive of the hundreds of ships and crafts under 1,000 gross tons that operate in the domestic trades. Freighters of various types comprise the largest segment of the domestic fleet, along with small combination passenger/cargo ships. Tankers comprise the smaller segment, but will become more numerous as China's oil production increases and deliveries from developing oil ports expand to receiving ports along China's coasts.

The largest segment of the domestic fleet is under the jurisdiction of the Shanghai Maritime Administration. Its ships operate from Wanchow, a rivermouth port almost midway along the China coast to the North Korean border. Coastal shipping in the southern region operates from Swatow, its principal port, and serves ports south of Wanchow to the border of North Vietnam. Shipping in this service is under the jurisdiction of the Canton Maritime Administration. The third segment of the coastal fleet is largely confined to China's great river systems and is administered by the Yangtze River Navigation Authority.

China's Foreign Shipping Fleet — COSCO

China's merchant marine engaged in foreign trade is estimated at 210 PRC flag oceangoing ships. It is dominated by freighters ranging up to 16,000 dwt. Bulk carriers ranging in size up to 40,000 dwt and tankers up to 75,000 dwt are the other predominant types of ships in the fleet followed by a smaller number of other types (Table 2). It is estimated that the ships under PRC registry carry slightly more than one-third of China's foreign trade. The China Ocean Shipping Company (COSCO) administers and operates the estimated 210 PRC flag oceangoing ships in foreign trade as well as also directly chartering some vessels. As a ship is delivered from new construction either from a Chinese or foreign shipyard, or purchased second-hand, it is assigned to one of three COSCO branches in Canton, Shanghai or Tientsin and is so noted in the Ministry of Communication's Ship Registration Bureau. COSCO's operations are concerned with many aspects of China's foreign shipping activities, viz: the China Ocean Shipping Agency.

This department of COSCO undertakes the many types of business activities required by cargo and passenger/cargo ships in international trade which call at China's coastal ports.

Although most ship chartering activities for the PRC appear to be under the control of the China National Chartering Corporation (ZHONGZU), a corporation under the aegis of the Ministry of Foreign Trade (MOFT), COSCO has established its own chartering department. Speed in making decisions is essential in an activity as volatile as the international chartering market. It is believed that the reasons for establishing this activity in COSCO arose from problems in communications and the interplay of rivalries between the bureaucracies. Furthermore, as a matter of national policy COSCO apparently has assumed increased importance as a result of a fundamental change in policy for China to own ships rather than charter them.

PRC flag ships participating in joint shipping operations are administered by COSCO. The Chinese government has allocated about ten freighters under joint shipping agreements with Albania, Tanzania and more recently with Sri Lanka. The above number also includes the ships operating under a special shipping operation between the PRC and Poland (CHIPOLBROK).

Although the number of ships involved is small, these operations present another facet of the PRC's incursions into foreign shipping activities. The political overtones of such arrangements are apparent, and joint shipping operations point up one of the methods the PRC uses to identify with the aspirations and activities of Third World countries. Another is the extent to which the PRC uses its national flag ships to transport material aid and Chinese technicians to Third World countries.

China Merchant Steam Navigation Company

Contrary to what its name implies, the China Merchant Steam Navigation Company, located in Hong Kong, does not operate any ships. It is a branch of COSCO, performing the latter's agency operations in Hong Kong. However, all transshipping and containerizing of PRC cargoes in Hong Kong are handled by the Far East Enterprise Company (FARENCO), which is a branch of ZHONGZU, even though the cargo might arrive on a COSCO ship.

PRC flag ships under COSCO's control are to be found operating on most of the world's sea lanes. They call at more than 140 ports in 70 countries in Southeast Asia, Japan, East and West Africa, the Mediterranean area, Europe, North and South America, but, as yet, not at United States ports.

CHINESE MARITIME POLICIES AND PRACTICES

If anything can be said to be certain about Chinese economic activities it is that everything is planned and controlled. It also may be said that the authorities have been less than forthcoming about their maritime policies and practices. Few data are published. What information exists outside China is largely limited to the bits and pieces noted from Chinese radio broadcasts and their various media. Foreign trade and shipping and shipbuilding sources throughout the world, which have working relations with PRC maritime authorities, often provide valuable clues and factual information as to the direction of China's maritime activities and policies. By checking and cross-checking data from various available sources reasonable inferences may be drawn regarding Chinese maritime policies and practices.

Priorities in Acquiring Shipping Tonnage. China's determination to secure a merchant marine that will give it shipping self-sufficiency is evident from the growth rate since 1961, and especially since 1970. Even during the political turmoil of the Cultural Revolution that is said to have retarded the national economy, China's merchant marine recorded annual increases.

But what does self sufficiency mean? Does it imply that 100 percent of China's overseas trade is to be carried in PRC flag ships? Or 75 percent, or 50 percent? The recent estimate by the manager of COSCO that Chinese ships are carrying slightly more than one-third of China's foreign trade raises certain questions. It is not clear if this estimate applies only to PRC flag ships or includes China's wholly owned and controlled ships under Somali registry. If the former, then an additional percentage would have to be added for the ships under Somali flag owned by the Chinese government and operating in China's overseas trade.

Chinese foreign trade authorities generally quote export prices on a cost, insurance and freight basis (C.I.F.) and import on a freight on board basis (F.O.B.). This practice is contrary to the accepted methods used in international trade. Generally, it is employed by countries whose merchant fleets are state owned and operated. The other outstanding practitioner is Russia. The purpose is obvious, and meant to be so, namely that Chinese authorities can control and direct the movement of cargoes on ships of their choosing. Its economic purpose is to conserve foreign exchange on import, and earn foreign exchange on export shipping services. (But since 1973, at least so far as insurance costs go, China has became more flexible, allowing overseas firms to handle insurance of Chinese exports.)

It also has a political purpose in that whenever PRC flag ships, or those that it owns under Somali flag are not available, cargoes can be directed to ships of countries with which China has specific agreements or wishes to favor. In this connection, it is of interest that in 1974 there apparently was an understanding between the China National Chemicals Import and Export Corporation responsible for crude petroleum

exports and the association of the Japanese oil companies importing the oil that 50 percent of the oil was to move on a C.I.F. basis and 50 percent at F.O.B. In effect, this was to give the Chinese the means of controlling at least 50 percent of the oil shipments on PRC flag and PRC chartered tankers. According to Japanese shipping sources, Japanese controlled tankers carried about 70 percent of this trade due to circumstances affecting the availability of Chinese controlled tankers to achieve the desired 50 percent goal.

Although the Chinese may not always be able to achieve their "fair share" of the flag ships under their control at present, the "fair share" or 50/50 basis is implicit in their shipping arrangements. As their merchant marine expands, this objective will play an increasingly important role in their ocean going and export trade, especially with the developed countries of the world which, in 1974, accounted for about 60% of China's foreign trade. Recent acquisitions of large tankers for the PRC and their controlled Somali flag fleets point to Chinese plans to implement their 50/50 objective in connection with their anticipated growth of oil exports during the coming decade.

To achieve the goal of maritime self-sufficiency four policies have been instituted in the following order of priority:

- To build basic types of ships (freighters, bulk carriers, tankers and passenger ships) in national shipyards.
- To build specific types of ships in foreign shipyards
- To buy second-hand ships as price opportunities offer in the international market for operation under PRC or Somali registries.
- To charter foreign flag ships, usually on a time basis, the type of ship and charter period to be determined by planned projections of export and import requirements.

Shipbuilding Capability. There are about 110 shipyards in China, but only about seven located at Shanghai, Talien, Tientsin and Canton are presently capable of building ships of 10,000 dwt to 25,000 dwt. The remainder are primarily builders of smaller vessels and repair facilities. It is estimated that between 1958 and 1974. Chinese shipyards delivered 28 freighters ranging in size from 3,200 dwt to 16,000 dwt, 8 tankers of from 3,000 dwt to 24,000 dwt, and 8 small passenger/cargo combination ships, none of which was larger than 3,200 gross tons. Data on deliveries in 1975 are fragmentary. It is known, however, that Chinese shipyards were fully occupied in building freighters up to 16,000 dwt and bulk carriers and tankers ranging to 24,000-50,000 dwt, and that a number of those types were scheduled for delivery during the latter part of 1975.

There have been reports that China is building a 50,000 dwt tanker. It would seem that doubling the present largest size turned out by a Chinese shipyard is unlikely at present because of the limited dimensions of the largest shipways in the Shanghai and Talien shipyards. If larger tankers are to be built, an intermediate size of about 35,000 dwt would be more likely, possibly to be built by the Red Flag shipyard at Talien. That yard is said to have the capability of constructing a larger ship than 25,000 dwt, and a reputation for innovation and productivity. It is only a question of time, however, before Chinese shipyards will be turning out bulk carriers and tankers of increasingly larger size. When they will be built, and in what sizes, will depend upon the pace at which larger shipways are constructed, harbors are deepened and berthing facilities enlarged to accommodate these.

The Chinese have demonstrated their ability to manufacture high-powered marine diesel engines, auxiliary machinery, navigational aid and other marine equipment. Its steel industry supplies the plates and structural shapes that produce the hulls and equipment from the designs of Chinese naval architects and marine engineers. Thus, in keeping with national economic plans, the Chinese are creating a shipbuilding industry along with supporting industries so that they can make as full use as possible of their own resources and equipment.

As pragmatists the Chinese do not hesitate "to learn from the good experience of other countries conscientiously," especially when ship production is still low. It is not unreasonable to assume, therefore, that the Chinese would not hesitate to import Japanese and Western shipbuilding and supportive technologies from which their naval architects and marine engineers can learn how to expand the productivity of PRC shipyards.

At a recent Canton Trade Fair China was reported offering for export small ships of 3,000 dwt. This may be only a gesture now. Its full significance will probably be felt during the next decade as old shipyards are expanded and new, more fully integrated shipyards under construction come into operation. It is then that the PRC will not only deliver increasing numbers of ships for its own merchant marine, but take up the challenge of competing with major shipbuilding nations for export orders.

Port Facilities. Chinese ports are congested. Their port infrastructures are presently inadequate to move efficiently incoming and outgoing cargoes in the domestic and foreign trades. Roads and railroad facilities to and from ports are not designed to handle the increasingly heavy traffic imposed upon them. All PRC major harbors are relatively shallow. Most of the 17 principal ports have depths of 30 feet and less at high tide which limit the size of ships that can be accommodated. These are all factors which are of concern to China's maritime planners.

To overcome the bottlenecks leading to congestion of PRC ports, a program was initiated resulting in the construction of 40 deep water berths capable of handling vessels of 10,000 dwt or more at China's major

ports since 1973. Their purpose was to facilitate movements not only of general cargo but of dry bulk cargoes such as coal, iron ore and other minerals. Oil cargoes at some of the ports are reported carried by tankers ranging from 25,000 dwt to 70,000 dwt. At Chinhuangtao, for example, on the Po Hai Gulf near Peking, a pier capable of handling tankers 50,000 dwt to 70,000 dwt is now under construction. And Tsamkong can already handle 70,000 dwt. tankers. Although its implementation has been delayed, the original intention of China was to purchase a Single Point Mooring (SPM) facility for Talien which was to be installed by October 1, 1975, on the anniversary of the founding of the People's Republic of China. With this facility available, there would be no problem in handling the recently purchased 92,000 dwt and 95,000 dwt tankers by the Ocean Tramping Company.

At Shanghai, China's largest port in terms of tonnage handled, a huge port reconstruction and improvement program is underway. When completed it will increase to 52 the number of ship berths capable of loading and discharging ships of up to 10,000 dwt. In January, the city announced that 1,000 million cubic feet of silt had been removed from the harbor mouth since September 1974 to permit regular entry into the harbor of vessels up to 25,000 dwt—formerly only possible during high tides. Cranes and other equipment are being increased in number and size and mechanization is reported to be expanding substantially.

Such improvements, while essential, are only a beginning step. Chinese planners cannot be unmindful of the mistakes made by the Russians, when that country's surge to build a modern merchant marine outpaced the development of its ports. So there is the intent by the PRC authorities to try and harmonize the growth in number of ports, the development and expansion of existing ports and their infrastructures with the growth of China's merchant marine. But this takes time. The acquisition of ships will probably outrun the capability of Chinese ports to service them. Meanwhile, port congestion with its attendant wastes in ship-time and ship operation costs will probably continue into the 1980's.

Shortage of Seamen. The number and quality of seamen to man the expanding number of PRC flag ships coming into China's merchant marine is believed to be a limiting factor affecting shipping self-sufficiency. Seamanship is a profession requiring study and training. Although China's maritime schools are said to be turning out licensed and unlicensed seamen in a steady stream of graduates, the number probably does not approach the PRC's requirements.

Interesting questions can be raised as to whether COSCO, whose jurisdiction does not extend to coastal and river shipping, can preempt seamen from domestic shipping to man its overseas fleet should the need arise. In the same context of seamen shortages can the Chinese navy, reported to be the world's third largest in number of ships, preempt seamen from both COSCO's ships and the domestic fleets?

Ships On Order and Under Construction In Foreign Shipyards

Despite the development of PRC shipyards, they are, as yet not capable of meeting the country's growing domestic and foreign trade requirements for shipping. To meet these needs, especially for certain specialized types and larger ships, China has been ordering them from foreign shipyards.

Latest reports indicate that 8 freighters totaling 39,000 dwt are on order or under construction in Bulgarian, Polish and Rumanian shipyards. Yugoslavia is building two bulk carriers of 45,000 tons each, and orders for oil tankers of at least 40,000-50,000 dwt are being placed with Japanese yards. Ships of about 13,000 dwt with container capability have been delivered from East German yards.

Because Chinese shipyards are fully occupied with the construction of merchant type ships, non-merchant types such as large tugs, and oil supply ships which are indispensable to oil rig operations, have had to be placed with Danish, Japanese and Singapore shipyards. The large, powerful 3,000-ton tugs building in Japan may be an indication of China's interest in establishing itself in deep sea salvaging operations, which could be lucrative in that part of the world.

It will be noticed that, with few exceptions, orders placed with foreign shipyards are in Socialist Bloc countries. This may be due to some trade exchange agreements not involving hard currency transactions.

Ships Purchased In The Second-Hand Market

In large measure the Chinese merchant marine is comprised of ships purchased at second-hand. Only about one-sixth of the PRC flag fleet comes from Chinese shipyards and a much smaller fraction from orders placed with foreign shipyards. As indicated earlier, the Chinese are very price-oriented and despite the government's restricted holdings of hard currencies they deem it advantageous to buy various types of ships second-hand when prices are low.

In this context consideration must be given to shipping wholly owned and absolutely controlled by the Chinese government operated under Somali and Hong Kong flags which were acquired in the secondhand market.

The Chinese Somali Flag Fleets of Convenience

In view of the PRC's spirit of nationalism and striving for self-reliance, the use of Somali flag ships and the remaining ship under Hong Kong registries appears to be an anomaly. Their use is another indication of the pragmatism and flexibility of the government's approach to its shipping policies. Whether the

MAJOR SHIPYARDS IN CHINA

CHEKIANG

Chekiang Shipyard
Products: freighters, 1,000 ton class

Ningpo Shipyard
Products: ships of 400 tons, refrigeration fishing boats of 1,000 tons

KIANGSU

Chinling Shipyard
Products: Ships up to 10,000 ton
Facilities: Huashan floating dock, 164 × 37.2m in width, 14.6m in heigth.

KWANGTUNG

Canton Shipyard (established 1958)
Products: freighters/passenger ships up to 10,000 tons, repair as well as construction
Facilities: 3 docks—67 × 12m, 107 × 17m, 150 meters long; 2 launchers, each 167m long; repair berth 400m long. Other facilities include 20-35 ton amphibious crane, 6-25 ton crane, 2-5 ton crane
No. of Employees: 5,000+

Chiangmen Yard
Products: iron and wooden boats, less than 1,000 tons

Chiehyang County Shipyard
Products: freighters up to 1,400 tons

Wenfang Ship Repair and Construction Yard
Products: passenger and freight vessels, 2,000 class

Wenchung Shipyard
Products: freighters/passenger ships of 3,000 tons

LIAONING

Red Flag (Hung Chi) Shipyard, Talien
Products: freighters and other vessels in the 15,000 ton class; tankers up to 25,000 and 30,000 tons; (24,000 ton tanker "Taching #61" completed summer 1974)
Facilities: launchers—170 × 100m (2), 100m (2), 228m; 10,000 ton class piers; 60 workshops including casting, forging, machine, carpentry, electric, cold strip processing, electric welding, assembling, pipe welding, installation, painting, hull, tool, plating, oxygen and power centers; 1.5 ton steam turbine; 75-ton crane; heavy hydraulic forging machine; large planer; lathes; drills; hobbing machines; milling machines—465 units total.
No. Employees: 13,000+
Comments: 50,000 ton tanker under construction in 1974. Reported 100,000 ton/a capability.

SHANGHAI (municipality)

Chiangnan Shipyards
Products: freighters, tankers, ferries. Has built 20,000 ton freighter as well as 15,000 ton vessel.
Facilities: 3 docks—108 × 28m, 176 × 29m, 178 × 34m; 6 launchers, largest 115 long; 5,000 ton vessel pier capacity; mechanical equipment includes 2 40-ton cranes, 15 15-ton cranes, 17 factories, 12,000-ton hydraulic press, 300 tons of machinery and tool.

Chiuhsin Shipyard
Products: vessels up to 3,200 tons, including China's first icebreaker; whale boats, fishing boats; repair as well as construction.
Facilities: One dock, one launcher.

Chunghwa Shipyard
Products: Freighters up to 10,000 tons.

The East Is Red (Tung Fang Hung) Shipyard
Products: freighters, probably in the 1,000 ton class

Hutung Shipyard (pre-1949)
Products: 25,000 ton freighters; 12,000 HP marine diesel engines; oil tankers; barges; drilling and prospecting ships; passenger vessels; "Foochow" freighter.
Facilities: 3 launchers (120 meters long each); 217m long pier; 2 dry docks; 4 floating docks; machinery, alloy, casting and forging workshops.
Comments: Early post-1949 expansions through Soviet aid. Construction time for 10,000 ton vessel about 7-8 months.

Shanghai Ship Repairing and Shipbuilding Yard
Products: freighters to 25,000 ton class; passenger ships; tugs; ferries; 10,000 HP low speed marine diesel engine (45 crew, 165 grams/HP hour bunker consumption, 115 RPM, 18.5 knots).
Facilities: 4,000 square meters; 3,000-ton slipway; 25,000-ton slipway under construction (1974); diesel workshop; 25,000-ton floating dock.
No. Employees: 7,000
Comments: First ship built in 1958 with 2,000 HP engine. Modified in 1969 to build 10,000 tons under the thrust of "ants gnawing at the bones." As of 9/1/74, had built six 10,000 ton ships, with seventh half-finished (i.e., about 1 per year and 9 months). Ships equipped with 10,000 HP diesels, similar in design to Sulzer. One of five such yards in Shanghai, plus seven other yards called "boat yards."

TIENTSIN (municipality)

Hsin Kang Ship Repair Yard (1940)
Products: freighters in the 10,000 ton class
Facilities: Machine tools of various sizes and types; 40 ton crane and hydraulic equipment; 5,000 ton launcher; hull, casting, mold and carpentry workshops.
No. Employees: 3,800 (?)

SHANTUNG

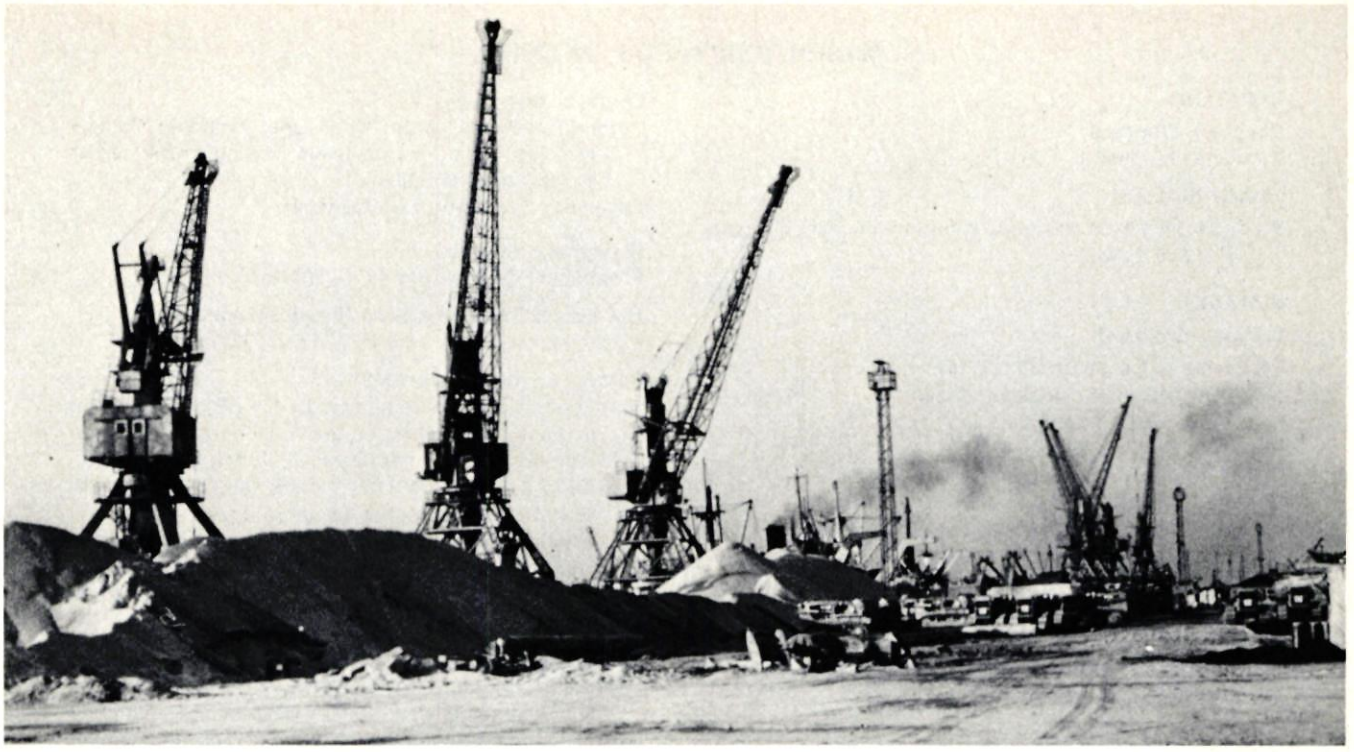
Red Star (Hung Hsing) Shipyard (pre-1949), Chingtao
Products: freighters in the 10,000 ton range; oil tankers
Facilities: 10,000 ton class dock; 2 launchers; berth; machine casting, forging, mold, carpentry, copper work, electric and repair workshops
No. Employees: 2,000+
Comments: This shipyard was a repair facility for Japanese naval vessels during Japanese occupation

City: Weihaiwei

Weihaiwei Shipyard
Products; passenger/freight diesel vessels

SZECHUAN

Tungfeng Shipyard, Chungking
Products: 2,000 HP diesel engines



Loading facilities for sand and aggregate at the Port of Hsinkang (Tientsin), December, 1974.

steamship companies operating these ships are considered as subsidiary companies of the Ministry of Communications or separate steamship lines may be a matter of semantics. The principal point is they are owned by the Chinese government and operate for its benefit.

Yick Fung Shipping and Enterprises Company is registered in Hong Kong and operates under Somali flag a fleet estimated at 50 freighters, bulk carriers and an ore carrier, totalling about 719,000 dwt. *The Southern Shipping and Enterprises Company,* belived to be associated with Yick Fung, has two small subsidiary companies, Poon Shun Po and Tong Ling Shipping and Enterprises Company, Southern Shipping and Tong Ling now operate two old freighters totalling 24,000 dwt. Poon Shun Po's ship was sold for break-up in 1975.

Luen Yick Shipping Company which may be a subsidiary of Yick Fung is registered in the Portuguese enclave of Macao, and operates 12 freighters and bulk carriers totalling about 195,000 dwt under Somali flag. Its subsidiary company, Tat On, operates two freighters aggregating 24,600 dwt, also under Somali flag.

Ocean Tramping Company, Ltd. is registered in Hong Kong and operates one freighter of 10,400 dwt under Hong Kong registry and 6 freighters totalling 53,000 dwt under Somali flag. Late in 1975, the company acquired four large tankers totalling 365,000 dwt. Its subsidiary shipping line, *Nan Yang Shipping Company,* is registered in Macao, but operates 56 freighters totalling 537,000 dwt and eight tankers aggregating about 114,000 dwt under Somali flag.

The line of control over all the operations of the foregoing flag of convenience shipping companies stems from the Ministry of Communications. Control of Somali flag operations is delegated by the Ministry through COSCO. As COSCO is the single Chinese shipping entity in the nation's offshore trades, and is very influential in helping to formulate PRC shipping policy, it appears to exert total control over the flag of convenience operations.

But the question remains, why should China operate flag of convenience steamship lines? Some of the reasons may be:

Political. Until the People's Republic of China gained admission to the United Nations and other international organizations, China did not have diplomatic relations with the majority of the world's nations. Her trade with the outside world was generally restricted to relatively few countries. Through the use of Somali flag ships, the PRC could identify with other African and Third World nations where Chinese flag ships would not have been acceptable for political and other reasons. In this way, China could gain economic access and earn much needed foreign exchange from such shipping services.

Although full diplomatic relations with the United States have not been established, missions in both countries act in a liaison capacity and trade flows between them, but not directly in US or Chinese flag ships. Claims of US citizens in the amount of $196.9 million against the PRC, and Chinese govern-

ment claims for $76.5 million in various assets frozen by the United States, restrain the use of each country's flag ships from entering each other's ports. But in the past two years seven Yick Fung ships made ten voyages, and two Luen Yick vessels, four voyages to US Pacific, Gulf and Atlantic Coast ports to load agricultural, pulp, machinery and general cargoes either to Hong Kong for transshipment or directly to Chinese ports.

Flexibility of Operations. Chinese flag of convenience ships enable the PRC to take advantage of the flexibility with which Somali flag ships can be used in the very sophisticated, swiftly changing international chartering market. For example, it may be less costly in scarce foreign exchange for the Chinese to use their Somali flag ships than to charter Greek, British, Norwegian or other foreign flag tonnage, especially in a rising market.

In the purchase of second-hand tonnage, a company such as Ocean Tramping could borrow from foreign banks, a practice the Chinese authorities may not deem advisable for matters of policy. It has been reported that since the large tankers recently purchased by the Ocean Tramping Company cannot be used to carry Chinese oil exports till adequate port facilities, or Single Point Mooring (SPM) systems become available at China's oil ports. Until then they will be put up for charter to earn foreign exchange.

Furthermore, China's flag of convenience companies are a conduit by which the Ministry of Communications can bring in ships for PRC registry when they can be absorbed into the fleet. During 1974, Yick Fung "sold" to COSCO seven freighters totalling 61,100 dwt and three bulk carriers aggregating 50,300 dwt; Luen Yick "sold" one bulk carrier of 20,100 dwt; and Nan Yang, four freighters totalling almost 40,000 dwt.

Possible Shortage of Seamen. Chinese seamen are not required to man the PRC's Somali flag ships. Thus, Chinese shipping authorities obtain the benefits noted above without adding additional strain to a possible shortage of trained national seamen for PRC flag ships.

Chartering Foreign Flag Ships

There have been unconfirmed reports that Somalia no longer finds it worthwhile to serve as a flag of convenience haven for foreign-owned ships. Since the People's Republic of China owns almost two-thirds of Somalia's flag fleets, both countries have a substantial stake in Somalia's decision. As yet there have been no indications that Chinese-owned ships would be affected. In fact, the PRC authorities continued to place a substantial tonnage of the ships purchased during the latter part of 1975 under Somali flag. This practice would not have been followed unless some understanding exists between the two countries to the effect that PRC-owned ships would not be forced to seek another flag of convenience haven.

Since the previous methods of obtaining the shipping China requires to serve its growing foreign trade are as yet inadequate, the PRC finds it necessary to continue to charter foreign flag ships from owners registered in many countries. Greek owners whose ships may fly Greek, Liberian or Cypriot flags represent the largest single nationality among the charterers.

As far back as 1950, Greek shipowners cooperated with the then fledgling PRC government by making their ships available to it, despite the efforts of the US government to restrict free world flag ships from entering Chinese ports. The Chinese reciprocated during the past 25 years by chartering the bulk of their requirements from Greek owners.

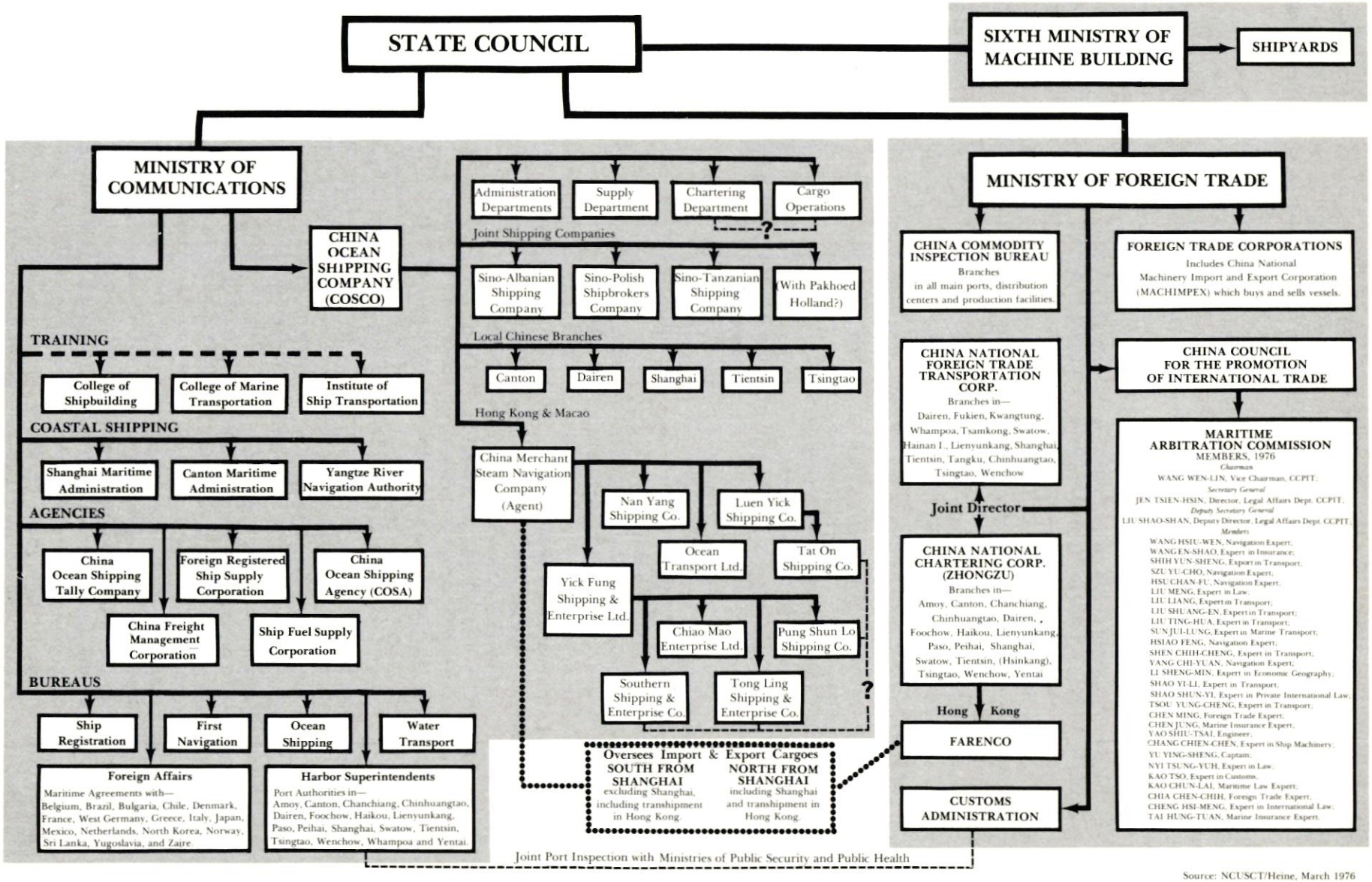
Chinese chartering operations in 1973 and 1974 had a major impact on the international chartering market. In those two years the PRC required large tonnages of foreign shipping to supplement its national flag ships to carry imports of grain, scrap metal, ores and fertilizer. For example, in 1974, it was estimated that the China National chartering Corporation (ZHONGZU) had arranged time charters for about 300 ships totalling over two million gross tons (about two million dwt) to operate in China's foreign trade. In that year alone, the Chinese chartered 96 ships of 2.5 million dwt tons, which made 115 voyages in PRC/US trade. And of that number, 52 were Greek-owned Greek, Liberian and Cypriot flag ships totalling 1.3 million dwt tons which made 61 trips to US ports. By the end of October 1975, Chinese chartered ships in US/China trade decreased to 571,000 dwt. (See UCBR vol 2 no 6 for additional detail).

Since most of PRC charters are on a time basis, every effort is made to avoid loss of operating time because of the high daily cost involved. In anticipation of decreased operations for a given period ZHONGZU tries to sub-charter its time chartered ships in the international market. While the most advantageous rates are sought, ZHONGZU will negotiate lower rates, if necessary, in order to avoid maintaining a chartered ship in an idle status.

As a result of COSCO's increasing influence on PRC shipping policies a decided change is taking place in China's chartering practices. A number of factors are contributory, viz:

- The very advantageous prices, resulting from the depressed international economy, at which China and its subsidiary shipping companies have been able to acquire the types of ships they need.
- The reported excellent harvest in 1975, and the primary emphasis the PRC government places on the need to develop a highly efficient and productive agricultural economy so that China can feed her people now and in the future.
- The primary tenet of self-sufficiency for every sector of the Chinese economy, strongly emphasized by

THE STRUCTURE OF CHINA'S MARITIME ACTIVITIES



Source: NCUSCT/Heine, March 1976

the late Chou En-lai at the Fourth National People's Congress in January 1975.

Recent reports are that China has reduced its chartered shipping to about 1—1.5 million dwt tons. And as the PRC flag fleet continues to expand, chartered tonnage can be expected to decline, although there undoubtedly will be circumstances affecting China's foreign trade policies that will make a certain amount of chartered tonnage necessary.

Maritime Agreements

China's developing shipping activities are advanced not only by its trade relations with most of the industrial and Third World nations, but by its maritime agreements with 17 nations. Through 1975, the PRC has signed maritime agreements with Belgium, Brazil, Bulgaria, Chile, Denmark, France, West Germany, Greece, Italy, Japan, Mexico, Netherlands, North Korea, Norway, Sri Lanka, Yugoslavia (shipping registration) and Zaire. In some instances, such agreements merely made official already existing maritime relations. A number also specifically note that national flag ships will not pay the three percent tax levied by the PRC on foreign flag ships entering Chinese ports.

The maritime agreement signed with France in September 1975, is a departure from those previously entered into since it calls for creation of a joint Chinese-French Commission which will meet alternately in Paris and in Peking at the request of either party to take up pending shipping matters. The frequency of sailings of the French line that is to be established for service between the two countries has not been published.*

Until the claims/assets questions are concluded to each party's satisfaction there is little prospect for US and PRC flag ships to operate directly between the two countries, or for a maritime agreement to be negotiated.

Looking Ahead

China's maritime potential is dependent to a large degree upon:

- The extent of development and growth of her agricultural, industrial and extraction industries, notably of coal and oil.
- Growth of her external trade with the industrial nations.
- PRC's political policies vis-a-vis the less developed countries, and the degree of success China will have in her economic penetration of Third World nations.
- Acquisition of foreign exchange to import high technology equipment, turn-key plants and ships, either from new construction in foreign shipyards and/or second-hand.

Securing a sound agricultural base sufficient to feed adequately her enormous population, will enable China to reduce grain imports and increase essential imports of equipment to expand and intensify her industrial structure. Great expectations are held for the successful exploitation, development and production of her known oil reserves and discovery of new fields. A surplus would enable China to export oil to waiting markets at prices that would yield a substantial income in foreign exchange both from the product itself and from services in PRC flag tankers.

The forecasts of China's oil reserves, production and exports are as varied as the sources producing them. China is estimated to produce about 1,600,000 barrels of oil daily. At this rate her annual production would amount to 584 million barrels a year or about 80 million tons. Japanese oil industry sources and a report of the Joint Economic Committee of the US Congress projects China's oil production will expand at an annual rate of 23 percent, based on 1971-74 figures. Production by 1980 is estimated at 226 million tons, with exports reaching 50 million tons. Such volume of exports would yield an enormous foreign exchange income, perhaps as much as $4.5 billion at 1975 prices, and give great impetus to China's industrialization.

This bright picture was given grayer tones by the C.I.A. report on China's oil potential recently made available to the public. This less ebullient estimate of China's exports for 1980 range between 27 and 33 million tons. By 1995, they are expected to grow to over 100 million tons. A more conservative estimate places exports at about 90 million tons. Even such estimates could yield a respectable $3.0 billion in 1980, and between $8.2 and $9.1 billion in 1985, based on present prices the Chinese are receiving for their oil exports.

PRC shipping authorities are already implementing plans to acquire more tankers to carry oil overseas and in the domestic trades. More emphasis probably will be given to the acquisition of tankers of all sizes than to general freighters. PRC tanker tonnage, between June 30, 1974, and June 30, 1975, increased by 433,000 dwt or 111 percent. Year end comparisons will be even higher, approaching an increase of about 750,000 dwt.

When the production problems presently associated with China's coal and steel industries are resolved, her merchant marine will require many more bulk carriers than are now in the fleet and under construction. Although current coal production is large, the decreased capital infusion to modernize the larger mines, because of pressures for developing oil, is one of several bottlenecks in supplying the energy China requires for her industries and for other essential uses throughout the country. Coal, during 1975, was also given greater priority then before in China's develop-

* Last November, forty-one Japanese shipping companies involved in freight services between Japan and China inaugurated the Japan-China Shipping Council to discuss and research matters relating to private shipping between the two countries. Among the points of discussion of the Council, which does not apparently include representatives from the PRC, are establishment of transportation shares, cargo liner services, common freight tariffs, and operation of passenger services.

ment plans. Expansion of fertilizer production for agriculture and development of mineral resources will add to the need for bulk carriers primarily for the coastal trades.

Containers

China has only been touched by the containership revolution. Since 1973, COSCO has been watching closely the results of the small containership operation instituted by Japanese shipping lines between the two countries before committing any of its resources to this type of shipping operation. Containers used in this service are presently leased from Japan.

A number of obstacles have inhibited the growth of this type of operation, such as relatively simple infrastructures at Chinese ports, present inadequate road and railroad facilities to handle containers to and from Chinese ports, and not very advanced cargo handling machinery and equipment for loading and discharge containers. But these obstacles are being overcome to some extent as container berths are being constructed at Hsinkang, Shanghai, Whampoa, and probably at Canton. Present container shipments to and from China are transshipped through Japanese ports and are handled by COSCO through its China Ocean Shipping Agency (PENAVICO).

The Mitsui-OSK Line plans to inaugurate a full container service this April from Hsinkang and Tsingtao to all ports the line services in the US, Canada, Europe, New Zealand and others. Material would continue to be transshipped in Kobe. Kawasaki Kisen Kaisha Line is operating a similar container transshipment service between China and Australia, via Shanghai and Tokyo. Their attempts at initiating another such service on the North American route have not been greeted with much enthusiasm by the Chinese.

A small start in containerization has been made by the acquisition of a few ships with container capability. Whether China in the near future will allocate some of its shipping resources to the construction of larger containerships under the Fifth Five Year Plan beginning in 1976, is a matter of conjecture. It seems more likely that additional acquisitions probably will come from second-hand purchases, from contracts let with foreign shipyards or from both sources. It is only a matter of time, however, before the PRC merchant marine will have a complement of partial and full containerships to carry its foreign and domestic trade. As a rising competitor in international shipping, China would not wish to forego the operating advantages containerships continue to demonstrate on world sealanes.

The Growth Period Ahead

The late Chou En-lai noted in 1975, that ". . . the next 10 years (1976-1985) are crucial for accomplishing what has been envisaged for the two stages," The first stage was to build an independent and relatively comprehensive industrial and economic system by 1980. The second is to accomplish "the comprehensive modernization of agriculture, industry, national defense and science and technology before the end of the century".

As far as the Chinese merchant marine is concerned, great strides are being made to make it a modern, competitive factor in international shipping. The annual growth rate between 1970 and mid-1975 averaged 21 percent while the annual average since 1961 was 13 percent. By 1980, this could mean a merchant marine of from 7.4 million dwt to 10.4 million dwt under PRC flag with a diminishing tonnage under Somali flag, as the latter ships are taken under PRC registry. When the PRC flag ships and those under Somali flag are combined, China's owned merchant marine could reach about 9 million dwt to 12 million dwt in 1980, and perhaps as much as 17 million dwt in oceangoing ships by 1985. The factors previously noted will influence the range reached by the PRC flag and owned fleets. Another important consideration is China's aim to carry a substantial share of her export and import trade in PRC owned ships.

China's shipbuilding capabilities should continue to expand as new yards and restructuring of old yards with extended shipways come into operation, and a strong support industries complex is developed. More sophisticated cargo ships will be built as new technology is acquired and larger size bulk carriers and tankers will be constructed. Should the Chinese choose to import Japanese and Western advanced shipbuilding techniques, shipyard productivity could be substantially increased. China has a vast store of human and material resources upon which to draw to build ships not only for its own requirements but for export as well. By 1985, China could become a serious competitor in the highly competitive international market for new ship construction.

As state owned and controlled industries, China's shipping and shipbuilding are governed not only by economic considerations but also by political policies. Profitable returns on investments are not the sine qua non as they are in a free market society where private capital is constantly at risk. Despite Mao's injunction to "rely mainly on our own efforts while making external assistance subsidiary," "external assistance" in many sectors of China's economy will probably be necessary during the 1980's and perhaps even longer. To earn foreign exchange, and at the same time to acquire political capital in Third World countries, it would not be surprising to find COSCO and the Sixth Ministry of Machine Building (Shipbuilding) cutting freight rates and ship prices for export sales, to the consternation of their competitors. It is a hazard to free competition the major maritime nations may have to face during the next decade. 完

The main exhibition hall of the 1976 Fur Products Minor Fair in Kwangchow.

CHINA'S MINI-FAIRS 1976

Demand Meets Supply

John Kamm

Meeting both the peak periods of demand from abroad and the best time of year for domestic suppliers, China's export-oriented mini-fairs make a lot more sense than the PRC's bi-annual Kwangchow Fair. This year has seen the advent of a new era in Chinese sales campaigns using mini-fairs, as John Kamm, the National Council's Hong Kong-based representative found when he visited them.

China's "minor" export fairs are specialized trading sessions, held in Chinese cities for two-to-three weeks, designed to promote sales of export goods within specific commodity lines. The staging of "mini-fairs" is becoming an increasingly important feature of China's overall export strategy, a development which portends significant improvements in the avenues open to foreign firms wishing to initiate or broaden business relations with Foreign Trading Corporations (FTCs).

As will be seen, the advantages mini-fairs enjoy over the bi-annual Kwangchow Fair have provided the major impetus for China's adoption of the mini-fair technique. This piece concludes with reports on 1976's first two mini-fairs: The Feathers and Down Minor Export Fair, held in Shanghai from January 5 to January 20, and the Fur Products Minor Export Fair, held in Peking from January 7 to January 17.

China's acceptance of mini-fairs as an appropriate device for increasing sales of exports to international markets can be dated to early 1975. In the first ten weeks of the year, the China National Native Produce and Animal By-Products Import and Export Corporation (CHINATUHSU) staged four separate mini-fairs in different cities: The Feathers and Down Minor Fair, held in Shanghai in early January, the Fur Products Fair, held in Peking February 20-March 5, the Partial Forestal Fair, held in Kwangchow February 21-March 2, and the Carpets Fair, staged in Tientsin February 16-25. Nearly three hundred businessmen from over twenty countries and territories turned up for the Tientsin event, and CHINATUHSU reportedly enjoyed brisk sales. (For full details see UCBR, Volume 2, Number 2, March-April 1975). These four fairs pioneered and established the era of mini-fairs in China.

In the months between the 1975 Spring Kwangchow Fair and the 1975 Autumn Kwangchow Fair, two other corporations staged mini-fairs. The China National Textiles Import and Export Corporation held the Silk Piece Goods and Spun Rayon Piece Goods Fair in Talien from July 22 to August 5. At this fair one room was reserved for products handled by the China National Cereals, Oils and Foodstuffs Import and Export Corporation. From August 20 to 30, China National Light Industrial Products Import and Export Corporation held the Willow, Straw and Maize Goods Fair in Tientsin.

Despite evidence that mini-fairs were gaining widespread acceptance among both FTCs and their foreign customers, Chinese trade officials insisted that the technique was experimental, and that the Kwangchow Fair's role as the principal venue for buying Chinese goods would in no way be affected.

Upgrading the Mini-Fairs

Sometime prior to the 1975 autumn fair, however, a decision was made to upgrade and enhance the role of mini-fairs. More styles and varieties of goods within the specified commodity lines were to be exhibited; greater emphasis would be placed on processed and manufactured goods; and participation by foreign buyers would be increased by issuing more invitations.

Most important, several of the fairs first held on an experimental basis in 1975 were to be designated as annual events, and plans were made to stage other first-time fairs during 1976. The designation of a mini-fair as an annual event allows the FTCs concerned greater flexibility in achieving export plans by decreasing pressure to attain planned targets at the Kwangchow Fair. According to one senior Chinese trade official, this pressure has been largely responsible for the widespread occurrence of competitive pricing between branches of the same corporation noticed at recent Kwangchow Fairs.

With the upgrading of mini-fairs to annual events has come greater willingness on the part of FTC members to discuss the relative advantages which the events hold over the bi-annual Kwangchow sessions. These advantages include:

Timing: In the words of one trade official, "Different commodities have different market characteristics, especially in regard to their selling seasons in overseas markets. The Kwangchow Fair is frequently ill-timed to coincide with these seasons."

Winter sportswear was selected as an example. Consumer demand for this commodity is highest from late autumn to early winter. The Autumn Kwangchow Fair is held too late in the year for overseas wholesalers and retailers who wish to make purchases for the season at hand. Similarly, because knowledge about consumer tastes in the following year is still scanty, buyers are reluctant to place orders for the next season. "After conducting market research, the departments concerned have concluded that January is the ideal month for foreign buyers to make their winter garment purchases for the coming season."

Though not as severe, the scheduling of the Kwangchow Fair also presents problems for the suppliers, that is the FTCs, of certain commodities. Branch corporations of CHINATUHSU make their planned purchases of raw feathers and down from September to March. Accurate data on actual output of producer units is often not forthcoming until December, too late for FTCs to negotiate large orders based on accurate supply data. Although this problem has been alleviated by the time the spring session opens, the holding of a mini-fair in January gives the branches another opportunity to make sales. In short, mini-fairs allow FTCs to schedule the sale of exports to coincide with optimum marketability in terms of both demand and supply.

Proximity to Production Bases: Foreign firms have always shown great interest in visiting processing and production centers of the commodities they intend to purchase. With the advent of agreements between FTCs and foreign firms to make goods to specifications and attach foreign-registered labels, this interest has become an absolute necessity. The location of the Chinese Export Commodities Fair occasionally presents difficulties, as Kwangchow is far removed from several major commodity production bases. The staging of mini-fairs allows the FTCs flexibility in choosing sites near the specific commodity's processing and/or production centers.

The Professional Aspect: The swelling numbers of foreigners attending recent Kwangchow Fairs is viewed as a mixed blessing. On the one hand, more and more professional buyers interested in building long-term relationships are attending. On the other hand, less serious buyers, together with droves of tourists masquerading as businessmen, are flocking to the city to attend the four-week event. FTC officials complain that their ability to deal comprehensively with serious buyers is being severely taxed. Foreign firms complain that maverick, unprofessional buyers disrupt business opportunities by making unrealistic promises that cannot be fulfilled.

China has recently taken steps to discourage the non-business community from attending the Kwangchow Fair. It is impossible, however, to separate out the amateur, "here-today-gone-tomorrow" buyers at the time invitations are issued. Once again, mini-fairs provide the solution.

Attendance at mini-fairs is restricted to professional dealers of the commodities offered. The emphasis is on comprehensive negotiations between "old friends"; thus, unless the firm is well known to the FTC staging the fair, its request for an invitation will be carefully scrutinized.

These advantages were all apparent to participants of 1976's first minifairs: the Feathers and Down Minor

Export Fair and the Fur Products Minor Export Fair. Reports of these fairs follow.

FEATHERS AND DOWN MINOR EXPORT FAIR—DEMAND GREATER THAN SUPPLIES

The 1976 Feathers and Down Minor Export Fair was held in Shanghai from January 5 to January 20, eventually lasting till January 23. The fair was first held in January 1975; attendance was low, however, and no Americans participated on that occasion. On the opening day of this year's fair, however, the trade fair authorities informed the National Council representative that the event had been designated as an annual event, and that efforts would be made to secure better attendance on the part of American firms.

The fair was held on the tenth floor of the Shanghai Mansions, a pre-war residential high-rise situated on the banks of Soochow Creek. Four of the hotel's spacious suites were converted into exhibition/negotiating rooms. Display of products was simple but attractive. On the walls of each room were hung mounted photographs of China's successful ascent of Qomolangma-Mount Everest; the members of this expedition had been entirely outfitted with products handled by the Feathers and Down Department of CHINATUHSU.

The Chinese were able to take advantage—in the words of one fair-goer—of "a captive audience." All foreign invitees were housed in the Mansions itself. Excellent meals were offered on site, and other basic business facilities—including a currency exchange counter and a cable desk—were available.

Organization: The fair was organized by the Feathers and Down Department of the head office of CHINATUHSU and jointly sponsored by the relevant sections of seven branch corporations: the Shanghai Animal By-Products Branch, the Kwangtung Animal By-Products Branch, the Kwangsi Chuang Autonomous Region Branch, the Hunan Branch, the Hupeh Branch, the Kiangsu Branch, and the Fukien Branch. Negotiations were usually conducted by teams consisting of members of several branches, led by head office personnel. Business hours were 9:30-12:30, 2:30-5:30, although the convenience of location enabled negotiations to go on far into the night.

There was no noticeable involvement by members of the CCPIT or any other trade-related organization. Fair authorities stressed that responsibility for every aspect of the mini-fair rested with the FTC alone.

A Reception Department, jointly led by head office personnel and Shanghai Branch members, was busy throughout the fair arranging visits to communes, factories, museums, concert halls, etc. Highlight of the fair for one American firm was a visit organized by the department to one of CHINATUHSU's local manufacturing units. The factory, located in the city, exported 75% of its annual output of feather and down winter garments. The visitors were impressed by the workmanship of the 1000-strong labour force, and commented favorably on the on-line inspection techniques employed by the factory's management.

Products Displayed: As announced by CHINATUHSU prior to the fair's opening, only manufactured articles were offered at this mini-fair. Chinese officials indicated to the National Council representative that the current "freeze" on the export of large quantities of feathers and down is designed to reinforce the general trend towards developing domestic processing and manufacturing industries. As much as possible, value-adding activities will take place in China.

Products on display included: recreational and non-recreational winter wear (hats; mountaineering, skiing, hunting, angling and general leisure jackets and waist coats; trousers; socks; gloves) ; sleeping bags; bedding articles (pillows; quilts; mattresses and comforters) and embroidered and non-embroidered cushions. New catalogues and brochures, designed especially for the fair, were distributed.

Three branches (Shanghai, Fukien, Kwangtung) handle most of the garments displayed. Kiangsu and Hunan specialize in bedding and cushions. Hunan is apparently being developed as the manufacturing center for sleeping bags. This fits into the general trend towards locating "new commodity" production centers away from the traditional industrialized ports.

Attendance: Several hundred people attended the fair from perhaps 40-50 companies. Most (75-80 percent) were Japanese agents, with other representatives from Canada, Hong Kong, Macao, and Singapore, Europe and the US. Among the US firms present were Eddie Bauer, a division of General Mills, China Products Northwest, Milbern Foam Products of St. Louis, Sears Roebuck and Peking Commodities. Other Americans came from Hong Kong, such as a representative from Floline. The fair was so busy, it was extended a few days, through January 23, to accommodate late arrivals.

Prices: Prices of all finished products on display were up approximately 10% over those quoted at the last Kwangchow Fair. In general, the Chinese felt their prices were very competitive by world standards, and stated that demand for their feather and down manufactured garments was far greater than their current capacity to supply. CHINATUHSU first offered these commodities in 1973, and by end-1975 total sales had quadrupled. With the build-up of raw material supplies, FTC officials commented, it was hoped that sales in 1976 would more than double those of 1975.

The Chinese stressed that the feather and down manufactured goods were "newly developing" commodities, and that foreign businessmen could expect price increases as the quality improved.

Complaints: Aside from the question of raw materials, foreign firms raised a number of points for the Chinese authorities' consideration. A serious problem, according to one firm, is the mixing of different grades of down; raw materials are not sufficiently segregated

Products on display at China's 1976 Feathers and Down Minor Fair, Shanghai.

at the source. Another problem concerns the "loft" or "filling power" of the down used in the garment. Firms would like to see China release more of the down yielded from birds raised in northern climates, as this grade is typically far superior in terms of loft.

The Chinese gave careful consideration to these points. They admitted that it was often difficult to completely segregate the feathers and down according to source, but indicated that efforts were being made to accomplish this as much as possible.

Other firms had problems obtaining desired colors and material.

For their part, the Chinese raised several issues with the National Council representative. While grateful that the US has removed the duty on raw feathers and down (effective April 1975), CHINATUHSU noted that duty on manufactured feather and down was still prohibitive. Since China is preparing for aggressive marketing of finished products, the FTC naturally wishes that the duty on manufactured items can be removed with the same rapidity characterized by the raw material decision.

Compliments far outweighed complaints at this fair, however. Foreign firms commented favorably on the compact, self-contained aspect of the fair's organization. The quality of the goods offered compared favourably with worldwide standards, a significant accomplishment after only three years of work. Finally, the work of the Reception Department was singled out by many foreigners; tours of producer units were comprehensive and especially helpful to the conduct of negotiations.

THE FUR PRODUCTS MINOR EXPORT FAIR—ANOTHER NEXT YEAR

The Fur Products Fair was held in Peking from January 7 to January 17. As with the Feathers and Down Fair, this was the second year that the fair was staged. At the closing banquet, officials from the head office of CHINATUHSU announced that it had been decided to hold the fair again in 1977, indicating that yet another mini-fair has become a permanent feature of this FTC's export strategy.

The fair was staged on the ground floor of the Palace of the National Minorities. Much preparation had gone into product display. Although raw and semi-processed skins and furs were offered, the emphasis once again was on finished garments. The centre of the 600 square meter exhibition hall was dominated by a pyramid of fur coats and stoles, and all of the display cases were devoted to garments. Plates were to be found largely in the negotiating rooms flanking the main hall, and raw skins and furs were kept in a back room situated behind a large tapestry of the Great Wall.

Foreigners were housed in two hotels: the Peking Hotel and the Hsin Chiao Hotel. Rates at the former ran 50 yuan per day, while a comparable room at the Hsin Chiao cost 14 yuan. All meals and transportation expenses to the fair were borne by the foreign firms.

Organization: The fair was organized by the Fur Department of CHINATUHSU's head office and sponsored by relevant sections of the Peking, Shantung, Tientsin, Shanghai, Talien, Hupei, Kiangsu and Kwangtung branch corporations. Once again, no involvement by other trade-related groups, such as the CCPIT, was noticed.

Unlike the Shanghai fair, no reception department had been formed. An opening and closing banquet and a one-day outing to the Great Wall and Ming Tombs were, however, organized by the trade fair authorities.

Products Displayed: Five categories of goods were offered: leathers, raw furs, dressed furs, fur plates, and fur products. FTC officials commented that dressed furs and fur garments were receiving special attention in the department's development plans, and that less and less emphasis was being placed on the export of un-processed furs.

No new catalogues or brochures were distributed at the fair.

Attendance: Approximately 130 businessmen representing 60-70 foreign firms attended the fair. Once again, Japanese participation was heaviest, but according to most observers, the sizable European contingent did most of the buying.

Americans were invited to the fair for the first time. One firm, the Stroudsburg Fur Dressing Corporation, attended for the duration. Three other American subsidiaries of foreign fur companies were also represented: Corin International Ltd., Fein and Co., Inc. (National Council member firm), and the Kaufmann Trading Corporation.

Unfortunately, no purchases were made for the American market on this occasion. The National Council representative reviewed the existing barriers to a successful resumption of the fur trade with trade fair authorities. These barriers include:

- The US continues to prohibit the import of seven furs from the PRC—ermine, fox, kolinsky, marten, mink, muskrat and weasel—under a law passed in 1951.
- US Column II tariffs on the import of finished fur products are prohibitive.
- Shipment delays have caused serious problems for US importers.
- Numerous complaints concerning the quality of Chinese fur processing have also been registered by US importers. In some cases, fur has been falling out of garments after delivery.

Both sides took note of each others complaints. The Chinese took note of the American comments. The Chinese stressed that fur garments were newly developing products whose quality could be expected to improve with time. They also commented that unfamiliarity with Chinese furs on the part of US importers and the market they served was another source of misunderstanding, and cited complaints made concerning the "smell" of Chinese furs. The same furs had been exported to Europe continuously for decades, and there were no complaints about the products' odor (a fact borne out by several interviews with European traders). The Chinese believe that such problems will be resolved gradually as trade grows between the two markets.

Price and Quantity: Prices of finished goods were up 10% over those at the last Kwangchow Fair.

Serious complaints were lodged concerning the quantities offered. Chinese stocks were low, and even the best customers—"old friends" who had contributed technical advice to assist China's industry—managed to secure quantities amounting to a mere 30-50% of requirements. "New friends" were fortunate to come away with 15% of needed quantities.

Low stocks contributed to a relatively low sales volume. Three separate estimates of total purchases made at the fair placed the sum in the US$ 8-10 million range. "Substantial enough to make it worthwhile to hold the fair", commented one participant, "but very small by international standards."

Conclusion: The Peking fair demonstrated that, despite great advantages accruing to both FTCs and foreign firms through the holding of mini-fairs, much planning work must still be done to make the technique a complete success. Unless the FTCs set sufficient stocks aside, they run the risk of having to offer low quantities and/or unwanted goods.

On the whole, however, foreign companies left Peking convinced that Chinese commitment to the mini-fair technique would increase and result in significant improvements in the export trade. Most traders who attended are already making plans for next year's mini-fair—same time, same place. 完

MORE MINI-FAIRS . . .

John Kamm will be reporting on the *Carpet Fair* in Tientsin (February 16-26) in the next issue of UCBR. Sinochem's *Pharmaceuticals and Medical Instruments Fair* in Shanghai (February 20-March 6) was apparently relatively successful though prices were high. Some 150-200 businessmen attended, including representatives from England, France, West Germany, Switzerland, Sweden, Finland, Pakistan, Thailand, Philippines, Hong Kong, and Japan, as well as the US. American companies attending included Sobin Chemicals, Pfizer, Squibb, H. Reisman, and Miles Laboratories. A *Jade and Ivory Carvings Fair,* apparently restricted to Hong Kong and Macao distributors, was held in Kwangchow beginning February 18. A *Straw Goods* mini-fair can be expected again this year, probably in September, at a site to be selected. A *Toy Fair* may also be in the works for 1976. China's Light Industrial Corporation will be more active in staging mini-fairs.

Union Carbide executives with the Minmetals delegation at February banquet hosted by UC.

MINMETALS COMES TO TOWN

Major sales were negotiated by the Chinese Minmetals delegation which toured the US from January 23 to March 8. Tin, however, the major import item from China in 1975, was not available for 1976. The delegation discussed 3-6 month financing using LMB-based formula, and talked short-term supply arrangements with American customers. Bundling and strapping for better shipping was promised by the mission, possibly by the time of the Spring Fair. And the Chinese visitors tested the US hardware market, finding both specifications and lack of metric measurements drawbacks to marketing in the US.

WHAT'S AVAILABLE FROM MINMETALS

New on the US Market—As well as negotiating with companies on previously exported goods, Minmetals introduced several new product areas for US consumption: *tungsten powder* (90% minimum through 200 mesh, packed in steel drums weighing 15 kilos); and *rare earth oxides* such as etrenium oxide and lantrium oxide. Over 30 kinds of these oxides are available.

Not Yet Ready for Export—Selenium, cadmium, cadmium oxide, and certain specifications of gallium are being produced in China, but are not yet being exported to any countries.

Not Available—Not presently being exported are: columbite, lead, copper, aluminum, cadmium, magnesium, chrome, silirium, indium, and molybdenum. The Chinese are importing copper (from countries with which they have special agreements) and lead. They have presently exhausted their supplies of tellurium, but offered to discuss future potential at the Spring Fair. High duties are discouraging the export of silicon and wolfram ore.

Handled by Other FTCs—Other metals about which importers asked the delegation are actually handled by other organizations. For instance, the Bank of China sells silver and gold, while Machimpex exports platinum. Several items which were originally under the jurisdiction of Minmetals are now the responsibility of the Chemicals corporation: sulphur, potash, and arsenic.

As Usual, No Production Figures Revealed—Members of the delegation did not reveal any estimates for production or availability of merchandise. It appears that they do not yet know production levels for the coming year and thus the quantity ultimately available for export. The standard response to companies asking about the availability of supplies was that the

delegation would have to contact manufacturers in China for definitive answers.

SHIPPING

Strapping, Bundling and Boxing—Many US importers have asked that China strap materials in bundles, on pallets if possible, as is done by all other metals and minerals suppliers. The Chinese informed importers that they are now able to bundle zinc in one-pound bags, but are still not able to manage the one-ton variety since their plants are not geared to such demands. However, they have been studying the process of bundling and strapping on a larger scale, and estimate that if their producers can set up a bundling operation soon, then China can probably bundle zinc, tin, aluminum and other items by the second half of this year. They will know whether this projection is possible by the Spring Fair and also will prepare estimates of the additional cost.

Importers also pointed out that a uniform size for boxes is needed because warehouses allot their space against this standard. They asked that China improve the quality of the packing boxes used; goods should be palletized with some kind of wrapper to bring them into conformity with universal criteria.

Freight Rates High, But Timing Good—Chinese freight rates are high because the volume of trade is not yet sufficiently large to bring them down. China expends much money on chartering ships. If more vessels traveled the Sino-US route, delegation members said, the freight rates would be appreciably less.

CONTRACTS, PRICING, AND PROMOTION

Contracts: More Short Than Long

Companies pushed for "long-term"* contracts of at least one year, but without great success for some metals. The Chinese stressed that at the present time "conditions for signing long-term contracts are not right." However, in the case of antimony, if quantities are at least 10-20 tons, their producers would perhaps consider a one-year contract; but for smaller quantities China cannot consider more than a six-month contract. The Chinese generally preferred spot contracts, or three or six-month contracts.

Bauxite importers told the Chinese that buyers need "long-term" contracts in order to guarantee a regular supply. Spot suppliers suffer when the market is weak. The Chinese, in this instance, agreed that it would benefit China to have "long-term" contracts with the US since this particular resource is so vast. They were willing to recommend that their producers consider a regular supply in the future, but warned that the process would take time.

Pricing

Because the US is a relatively new market for the Chinese, they have not yet established a fixed basis for pricing metals sold here. The PRC now uses quarterly or half-year pricing. If prices are quarterly, the second-quarter amount is settled by March 20, and the third quarter by June 20. The FTCs are familiar with the *London Metal Bulletin (LMB),* and have begun to base prices for US-bound merchandise on LMB quotations.

For "long-term" shipments (six months to one year),* mission members introduced a method of pricing in which half of the shipped goods would be contracted at a fixed price. For the other half, the price would be determined by means of a formula based on the average of the high and low quotations of the LMB during a given period, such as a month.

The Minmetals representatives also informed US buyers that their corporation cannot sell on the basis of the US producer price, less discount, "long-term," nor can they reserve month to month. They refused offers for barter agreements since the products involved fell under the jurisdiction of two or three FTCs, making the assessment of requirements difficult. Even within the Minmetals corporation, requirements of various departments are not always clear.

Promotion

At the same time that the Minmetals delegation was touring the US, the Chinese launched a promotion campaign in their English-language journal, *China's Foreign Trade,* No. 1, 1976. Articles describe the general progress of China's minmetals industry, with pieces on rare-metal production, high-purity metals, precision alloy products, high melting-point metals, as well as tiles, marble, fire bricks, aluminum welding electrodes, iron pipe fittings, and more. For many of the products, specifications are given, including forms of the item available, purity level, impurities and uses. The issue, by providing the first updated information available on Minmetals products in a long time, may be considered the corporation's newest catalogue. (Members interested in copies should write to the Council.)

ASSESSING THE HARDWARE MARKET

Relatively unknown in the US, Chinese hardware products are imported by only a few American companies. The hardware representatives of the Minmetals delegation, hoping to change this state of affairs, brought with them a variety of samples including locks, screws, bolts, nails and wire mesh. They met with several US importers to introduce these items and to gain an understanding of US market needs and specifications.

Little business was actually done since Chinese hardware does not conform to American standard specifications, as delineated in the ASTM (American Society of Testing Materials) and the FFN (Federal specifications). This is especially true for Chinese nails, which have checkered heads and a triangular shape, while their American counterparts have flat heads and are

* "Long-term" to the Chinese: In the US up to one year is normally considered short-term, with "long-term" referring to five years or longer.

squared off. In addition, Chinese nuts are too heavy, and the bolts are too large to be used with American wrenches. As for door locks, their quality is too good for the US market, importers say, and their prices too steep. The only product that can now be used in all markets is screws, which have been selling in the US.

Chinese hardware is manufactured under the metric system, thereby conforming to British specifications but not to American. The Chinese often asked Americans when this country might make the change to metric, but also expressed a willingness to bring the problem of other kinds of differing specifications to the attention of their factories. All production in China is now geared to the metric system, making changeover a difficult process. However, if the producers in China feel the demand for Chinese hardware in the US is great enough, they may produce to order.

PRODUCT-BY-PRODUCT RUNDOWN

Antimony—The US market is currently an unfavorable one for the high grade antimony that China wishes to sell, as requirements in the US are for low grade. Instead, antimony is imported from other countries such as Great Britain, Peru and Japan, which are currently selling a lower grade at prices based on actual antimony content. Chinese antimony available is 99.65%, 99.85%, and some 99.5%. Some importers expressed concern that China is selling antimony below world market prices. China now exports antimony oxide and antimony ore.

Antimony Ore—Antimony ore occupies only a small portion of China's mineral exports and the amount exported is declining every year. Exports are now limited to low purity ore—below 40%. At present, it is not even economical to ship this ore to the US as the freight is more costly than the ore.

Anthracite—China can supply certain kinds. Importers in the US found it cheaper to import from China than to buy and ship from East to the West Coast of the US where it is consumed. China exports coal on an FOB basis.

Bauxite—US buyers are more interested in the refractory grade than in the abrasive, but quantities of the former have not been available in the past. Delegation members assured importers that "some" quantities will be offered in the future. Before the arrival of this mission, China had only signed a few spot contracts for bauxite. Representatives said they felt it would benefit them to have longer term contracts, although they could not negotiate for them at the time. They have exported bauxite to Japan and Europe as well as to the US.

Bismuth—Eight types of Chinese bismuth are currently available for export, but the US market is not an inviting one. The duty of 70% is prohibitive, and the price has dropped from $6.00 to $4.04 since the fourth quarter of 1975.

Marble—American companies require marble in heavier thicknesses than China presently offers. While US builders need ½, ¾ or 1" sizes, the maximum that the PRC can supply is 60 x 90 x 2 cm. Normal Chinese size is 40 x 40 x 2 cm. Edges are not polished unless buyers request it. (*China's Foreign Trade* roster of marble products includes round tables and stools, wall hangings, screens, pots, vases, and many more.)

Mercury—Sales of this item were pushed by the delegation but prices for the flasks were too high for US tastes.

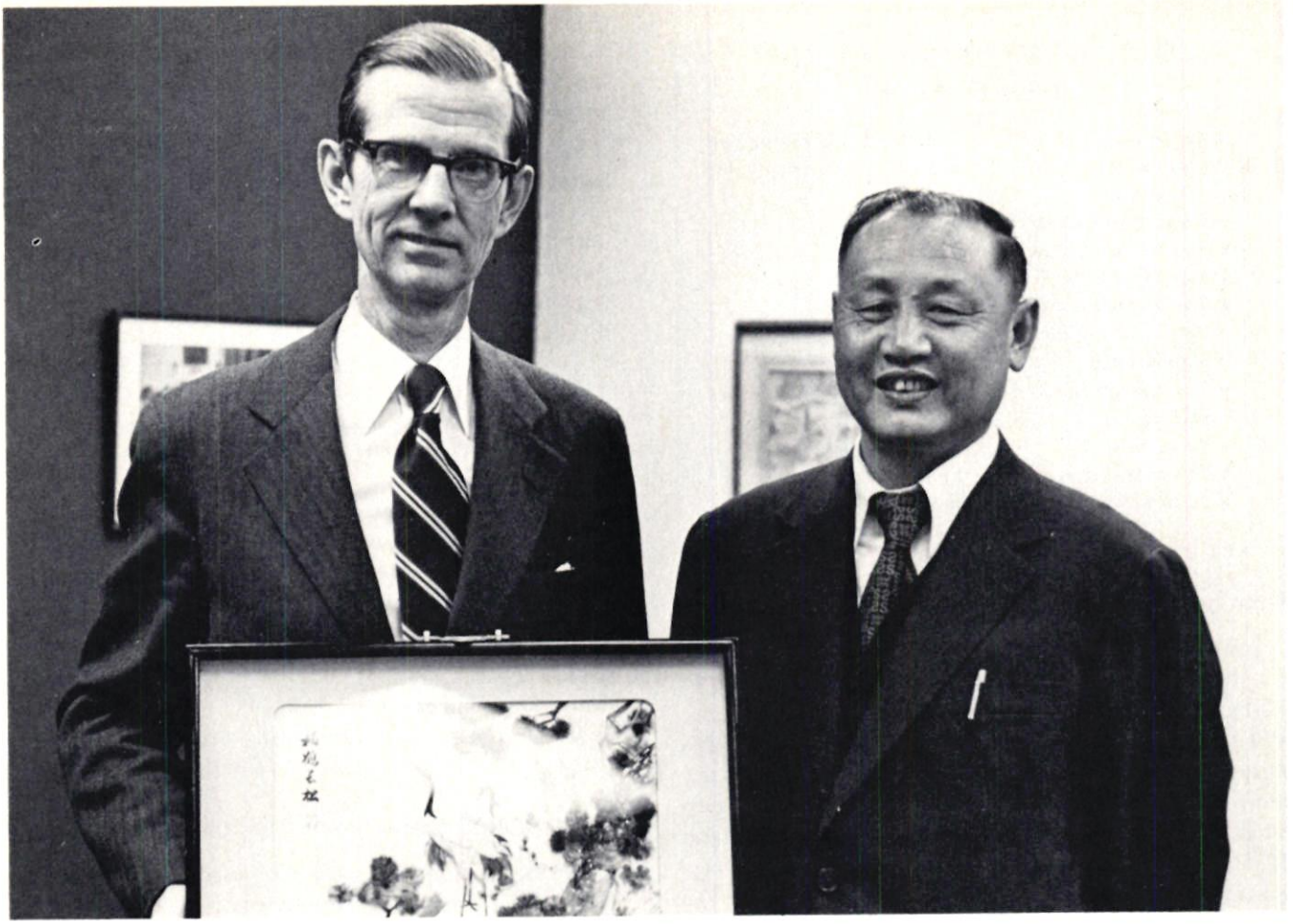
Talc—Was sold by the Chinese during their visit.

Tin—After a bumper 1975 in tin sales, the metal will not be a big seller this year. "The possibility of available tin in 1976 is very small," stated delegation members. They could not promise much to buyers during this visit. China has a short supply of 99.9% min., although supplies of 99% are adequate. The Chinese said they exported much less tin in 1975 compared to 1974 and do not know what the supply will be for the second half of this year. The Minmetals representatives said US government tin import figures are inflated, arguing that a much lower amount has actually been exported directly to the US. Large quantities, they pointed out, were re-exported by other countries to the USA. Importers suggested that China should base its pricing on the Penang price rather than the LME.

Tungsten—In the past, the Chinese have lost money on tungsten sales because of market and currency fluctuations. To protect against any future changes in the market, China now intends to use price formulas in contracts. In the case of wolfram ore, for example, the US tariff poses an obstacle. China cannot compete with the GSA (government) prices for wolfram, scheelite and other tungsten ores.

Zinc—Generally considered a good buy, zinc is available in five different grades: 98.5% purity, 99.9%, 99.95%, 99.96% and 99.99%. The 99.99%, known as "special high grade," is the most traded on the US market. In the US, however, the specifications for "special high grade" call for a lead content of less than .003%, while China's "special grade" contains .005% lead. Minmetals may not be able to supply the quantities needed in this special grade. As China only began exporting zinc two years ago, there may be larger quantities available in the future. Importers stressed the importance of bundling zinc for better handling in the US.

Zircon—A large quantity is mined in China. The price, however, is higher than the Australian price although the Australian type is purer. (The Chinese argued that the price is high because of the high freight rate.) US importers suggested that if the Chinese concentrate on selling material already ground, their business in this mineral will improve. Specifications available for export are 65% for First Grade, 60% for Second Grade. 完



Council President Christopher H. Phillips holds gift from Kao Feng, leader of China's Light Industrial Products Corporation delegation which arrived in the United States February 20 for seven week visit.

NATIONAL COUNCIL ACTIVITIES

- Forms Export Groups
- Appoints Hong Kong Representative
- Legal Panel Reports
- Letter From Chinese Inspection Bureau

The National Council is forming export-related industry committees whose product interests will correspond with those of China's Foreign Trade Corporations. These committees will seek to evaluate the current state of the Chinese market in a number of specific areas, suggest to the National Council ways of expanding US exports in these areas, and coordinate plans for industry exchanges and exhibitions with the PRC.

Among the individual areas singled out for particular attention are petroleum exploration/production and related machinery and equipment; mining machinery and equipment; construction machinery and equipment; computer equipment; food processing and packaging machinery; agricultural products; agricultural chemicals; communications equipment; port and harbor equipment and facilities; medical equipment; land transportation equipment (railroads); land transportation equipment (automotive); materials handling equipment; scientific and measuring instruments; printing machinery and equipment; textile machinery (including synthetic fibers); business machinery and equipment; and machine tools.

COUNCIL SERVICES AT THE SPRING FAIR

The Council's office in the Tung Fang Hotel will have the following services available for visiting US businessmen:

- Counselling services by Council staff
- Electric IBM typewriters
- Kodak slide projector (Carousel)
- Kodak 16 mm movie projector
- Tape cutting facilities for hotel telex machines
- Photocopier
- US Government regulations, tariffs and other references
- A small library
- US magazines such as *Time, Newsweek,* etc.
- A home away from home atmosphere

New Hong Kong Representative—John Kamm

John Kamm, known to readers of this magazine for his articles on Chinese promotion activities in Hong Kong and market for consumer goods in the PRC, has agreed to become the Hong Kong representative of the National Council. Mr. Kamm graduated *magna cum laude* from Princeton and has pursued Asian and economic studies at Harvard and Middlebury College. As of March 1, 1976, he will represent the Council's interests in Hong Kong related to Sino-US trade, including manning Council offices at the Canton Fairs. Mr. Kamm, who heads a market research firm in Hong Kong known as Primary Sources, will be available to brief members of the Council during their stay in Hong Kong, to liaise with AMCHAM China activities, and report on developments in Asia relating to trade with the PRC. John Kamm has already represented the Council at a number of China's export-oriented Fairs—see his report in this issue—and will continue to do so. He has an excellent command of the Chinese language, as well as a current knowledge of economics and business practices.

The Results of the Council's Legal Meetings with the CCPIT

A dialogue concerning the legal aspects of US-China trade was begun during the visit of representatives of the National Council for US-China Trade (NCUSCT) to Peking in November of 1973. These discussions were furthered in January 1975 by the visit of representatives of the American Arbitration Association (AAA) to Peking at the initiative of the Council. The dialogue was continued when, during September 1975, a number of meetings were held with the NCUSCT's Legal Committee in association with the American Society of International Law (ASIL), the Carnegie Endowment for International Peace (Carnegie), and the AAA, and Mr. Liu Shao-shan, the legal expert who was a member of the delegation of the China Council for the Promotion of International Trade (CCPIT), visiting the United States at the invitation of the NCUSCT.

Meetings were held on September 9, 1975, in Washington, D.C.; on September 10, 1975, in New York; and on September 18, 1975, in Houston. At these meetings the Chinese side was represented by Mr. Liu and Mr. Yeh Chung-chi, a member of the CCPIT staff. On the US side, the following persons were present: in Washington, D. C.—Walter Sterling Surrey (Panel Chairman, NCUSCT Legal Committee); Seymour J. Rubin (ASIL); John L. Hargrove (ASIL); Charles W. Maynes, Jr. (Carnegie); Eugene A. Theroux (Panel, NCUSCT); Jerome A. Cohen (Panel, Harvard Law School); and Benjamin P. Fishburne, III (Panel, NCUSCT). In New York—Walter Sterling Surrey; Charles W. Maynes, Jr.; Howard Holtzmann (AAA); Gerald Aksen (AAA); Donald B. Strauss (AAA); Benjamin P. Fishburne, III. In Houston—Walter Sterling Surrey; Raymond Hofker (Vice President and General Counsel, International Systems & Controls Corporation); Evell E. Murphy, Jr. (Baker & Botts); Gibson Gayle (Fulbright and Jaworski); and Leon Brinsmade (Butler, Binion, Rice, Cook & Knapp).

CCPIT Legal Department Functions

During the meetings the Chinese pointed out that the CCPIT legal department did not actually function as the "in house" lawyers for China's foreign trade corporations. It did, however, maintain close contact with these corporations, and was consulted when legal problems arose. After the corporation had received legal advice, as is the case in the United States, it was the corporation that made the final decision on what action to take. The Chinese side also stated that copyrights were not within the jurisdiction of the CCPIT.

They noted that, since there was no Chinese patent office, it was difficult to identify the correct organization within China with whom to discuss the question of patent protection. The question of a patent system was one in which the Chinese were interested, and it was noted that China had sent a delegation to observe at the recent World Industrial Property Organization meetings. The Chinese also pointed out that the People's Republic of China was now a full participant in the United Nations and that it was expanding its contacts with various United Nations organizations. They indicated that the CCPIT would suggest that it would be of value for China to participate actively in the work of UNCITRAL and, to this end, the CCPIT would appreciate learning more about the activities of UNCITRAL.

The Chinese position concerning patents is that technology can be satisfactorily protected by contract language. It was stated that the Chinese liked to be

certain that the technology merited protection before agreeing to a contractual clause granting this protection.

The basic protection given by contract would be a provision whereby the Chinese agreed that they would not allow a third party to use a patented device during a period agreed to in the contract. The Chinese would agree that there would be no export of a patented product and that such agreement would be binding upon all entities in China. When asked about the mechanisms for enforcing such agreements, the Chinese side stated that the best procedure for the US side would be to state in writing the types of protection of technology which it felt necessary or desirable and that the Chinese could respond to these suggestions.

Trademarks

The Chinese stated that they understood that the registration of Chinese trademarks in the United States was possible under existing US law. They also noted the necessity of a bilateral agreement between the governments of the United States and the PRC before US trademarks could be registered in China. The Chinese side indicated their hope that the cooperation between the National Council and the CCPIT on the question of trademarks would lead their respective governments to the point where a bilateral agreement could be concluded and requested that the NCUSCT propose a recommended procedure. They also noted that trademark protection could be afforded by contract, as was the case with patents, and suggested a written statement to the CCPIT as to what sort of contractual protection was deemed appropriate by the US side.

Importers Note—
China Commodity Inspection Bureau Writes that Buyers Have Right of Reinspection

In a letter to the National Council dated August 25, 1975, the Commodity Inspection Bureau of the PRC (CCIB) states that buyers of Chinese products have the right of re-inspection, which US importers may not have known before. Referring to a report on a meeting with the China Commodity Inspection Bureau, published in *US China Business Review* (Vol. 2, No. 3, p. 49), the Bureau points out "Your report says that there is a so-called onesidedness in the regulations of China's export and import commodities inspection. We hold that this does not confirm with the actual fact. At present, when negotiating inspection clauses with the businessmen from other countries, our foreign trade corporations generally abide by the stipulation: For our exports, the certificates issued by China Commodity Inspection Bureau shall be regarded as the basis for settlement of payment, and buyers have the right of reinspection. For our imports, the inspection certificate issued by exporting countries may be taken as the basis for negotiating payment, and we, as buyers, have the right of reinspection. Such a principle manifests the spirit of equality and mutual benefit. Of course, this does not exclude any flexibility at the time of negotiating contract by the buyers and sellers."

The letter also commented on the function of China Commodity Inspection Bureau. "According to the relevant laws and regulations promulgated by our Government, the inspection work of China's export and import commodities must be under the unified control of China Commodity Inspection Bureau and its branch offices. As to our domestic trade, the inspection work shall not fall within the scope of our responsibility, but be conducted by other departments concerned."

The letter ends by saying, "the exchange of views is of positive significance to promotion of central understanding." The National Council is happy to encourage such an exchange of views. 完

COUNCIL'S CHINESE LANGUAGE DIRECTORY OF AMERICAN COMPANIES 1976 SUPPLEMENT

Heavy response has already been received for the National Council's Chinese Language *Directory of American Companies 1976 Supplement* to the 440-page 1975 edition.

There has also been appreciation from the CCPIT via whom 1,800 copies of the 1975 edition were distributed in China. In a letter to Mrs. May Li Phipps, who is responsible for the project at the Council, the Liaison Department of the CCPIT wrote:

"We appreciate the efforts the Council has made in promoting the development of trade between China and the United States. We also want to express our appreciation for the hard work that you personally contributed to the publication of this Directory.

"The information contained in the volume is helpful to our foreign trade organizations in understanding American companies. The China Council for the Promotion of International Trade (CCPIT) has already distributed the Directories to all concerned organizations. We believe they will find the directories of interest to them."

As before, copies of the 1976 version (2,000-2,200) will be sent to China, and 500 individual folders for company use will be printed for each new participating company and for those with revised texts. The deadline for material is July 1, 1976.

Fees for member firms are as follows: For unchanged text from the 1975 Directory—$150; For revised 1975 entries—$300; For new entries—$600. Corresponding fees for non-members are $300, $500 and $1,000. 完

TEN LEADING US EXPORTS TO THE PRC 1975
By Seven Digit Schedule B Category

		Percent of All Exports
Cotton upland, 1 inch to 1 1/8 inch	$ 62,598,467	20.6
Aluminum and aluminum alloys, unwrought, nec	39,515,825	13.2
Machines and parts, nec, for treating material by temperature change, condensing unit parts, nec, and heat exchange parts, nec	17,530,790	5.7
Cotton upland, 1 1/8 inch and over	17,059,506	5.6
Gas compressors, centrifugal and axial	13,782,793	4.5
Steam engines and turbines incorporating boilers and parts	12,453,032	4.1
No. 1 heavy metal steel scrap except sheets	8,459,347	2.7
Aluminum and aluminum alloy, extrusion ingot and billet	6,775,547	2.2
Fabricated structural iron and steel	6,330,395	2.1
Boring and drilling machines, nec, for mining and construction	4,985,303	1.6
Total Leading Ten Exports	$206,550,511	62.3
Total All Exports	303,630,913	100.0

TEN LEADING US IMPORTS FROM THE PRC 1975
By Seven Digit TSUSA Category

		Percent of All Imports
Tin other than alloys, unwrought	$40,606,750	25.6
Piece shirting, nes, white cotton, not fancy, bleached or colored	15,063,421	9.5
ABC sheeting, white cotton, not fancy, bleached or colored	10,047,822	6.3
Antiques, nonspecified	4,436,676	2.8
Rosin	4,140,673	2.6
Silk, raw in skeins, etc., nes	3,497,251	2.2
Bristles, crude or processed	3,480,895	2.2
Fireworks	2,904,185	1.8
Baskets and bags, of unspun vegetable materials, nes	2,503,026	1.6
Twill, nes, white cotton, not fancy, bleached or colored	2,401,017	1.5
Total Leading Ten Imports	89,081,716	56.1
Total All Imports	158,339,870	100.0

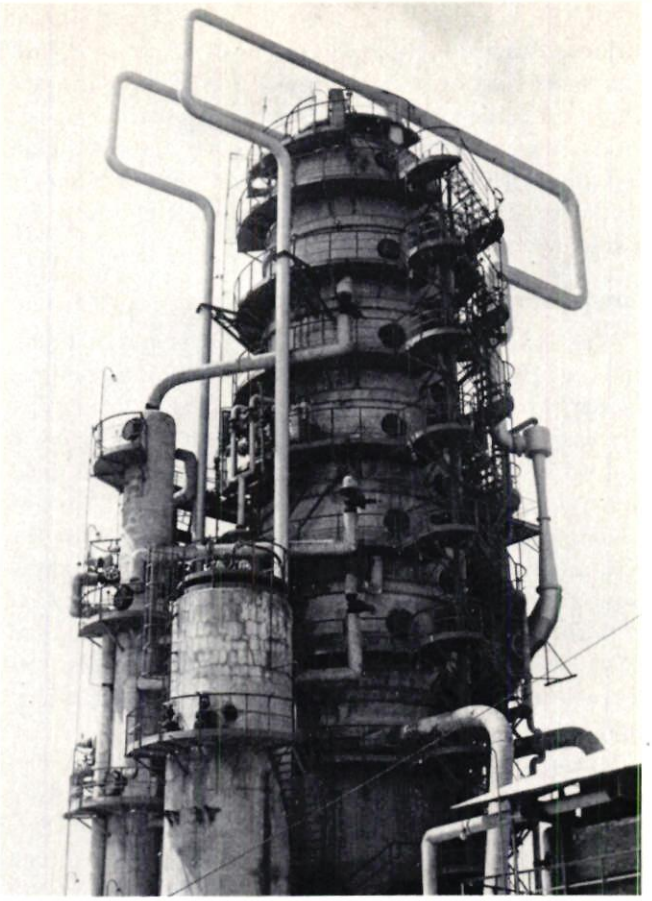
Source: NCUSCT based on E-W Trade Bureau data. Figures are preliminary and subject to revision.

THE FIRST FIVE YEARS
REVISED SINO-AMERICAN TRADE FIGURES 1971–1975
($ Million)

	1971	1972	Percent Change	1973	Change Percent	1974	Change Percent	1975	Change Percent
US Exports	$—	$63.5	—	$740.2	1065.9	$819.1	10.6	$303.6	−62.9
US Imports	4.9	32.4	561.2	64.9	100.3	114.7	76.7	158.3	38.0
Total	$4.9	$95.9	1857.1	$805.1	739.5	$933.8	16.0	$461.9	−50.5

Alistair Wrightman

JAPAN AND CHINA'S OIL-PROCEEDING WITH CAUTION



The question of China's oil has been debated by western observers over the past year or so from many angles. Many questions remain unanswered, particularly the viewpoint of Japan, the trading partner receiving 80% of China's oil exports. This piece, by UCBR's Tokyo correspondent, goes in depth into Japan's view of things.

The final figure for Japan's calendar 1975 oil imports from the PRC was 9.1 million metric tons. Hardly into calendar 1976, however, China cut its oil exports to Japan in February by half. The slash reduced the amount of crude shipped to the Japanese refineries to only 250,000 tons. The March supply too will be curtailed by between about 40 percent, to 300,000 tons, and April shipments by about 50 percent, to 350,000 tons. Thus it should be difficult to reach the calendar 1976 revised total target for Japan's oil imports from China of 10 million tons.

Responsible for the Chinese action, apparently, was Peking's emergency shipments of crude oil to North Korea. The region has been suffering from a severe cold wave in recent months, so much so that the country's coal and crude oil stocks have been badly depleted. The USSR took the opportunity to offer Japan oil supplies, sending representatives to Tokyo in early March. But Japan's own tanks have been full enough during a recessionary period.

Reports from China indicate that the situation is only temporary and that summer shipments probably will tend to make up for the discrepancies. Nevertheless, there are some prominent Tokyo businessmen who believe that Communist states can be extremely fickle trading partners and that this is a perfect example.

These gentlemen complain that the regime in Peking did not notify Japan of the reason why the cutbacks were coming and that the notification of the partial closing of the spigot reached the Japanese capital even as a number of tankers were preparing to sail to pick up the oil.

Well before the Organization of Petroleum Exporting Countries started jacking up their oil prices in late 1973, the Japanese were expressing considerable interest in the importation of large quantities of Chinese crude during discussions with representatives of the People's Republic of China. But it was not actually until 1973 that Japan's annual import of Chinese crude oil reached even the low figure of a million metric tons.

A year later, however, the amount was up to 4 million tons annually (1.65 percent of Japan's total oil purchases) and in 1975 it is likely that Japan will have imported close to nine million tons (4 percent of the total) Before the developments in early 1976, Japan was to purchase at least 10 million tons of Chinese crude in 1976, with the imports steadily climbing for several years thereafter.

Long Term Agreement

Much depends, of course, on the chances that Japan and the PRC will sign a long-term crude oil import agreement this spring. As of the present time, Vice Premier Li Hsien-nien and Petroleum and Chemical Industries Minister Kang Shih-en have what has been described as a "somewhat flexible attitude" toward concluding such an arrangement with Japan. In the view of Toshio Komoto, Japan's Minister of International Trade and Industry, Chinese officials will adopt a positive approach to a long-term arrangement if Tokyo can develop attractive commercial details, presenting them in sufficient time for China's consideration before spring.

Strongly supporting conclusion of a long-term import arrangement for Chinese oil are the top-ranking officials of the powerful Japanese Federation of Economic Organizations (Keidanren) who feel it is necessary to eliminate the embarrassing trade imbalance between the two countries as well as to reduce Tokyo's dependency upon OPEC suppliers. From the Japanese point of view, it doesn't make sense to import Chinese crude on a year-to-year basis when there is no doubt but that China will become a major oil producer and exporter within a decade. Japan expects to be the largest buyer of that oil.

The agreement, which would be effective as of April 1, the beginning of Japan's fiscal year, would include the following features:

- Ten million metric tons of oil to be imported by Japan during the first fiscal year (1976–77)
- An agreement for five years (1976–1980) during which time China would supply an amount of oil roughly equivalent to 20 percent of Japan's total oil needs.
- The actual yearly amount to be decided by consultation of the two sides every year during the agreement.

For Japan's side, MITI was eager that Peking reduce per barrel prices by about 70 cents from the present levels to bring China's price in line with Arabian Light, with the guarantee that Japan would agree to increases in the price corresponding to rises in Middle East crude.

In addition, Japan is asking China to buy plant and equipment from Japan in "exchange" for oil imports. Part of the funds for machinery exports would be provided by Japan's EximBank.

Japan's Future Oil Needs

Curently, despite the 1973 oil crisis, Japanese industries depend on Mideast oil for 80 percent of their needs. But according to Tokyo projections, the nation's oil imports on an annual basis will rocket from the present 300 million kiloliters to a total of 500 million kiloliters per year by 1985.

Some quarters within the Japanese Government would like the additional 200 million kiloliters of crude oil to be imported from the PRC each year, possibly as the result of an economic alliance between Tokyo and Peking. It is believed that well before 1985 the Chinese production of crude oil will be more than equal to such purchases by Japan. Other quarters see this as unlikely, citing China's present production and export levels.

Perhaps because of Japan's heavy reliance on the big Middle East fields in the past, the Japanese oil industry is not coming out in support of such a program—at least not right now. Industry leaders claim to be worried about reactions in the Arab states and in the board rooms of the massive American and European firms which have a tight grip on the nation's supplies of crude.

Japanese statisticians point out that in fiscal 1976 China's oil as a percentage of Japan's total crude imports won't pass five percent at most. Yet, although the Japanese hope to sign an oil import contract with the PRC before summer, they do not know just what amount of crude will be involved in the government-guaranteed deal, even if it covers the next five years. So it is considered impossible at this juncture to predict what the percentage might be by 1980.

Japan's Rival Import Channels

There are two principal private-level channels for import of Chinese crude. One is Japan's International Oil Trading Company (Kokusai Sekiyu-IOTC); the other is the Conference on Import of Chinese Petroleum. Both deal directly with the officials of the China National Chemicals Import and Export Corporation.

This would seem to indicate that the situation is far from complicated. The reverse is, in fact, true. Both the IOTC and the Conference on Import of Chinese Petroleum in the past have been coordinating their activities through the good offices of the Japan Association for Promotion of International Trade, Japan (Kokubosoku) in Tokyo and Kokubosoku's Kansai affiliate, actually a quite separate and often rival group, and the quasi-governmental Japan-China Economic Association. But now the Keidanren is heavily involved as well.

Due to Socialist and Communist disputes within the Kokubosoku offices in Tokyo that have caused extreme difficulties in that organization, the Kansai affiliate has been acting independently and not infre-

quently at cross purposes. Therefore, with Peking's tacit assent, the Keidanren is now the overall coordinator of trade matters with China.

The Keidanren was one of the channels through which MITI has approached Peking. Before the long-term oil plan was publicized, a Japanese industry group, headed by Yoshihiro Inayama, chairman of Nippon Steel, went to Peking to discuss the project as part of Sino-Japanese trade overall. This visit, in January 1975, was followed shortly afterwards by another from Japan's Natural Resources and Energy Agency, which discussed with the Chinese the need for a long-term oil supply arrangement.

Then, in a last preparatory step, a Keidanren group of 16 business leaders, headed by Keidanren's president Toshiro Doko, went to Peking in October and completed paving the way for MITI's November announcement of the long-term oil supply proposal.

Rivals and Majors

It is now clear that the Keidanren's leaders have set themselves the task of building a consensus within the rival importing organizations. But the situation is also complicated by the fact that the majority of Japan's oil supplies are presently imported through US-based "majors." There is a desire in Japan to decrease dependence on the majors and increase the government-to-government role.

One of the two importing organizations, the Conference, comprises companies with foreign affiliations. The other, the IOTC, was established by Japanese independents. One of the Conference firms, Nippon Oil, associated with Caltex, will probably be the second largest importer of Chinese oil to Japan in 1976. Another firm, affiliated with Exxon and Mobil, reportedly plans to buy Chinese oil starting April 1976. Nippon Oil may even "tilt" away from Indonesian in favor of Chinese crude. It has also been speculated that, via these US-affiliated firms, Chinese oil might find its way to the US.

A Ten-Year Program—to the US and Western Europe

Inside the oil industry the thinking is that the best road to take regarding crude oil imports from China would be along the lines of a 10-year import agreement based upon prevailing international prices. Whether these businessmen can bring about such a consensus at this time is a major question. Obviously, a preparatory period is necessary. Yet no one in Tokyo can say just how many months may be required. The major obstruction would seem to be the strong feeling within Japan's oil industry that the present practice of buying Chinese oil on a year-to-year spot basis should be continued indefinitely.

With or without a 5-year or even a 10-year long-range import program, Japan's External Trade Organization (JETRO) estimates that by 1980 Tokyo probably will be purchasing roughly 35 million tons of Chinese crude and perhaps much more. According to JETRO projected statistics, 35 million tons would be approximately 70 percent of China's oil exports at the beginning of the next decade.

In an analysis of the situation, JETRO authorities claim that although the PRC currently is exporting oil products to Japan, North Korea, Vietnam, Hong Kong, the Philippines and Thailand, after 1980 Peking will be exporting oil to the United States, Australia, Brazil, Tanzania, Zaire and some countries in Western Europe. This likelihood has been referred to on occasion in Tokyo as yet another argument in favor of some sort of long-term government-to-government agreement.

The potential for China's oil sales to Japan was dampened somewhat by Japan's failure to buy the contracted amounts of oil from the PRC, both in 1974 and 1975 due to a depressed economy. The market in Japan for ME oil, with its higher and more profitable non-residual content, has also tended to rise, the share of so-called "heavy oil" in total Japanese output declining in recent years while that of "light oil" has steadily risen. Japanese oil firms have suffered seriously too, along with the economy. And, the refining and handling problems of Chinese oil have proved such that at least one of the present importers thinks it would be more profitable for Japanese machinery and steel manufacturers to import it than themselves.

Severe Handling Problems

Offering a counter argument against steadily increasing imports of Chinese crude, Japan's oil industry contends that the Government in Tokyo must first provide assistance to the refineries which already are experiencing severe problems in handling and processing Chinese crude. The industry points out that China's oil contains much more heavy oil and paraffin—although admittedly less sulfur—than the crude from the Middle East. (See UCBR Vol. 2, No. 6, p. 46).

Chinese crude simply is not suitable for Japanese refining facilities, which are mainly designed for Middle East oil. This problem cannot be solved unless expensive new facilities for residue cracking are installed in Japan, the industry complains. This would raise the refining costs of Chinese crude oil and the market prices of the oil products, of course.

China's Taching oil is similar to Minas crude in quality (high in residual oil content, low in sulfur) and competes with Minas as fuel for thermal electricity plants. Japanese power companies are presently deemphasizing the use of high residual oils, seeking alternative fuels such as LNG and coal.

Big business leaders, especially those in the Keidanren, have been dropping hints since December of last year that the Government of Prime Minister Takeo Miki may come through with a large-scale funding program and perhaps other types of aid as well if the

refineries decide to accept considerably larger volumes of Chinese crude. Yet the refinery executives emphasize that before they could agree to such a move they would want to know who would bear, or possibly share, the cost of converting China's oil into more light, more usable grades suitable for refining into gasoline and kerosene.

At the present, Chinese crude imported by Japan usually is burned without refining in heaters under the boilers of the power companies as a low-pollution fuel. The refiners claim that for them to convert the Chinese crude into lighter grades would cost an estimated $328 million for a 100,000-barrel-daily facility. To extract gasoline, kerosene, and residuals from China's oil in the same proportions as that from Middle Eastern oil, adds $2.00-$3.00 a barrel to the price.

The industry's leaders also back up their reluctance to go along with the plan to raise imports of Chinese crude well beyond 10 million metric tons annually by emphasizing that difficult and costly problems result from the paraffin-rich oil gumming up the pipes at temperatures under 32 degrees centigrade. Not only is transporting the crude a delicate matter, apparently, but there is heightened danger of explosion when the oil is heated sufficiently to permit it to flow freely.

Tanker Sizes-Versus-Proximity and Cost

Beyond doubt these problems make crude oil from the PRC much less profitable at present prices. Refiners in Japan emphasize that the oil offered by China is priced too high at $12.30 per barrel, even though Indonesia's low-sulfur Minas oil is priced at $12.60 to $12.80 per barrel. There are reasons.

Minas oil is not heavy with paraffin (though it is also waxy) and it can be carried in huge, economical tankers. Unfortunately, China's closeness to Japan, which normally might reduce costs of transporting the crude oil, avails little in view of the shallow qualities of the Chinese ports.

(Japan has also had certain economic ties to Indonesia, including investments, that are important links with that country. Indonesia continued to supply Japan with oil during the "energy crisis," neither of which facts have been forgotten.)

Up until the present, despite continuing efforts to improve China's ports, most of the facilities handling that country's crude oil exports are capable of loading tankers of between 25,000 and 50,000 deadweight tons—although there are reports out of China that at least one or two of the new petroleum loading terminals can now accommodate up to 100,000 deadweight ton tankers.

It is a good bet that the Chinese will be constructing more of these deepwater oil terminals, but this won't mean as much to the Japanese petroleum importers unless the ports are deepened to accept the 300,000-ton supertankers which presently are sent to the oil ports of the Middle East or the 100-150,000 ton tankers plying Indonesian oil to Japan.

Japanese refiners report that they have yet to send tankers of more than 50,000 deadweight tons to China's oil terminals. In their opinion, the fact of the matter is that the larger facilities do not appear operational and are not likely to be available for use for some time.

Yet this view clashes with recent purchases by China of five used 90,000 deadweight ton tankers previously owned by Japanese and Greek shipping firms. It is not considered that the Chinese would add these vessels to their fleet if their oil loading facilities would remain unable to accept them.

Nevertheless, currently Japan's imports of Chinese crude are reaching the islands in tankers of 20,000 to 30,000 deadweight tons, resulting in a per barrel shipping cost of from $00.70 to $00.80. This is just around the same cost which the Japanese have had to pay for shipping crude from the Arab states.

Cooperation Arrangement?

And so, with the Japanese Government under pressure to accept more Chinese oil as a way of balancing two-way trade that now heavily favors Tokyo, it is not surprising that the administration of Prime Minister Takeo Miki is seeking an answer to the special cracking facilities required to handle the very high residual content of China's oil.

While MITI is planning to assist Japan's refiners in investing massively in installation of residual oil cracking and dewaxing equipment to assist in the handling of China's low gravity crude, others in the Miki Government have unofficially offered Peking such a facility for construction in China—provided the operation's total production is shipped to Japanese refineries.

It was suggested to the PRC that such a facility might be built near the Takang oil field, 60 kilometers southeast of Tientsin and along the coast of Pohai Bay. This field is a major source of Chinese oil, but it is crude with high heavy oil fraction and a high temperature pour point.

As predicted, the Chinese have not replied to the offer and those in Japan who have had frequent dealings with PRC authorities in recent years say they would be surprised if Peking even admits that the suggestion was ever made. They seem little interested.

More likely, therefore, is fulfillment of MITI's plan to provide long-term, low-interest loans to oil refiners willing to construct light gravity crude refining facilities for processing Chinese crude oil as it arrives from the PRC. As matters now stand, MITI officials hope to be in a position to provide $9.5 million or so in such loans through the Industrial Bank of Japan, and the Japan Development Bank.

Each facility, as conceived by MITI specialists, would be capable of processing 50,000 barrels of

Chinese crude daily. However, these figures—both the loan amount in total and the production capacity—are considered far too low by private refining company executives in Japan. It would seem that the MITI program is open to dispute.

Of more interest to the PRC is the proposal, put forward several times in recent months, that Japanese technology be introduced to further develop oil resources and to advance the liquified natural gas (LNG) and petrochemical industries. The Chinese are known to be giving such schemes serious consideration.

Until recently, it had been believed in Tokyo that the PRC would only reject any offer of inviting in Japanese technology. But considerable high-level and sophisticated technological knowhow has been admitted to China over the last year or so because of the need to modernize Chinese port and harbor facilities, especially in the case of container berths and terminals.

Some Japanese who deal regularly with China claim that they have received the impression that the PRC will shift its proud policy just sufficiently to transform oil product exports into a solid pillar in the country's economic development. Obviously it is going to be difficult to do this without conflicting with Peking's intention to stick to a self-help scheme.

LNG Proposal—20 Year Agreement Talks

During the past few months something of a test case has begun to take shape, with Chinese officials studying a plan put forward by three Japanese companies which calls for construction in China, with assistance from Tokyo, of a liquefied natural gas (LNG) plant. As in the offer to build a heavy oil refinery in China with facilities for eliminating the paraffin content, the Japanese are asking that the LNG produced at the new plant be exported in its entirety to Japan, beginning as early as 1978.

Bridgestone Liquefied Gas, Ishikawajima-Harima Heavy Industries and Toko Bussan Company between them plan to import from China a total of 300,000 tons of LNG annually. This would be the entire yearly production of the plant they have in mind for the Takang oil fields.

Executives of Bridgestone already have presented the PRC with a suggested blueprint for a plant which would refine, liquefy, store and then ship LNG to Japan. Chinese authorities, in turn, have talked of the possibility of a 20-year contract and sale to the three Japanese firms of LNG at international price levels. Whether the PRC really intends to make the LNG plant a test case is open to argument. But it could set something of an example or a standard if the Chinese want to consider it as such.

Yet leaving aside the extensive plan of the PRC to raise China up to a level of the most advanced industrial countries of the West by the year 2000, it would seem that the country will have to sell much more of its petroleum products throughout the world if it is to meet its import bills.

This does not mean that Peking is intending to launch a massive program to import consumer goods, just that the Chinese will require huge amounts of industrial products, such as steel and machinery, to reach its final target during the next quarter of a century. The Japanese themselves already sell China approximately 3,000,000 tons of steel each year. Most of it is used by the PRC for manufacturing farm machinery, tools, pipes and pipelines, and business and industrial construction. Much also is being used in oil pipeline tubes, drilling rigs, storage tanks and similar items.

There has been talk of so-called "barter" agreements, in which Japanese steel and other products regularly sold China by Japan would be swapped for oil. But there is nothing to report on these talks yet.

Government-To-Government

Meanwhile, there is widespread speculation in Japan that the Chinese will agree to some sort of long-term arrangement by April permitting regular exports of PRC crude oil and that by 1980, no matter what happens, China will evolve into one of Tokyo's major suppliers. In addition, as noted above, talk in the Japanese capital concerning the likelihood that instead of private-level organizations in Japan handling the purchase of PRC crude oil it might be appreciated in Peking if such arrangements were conducted in future by government-to-government negotiations.

From such a perspective—government involvement in a direct fashion on behalf of Japan, that is—it would appear an excellent bet that Tokyo would find itself importing almost 40 to 50 million tons of Chinese crude oil on a yearly basis well before the end of this decade.

Nonetheless, not a small number of Japanese business leaders are quick to caution against an oversimplification when regarding the oil resources and exports of the PRC. There is the feeling that Tokyo should not tend to consider Chinese crude on the same footing as Middle Eastern, Indonesian or other oil supplied to Japan. Reason: the psychology of the Chinese, whether business or merely ordinary relations are involved, is entirely different.

One result of these words of caution in the latter part of 1975 has been the repeated reminder in Japanese circles that the late Premier Chou En-lai himself frequently reiterated that the PRC's policy must remain one of not allowing China to become a raw material exporting nation. This would seem to indicate fairly strongly that any nation which allowed itself to become too dependent upon Chinese crude oil in the future would be courting disaster. 完

A SINO JAPANESE CRUDE

This Contract is made between China National Chemicals Import and Export Corporation General Headquarters (hereinafter called Seller) and (
) (hereinafter called Buyer), as a treaty of comity and friendship, upon the terms and subject to the conditions hereinafter set forth.

1. **Product Name:** Taching Crude Oil
2. **Quantity:**
   ***,000 L/T (1 L/T equals 1.016 Kg., and the crude oil weight conversion is handled according to SYB2206-60).
3. **Typical Inspection:**

	Factor	Test Method
(1) Specific Gravity D 20/40°C	0.85-0.856	SYB2206-60
(2) Sulfur Content wt. %	0.11 max.	GB387-64
(3) Water Content wt. %	0.5 max.	GB260-64

4. **Price:**
   (1) As to *00,000 L/T in the 1974 former half, Yuan *****/bulk net weight L/T. (Yuan *****) FOB ex Dairen Port.
   (2) As to *00,000 L/T in the 1974 latter half, July thru Dec., the negotiation is to be held separately in June, 1974, based on the prevailing price fluctuation that time in the international market.
   All deliveries shall be deemed to be complete when the crude oil has reached the flange connecting the delivery facilities ashore with the receiving facilities aboard the tanker. The crude oil shall be pumped at the risk and peril of Seller up to that flange only and thereafter title shall pass to Buyer with the resulting risk and peril.
5. **Deliveries:**
   *00,000 L/T in the 2nd quarter and *00,000 L/T in the 3rd and 4th quarters, the concrete deliveries setup shall be fixed separately.
   The delivery volume in each quarter shall be leveled evenly in the months.
   The request of an advance—or a deferred shipment of each quarter shall be advised for its consultation by the requesting party to the opposite party in advance of thirty days of the said quarter.
6. **Delivery Port:** Port Dairen, China
7. **Destination:** Ports in Japan
8. **Payment:**
   In accordance with Article 10, Item 2, of this Agreement, Buyer shall open the irrevocable, transferrable, divisible and payable in Yuan at sight letter of credit for The Chemicals Corporation, Dairen Division as the beneficiary, in advance of ten days before the lot loading as stipulated in the shipping volume schedule & due dates agreement, via a mutually concurred bank channel.
   This letter of credit shall be payable at the bank with the bill drawn by the beneficiary designating the opened bank as the payer, endorsed with the documents specified in Agreement, Article 9.
   The amount quoted in L/C shall be fixed respectively, allowable for ± 5% deviations, in accordance with the lots in the delivery schedule. The bank costs outside of China shall be borne by Buyer.
9. **Documents:**
   (1) Seller shall submit the following documents to the payer bank in order to endorse the payment.
   a) Invoice—4 copies
   b) Clean Bill of Lading—1 original
   c) Inspector's Certificates of Product—1 copy each Quality, Weight & Place of Origin
   (2) Seller shall forward two sets of the above-mentioned documents copy via air mail to Buyer within five days after tanker's departure.
   (3) Seller shall submit two sets of the above-mentioned copies to the loading tanker in order to hand them over to consignee at delivery port.
10. **Loading Notice & Conditions:**
    (1) The dirty ballast of Buyer's tanker shall be disposed by itself in advance of its arrival in the loading port. No waste water shall be emitted in the harbors.
    (2) Buyer shall advise Seller of his offtake schedule by lots (specifying each tanker's name) in the following month, by cable in advance of twenty days before the said month. Seller shall answer to the Buyer's notice by cable within five days of his acceptance.
    Buyer shall make arrangements for the tanker schedule to the loading port in accordance with the mutually concurred offtake lots and tanker schedule.
    (3) Buyer shall give Seller (inclusive of its Port Dairen Regional Office) and to the Port Dairen export agent five days prior cable notice of deliveries required, specifying the name of vessel, its nationality, approximate date of delivery and quantity. Buyer shall give forty-eight hours advance notice before the port entry of his confirmation of what has been advised before.
    (4) At the Buyer's failure to get the assigned tanker to the loading port at the due date, the time lag in excess of one day shall be counted out in the running hours.
    (5) The draft of Buyer's tanker shall not come in excess of 31 feet at the peak load; the length shall be less than 600 feet; the loading capacity shall be less than 20,000 L/T. Any deviation from the above specifications shall be consulted fully with Buyer for his concurrence in advance, or the resulting dead space and the relevant loss is to be borne by Buyer.
    (6) After the loading is over, Seller shall notify Buyer by cable in twenty-four hours of the cargo's contract serial no., product name, specific gravity, vessel's name, consignee, loaded quantity, destination, invoice price and departure date.
11. **Loading Regulations:**
    (1) At the tanker's arrival in the loading port, the tanker captain take proceedings for the entry (inclusive of joint inspection, tank check, etc.) at the Port agency. If the proceedings are over and the loading conditions are all set, the captain hands over the loading conditions completion notice to the Port agent and, after signing his name for confirmation, sets about the counting-up in accordance with the stipu-

lations as follows. The captain's notice shall be delivered in person within the office hours. If it is delivered by 12:00, the running hours count from 14:00; if delivered by 18:00, they count from 08:00 the following day. When the following day falls on a holiday, counting-up is postponed till the first working day following.

(2) The Seller's running hours shall be completed within the consecutive forty-eight hours, except for the case where a rough weather such as a gale and a thunderstorm stands in the way or where the Port Authorities stipulate otherwise. (The disconnection of its loading pipe shall be deemed as the loading completion time). The loading on a holiday is carried out at the Seller's option and is counted into the running hours. If loading is suspended on a holiday, the elapsed time is counted out of running hours.

(3) After the loading is completed, Buyer shall allow for four hours in the Seller's preparation of loaded quantity conversion and the shipping documents. The grace hours are counted out of the running hours.

(4) The elapsed lay time caused by the Port Authority stood in the way of moorage from its safety point of view shall be counted out of the running hours.

(5) At the failure of the loading completion within the stipulated hours in this Article, Item 2, Seller shall pay the demurrage to Buyer in accordance with the charter party. The demurrage, however, shall not come in excess of the demurrage rate in the World Scale. The demurrage caused by the accident of machinery or power while in loading shall be reduced by half at settlement between Seller and Buyer.

(6) The tanker's doings in the loading port shall be prepared by the Port agent in rigid conformity with the captain's running hours calculation endorsed by his signature.

12. Product Inspection:

(1) Weight Measurement:

The weight shall be quoted from the weight measurement certificate issued by the Product Inspection Bureau of China at the loading port; the weight measurement entered in the shipping documents shall be quoted from the Certificate. The quantity entered in the weight measurement as well as in the shipping documents shall be referred to by both Seller and Buyer as the delivery volume under this Agreement.

(2) Quality Check:

The product collected out of the bulk by the Product Inspection Bureau in accordance with the sampling procedure if SYB2001-59 is, after blending, divided into four samples as the standard reference of the Seller's product.

The product quality certificate issued by the Product Inspection Bureau after the analysis of one of the samples is the basic reference of the Seller's product. Out of the rest, one sample is entrusted with the tanker for the Buyer; one is retained by the Seller; one is retained by the Product Inspection Bureau for retest and arbitration.

(3) When the product arrives at the destination, Buyer shall have the right to re-check the product's quality and quantity on the Buyer's account. At any discrepancy in quality and quantity with the contract stipulations, Buyer shall have the right to make a claim for the damages. The natural loss during the course of transportation and the quality/quantity change during the same while, however, shall not be covered under the damages. The claim shall take effect if it is raised within thirty days after the product has arrived at the destination.

13. Force Majeure:

At the Seller's failure by dint of Force Majeure to make the delivery by the due date, Seller shall have the option either to defer the delivery, partly or wholly, or to withdraw the delivery under contract, partly or wholly. Seller shall be obliged to submit to Buyer the exhibit prepared by the China Council for the Promotion of International Trade in order to attest the occurrence of such an accident.

14. Penalty:

At the Buyer's failure to open a letter of credit in spite of the stipulations in the Agreement, Buyer shall be imposed of a penalty for the Seller's damages caused by the resulting hindrance to fulfill the due delivery, partly or wholly. The penalty amount shall be 1% of the total amount under contract or the amount equivalent to the hampered delivery, case by case.

15. Arbitration:

At any and all the disputes caused relevantly or resultingly with this Agreement, both Buyer and the Seller shall be obliged to consult with each other for the amicable settlement. If Buyer and Seller can not reach a solution of the issue through the consultation, either of the parties can submit the issue to arbitration, which shall be lodged at the competent person in the respondent's country. If the arbitration is lodged in China, the arbitrator shall be the International Trade Promotion Committee, Foreign Trade Arbitration Committee who shall handle the business in accordance with its Regulations & Arbitration Procedure. If it is lodged in Japan, the International Commerce Arbitration Association shall handle it in accordance with its Arbitration Procedure and Regulations; the arbitrator shall not necessarily be selected out of the Arbitrator Register but be limited to those of the Chinese or the Japanese nationality or of other nationalities concurred by both of Seller and Buyer. The judgment of the arbitration shall be deemed final, forcing both of Seller and Buyer under the Agreement to act on it. Both Seller and Buyer shall give every facility as well as the guaranteed security, upon the endorsement of each of the respective Government, to the arbitrator who will frequent the countries of Seller and Buyer.

The arbitration cost shall be borne by the case loser, except for the case where the arbitrator sets forth otherwise.

16. This Agreement is made both in Chinese and Japanese and both of them shall take effect equally.

Ku Kung-hsu, Vice Director of China's Institute of Geophysics, Academica Sinica, greets Frank Press, leader of US seismology delegation from the Committee on Scholarly Communication with the PRC, October, 1974. Photo courtesy CSCPRC.

RESEARCH INSTITUTES IN THE PEOPLE'S REPUBLIC OF CHINA

Susan Swannack Nunn

"Unite theory with practice" is one of the best-known of the slogans of Mao Tse-tung. But how has China gone about uniting the two? For every US firm interested in selling technology and equipment to the PRC, the question of the state of China's research is a key one. American firms are giving technological seminars in Peking, subsidiaries of US firms are meeting personnel from Chinese research institutes at trade shows in China, and many American companies are being visited by Chinese research staff on "technical missions" to the US.

Few firms, however, have much idea of the overall context of research in China or the effect of their various meetings with Chinese research personnel. The following article describes the general picture and surveys what appears to happen when a scientific delegation from the PRC visits an American company, the role of the Chinese Academy of Sciences (CAS) in overall research in China, the status of agricultural, biological, medical, engineering and technical research in the PRC, China's research priorities with emphasis on applied research, and China's purchases of scientific instrumentation from abroad. Every executive involved in marketing to the PRC should find this piece a useful guide as to how research in any given field in China relates to the technologies of his or her own company.

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The same holds good for the students too. While their main task is to study, they should also learn other things, that is to say, they should not only learn book knowledge, they should also learn industrial production, agricultural production and military affairs. . . Besides meeting the needs of teaching and scientific research, all laboratories and affiliated workshops of engineering colleges which can undertake production tasks should do so to the best of their capability.

Mao Tse-tung, quoted in "Strive to Build A Socialist University of Science and Engineering," Peking 1972.[1]

Scientific research institutions are a key indicator of the level and direction of scientific and technological development within a country. In the People's Republic of China (PRC), research institutes are a tool utilized by the central government to achieve national developmental aims in the growth of industry, agriculture, and military power. Their organization and activities reflect the shifting development priorities, strategies, and policies of the government since 1949 and the necessary administrative and political controls instituted to insure their implementation.

China's research institutes are found within four sectors: the Chinese Academy of Sciences (CAS); government ministries and departments (central, provincial, municipal); industry; and universities. Although all sectors are under government direction there are distinct physical and organizational differences between them. The CAS is the most important research center in the PRC, periodically occupying an autonomous position under the government. Its research institutes have been increasingly open to foreign observation. Research institutes within government ministries and in industry are best discussed by field.

Linkages exist between all sectors, exemplified in the "open door" policy encouraged during the Cultural Revolution, when scientists went down to factories and the countryside and workers and peasants visited research institutes. Top level coordination is

carried out by the China Communist Party Central Committee and State Planning Commission of the State Council. Research institutes are part of the "science system" or *k'o chi hsi-t'ung* which has proliferated to include scientific committees, associations, bureaus, offices, and mass experimental groups throughout the PRC. However, it is the research institutes which constitute a repository of the highest level of scientific manpower in the PRC and exhibit the most advanced research and development.

Organizational Development

The organization of research institutes may be divided into five periods since 1949: (1) 1949-1957, Consolidation and Soviet Influence; (2) 1957-1961, Great Leap Forward; (3) 1961-1966, Consolidation and Rationalization; (4) 1966-1971, Cultural Revolution and Aftermath and (5) 1971-Present. During these periods there were conflict and compromise between competing concepts of scientific management, concepts Richard Suttmeier defines as the professional-bureaucratic, and mobilizational.[2] The conflicts included differences on leadership, centralization vs. decentralization of decision-making, specialization, recruitment of scientific personnel, personnel mobility and incentives, selection and evaluation of research priorities, control of research projects, communication within the system and with users of science and technology, foreign collaboration, and time spent on administrative/political matters.

Most advanced research has been centered in the CAS and government ministries, with a gradual increase of research institutes accruing to the government sector. Elements of the professional-bureaucratic "school" persist in the continued role of influential scientists and non-Maoist Party and government cadres in policy-making and control of research activities. Party control, periodically loosened in response to disruptions of the Great Leap and Cultural Revolution, has continued to grow. (A permanent May 7 Cadre School has been established in Ch'uehshan County, Honan, for the ideological remolding of scientists.) Younger scientists have been brought into leadership positions. The State Scientific and Technological Commission is presumed to coordinate all advanced research in the PRC.

The mobilizational concept of the Chinese, by which there has been propagation of research groups at all levels of society with emphasis on the capability of the masses, has continued since the Great Leap forward in the late 1950's. Linkages have been encouraged between research institutes and factories, universities, and the countryside. The decentralization of CAS research institutes located in provinces and municipalities to local government control has been implemented to more closely coordinate research with local needs. Applied research has been emphasized at all levels, although basic research has continued on the central level. Self-reliance has been espoused throughout the science system, although foreign collaboration is sanctioned at advanced levels of research.

Organization of a Research Institute

A typical research institute within the CAS or government consists of one or more specialized laboratory sections or departments and subsidiary units such as factories. Collaborative relationships between specified universities or factories are governmentally directed. Specific projects involve cooperation between research institutes. There is usually one director, who may be a scientist or administrator with close party affiliation, and one or more deputy directors. Employees number from 300-1,000, including a small number of senior scientists and a larger number of intermediate and younger scientists.

Before the Cultural Revolution (1966-1968) an academic or science committee composed of senior scientists and administrators made decisions concerning research projects undertaken at the institute. This committee has been replaced since then by the Revolutionary Committee which comprises more junior level scientists and researchers, and is organized according to the "three-in-one" principle of combining scientists, technicians, and workers. A party committee parallels this administrative structure and is concerned with ideological questions as well as management functions in the institute.

In one recent sample by Richard Suttmeier, sizes of research institutes in the PRC, by personnel, were given as follows:

Institute of Botany, 300 scientists and technicians;

Institute of Physics, 6-700 staff, 150 of whom have doctorates or equivalent;

Institute of Metallurgy, 1,000 staff, 50-60 percent university trained;

Institute of Atomic Physics, 1,000 staff, 40 percent university trained; and

Institute of Organic Chemistry, 700 staff.

In general, a research institute fulfills four functions: those of research, development, training, and information. Graduates from universities are trained under specialists at the institutes, fulfilling graduate training suspended at universities during the Cultural Revolution. Middle school graduates are also being trained at most institutes. Libraries compile the latest foreign literature on scientific fields. Magazines and reports are published by the institutes and conferences are organized on important subjects.

Living conditions (salaries, housing, health benefits) of scientists are higher than those of workers or peasants. However, awards for innovations or significant contributions, in effect during the 1950s and 1960s, were revoked during the Cultural Revolution. Senior scientists have periodically held positions in central planning organizations and political bodies. A few have been noted in trading corporations. Businesses

negotiating with trading corporations in the PRC have noted the presence of scientists in consultative arrangements.

Scientific Equipment

Most visitors to research institutes in the PRC note the preponderance of locally produced instrumentation. Advanced scientific equipment is produced in factories attached to research institutes. Notable examples include the Optics and Precision Instruments Institute in Ch'ang-ch'un, Institute of Electronics in Peking, Shanghai Institute of Computing Techniques, and the Computer Technology Institute in Peking. An important goal of the PRC is to attain self-reliance in advanced high technology, yet there is still considerable interest in specialized foreign equipment. Yuan-li Wu estimates that 5% of total science expenditures are related to scientific equipment.[3] From 1952-1957, 484 million RMB-yuan (about $202 million) worth of scientific equipment was imported, 100 million RMB-worth from the Soviet Union. The USSR's share of China's imports of scientific equipment dropped from 66% in 1952 to 20% in 1960. Although this percentage has probably continued to drop since the cutoff of Soviet aid in 1960, scientific equipment is still imported from the USSR, averaging about $375,000 annually during 1969-73.

American scientists have noted sophisticated Japanese and Swedish instrumentation in research institutes. Firms from Britain, Japan, France, Austria, Sweden, Canada, and Denmark have held scientific exhibitions in the PRC.[4] Scientific instrumentation worth over $1 million has been purchased from the US since 1973, including electrical measuring and controlling instruments, optical measuring instruments, and other scientific instruments.[5] Scientific delegations from the PRC have visited American companies producing scientific equipment, although significant purchases have not yet resulted.

Effect of Missions From Research Institutes

From 1972 through the end of 1975 there have been twenty-one scientific delegations from the PRC visiting the United States. These delegations included representatives from over thirty-eight research institutes, eleven universities, four hospitals, four factories, and five scientific societies. These institutions are located primarily in Peking, followed by Shanghai, Nanking, and cities throughout northeastern China. The institutions were equally divided between life sciences and engineering and physical sciences, with only six institutions in the social sciences.

The largest delegations were those in medicine, computer sciences, and high energy physics. Others include: agriculture, lasers, seismology, library science, hydrotechnology, language teaching, solid state physics, molecular biology, chemistry, biochemistry, entomology, insect physiology, mechanics, and applied math. The groups comprised all levels of personnel, including senior science administrators, scientists, party officials, engineers, technicians, scientific workers, professors, and researchers.

The delegations visited more than fifty US companies, in addition to government and university research centers. Businesses visited were those producing advanced scientific equipment such as electronic data and processing systems, computer systems, medical apparatus, optical machinery, lasers, aircraft, telecommunications equipment, and petroleum related equipment, as well as drugs and pharmaceuticals.

A survey was conducted to determine the answers to two broad questions: (1) To what extent did the visit initiate or further business relations with the PRC? and (2) Was insight gained into the commercial or decision-making process in the PRC, and the role of the research institutes in these processes? A majority of those polled felt that the visits were technically rather than commercially oriented, information gathering expeditions to ascertain the "state of the art" in US business. Although the delegations comprised potential end-users as well as academicians, little insight was gained into the decision-making process or technical levels in the PRC.

Those that subsequently obtained purchase contracts or invitations to the PRC felt they were due to ongoing business relations conducted prior to the delegation's visit and through foreign subsidiaries or contacts in Hong Kong, Japan, or Europe. Only one subsequent transaction ensued as a direct result of a mission's visit. (Two literature exchange agreements were negotiated between the Chemical Abstracts Service, Ohio State University, and scientific and technical libraries in the PRC.)

Because negotiations concerning exports to China tend to be lengthy operations, it is still too soon to correlate significant results for these firms in the form of purchases. Companies felt the visits were beneficial. Good will was established and hope of future invitations as well as purchases from the PRC. Smaller businesses anticipating speedy purchases following these visits were more disappointed than larger firms approaching US-China trade as a long term investment.

It should be noted that a large percentage of these delegations have been composed of senior scientists and science administrators. Their participation in planning future research and development priorities will include purchase of foreign technologies. Although it may take considerable time for their preferences to travel up the chain of command, impressions gained in these visits may prove beneficial to firms either in the purchase of prototype equipment or in the purchase of whole plants to produce the products required.[6]

The Chinese Academy of Sciences (CAS)

The single most important center for scientific research in China is the Chinese Academy of Sciences,

CAS, organized in 1949 from the earlier Academia Sinica in Nanking and the Peiping Academy instituted by the Nationalist Government in 1927. The CAS has undergone several organizational changes and the present situation is considered by many observers and visitors to the PRC to be in a state of transition. The CAS grew from fourteen research institutes in 1949 to 114 and five branches before the Cultural Revolution. It was headed by an Academy Council and four academic departments which directed research activities (Physics, Chemistry and Mathematics; Biology and Earth Sciences; Technical Sciences; and Philosophy and Social Sciences). These four departments may still be in existence. Kuo Mo-jo has been its director since 1949.

During the Cultural Revolution there was a decentralization of research institutes in more of a paper than actual physical shift. Some seventy research institutes are known or presumed to be within the CAS today, the majority located in Peking and the next largest concentration in Shanghai. Of these, 43 are known or presumed to be dually subordinate to the CAS and to local authorities, such as provincial or municipal bodies. The majority of the remaining 44 institutes previously under the CAS are located in municipalities and provinces. They were shifted from the administrative control of the CAS to the government where they are physically located. This facilitates coordination of research activities to local needs. Articles from 1975 scientific publications indicate that a centralizing shift may again be occurring.

It is estimated that in 1964 the CAS comprised 22,400 research and technical personnel, 2,420 of whom were senior research workers (those capable of conducting independent research or directing scientific work by others). Non-technical personnel approximated 85,922.[7] The largest number of senior scientists are located within the CAS. Although younger scientists hold more leadership positions within institutes than before the Cultural Revolution, older more experi-

Research Institutes of the Chinese Academy of Sciences—1976 *

Applied Chemistry (Ch'ang-ch'un)
Archaeology
Astronomical Observatory
Astronomical Observatory (Shanghai)
Astronomical Observatory (Nanking)
Atmospheric Physics
Atomic Energy
Automation
Biochemistry (Shanghai)
Biophysics
Botany
Botany (Canton)
Chemical Enginering and Metallurgy
Chemical Physics (Lan-chou)
Chemical Physics (Lü-ta)
Chemistry
Chemistry (Tsinan)
Chemistry (Canton)
Computer Technology
Computer Technology (Shanghai)
Computer Technology (Shen-yang)
Economics
Electrical Engineering
Electron Optics (Shanghai)
Engineering Mechanics (Harbin)
Entomology (Canton)
Entomology (Shanghai)
Environmental Chemistry
Experimental Biology (Shanghai)
Genetics
Geochemistry (Kuei-yang)
Geography
Geology
Geology Paleontology (Nanking)
Geophysics
Glaciology, Permafrost, and Deserts (Lan-chou)
High Energy Physics
History (Ancient)
History (Modern)
Hydrobiology (Wu-han)
Linguistics and Philology
Literature
Materia Medica (Shanghai)
Mathematics
Mechanics
Metallurgy (Shanghai)
Meteorology
Microbiology
Nuclear Physics (Shanghai)
Oceanography (Canton)
Oceanography (Tsingtao)
Optics and Precision Instruments (Ch'ang-ch'un)
Optics and Precision Instruments (Shanghai)
Organic Chemistry (Shanghai)
Pedology (Nanking)
Physics
Physiology (Shanghai)
Plant Physiology (Shanghai)
Plateau Atmospheric Physics (Lan-chou)
Psychology
Radio Engineering and Electronics
Rock Soil Mechanics (Wu-han)
Saline Lakes (Hsi-ning)
Scientific and Technical Information
Semiconductors
Silicate Chemistry Technology (Shanghai)
Structure of Matter (Fu-chou)
Technical Physics (Shanghai)
Vertebrate Paleontology and Paleo-Anthropology
Zoology

*Peking, unless listed otherwise.

Institutes in italics indicate known or presumed dually subordinate to the CAS and local authorities. Source: Civilian Scientific Research Academies in the People's Republic of China. CIA January 1976.

enced scientists continue to hold major positions. At least 23 of the 70 research institutes presently listed within the CAS are headed by directors and/or deputy directors educated in the United States (13), Western Europe (13), or Japan (1).

FIELDS OF SCIENTIFIC RESEARCH IN THE PRC

Science and technology is commonly defined as life sciences (biological, medical, agricultural), physical sciences and mathematics, and engineering and technological sciences. In the PRC, the greatest number of research institutes are located in the life sciences, followed by engineering and physical sciences.

Life Sciences: Agriculture

The greatest number of research institutes are found in the agricultural sector, corresponding to the government's policy of promoting agriculture as the basis of development. The Chinese Academy of Agricultural Sciences, established in 1957 under the jurisdiction of the Ministry of Agriculture, comprised 20 research institutes and laboratories, increased to 31 research institutes and laboratories and 107 rural research bases in 1959. While there may be as few as twelve research institutes under the Academy of Agricultural and Forestry Sciences in 1976 (Agriculture, Atomic Energy Utilization, Bee, Citrus Fruit, Cotton Crop Breeding and Cultivation, Olericulture, Plant Protection, Sericulture, Soil Fertilizer, Tea, and Tobacco), more than 284 research institutes are incorporated within provincial and municipal academies. In addition, many institutes within the biological sciences support agriculture.

Present agricultural research can best be summarized from principles delineated in Mao's Eight Points of 1958 and the 12-Year Agricultural Development Program formally adopted in 1960:

(1) increased application of fertilizers
(2) increased mechanization
(3) extension of improved plant varieties
(4) extension of multiple cropping
(5) soil improvement
(6) improved irrigation
(7) crop protection
(8) improvement of field management
(9) improvement of standards of scientific and technical work in agriculture

The media emphasizes the role of agricultural research stations and experimental groups within communes, brigades, and teams. Millions of peasants, agro-technicians, and scientists reportedly participate in agricultural research. The collaboration of scientific research personnel with peasants not only insures the applicability of scientific research but also act as a catalyst in utilization of research results.

American agricultural scientists who have visited the PRC have accepted the government's assertion that self-sufficiency was achieved in 1971 when some 250 million metric tons of rice, wheat, and other foodstuffs were harvested.[8] They feel that agricultural experiment station work in improving crop yields was effective in areas visited. In the 1960s new wheat, rice, soybean, and hybrid maize and sorghum strains were developed. Although the Chinese media has attributed higher yields to new plant strains, western observers attribute the highest yields to increased utilization of fertilizers, improved irrigation and land use, and multiple cropping.[9]

A Selected Listing of PRC Research Institutes in the Agricultural Sciences 1975

General Agricultural Academies or Institutes	50
Crops	38
Cotton (7)	
Sugarcane (5)	
Crop Breeding (3)	
Potato (3)	
Peanut (2)	
Hemp (2)	
Cash Crops (2)	
Rice (2)	
Special Crops (2)	
Tea (2)	
Tropical Crops (2)	
Citrus (1)	
Beet (1)	
Kelp (1)	
Mulberries (1)	
Tobacco (1)	
Subtropical Crops (1)	
Forestry	36
Mechanization	32
Fisheries	16
Animal Husbandry	16
Veterinary Sciences	16
Food Research	11
Pedology (soils)	10
Plant Protection	10
Olericulture (vegetables)	8
Forest Product Research	7
Pomology (fruits)	7
Sericulture (silk & silkworms)	6
Soil and Fertilizer	5
Agricultural Improvement	5
Plant Physiology	2
Soil and Water Conservation	1
Agricultural Economy	1
Agronomy	1
Marsh Gas	1
Farm Irrigation	1
Agricultural Heredity	1
Apiculture	1
Pasture Research	1
Land Reclamation	1
Agricultural Science and Technology	1
Atomic Energy Utilization	1
Timber Transportation Design	1
Agricultural Meteorology	1

These specialists feel that high yields will not continue without development of new and responsive seeds, and that sophistication of research is 25 years behind the West. During the Cultural Revolution basic genetic research was disrupted when scientists were sent to the countryside. Scientists now spend shorter periods of time in the countryside, but western observers note the continuation of applied research in research institutes. While increased use of fertilizers and mechanization can be partially attained through the import of foreign technology, research institutes must conduct more genetic research into crop varieties and pest control. This requires indigenous specialized expertise to adapt foreign methods and high yield crops to the Chinese environment.

A Selected Listing of PRC Research Institutes in the Medical Sciences, 1975

Traditional Chinese Medicine	24
Specific Diseases	12
Schistosomiasis (4)	
Endemic (2)	
Plague (2)	
Tropical (1)	
Rural (1)	
Filariasis (1)	
TB (1)	
Pharmacy	10
Hygiene	8
Vaccine and Serum	7
Neurology	5
Epidemiology	5
Medical Research	4
Cardiovascular	2
Internal Medicine	2
Oncology	2
Pediatrics	2
Radiology	2
Surgery	2
Traumatology & Hypertension	2
Public Health	2
Drug Inspection	2
Dermatology	1
Hematology	1
Immunology	1
Nutrition	1
Obstetrics & Gynecology	1
Opthalmology	1
Otolaryngology	1
Psychology	1
Virology	1
Antibiotics	1
Experimental Medicine	1
Medical Instruments	1
Medical Biology	1
Clinical Medicine	1
Military Medical Science	1
Medicine	1
Medical Reagents	1
Materia Medica	1
Parasitology	1
Pasteur	1

Life Sciences: Medical

Advanced medical research is concentrated within the Chinese Academy of Medical Sciences (CAMS), established in Peking in 1956 under the Ministry of Public Health, with 12 departments and 21 research institutes. It supervises the China Medical University in Peking as well as two hospitals. In 1958 its staff comprised 4,327 members (629 scientific workers and 102 senior scientists) [10] A 1976 survey lists only 13 research institutes within the CAMS (Antibiotics, Cardiovascular Diseases, Dermatology Venerology, Epidemiology, Experimental Medicine, Hematology, Hygiene, Hypertension, Materia Medica, Oncology, Parasitology, Traumatology, and Tuberculosis). The Institute of Traditional Chinese Medicine was elevated to Academy status, emphasizing the policy of integrating traditional and Western medicine. As in agriculture, decentralization has been emphasized in the extension of health care throughout the PRC through clinics, medical teams, and "barefoot doctors."

Life Sciences: Biological

Notable achievements in biological sciences include the synthesis of insulin in 1965, production of a birth control pill, and use of giberellin to increase plant yields. However, the general quality of research is felt to be modest. American scientific delegations have visited botany, biochemistry, microbiology, gentics, physiology, and zoology institutes within the CAS.[11] Reports stress the importance of applied research, especially relating to agricultural and industrial production and health problems. Integration with factories and communes is emphasized in all institutes, and the contribution of workers noted.

> "Fossil and evolutionary botanists are now working on the geobotany of pollen grains, useful in petroleum prospecting; taxonomists are now concentrating on industrially useful bacterial and medically useful plant strains; bacterial geneticists formerly doing pure research are now developing new strains with better growth characteristics and higher yield for industry; entomologists have switched from formal entomology to combating plant pests; and botanists who were studying plant physiology are now trying to increase agricultural production." [12]

While some observers criticize the lack of basic research, others feel that a large part of the basic research described by Chinese scientists who have now shifted to applied work duplicated Western efforts. Concentrating on applied research and depending on foreign basic research might prove more useful.

Engineering and Technical Sciences

Research institutes in the engineering and technical sciences are concentrated in academies within government ministries. The most important academies in 1963 were:[13]

A Selected Listing of PRC Research Institutes in the Biological Sciences 1975

Biology	15
Biology (7)	
Marine Biology (3)	
Hydrobiology (2)	
Platform Biology (2)	
Medical Biology (1)	
Entomology	6
Botany	6
Pharmacology	5
Microbiology	5
Parasitology	4
Zoology	4
Limnology	3
Genetics	2
Paleontology	2
Biochemistry	1
Biophysics	1
Mycology	1
Fungi	1
Physiology	1

Geological Research
Railroad Science
Architectural Engineering
Water Conservation
Machine Building and Technical Sciences
Post and Telecommunications
Textiles
Chemical Industry
Petroleum
Iron and Steel
Light Industry
Food and Grains
Forestry Science

The majority of government institutes concentrate on applied research. Collaboration between central research institutes and industrial enterprises is often prescribed by higher authorities in operating plans, while voluntary cooperation exists between enterprises and provincial and/or municipal research institutes.[14] An enterprise may also have its own research institute which is utilized by other enterprises, usually larger enterprises such as the Tang Shan Institute of Hydraulic Mining, An Shan Steel Works Research Institute, and the Taching Oil Research Institute.

Wuhan Iron and Steel Corporation collaborated with more than twelve research, development, and design institutes on the central and local (provincial and municipal) levels in 1966. It also has its own research and development facilities which were utilized by other enterprises. Wuhan Heavy Machinery has its own research institute under joint jurisdiction of the First Machine Building Ministry; it also collaborated with seven other research institutes assigned to it by the ministry (including the Scientific Research Institute of Heat Treatment and Surveying and Measuring Institute). Nanking Chemical collaborates with a research institute of the Chemical Ministry and with Shanghai and Peking research institutes.

Research institutes also frequently collaborate with consumer goods enterprises. For example, the Soochow Embroidery Research Institute aids a number of embroidery and textile factories in Soochow. Such collaboration deteriorated during the Great Leap period.

Reports of research institutes in the engineering sciences are found in the general press; research institutes have not resumed publication of engineering periodicals since the Cultural Revolution. Few visitors have seen these research institutes and American professional engineering societies have unsuccessfully attempted to tour the PRC. Chinese media emphasizes the collaboration of scientists and workers, in reports such as the following:

> "In making the devices, the scientific workers of the Kirin Institute of Applied Chemistry under the Chinese Academy of Sciences followed the road of integrating with the workers and peasants. By going to the factories and mines, they realized how urgently the workers needed better ways of detecting and giving warning signals against combustible, explosive or poisonous gases. They took up the investigation of gas sensitive semi-conductor materials as their research project . . . In the short period of seven months, they turned out China's first batch of gas sensitive semi-conductor devices and made several prototypes of combustile gas detectors using such devices. . . ." (November 1974) [15]

Miniature water-turbine generators were trial produced in early 1975 at the Tientsin Electro-Driving Research Institute. "Professionals at this institute often go to villages to lend a hand in installing small hydropower stations."[16] China successfully trial-produced color film by the dye transfer process, according to a June 1975 report:

> "This latest achievement in China's cinema industry is the result of the co-ordinated efforts of departments concerned under the central authorities and in Peking, Shanghai, Tientsin, Liaoning, Hopei and Shantung. 'Three-in-one' combinations of workers, cadres and technicians and of manufacturers, scientific research units and users were formed to tackle the job. . . ." [17]

Physical Sciences

Notable efforts in the physical sciences include theoretical work in high energy physics, plasma physics and applications for control fusion, polymer chemistry, and research in hydrology and geophysics, and electronics institutes within the CAS.[18] All reports note the emphasis upon applied research, although basic research is in evidence.

Nuclear physics was a high priority research field in the early 1960s. The Chinese nuclear development

A Selected Listing of Engineering/Technical Research Institutes in the PRC 1975

Machinery and Tools 47
- Machinery General (10)
- Electrical Equipment (8)
- Heavy Mining Machinery (7)
- Precision Tools (3)
- Machine Tools (3)
- Turbines (3)
- Insulators (3)
- Chemical Machinery (2)
- Internal Combustion Engines (2)
- Metal Cutting Machine Tools (1)
- Power Machinery (1)
- Bearings (1)
- Petroleum Machinery (1)
- Scientific & Industrial Instruments (1)
- Abrasive & Grinding Tools (1)

Civil Engineering 31
- Hydroelectric (14)
- Hydrotechnology (8)
- Hydraulic (3)
- Civil General (3)
- Water Conservation (2)
- Irrigation (1)

Electrical Engineering 30
- Electrical (13)
- Electronics (10)
- Power (7)

Chemical Engineering 29

Petroleum 28
- Engineering (16)
- Petroleum General (8)
- Refining (2)
- Petrochemicals (1)
- Natural Gas (1)

Metallurgical Engineering 25
- Ferrous Metallurgical Design (7)
- Metallurgical (6)
- Non-Metallurgical Design (5)
- Iron and Steel (4)
- Foundry (2)
- Aluminum & Magnesium Design (1)

Communications 23
- Postal & Telecommunications (10)
- Broadcasting (6)
- Radio Technology (5)
- Cinematography Equipment Research (1)
- Printing Technology (1)

Mining 22
- Coal (12)
- Metal (7)
- Mining (3)

Transportation 15

Design 13

Textile 11

Architectural 11
- Industrial Architecture (6)
- Architectural (5)

Mechanical Engineering 9

Ceramic 6

Structural 5

Exploration 5

Production Process & Organization 4

Automotive 4

Power 3

Aeronautical 1

Marine 1

Heat Treatment 1

Cement 1

program began in early 1958 and the first nuclear device was exploded in 1964, the first hydrogen device in 1967. Earth satellites were launched in 1970 and 1975. The Cultural Revolution probably had no significant effect on the research in these two programs. Although sophisticated defense-related work is not open to assessment, various scientists have visited the Physics Institute within the CAS. It comprises 600-700 employees, seven departments, and is involved in about twelve project areas, including lasers, low temperature physics, fusion, and semi-conductors. During the Cultural Revolution some basic research was temporarily discontinued. Observers state that most types of scientific instruments in use appear to be made in the PRC. Scientists possess a foreign language reading capability but use Chinese as the working medium.

The Chemistry Institute, established in 1957, now comprises a staff of 600, 300 of whom are college graduates or experienced researchers. Approximately 100 have had some graduate training, and 30-40 have studied abroad. About 40% of the researchers are women. Scientists adapt their own system of chemical nomenclature to international usage. The PRC has no contact with the International Union of Pure and Applied Chemistry because Taiwan is included in its membership. Most research is related to polymers and their practical applications. Basic research was noted, but justified in terms of future practical applications.

Earthquake prediction, scientific research undertaken by the Institutes of Geophysics, Geology, and Engineering Mechanics, and State Seismological Brigade, under the coordination of the State Seismological Bureau, is viewed by some as a microcosm of Chinese science in 1975.[19] It is seen as the newest in a long series of high priority drives in Chinese science—from the attack on schistosomiasis in the mid-1950s, nuclear physics in the early 1960s, to computing technology in the mid to late 1960s. The uniqueness of PRC seismological conditions (short recurrence periods, extensive intraplate seismicity, seismic zonation, and extensive historical records) lend earthquake prediction to decentralized research within the PRC. Significant results could also bring international recognition to the PRC. Oil and mineral exploration were transferred from the Geology Institute to govern-

ment ministries, leaving earthquake prediction as the focus of its activity.

Data is collected by 17 provincial seismological brigades, 8 geomagnetic observatories, 250 seismic stations, and approximately 5,000 observation points, utilizing some 10,000 trained persons. The Peking Seismograph Factory has been established since the Cultural Revolution to develop needed instrumentation. Most visiting scientists noted the lack of computers to process the large accummulation of data. Although there is massive experimentation, American scientists feel more effort might be devoted to theory, statistical analysis, and experimental design.

RESEARCH TRENDS—Scientific Personnel

In 1970 it was estimated there were 600,000 engineers and 110,000 scientists in the PRC. The majority of scientists finished the standard curriculum while as many as 50% of the engineers completed less than four years of college.[20] An estimated 100-200,000 scientific and technical personnel are located within research and development institutes. In 1964 an estimated 19.6% worked within the CAS and 54.4% within government ministries. The remaining 25% may be largely concentrated in military research and development programs.[21] Chu-yuan Cheng estimates than 1,500 scientists and engineers holding doctoral degrees provide the key reservoir of advanced scientific talent utilized in research and development work.

Approximately 800 received doctorates before 1949, the majority in the US, Europe, and Japan. During the 1955-62 period, an additional 300 returned from the US, Western Europe, and Japan, and 400 received doctorates in the Soviet Union.[22] A shortage of senior scientists is one of the most critical problems facing the PRC, a group comprising less than 10% of total scientific and technical personnel. Disruptions of the Cultural Revolution adversely affected the supply of graduate students in the scientific fields, a resource needed during the 1970s.

Although the PRC will continue to face problems in the supply of advanced scientific personnel, she had significantly enhanced the role of women in science. In 1959 women comprised over 23% of the total scientific force, reaching almost 50% of scientific personnel in the Materia Medical Institute, in 1962.[23]

Science Budget

The science budget is the fastest growing item in the Chinese state budget. According to published data it grew at a rate of 117% per year, compared to 16% for the total state budget, in the 1952-1965 period. With 1952 as a base, the index for the state budget of 1965 was 228.5, while the index for the science budget was 12,960.[24]

These figures do not include unpublished scientific expenditures, extra-budgetary expenditures by local governments, scientific activities funded under other government ministries, and special appropriations. The amount expended annually for scientific expendi-

A Selected Listing of PRC Research Institutes in the Physical Sciences, 1975

Physics 46
- Mechanics (11)
  - Mechanics—7
  - Rocky Soil Mechanics—2
  - Geomechanics—1
- Mechanics & Electricity—1
- Atomic Energy (8)
- Semi-conductors (8)
- Physics (6)
- Technical Physics (3)
- Upper Atmospheric Physics (2)
- Mathematical Physics (2)
- Applied Physics (2)
- Chemical Physics (1)
- Acoustics (1)
- Optics (1)
- High Energy (1)

Geology 32

Chemistry 31
- Chemistry (15)
- Applied Chemistry (6)
- Organic Chemistry (4)
- High Polymers (3)
- Synthetic Organic Chemistry (1)
- Coal Chemistry (1)
- Geochemistry (1)

Metallurgy 24
- Metallurgy (17)
- Physical Metals (2)
- Chemical Metallurgy (1)
- Mineral Research (1)
- Metal Research (1)
- Precious Metals (1)
- Silicates (1)

Meteorology 19

Geography 18
- Geography General (15)
- Survey & Cartography (3)

Computer Sciences & Automation 14

Mathematics 9
- Mathematics (7)
- Applied Math (2)

Hydrology 8

Oceanography 6

Geophysics 6

Astronomy 4

Material Science 4
- Material Science (2)
- Synthetic Material Aging (1)
- Synthetic Resin (1)

Geodesy 2

Mineral Exploration 1

tures is estimated to be approximately three to four times the published science budget, the ratio of government scientific expenditures to total government expenditures approximating the US ratio in 1965 (16.3%).[25]

Scientific Priorities

Various studies have analyzed trends in fields of research in the PRC. From 1949 until the present the PRC has established the greatest number of research institutes in the life sciences, followed by engineering and technical sciences, and physical sciences. A 1963 survey by Yuan-li Wu and Robert B. Sheeks enumerated a total of 781 research and development institutions in the PRC, 305 (39%) in life sciences, 271 (34.7%) in engineering and technical sciences, and 205 (26.3%) in physical sciences and mathematics. A Hoover Institution Study of data to Spring 1967 analyzed 490 research institutions, 233 (47.5%) in life sciences, 144 (29.4%) in engineering and technical sciences, and 73 (14.9%) in physical sciences.

The current tabulations of the author indicate some 1,016 research institutes, 440 (43.4%) in life sciences, 350 (34.4%) in engineering and technical sciences, and 226 (22.2%) in physical sciences. These tabulations include only identified research institutes, excluding laboratories, universities departments, or scientific societies. The number is not inclusive; provincial or municipal academies often do not enumerate research institutes.[26]

Research priorities have shifted during political/economic periods. During the 1950-1957 period, the largest percentage increase occurred in engineering (14% a year). During the Great Leap period (1957-1959) the greatest percentage occurred in physical sciences (28% a year), while during the post-Leap period (1958-1961) engineering again predominated (19%).[27]

A sectoral analysis shows that most research in life and physical sciences has been carried out by academies (CAS, CAMS, CAAFS) while engineering and technological sciences have been concentrated in government ministries. In 1963 the following breakdown was analyzed: government—345 research institutes: 114 life sciences, 67 physical sciences, 164 engineering; academies—315: 144, 101, 70; education—112: 47, 32, 33; and industry—9: 0, 5, 4.[28]

At the present time a sectoral analysis would show an increase in research institutes within the government sector, due to the previously mentioned transfer of technical research institutes from the CAS to the government at the central level and the decentralization of CAS rsearch institutes to provincial and municipal government control.

One method of determining the relative advance in scientific fields is by the existence of both a research institute and a professional society in a specific field. The creation of a specific research institute indicates some progress in a field while the creation of a society assumes a need for communication and/or control of members in the field. The following chart summarizes the most advanced (institute and society), moderately advanced (institute or society), and least advanced (none) fields.[29]

Possible areas for mutual study, exchange, and business activity between the US and China include: environmental studies, oil drilling and refining, utilization of natural gas, agricultural sciences, chemical sciences (rubber-making technology, fabrication of plastics, agricultural chemicals, industrial lubricants), earth sciences, and energy and resource management.[30]

Another method to determine those scientific fields in which most activity is occurring is to analyze available Chinese scientific publications in the post-Cultural Revolution period. Some 20 scientific publications are now available for export from the PRC, predominately published by research institutes within the CAS.[31] An analysis of articles published in 1975 shows most activity by research institutes in the life sciences (biology, agriculture, medical), followed by physical sciences (physics, high-energy physics, math, geophysics), and engineering.

The most productive research institutes appear to be those in the CAS (Peking), followed by those in Shanghai. Universities are the second most active sector (Peking, Nanking, Nankai), followed by local groupings (communes, brigades, agricultural stations, health stations), and industry. This sampling must be used with caution, since unavailability of government ministry and industrial publications reduces evidence of activity within engineering sciences. This analysis reaffirms the trend in 1950-1959 when most articles were published in life sciences; however, physical sciences has replaced engineering as the second most productive field.

A significant difference is that academy and university sectors both outnumber the government. Also noteworthy is the inclusion of more local mass organizations. New links appear to be forged with mass organizations in all branches of life sciences in the provincial areas. The reduced linkage between research institutes and industry may be due to lack of engineering publications. Although research institutes in Peking and Shanghai dominate publishing in all fields, it is important to note greater participation of provincial institutes and mass organizations.

China's Research Priorities, Present and Future

Research institutes have been at the forefront of scientific and technological development in the PRC since 1949. During the first decade of Communist power, the Soviet Union helped China lay the groundwork for a scientific establishment and research plans, assisting with scientific expertise, educational training, blueprints, and technology. Since 1960 the PRC has espoused self-reliance while steadily borrowing sci-

RESEARCH PRIORITIES IN THE PRC, 1975

	Most Advanced	Moderately Advanced	Least Advanced
Life Sciences			
Biological	Biology	Anatomy	Anthropology
	Botany	Bacteriology	Cytology
	Entomology	Biochemistry	Ecology
	Microbiology	Biophysics	Molecular Biology
	Paleontology	Genetics	
	Parisitology	Limnology	
	Pharmacology	Marine Biology	
	Physiology	Mycology	
	Psychology	Nutrition	
	Zoology	Virology	
Medical	Epidemiology	Cardiology	Anesthesiology
	Internal Medicine	Dermatology	Dentistry
	Obstetrics & Gynecology	Hematology	Endocrinology
	Ophthalmology	Immunology	Geriatrics
	Otolaryngology	Neurology	
	Pharmacy	Nutrition	
	Radiology	Oncology	
	Surgery	Pathology	
	Trad. Chinese Medicine	Psychiatry	
	Tuberculosis		
Agricultural	Agricultural Mechanization	Agronomy	Agricultural Chemistry
	Animal Husbandry	Conservation	Dairy Science
	Crops		
	Fisheries		
	Food Technology		
	Forestry		
	Horticulture		
	Pedology		
	Veterinary Science		
Physical Sciences			
	Astronomy	Acoustics	Analytical Chemistry
	Chemistry	Atomic & Molecular Physics	Inorganic Chemistry
	Computer Science & Automation	Electricity & Magnetism (semi-conductors)	Quantum Mechanics
	Geodesy	Geomechanics	Solid-state Physics
	Geography	Materials Science	
	Geophysics	Optics	
	Mathematics	Organic Chemistry	
	Mechanics	Statistics	
	Metallurgy		
	Meteorology		
	Oceanography		
	Physical Chemistry		
	Physics		
Engineering Sciences			
	Aeronautical	Ceramic	Agricultural
	Chemical	Coal Mining	Metal Mining
	Civil	Geological	Nuclear
	Electrical	Hydraulic (civil)	Sanitary
	Electronics	Industrial	
	Fuels	Metallurgical	
	Marine	Petroleum Drilling	
	Mechanical	Petroleum Engineering	
	Textile	Petroleum Refining	
		Power	
		Structural	
		Transportation & Commun.	

entific and technological knowledge from the West.

Scientific research since 1949 has focussed on (1) military requirements, and (2) immediate production results. Defense-related research has been given top priority. Research institutes were established in new fields in the engineering and physical sciences, such as nuclear physics, semi-conductors, electronics, automation, and high polymer chemistry. This has involved basic and applied research at the central level. Chemical and petroleum related industries, the two fastest growing industries in the PRC, have been backed by an extensive network of research institutes.

Since the Great Leap greater priority has been given to research institutes in the agricultural sciences; this has involved the expansion of research institutions to the provincial and local levels and the buildup of agro-technical personnel. Duplication of research projects and inadequate coordination and facilities must be weighed against the benefits derived from the wide dissemination of scientific and technological knowledge through the PRC.

The expansion of research institutes is directly correlated to the expansion of scientific and technical manpower. However, there may have been an expansion of quantity at the expense of quality. Shortened courses, political interruptions, and emphasis upon class background are often blamed for this reduction in quality. Because the PRC failed to induce more than 1,000 of the 11,000 middle-aged Western trained scientists to return to China after 1949, there has been a critical shortage of senior scientists. A group of 1,200 to 1,500 senior scientists has been concentrated within research and development rather than teaching. After the break with the Soviet Union in 1960, fewer students have been sent abroad for advanced training. Science and technology of the 1970s is, thus, largely dependent upon 15,000 intermediate scientists and engineers (receiving degrees between 1943-1952) and 670,000 junior scientists and engineers (receiving degrees between 1953-1967). For China to attain the status of one of the most advanced nations in science and technology by the year 2000 will require an expansion of advanced training.

The recent visit to the US by the Scientific and Technological Association of the PRC, composed of leading scientists, indicates that they are interested in expanding intellectual contacts. However, they are cautious about the possibility of sending students for advanced study at such leading universities as MIT and Harvard. Political differences and language difficulties are probably the chief obstacles at this point. However, the Chinese have recruited leading Chinese-American scientists to teach and perform collaborative research in PRC research institutes. Collaborative articles have already appeared in PRC scientific journals.

Importation of advanced science and technology would help the PRC to attain the two stages of national development envisaged by Mao. Insufficient quantities of scientific instrumentation have been noted by visitors to Chinese research institutes, and the emphasis upon applied research is continually emphasized. Research institutes will continue to expand, whether they are located within the CAS, government, university, or industrial sectors. They are both end-users of products and technologies and producers of their prototypes. As centers for research, development, and training, they will surely present opportunities for American firms in the future. 完

Notes

(1) *Strive to Build a Socialist University of Science and Engineering* Foreign Languages Press, Peking 1972. (2) Richard P. Suttmeier, "Science Policy Shifts, Organizational Change and China's Development," *The China Quarterly*, 62 (June 1975), pp. 207-241. (3) Yuan-li Wu and Robert B. Sheeks, *The Organization and Support of Scientific Research and Development in Mainland China* (New York: Praeger, 1970), p. 269-274. (4) Eugene A. Theroux, "Legal and Practical Problems in the China Trade," *China: A Reassessment of the Economy* (A Compendium of Papers submitted to the Joint Economic Committee, Congress of he United states) (Washington, D.C.: GPO, 1975), pp. 564-567. (5) U.S. Department of Commerce, *East-West Trade* (Export Administration Report, Third Quarter 1974), p. 61. (6) See Robert W. Auten, "A Scientific Mission to Peking and Shanghai," *U.S. China Business Review*, Vol. 2, No. 3 (May-June 1975), pp. 16-23. Technical presentation to Chemical Research Institute, CAS. (7) Wu and Sheeks, p. 294. (8) Sterling Wortman, "Agriculture in China," *"Scientific American*, Vol. 232, No. 6 (June 1975). pp. 13-21. (9) See Alva Lewis Erisman, "China: Agriculture in the 1970s," *China: A Reassessment*, pp. 324-349, Dwight H. Perkins, "Constraints Influencing China's Agricultural Performance," *China: A Reassessment*, pp. 350-365. (10) Chu-yuan Cheng, *Scientific and Engineering Manpower in Communist China, 1949-1963* (Washington, D.C.: National Science Foundation, 1965), p. 27. (11) See *China: Science Walks on Two Legs* (New York: Avon, 1974), Ethan Signer and Arthur W. Galston, "Education and Science in China," *Science*, Vol. 175 (January 7, 1972), pp. 15-23. (12) Ethan Signer, p. 19. (13) Cheng, pp. 27-28. (14) Barry M. Richman, *Industrial Society in Communist China* (New York: Random House, 1969), pp. 273-276. Survey of 38 industrial enterprises in PRC. (15) *Peking Review*, 44 (November 1, 1974), pp. 23. (16) *Peking Review*, 21 (May 23, 1975), p. 31. (17) *Peking Review*, 25 (June 20, 1975), p. 23. (18) C. K. Jen, "Mao's 'Serve the People' Ethic," *Bulletin of the Atomic Scientists*, Vol. XXX, No. 3 (March 1974), pp. 15-25. (19) "Earthquake Research in China," *EOS: Transactions of the American Geophysical Union* (November 1975), pp. 838-881. Report by American Seismology Delegation to the PRC, Frank Press, Chairman. (20) Leo A. Orleans, "China's Science and Technology: Continuity and Innovation," *People's Republic of China: An Economic Assessment* (A Compendium of Papers submitted to the Joint Economic Committee, Congress of the United States) (Washington, D.C.: GPO, 1972), pp. 206-207. (21) Wu and Sheeks, p. 275-276. (22) Cheng, pp. 118-123. (23) Cheng, p. 146. (24) Wu and Sheeks, p. 196. (25) *Ibid.*, p. 198. (26) *Directory of Selected Scientific Institutions in Mainland China* (Hoover Institution Publications Series: 96) published for the National Science Foundaton by the Hoover Institution Press, 1970. Prepared by Surveys & Research Corporation. See individual entries for research subjects of 490 research institutions. CIA Reference Aids *Directory of the Officials of the PRC*, A(CR)75-16 (April 1975) *Civilian Scientific Research Academies in the People's Republic of China*. January 1976. (27) Wu and Sheeks, p. 130. (28) Ibid., p. 127. (29) This method was originally conceived by Wu and Sheeks, explained pp. 134-147. I updated data to 1975. (30) See suggestions of China specialists in *Wingspread Report* sponsored by the National Committee on U.S.-China Relations and the Committee on Scholarly Communications with the People's Republic of China. "Science in the PRC," The Johnson Foundation, May 1973. (31) 497 articles from 16 scientific journals were analyzed for 1975, 238 were published by research institutes, the remainder by universities, colleges, government bureaus and departments, and mass organizations, in that order. By field, distribution is the following: Life Sciences 133 (84 biological, 32 agricultural, 17 medical) Physical Sciences 85; and Engineering/Technical Sciences 20. Journals analyzed: *Acta Physica Sinica* (Institute of Physics), *Huaxue Tongbao* (*Chemical Bulletin*, Institute of Chemistry), *Scientia Geological Sinica* (Institute of Geology), *Acta Mathematica Sinica* (Institute of Mathematics), *Acta Geophysical Sincia* (Institute of Geophysics), *Acta Botanica Sinica* (Institute of Microbiology), *Acta Phytotaxonomica Sinica* (Institute of Microbiology), *Vertebrata Palasiatica* (Institute of Vertebrate Paleontology and Paleo-Anthropology), *Kexue Tongbao* (*Bulletin of Science*, Institute of Chemistry), *Kaogu Xuepao* (Acta Archaeologia Sinica), *Scientia Sinica* (CAS), *Acta Zoological Sinica*, *Acta Microbiologica Sinica* (Institute of Microbiology), *Acta Genetica Sinica*, *Acta Entomologica Sinica* (Institute of Entomology), *Architectural Journal* (Society of Architecture).

EXPORTER'S NOTES

Briefly

- **China's Grain Buys Down**
- **Trade Deficit to Slow Five-Year Plan?**
- **China Dips into Gold Reserves**

WHEAT

PRC Grain Purchases Below Expectations . . . Chinese wheat imports for the current year will apparently fall below expected levels. In separate announcements, the Canadian and Australian Wheat Boards—China's two principal grain suppliers—revealed that Peking will receive a total of approximately 1.65 million tons in 1976, considerably below the 3.6 million ton level set out for third year of the three-year supply agreements the Chinese have with Ottawa and Canberra. Argentina, China's other long term wheat supplier, has not yet announced its proposed shipment level for 1976, but it is expected to be less than the 500,000 tons called for under terms of the three year Sino-Argentine wheat supply agreement.

In Winnipeg, the Canadian Wheat Board said that 950,000 long tons (5% more or less) of primarily No. 3 Canadian western red spring wheat would be delivered to China in approximately equal monthly shipments between April and December. The Board said that all shipments would be made from Canadian Pacific Coast ports. As in 1974 and 1975, sales terms call for 25% cash payment when each vessel is loaded and the remainder over a period of 18 months with fixed interest. The amount of money involved was not disclosed.

The Chairman of the Australian Wheat Board, J. P. Cass, said in London that Canberra will be selling China 700,000 tons of Australian standard white wheat in 1976, valued at about US$101 million. Cass added that the Board may substitute quantities of prime hard and hard wheat. Under terms of the sale, payment plus interest will be made within 12 months of shipment.

In a related development, the Washington-based Committee on Scholarly Communications with the People's Republic of China has announced that an American wheat study team will visit China this May. According to the Committee, Dr. Virgil Johnson, an agronomist from the University of Nebraska will lead a ten man delegation of plant breeders, geneticists, agricultural economists and wheat production specialists through Northeast and Central China for a four week inspection tour of winter and spring wheat. The Committee also disclosed that a Chinese agricultural mechanization group is tentatively scheduled to travel to the US this summer. **But Renewed Interest in Cotton . . .** The American cotton export community is once again bullish on China, and the Department of Agriculture's Economic Research Service (ERS) thinks their optimism is justified. ERS analysts predict that China will be buying at least 100,000 running bales of US cotton in calendar year 1976, with a possibility those purchases may exceed last year's 265,000 bale total. The major reason for the anticipated Chinese cotton imports, say the analysts, is the general upturn in the economies of the industrialized nations, and consequent increased demand for China's textile products. An additional factor, they say, is an apparent downturn in Peking's 1975 domestic cotton crop. Preliminary US Government estimates place Chinese cotton output in 1975 at 5-10% below the 2.61 million tons harvested the year before. The Chinese are thought to have made a small cotton purchase recently from Central America, and at least one US exporter is now known to be negotiating for larger sales with representatives of the China National Textiles Import and Export Corporation.

FIVE-YEAR PLAN

New Five Year Plan . . . No Buying Spurt Expected . . . The increase in China's two-way trade slowed to a modest 3.5% last year, after climbing 38.8% in 1974, according to preliminary figures recently released by the U.S. Government. In 1975, says the government, Peking's total trade amounted to $14.0 billion, only slightly above the $14.01 billion registered the previous year. (In 1973 China's trade was $10.1 billion.) The minimal 1975 rise means that in real terms PRC trade actually declined last year, taking into account the inflation rate in world commodity and consumer prices.

As the table shows, last year's trade slowdown stems from a virtual halt in Chinese import expansion. The $290 million slowdown in the PRC's 1975 purchases over 1974 suggests fical constraints placed on Chinese buyers last year.

Peking appears to have accrued a trade deficit in excess of $1.5 billion over the past three years. This year, however, marks the inauguration of the as yet unpublished Fifth Five-Year Plan, and new Plans are supposed to provide Chinese Foreign Trade Corporations with fresh budgetary allocations. Observers of China's economy believe this plan

CHINA'S WORLD TRADE, 1973-75

$US BILLION

	Imports (C.I.F.)	Exports (F.O.B.)	Total	% Change	Deficit
1973	5.130	4.960	10.090	70.4	.170
1974	7.490	6.515	14.005	38.8	.975
1975*	7.200	6.800	14.000	0.7	.400

*Subject to revision.

will follow tradition, and have predicted the next 18-24 months will see a fresh round of Chinese buying, perhaps even exceeding the golden days of 1973, when Peking spent more than $1 billion on turnkey plant alone. **Reserves not so Golden? . . .** According to the authoritative *Pick's Currency Yearbook* China's gold reserves in 1973 were some $2.4 billion, with foreign currency reserves amounting to $1.5 billion. Some analysts think these figures are far too high, suggesting that even before the 1973 buying spree began, Peking's reserves of both gold and currency totalled no more than $2 billion. There is no disagreement that a sharp erosion in these reserves has occurred within the past two years. In the last six to eight months there have been some indications that, while China's foreign exchange position is far more critical, it is not sufficient to support a foreign equipment acquisition program of the same scale as occurred in 1973. **Peking Sells Gold . . .** For the first time since 1969, China has been selling gold. *UCBR* has learned that over the past several months the Chinese have disposed of between 12 and 24 million tons of gold, principally in Zurich, with additional transactions in London. depending on the actual amount involved, these sales now have netted Peking between $50 and $100 million in hard currency. The fact that gold is currently selling for only $130 an ounce—considerably less than last year—indicates that the normally patient Chinese were unwilling to wait out an improvement in the market. This suggests the immediacy of their needs, or it may signal that a certain low had been reached in currency reserves. At least one other indication of dropping currency reserves is China's recent method of lending money at 6% p.a. 90 day terms in the US. (See Importer's Notes.)

OIL EQUIPMENT

Chinese at Singapore Oil Show . . . A sizable contingent of petroleum equipment specialists from Machimpex attended the four-day Southeast Asian Conference and Exhibition on Offshore Oil held in Singapore in mid-February. The conference, organized by *Petroleum News*, a Singapore-based magazine which follows oil developments throughout Southeast and East Asia, was highlighted by the display of offshore drilling equipment, some of it produced by local manufacturing affiliates of US firms. Chinese attendance was regarded by most observers as another indication of Peking's continuing interest in acquiring sophisticated offshore drilling equipment. The London *Financial Times* reported that Sir Jack Rampton, Permanent Under-Secretary of State in Britain's Department of Energy contacted the Chinese in an effort to interest them in British-made petroleum related machinery. **American Agent for China Sales Conduit . . .** China Printing and Translation Service (CPTS) of Hong Kong, which translates into modern Chinese and prints the sales literature of Western companies and industrial exhibitors, has appointed as its American agent Lubman and Company of Washington, D.C. CPTS has printed the catalogues of many of the foreign exhibitions held in China since 1969 (see *UCBR* Volume 1, Number 6) as well as the sales literature of many European companies and the Chinese-language magazine regularly published by European trade promotion organizations.

FROM CHINA TO US

Chinese Delegations to US. The McLean, Virginia-based National Association of Machine Tool Builders (NMTBA) has announced tentative plans to host a delegation from Techimport. Six Chinese are expected to spend between two and three months visiting a variety of US manufacturing facilities. The delegation had been expected to arrive on February 10, but was delayed without explanation. Last November an NMTBA group visited China . . . **and Boeing . . .** Another Chinese commercial delegation, from Machimpex, toured the US between January 11 and March 14, in search of spare parts for the ten Boeing 707 airplanes purchased in 1973. Under Boeing auspices, Li Chih-chun, Li Yi-ming and Chang Yung-yi visited the facilities of Litton Aero Products, Woodland Hills, Ca.; Airesearch Manufacturing Company, Los Angeles, Ca.; Sargent Industries, Huntington Park, Ca.; Sperry Flight Systems, Phoenix, Az.; Plessey Dynamics Division, Hillside, N.J.; Bendix International, New York, N.Y.; United Technologies International. East Hartford, Conn.; General Electric Company, Wilmington, Mass.; Westinghouse Electric Corporation, Lima, Ohio; Collins Radio Group, Cedar Rapids, Iowa; Honeywell, Minneapolis, Minn.; and the Boeing Company, Seattle, Wa.

TO CHINA

The Road to Machimpex. American firms making initial approaches to the China National Machinery Import and Export Corporation (Machimpex) would do well to enclose information on standard prices and delivery times along with technical information when sending product literature to Peking. According to the US Liaison Office in China, Machimpex officials say this practice is of significant assistance to end-users in assaying individual items. These end users, say Machimpex, also appreciate translated material and extra copies of all relevant product information. **In a Ford . . .** There is Ford in China's future and this time it is not the President. Four employees of the Ford Motor Company and two of their wives visited Peking and Shanghai for eight days in mid-February for general discussions with Chinese trade officials. Making the trip were Philip Caldwell, Executive Vice-President, Ford International Auto motive Operations, and Mrs. Caldwell; F. A. Erdman, President of Ford Asia-Pacific, Inc., and Mrs. Erdman; J. Wayne Fredericks, Executive Director, International Governmental Affairs; and Walter Hayes, Vice-President, Public Affairs, Ford of Europe Inc. Ford's Chairman, Henry Ford II, was originally scheduled to lead the group but illness forced him to postpone his travel plans. Part of the material, prepared by the National Council's translation division for the Ford visit is displayed below. **Mid-America . . .** The Mid-America Committee, a Chicago-based organization established to promote understanding between high ranking government officials and senior executives of multi-national corporations in the mid-west, will send a delegation to China at the invitation of the China Council for the Promotion of International Trade (CCPIT) on April 2. Thomas H. Miner, President of the Committee will lead the group, which has tentative plans to visit Peking, Nanking, Shanghai, Hangchow, and Canton during a 19-day stay in the PRC. The National Council has actively supported this venture in discussions with both the Committee and CCPIT officials. **Los Angeles Chamber of Commerce . . .** Seven LA Chamber officials will also visit China, beginning April 23. 完

IMPORTER'S NOTES

Briefly

- **US Importers Paying 6% to Buy from PRC.**
- **Council Sends Shrimp Letter to ITC Requesting Denial of Shrimp Quotas.**
- **Container Marking Problems**
- **Textiles Imports from PRC Shoot Up: China Number Two Exporter of Cotton Sheeting to US in 1975—But Are Chinese Already Cutting Back?**

MONEY

Importers' terms with the Chinese . . . Since late last year importers in the US have been able to arrange 30, 60, and 90 day terms with China's FTCs, which has been much appreciated. The Chinese are lending at going market rates, and most importers are factoring the financing charges into their contracts. But a number of importers are being caught by surprise, believe some American bank officials: The importers' US banks are apparently seeing this practice for the first time. Bank officials point out that they are taking a substantial risk without receiving the usual commissions: an acceptance commission and a payment commission (the latter is usually split with the third country bank). The credit risk arises because the Chinese look for payment to the third country bank, the third country bank to the American bank, and the American bank to the importer—which is often a small firm. Since China's L/Cs are irrevocable normally, the actual risk is small. But at least one bank representative sees no no reason for the Chinese to be conducting business in this manner: "I see no gain to the Chinese". And in at least one case, the amount of the contract involved is over $1 million, a hefty sum on which to find a possibly unexpected interest fee. In some cases the Chinese appear to have paid the interest themselves, generally about 6 percent at prevailing market rates, but if the market has gone above that level, the additional percentage is left to the importer.

CEROILS

Council sends letter about shrimp . . . the National Shrimp Congress has filed a petition before the International Trade Commission (ITC) asking for a general quota on shrimp imports. The statement requests a quota of the average of 1971, 1972, and 1973 imports. Such a computation would affect the PRC adversely for two reasons: its sales to the US surged tremendously *after* that period, increasing from 416,000 lbs. in 1973 to almost 3 million lbs. in 1974 (although it dropped back to 1.3 million in 1975 when all Sino-US trade decreased.) In addition, no records were kept of Chinese imports prior to 1973, meaning that China would be limited to only 1/3 of 416,000 pounds, or 138,666 pounds. The National Council has sent a letter to the ITC requesting that it deny the petition of the National Shrimp Congress in order to promote increased Sino-US trade. Imposition of such a quota, the Council believes, would have an adverse effect on our trade relations which indirectly would lead to fewer purchases from the US. **Vegetable Boom . . .** While the fate of shrimp imports hangs undecided, Chinese vegetables are moving out of Chinatown and into the local supermarkets in the US. According to the *Wall Street Journal,* one grocery chain reports a two-fold rise in demand for Chinese vegetables in the last three years, while another notes that they are selling 25 times more bean sprouts than in 1973. Many groceries now stock a basic selection of Chinese vegetables, such as bok choy, napa cabbage, bean sprouts, ginger root and snow peas. Other Chinese food, including won-ton and eggroll wrappers, and Chinese noodles are also selling well. **Low Acid Foods . . .** Last summer, UCBR reported that China had registered four Ceroils branches—Shanghai, Dairen, Kwangtung, and Fukien—with the FDA (see No. 4, Vol. 2), effective August 1974. The PRC has still not filed the processing forms describing its canning methods which are necessary to complete this registration. While these are not mandatory, they insure that passage by US inspection officials will be fast and efficient. If Customs wants to check on the process and finds no processing form on file, that product may be detained. UCBR has further discovered that the PRC did not actually take care of its own registration. This procedure was carried out by an appointed agent in San Francisco, and may have been a factor in slowing down the registration process.

CHEMICALS

China Retailing Oil—First Hong Kong, then the world? . . . Local Hong Kong newspapers revealed in February that China plans to market oil at the retail level. An official of China Resources did not deny the report, but said that it is still "something in the future," according to *Business China.* The PRC has begun its moves by building a storage depot in the city. The Chinese first marketed oil in Hong Kong in 1973; the import figure jumped 167% in the first 10 months of 1975. Products have been coming in by rail and sea, sometimes up to 60,000 tons monthly for the latter. Selling retail rather than wholesale will generate additional foreign exchange earnings. **Chemicals Report Available . . .** National Council member firms may want to obtain a copy of our recently-compiled study of Sinochem imports from 1974 through July 1975. In addition to detailed import tables, the report includes a listing by TSUSA category of commodities available from Sinochem against actual US imports. If interested, please contact Suzanne Reynolds, coordinator of the Councils' Importer Programs. In the first seven months of 1975, reagents, pharmaceuticals and chemicals accounted for 93.5% of total US imports from Sinochem. For those who don't know it, the Chemicals corporation sells more than pharmaceuticals and reagents. It is also in charge of surgical and hygienic rubber goods such as latex surgical gloves and face masks; dental materials such as chairs and porcelain teeth; and paint enamels and lacquers.

LIGHT INDUSTRIAL PRODUCTS

A Diamond is Forever? . . . Although the Chinese produce synthetic diamonds, their store of the real thing appears to be lacking. In fact, China has not shown American jewelry importers any types of precious stones. The American market must be satisfied with the semi-precious variety

from China. (See "Four-Day Expert on China" in next issue.) **Before you Chew on a Pencil . . .** "Lark" pencil sharpeners imported from China may pose a health hazard to children who often chew on such small painted objects, warns the UK Department of Price and Consumer Protection. The sharpeners consist of the normal conical plastic socket and metal blade, set in the base of a painted gypsum ornament measuring up to 7 cm. in height. The problem lies in the fact that some of the paint coatings have been found to contain high concentrates of lead, at up to 60,000 parts per million of the coating, and of chromium at up to 81,000 parts per million. **For Leisure Time . . .** China is currently advertising cameras and radios. The English-language magazine, *China's Foreign Trade*, No. 4, 1975, displays a "Great Wall" camera with a 45mm f 2.8 anastigmatic lens, and shutter speeds of 1/30, 1/60, 1/125, and 1/300 second. Its automatic film transporter can take 12 continuous pictures.

SHIPPING

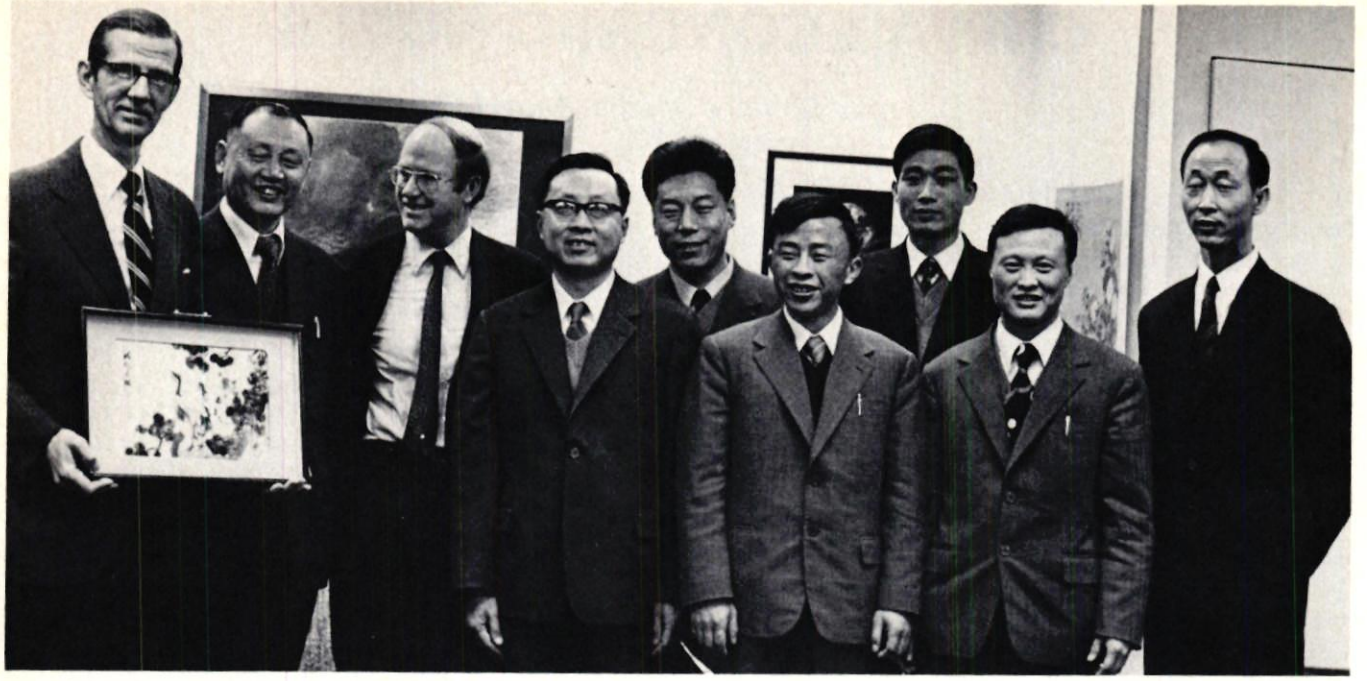
Slight Delays Recently . . . Several importers report that since January there have been slight delays of one or two days in shipment of goods from Shanghai and that the delays may continue in the future. **Containers Schedule . . .** Latest reports of China's construction of container facilities: the first container facility is expected to begin operation in Hsinkang by early 1977, with a second opening shortly thereafter in Shanghai. The Hsinkang container terminal will have a 1,160 foot wharf with a 1.2 million square foot storage area. By foreign standards, this is still primitive, handling only a limited number of small boxes. **Poor Marks . . .** Shipping lines lament that for many tpes of goods, the shipments are not well-enough marked, making it very difficult to determine what is in the container. Also, many items have only a wired seal, not a numbered seal; the shippers cannot tell if they have been opened and tampered with without anyone knowing. **And Marking Time . . .** One line points out that they are trying to make a regular once-a-month call in Hsinkang, where the Chinese want them to do a mid-month loading, but the congestion is so great in that port that it is impossible to keep to the monthly schedule. Shippers have to wait too long in Hsinkang. The line observes that a disproportionate amount of time is spent servicing Chinese cargo over cargo from other countries. **CTS Story Continued . . .** The last issue of UCBR reported that China Travel Service handles loading and notification of arrival of goods from China for some US firms having Hong Kong offices. More about this: one American textile importer is using the T.A. (Train-Air) System. Instead of airshipping from a Chinese port to the US, the Chinese have agreed to move goods by train to Hong Kong, which takes about a week. The CTS cargo department in Hong Kong then loads the merchandise on any available airline, including US airlines. This process is very cheap in comparison with direct China—US air transport, and has proven easier and more convenient because the importer has the choice of more airlines and thus more flights.

TEXTILES

Textile Imports Way Up . . . In the last few months, textile imports from the PRC have risen to a rate suggesting a potential yearly rate of 360 m. sq. yds., and "could easily triple in the next few months," according to an early February statement by the American Textile Manufacturing Institute. The 1974 figure of 83 m. sq. yds for cotton sheeting zoomed to 139.3 m. last year, the bulk of which arrived in the last four months of the year. It included 123.7 m. sq. yds. of griege goods. Such statistics mean that in the cotton imports category, China is now second only to Hong Kong as an exporter to the US. In 1975, Hong Kong sold 451 m. sq. yds., Taiwan 93 m. Indian 91 m., Pakistan 67 m., Japan 58 m. and Korea 48 m. (The American industry produces 17 billion yards of fabric annually.) A jarring note to this ever-upward trend was sounded by one importer of cotton clothing who told UCBR that the Chinese have recently cut back in the amount of dozens promised in their contract. "They've sold all their cotton for the time being," he conjectured, "and have run out." **So Back to the Quota Question . . .** The surge in Chinese cotton imports, particularly for sheet cloth and print cloth, has sparked a good deal of anxiety and complaint in both industry and government circles: Will this astounding increase in volume of PRC cotton imports cause disruption of the American market? Will the upward trend continue unabated? Will domestic pressures result in some kind of quota agreement? A spate of recent articles in the industry press has highlighted the controversy. States whose economies are threatened have alerted White House officials, who are now "formally reviewing" the question of whether to push for a bilateral quota agreement with China. Congressional action has taken the form of discussions in the House and Senate committees dealing with textiles, and letters. The US House of Representatives on November 20, 1975, sent a letter with 131 signatures to President Ford asking him to take action to control textile imports by continuing and strengthening the GATT Multifiber Arrangement, by blocking any tariff-cuts and considering textiles and apparel "within a sector limited to these products." Senators Lowell Weicker and Strom Thurmond have also sent letters expressing their concern. The textile industry is one of the top four industries in 17 states, and employs one out of every seven manufacturing employees in the US—2.3 m. people. Foreign suppliers who already have agreements with the US, including all the

AMERICAN BUSINESSMAN DIES IN CHINA

The National Council was saddened to learn of the death of Michael Poliseno, Vice President of Verde Shoe Co., Stoughton, Massachusetts, in China on January 23, 1976. Poliseno, 31, was the only American aboard a Canton-Changsha CAAC flight which crashed and burned near Changsha Airport. There were no survivors among the other Chinese, Dutch, and Danish passengers. The Chinese were very concerned about Poliseno's death. The Ministry of Foreign Affairs took care of returning his remains to his widow in North Easton, Massachusetts; and two members of the commercial section of the Liaison Office in Washington—Wang Tien-ming and Li Wen-chun—went to Boston for his funeral on February 20.



Council President Phillips and Vice President M. W. Searls welcome members of the Light Industrial Products delegation to Council offices, February 24. At right is Li Wen-chun of the PRC Liaison Office. Full details of visit in next UCBR.

major Asian producers, are also alarmed by the Chinese threat. About 85 percent of US cotton imports are covered by quotas—the remaining 15 percent chiefly represented by China. **Far from united? . . .** Despite all these expressions of worry, internally the textile industry is far from united in criticism of China's burst into the US market. Most major textile concerns play both sides of the fence—they manufacture cotton products as well as import them. Many of America's largest mills admit to dealing with the Chinese for greige goods but assert that the amounts are not large enough to disrupt the market. In effect, they would not lose out much with or without controls. But even companies who import heavily would support quotas if they could be assured of getting a large enough piece of the pie. During the recent recession, several major textile producers have disposed of marginal or obsolete plants, thereby making imports more significant proportionately. One importer feels that there should be less pressure for quotas now because there are fewer US plants producing cotton and because a quota would push up inflation. **Meanwhile, Down Under . . .** Further support to the anti-quota faction is the fact that the Australian government, which instituted selected textile quotas against China and other countries last year, announced in late February that it has decided to abandon them in favor of a global quota system for which all exporters may compete. Said the official statement, the quotas have "not been fully effective in correcting market disruption in the goods concerned." They were based on previous levels of exports. The global quota scheme will have an initial quota of 12 m. units eligible for admission at normal rates of duty. **Japan's Silk Trade Pact and Import Duties . . .** In the wake of a Japanese government decision last November to make imports of Chinese silk fabrics subject to official approval in order to protect domestic manufacturers, Japan and China "basically agreed" in February to sign a one-year arrangement for stabilizing the PRC's export of raw silk, thrown silk and silk fabrics to Japan. **China to Help Dry Americans . . .** At the Fall Kwangchow Fair Coyne Industrial Laundries of Syracuse, N.Y., contracted to buy 12,000 Chinese Shop Towels #416, which were shipped in February. The company is also negotiating for textiles and ready-made garments, and has sent samples of their shirts and pants to Chinatex officials. Although officials were also very interested in China's 65/35 polyester/cotton fabric, negotiators told them it was not available in sufficient quantity for export to fill Coyne Laundries' needs. Coyne purchases work clothing worth $5 m. annually for rental to workers. **And PRC Going to American Heads Too . . .** Along with cotton imports in general, sales of PRC cotton headwear have leaped tremendously despite a steep Column 2 tariff (37½% against Column 1 20%); imports in this category have increased a whopping 125,625% between 1972 and 1975, from $8,000 to $1,013,000. From a small base, large percentage gains are inevitable, but this rise must rank among the highest. 完

RMB: DOLLAR RATES AS OF JANUARY 1976

Date		*RMB:$*	*US¢/ RMB*	*Change %*
February 12	Bid	1.9516	51.2400	
	Offer	1.9418	51.4986	
	Median	1.9467	51.3689	+0.10
March 2	Bid	1.9613	50.9865	
	Offer	1.9515	51.2426	
	Median	1.9564	51.1142	−0.05

Source: NCUSCT based on data supplied by the Chartered Bank.

CHINA ECONOMIC NOTES

From Chinese Media Reports

AGRICULTURE

China's "Eight Point" Charter for Agriculture established by Chairman Mao in 1958 is being accorded new emphasis since agricultural development is a primary goal of the Fifth Five-Year Plan. The eighth point, mechanization of agriculture is a key goal of the as yet unpublished plan.

The charter is a set of eight characters representing water conservancy, fertilizer, soil, seed, close planting, plant protection, improvement of farming tools and field management. The New China News Agency recently elaborated on the meaning of the characters as follows:

1. Soil—deep-ploughing, land leveling and soil improvement to raise the soil's fertility.

2. Fertilizer—tapping of all possible sources of fertilizer and the rational application of fertilizer.

3. Water Conservancy—harnessing rivers and building irrigation and drainage projects.

4. Seed—selecting, breeding and propagating good crop strains and purifying and rejuvenating fine varieties of seed.

5. Close Planting—rational close planting to achieve the optimum number of effective plants per unit of farmland and to raise the crop by changing from one to two or three a year so as to increase the use of land.

6. Plant Protection—preventing or controlling plant diseases and harmful insects.

7. Field Management—good field management based on the laws governing plant growth.

8. Improvement of Farming Tools—improving farm implements while supplying China's agriculture with modern equipment suited to the country's specific conditions and gradually bringing about the mechanization of agriculture.

MANUFACTURING

Textile Predictions—China will become the world's second-largest producer of man-made fibers within a few years predicts Kayser Sung, editor of *Textile Asia*. He bases his prediction on the size of China's natural resources and labor force and its improvement and expansion of machinery and equipment in its mills. Mr. Sung also said China's trade potential in the cotton textile industry is enormous although its ability to compete depends heavily on good weather conditions. On the wool market, he foresees higher quality goods being produced for export as China acquires advanced wool technology.

Cotton Polyester Output—The *Ta Kung Pao* attributes Peking's dramatic increase in output of cotton polyester cloth to the cooperative arrangement initiated by the Peking Municipal Textile Industrial Bureau whereby its nine mills cooperate in the distribution of raw material and all the processes of production. In the past few years the mills have added 20,000 spindles and over 800 looms and increased production of semi-finished products eight times over 1965. To keep dyeing and printing capacity in step, more than

SINO-JAPANESE TRADE 1974-75
Major Commodities Volume

EXPORTS	1975	1974	% Change
Urea (mt)	1,169,449	957,139	22.2
Iron & Steel (mt)	2,812,087	2,857,775	− 1.6
Rods (mt)	598,378	539,870	10.8
Thick Plates (mt)	489,170	590,840	−17.2
Sheets (mt)	618,177	678,887	− 8.9
Tinned Plates & Sheets (mt)	79,879	107,039	−25.4
Galvanized Iron Plates (mt)	56,011	34,840	60.8
Steel Strips (mt)	75,140	85,522	−12.1
Steel Tubes (mt)	334,888	390,312	−14.2
Pumps (units)	5,945	4,616	28.8
(kg)	6,455,372	5,594,689	15.4
Automobiles (units)	13,978	20,723	−32.5
(kg)	11,792,058	12,856,905	− 8.3
IMPORTS			
Raw Silk (kg)	1,982,393	2,668,676	−25.7
Silk Fabrics (sm)	28,235,366	11,454,949	146.5
(kg)	1,466,348	551,246	166.0
Cotton Fabrics (sm)	82,231,970	28,162,580	192.0
(kg)	10,996,213	4,388,137	150.6
Soybeans (mt)	239,820	231,894	3.4
Oil (kl)	9,143,696	4,533,030	101.7
Clothes (kg)	8,422,404	13,719,173	−38.6

Source: Ministry of Finance, Japan.

20 factories jointly produced or renovated 27 pieces of equipment increasing capacity by 30 million meters. The city also now produces polyester yarn and polyester bleaching powder.

Refrigeration—China has stepped up construction of meat processing plants, cold storage warehouses, and refrigerated trucks, according to a January *Peking Review* report. The report claims cold storage capacity is now 50% greater than in 1965 and almost 31 times that immediately after Liberation. An account in the February 6 *Business China* estimates that China has only around 30 plants making refrigeration equipment. Since China's growth in the export of foodstuffs is hampered by inadequate refrigeration equipment, BC believes there could be a market for refrigerated transport equipment, or the know-how and machinery to make it.

MINERALS

China Rich in Minerals—A US Bureau of Mines survey declares China is one of the richest countries in mineral resources in the world. According to the survey, in 1975 China was among the world's top three in production of coal (450 million tons), anthracite (20 million tons), tungsten (8,500 tons), antimony (13,000 tons), mercury (900 tons), pyrites (18.5 million tons), and asbestos (160,000 tons).

New Coal Mines—Two new coal mines under development in Szechuan and Kweichow are expected to ease the dependence of south China on northern provinces for coal. The Szechuan mine now has seven pairs of shafts and the Kweichow mine has an annual production capacity of 900,000 tons, according to a report in *Sino-British Trade Review*.

Kiangsi Mineral Deposits—A geological survey of Kiangsi Province spanning the last five years has revealed reserves of 65 kinds of mineral deposits located among 5,400 sites, according to NCNA in January. The findings include fourteen large deposits of ores, large salt deposits in southern Kiangsi, ground water resources in Nanchang, and coal deposits throughout the province.

Coal Mining—A report from Japan's news service *Kyodo*, estimates China's total coal deposits at approximately 1,500 billion tons while the current production level is 400 million tons annually.

SCIENCE AND TECHNOLOGY

Treatment of Vitiligo—A new method for the treatment of vitiligo, a skin pigment disorder, has been developed by Dr. Chen Shang-ken of the Linfen hospital in Shansi Province reported NCNA in January. The treatment consists of intravenous injections of copper sulphate and is reportedly effective in 80% of cases treated.

First Composite Electrochemical Testing Device—NCNA has reported the development of China's first composite electrochemical testing instrument. The instrument, devised by Amoy University, consists of a constant potentiometer, a signal generator, and an alternating-current impedance meter; and it incorporates transistorized integrated circuitry. The device, important in studying the basic theory of electrochemistry, can also be used for composite tests of electrochemical parameters in petroleum, chemical, shipbuilding, aeronautical and national defense industries.

Medical Equipment Advances—In the past three years the Shanghai Medical Apparatus Research Institute has developed 50 medical apparatuses, 27 of which were not previously available in China, according to NCNA on January 17. The new developments include a radioisotope color scanner used in detecting and diagnosing various types of cancer; a laser beam for ear, nose and throat surgery as well as some other types of surgery, an automatic biochemical blood analyzer; a small electronic spirometer with integral circuits; and a sensitization layer made of rare earth elements, reportedly 5-6 times more efficient than existing x-ray sensitizers.

Atomic Clock—The development of China's first rubidium chronometer was reported in a December issue of *Ta Kung Pao*. The precision instrument is also known as an atomic clock because it utilizes oscillations within individual atoms. It is used in surveying, navigation, scientific research and national defense.

TRANSPORTATION AND SHIPPING

Railway in Hupeh—An account of the construction of the Chiaotso-Chihcheng Railway appeared in a January *Peking Review*. The 753.3 kilometer railway which runs from Chiaotso in Honan Province to Chihcheng in Hupeh Province, crossing mountains and many waterways, was built in eight months from November 1969 to July 1, 1970. Along its length are 2,389 bridges and culverts, large and small, and numerous tunnels. Construction of the 941.8 meter bridge over the Yellow River involved fitting 3,400 tons of steel beams with 190,000 high strength bolts at a height of 40 meters: Young women from villages in the Taihang Mountains put the bolts in place in 40 days. This trunk line is an important element in improving China's distribution of industrial products and equipment, raw materials and agricultural products.

Double-Decker Bridge for Shanghai—Shanghai's new double-decker road and railway bridge, linking the city with the new Shanghai general petrochemical works under construction across the Whangpoo River, has been open to rail traffic ahead of schedule, according to a December report from the New China News Agency. The bridge is the first to span the Whangpoo in Shanghai. Its piers are built of steel friction pipes on an elevated platform foundation. Its main structure is 420 meters long and 25 meters high. The biggest span is 120 meters and total length, including approaches, is 3,048 meters.

Shanghai Port Expansion—Since 1973, the Port of Shanghai has been substantially expanded and in 1975 it handled a record volume of cargo, according to a *Ta Kung Pao* report in January. New port facilities include sixteen new or reconstructed deep-water berths for 10,000-ton class vessels and six new docks and oil storage tanks on the Whangpoo River. In addition, the channel at the estuary of the Yangtze was dredged to accommodate 20,000-ton class freighters; and railway lines, roads, warehouses, depots, as well as two automatic coal and grain loading and unloading conveyor systems have been added.

MISCELLANEOUS

Chinese Wages—The average Chinese worker earns about 60 yuan a month (approximately $US30), according to the January 1976 issue of the *Peking Review*. He pays no income tax and receives free medical care and labor insurance benefits. The average family spends about five percent of its income for rent, water and electricity, according to the report. 完

INTERNATIONAL CHINA NOTES

BUYING REPORTS

Petrochemical Plants—Provisional agreements have been reached on two petrochemical plant sales to China from Japan, according to a March *Japan Economic Journal* report. One is for extraction facilities for such aromatic derivitives as benzene and toulene. The Japanese companies involved are C. Itoh & Co., Japan Gasoline, and Sumitomo Shoji Kaisha. The other is for a synthetic rubber plan sold by Japan Synthetic Rubber, Japan Gasoline and Mitsubishi Corp. Both contracts are worth about ¥ 10 billion. According to the report, other petrochemical plant export negotiations are still under way.

Polyester—China's Techimport was to purchase a polyester polymerizing plant from Japan's Toray Industries Incorporated at the end of March, according to *Kyodo* news service. The plant, worth ¥ 17 billion, will have an annual capacity of 80,000 tons and will be incorporated into an integrated synthetic textile plant which China plans to build near Shanghai.

Ethanol Plant—Uhde of Germany has received its fourth contract since 1972 from Techimport, according to the February 27 *European Chemical News*. The latest is for the design, procurement, construction, supervision and commissioning of a 100,000 ton/year ethanol plant. The technology, based on ethylene feedstock, will be provided by Veba-Chemie. Uhde's earlier contracts were a 30,000 ton/year acetaldehyde plant, a 35,000 ton/year high-density polyethylene unit, and a vinyl chloride facility. Total value of the four contracts is DM150m.

Lower Interest Rate from Japan—In late February Japan agreed to grant export licenses for industrial plant sales to China financed at less than the standard rate of 7.5 percent. Terms must be less than five years. This decision was made in order to boost plant exports to China. However, the Japanese Ministry of International Trade and Industry has emphasized that exporters offering the more favorable finance terms (probably about 7.0%) would not receive official backing for their loans from the Export-Import Bank at the same rates. The exporters would be required to bridge the gap in the rate of interest from their own resources or to find other methods of financing.

Wheat—The Australian Wheat Board signed a contract in Peking on January 24 for the sale of 700,000 tons of wheat to China during the current crop year. Terms of the contract call for payment plus interest within 12 months.

Petrochemical Plant—Four Japanese companies have signed to export ¥ 12 billion of plant for a petrochemical plant to produce 24,000 tons of toluene and 64,000 tons of paraxylene a year. Still to be worked out is the interest charge for financing from Japan's Exim Bank. According to Japan East-West Trade News, the Chinese are asking 6.5% p.a. and the Japanese want 7.5%. The Japanese companies involved are C. Itoh, and Co., Sumitomo Shoji, Japan Gasoline and Sangyo Boeki.

Desulfurization Plant—Negotiators for Nippon Steel Corporation will travel to China to discuss the sale of desulfurization plant for a silicon manufacturing plant, as well as replacement parts for China's Wuhan Steel Combine rolling plant, according to *Japan East-West Trade* in February. The total value of the proposed contract is estimated at about ¥ 8 billion.

Philippine Copper—On January 10 Manila sources reported the sale to China of 10,000 tons of copper concentrate worth about $3.8 million.

Dump Trucks—Fifty-four 18-ton capacity dump trucks, ordered by the PRC from Komatsu Mfg. Co., Ltd., of Japan were being loaded for shipment in mid-February.

Briquetter Machine—A "briquetter machine" produced by Hokkaido Netsugaku, a Japanese firm specializing in disposal equipment for wood wastes, has been bought by China. The machine, exhibited at an industrial show in China in December, mixes sawdust with coal and fuel oil to produce a more efficient fuel and is priced at ¥ 7-¥ 8 million. A company representative will travel to China in March to provide technical advice.

SELLING REPORTS

Manganese Ore—Nippon Kokan Kaisha will buy 35,000 tons of manganese ore from the PRC during 1976. The contract calls for 28% manganese and a price per ton F.O.B. of $21.68. Both price and volume are down from 1975 levels: price down 4.5% and volume down 14.3%.

Produce for Hong Kong—China supplies Hong Kong 85% of its live pigs, 45% of its live poultry, 48% of its fresh vegetables, 55% of its rice, and 90% of its fresh water fish, according to a report in Hong Kong's *South China Morning Post*.

Coal—The President of Japan's Electrical Power Development Company announced at the end of January that China had agreed to provide Japan with a constant supply of steaming coal. The company, which hopes to import about half the nation's requirements from Japan, estimated at 10 million tons in 1985, will send a mission to China in March to study its coal industry.

AIR AND SEA

Panama-bound—Five British ex-BP tankers, 16,000 dwt each, bought by China in March are now registered in Panama. Will the PRC phase out Somali registration this year?

Containerships—Beginning in March, containerships will be assigned by Mitsui O.S.K. Lines, Ltd. (MOL), to the Japan-China route to carry North America bound cargoes with transshipment at Kobe, according to a January report in the Japan Economic Journal. The agreement reached between MOL and the China Ocean Shipping Co. will also increase the number of sailings from one per month to two each month. Currently, China's containerizable goods are shipped on feeder service vessels to Kobe, Japan, where they are transferred to container ships.

Tankers from Japan—Nissho-Iwai will deliver a new 32,280 dwt tanker to China's Machimpex by the end of February, according to Japan East-West Trade News. The

tanker is 170 meters long, 262 meters wide, 142 meters in depth and has a draught of 10.72 meters. Its main engine is a Mitsubishi Sulzer 7RND68 diesel developing 11,550 hp and it will sail at a service speed of 15 knots. In addition, China has bought a 91,700 dwt tanker—the Tatsuta Maru—from Nippon Yusen for US$2.6 million.

Passenger Liner—Great Britain has sold the former P. & O. passenger liner *Cathay* to China for about £500,000, according to the *Financial Times* in January.

Airline to Phnom Penh—Bi-weekly air passenger service between Peking and Phnom Penh, Cambodia, was initiated on January 23.

EXHIBITIONS AND EXCHANGES

Rangoon—Li Chiang, China's Minister of Foreign Trade arrived in Rangoon on December 22 for trade talks.

Steel for Crude—According to Japanese sources, a delegation led by Yoshiro Inayama of Nippon Steel was scheduled to leave for China on January 13 to continue talks on the possibility of exporting 2-3 million tons of rolled steel in 1976 in exchange for Chinese crude.

North Korean Delegation—the New China News Agency reported the arrival in Peking on January 8 of a posts and telecommunications delegation from North Korea headed by North Korea's Minister of Communications.

Study Group to Iran—A study group from the Chinese Academy of Sciences visited a number of cities and scientific research departments during a two-week visit to Iran. The visit was hosted by the Iranian Centre of Research and Application of Radiosotopes and was concluded on January 20.

British Railwaymen—Leaders of Britain's National Union of Railwaymen visited China in February to promote the export of UK railway equipment.

Japanese Exhibition—At the Japanese industrial and technological exhibition held in Peking November 18 through December 2, 71 Japanese firms received contracts for ¥ 820 million worth of goods, 50.34 percent of the goods offered. Top sellers were precision medical equipment (58 contracts), machine tools (48 contracts) and household electrical appliances (35 contracts). According to Japan's *Kyodo*, the export of Chinese machinery, tin and medical supplies to Japan was also a subject of serious discussion during the exhibition.

Agricultural Study Groups to Mexico—Two agricultural study groups from the PRC visited Mexico in December; one to study fruits and vegetables, the other to study maize and sorghum.

Pakistan Gas—Pakistan hosted a delegation of Chinese gas experts who arrived in Islamabad on December 18 to study gasfields, pipelines and construction techniques in Pakistan.

Seismology Group—A seismological study group from China visited Japan in December.

Singapore—A 10-man delegation from Machimpex arrived in Singapore in December and toured about 30 factories and shipyards. According to the February China Trade Report, the mission was interested in cargo and utility vessels, on and off-shore drilling equipment, and engineering products. Singapore is reportedly interested in importing Chinese raw materials, intermediate products, and parts and components to supply factories.

Exhibition in Mali—NCNA reported the opening on December 5 of an economic and commercial exhibition of China in Bamako, Mali.

Japanese Port Builders—A delegation of Japanese port facility manufacturers concluded a two-week visit to the PRC on December 6. The delegation toured Tientsin, Chinhuangtao and Talien reported NCNA.

Australian Trade Mission—A 15-member trade mission from the Australian-China Business Cooperation Committee will visit China in early March or April reports the Sino-British Trade Review.

Chinese Fair in Nagoya—Japanese sources report the Governor of Aichi Prefecture will soon visit Peking to negotiate the opening of a Chinese fair in Nagoya, tentatively scheduled for 1977.

Paris Rug Fair—For the first time, China's Native Product and Animal By-Products Import and Export Corporation participated in the International Exhibition of Rugs and Other Floor Coverings held in Paris in January.

Britain Receives Five PRC Delegations—During the first few weeks of January, Britain was host to five trade or technical delegations from the PRC, according to a January 16 article in Britain's *Financial Times*. A Tech-import mission arrived to study coal preparations and coal washing and hoisting equipment. Another Chinese group arived in London on January 14 to make arrangements for its exhibit at the Daily Mail Ideal Home Exhibition. (The Chinese have reserved over 700 square meters and its exhibition is expected to be partly display and partly retail and to include craftsmen at work.) A Minmetals group left the first week of January after inconclusive talks with British Steel Corporation. A delegation from the Native Produce and Animal By-Products Import and Export Corporation visited commodity dealers. And a team met with sub-contractors supplying control equipment for the polypropylene plant China bought from Snam Progetti in Italy.

Common Market—A UPI report from Brussels reports the European Common Market is expecting a Chinese delegation to travel to Brussels soon for talks on the possibility of opening formal trade negotiations. The Chinese have displayed continuing interest in such talks since May 1975 when it recognized the Common Market officially. A spokesman for the Economic Community believes China's interest is limited to trading matters rather than exchange of technical know-how. Other British sources, while reiterating the exploratory nature of the talks, report the EEC's outline for the potential agreement includes most favored nation treatment and progressive trade liberalization such as removal of quotas. It is also expected to include safeguards to keep the Community from being swamped by Chinese exports as well as measures to stimulate agricultural trade and a joint committee to supervise the working of the agreement.

Off-Shore Oil Group—Chinese scientists, including specialists in seabed geology, prospecting and mining, will visit Japan in March, according to *Japan East-West Trade News*. The inspection team is particularly interested in off-shore oil development and Japanese observers view the visit as a tentative step toward cooperation between Japan and China in developing oil reserves under the Pohai and South China Seas.

FOREIGN AID

Laos—Chinese experts arrived in Laos late December to help construct the Nambuk-Luany Prabang road.

Algeria—In accordance with an agreement signed in Algeria on December 26, China will install a rice processing and conditioning plant in Skikda, according to the Algerian press.

Pakistan Iron Works—The Pakistan press has reported China's agreement to provide technical and financial assistance for construction of Chahilgazi pig iron and steel smelting works in Baluchistan, Pakistan. The project is expected to cost 270 million rupees. According to the report, China is currently engaged in supervising the exploration work.

Thailand—As a gesture of friendship with Thailand, whose trade deficit with China reached $2.5 million by 1975, China has agreed to buy 150,000 tons of Thai maize, a product China itself also exports. According to the account of the agreement in the February *China Trade Report,* Thailand also wants to sell jute, rubber, tobacco, sugar, rice and castor seeds. In a related development, Thailand has also agreed to a Chinese trade exhibition early in 1976 despite strong Soviet objections.

AGREEMENTS

Bulgaria—Bulgaria and China signed a 1976 trade agreement in Sofia on January 3.

Pakistan—Pakistan and the PRC are negotiating a long-term barter trade agreement, according to Karachi news service on December 22.

Iran—China and Iran have reached an agreement on reciprocal trademark registration.

Algeria—In January, China and Algeria signed protocols to trade agreements for 1976, reports Reuter's *East-West Trade News.*

Japan—Following a two-week visit to China in December Aiichiro Fujiyama, chairman of the Japan Association for the Promotion of International Trade, announced the two countries had agreed to increased annual two-way trade to US$10 billion by 1980.

East Germany—On December 19, China's Vice Minister of Foreign Trade arrived in East Germany and left on December 26 after signing a trade agreement in East Berlin on December 20.

Czechoslovakia—Czechoslovakia's Vice Minister of Foreign Trade traveled to Peking in December to sign the 1976 trade agreement between the two governments, reported NCNA.

Sri Lanka Swap—In 1976, China will export 200,000 tons of rice to Sri Lanka in exchange for 67,000 tons of rubber and other commodities in accordance with an agreement signed by the two countries on December 6. The agreement is worth Rs 150 million (US$14.8 million) each way, according to the *China Trade Report* in February. This exchange is said to be more favorable to Sri Lanka than a similar agreement in 1975 which called for an exchange of 75,000 tons of rubber plus other commodities for 250,000 tons of rice.

MISCELLANEOUS

Intermediary Trade—Since the Fall 1975 Canton Fair, intermediary trade involving Japanese enterprises, China and third countries has shown a marked increase. According to Japan's *Kyodo,* such transactions are expected to total 30 million dollars for all of 1975. Items traded under this formula include raw silk, silk fabrics, cotton cloth towels and other secondary products, marine products, and handicraft items. Some examples: Mitsui and Company of Japan has a contract to sell China US scrap iron. Marubeni has exported 40 tons of Chinese frozen shrimp to the US as well as 2 million yards of cloth.

West German Trade—For the first nine months of 1975, West Germany's trade with China totaled $535 million, $375 million of which were West German exports. According to a February *China Trade Report,* China's trade deficit with West Germany, always high, can be expected to discourage Chinese buyers as China adheres more firmly to its principle of "equality and mutual benefit."

Sino-Japanese Trade Statistics—According to statistics issued by the Japanese Ministry of Finance, Sino-Japanese trade for 1975 totaled $3,791,850,000, up more than $500 million over 1974. Japanese exports totaled $2,261,390,000 and imports reached $1,530,450,000 leaving a trade balance for 1975 of $730.9 million in favor of Japan. (In 1974 the trade balance was $679.7 million in Japan's favor.) In a related development, the chairman of the Japan Association for the Promotion of International Trade has proposed that China could improve the trade imbalance between the two countries by exporting more farm and industrial products to Japan, according to the Japanese press. In making the proposal, the chairman pointed to Japan's huge imports of farm products from the US and Australia as evidence that such a market exists.

CTPS—China Translation and Printing Service in Hong Kong has announced that beginning April 1, *Export Market,* published by Vogel-Verlag KG, will henceforth be printed by CTPS. Other publications translated and printed by the company include *SIMA Bulletin, Review on Swiss Industry, British Industry, Dutch Trade News,* and *Industrie Recherche et Technologie Francaises.*

CLARIFICATIONS

Concerning the charts on pages 44-45 and 47 in the November/December 1975 issue (Vol. 2, No. 6): although Sohio technology was used in the process for the manufacture of acrylonitrile monomer which is based on a vapor phase catalytic process, it does not produce polyacrylonitrile (PAN) or PAN fiber.

In the January-February issue, pp. 51-52, Machimpex bought the various machines noted from Caterpillar Far East Ltd, which is responsible for sales of Caterpillar products, including those from Caterpillar Mitsubishi Ltd, throughout Asia. Caterpillar Mitsubishi's sales activities are limited to Japan.

JOB WANTED

Recent recipient of Masters degree in International Management (Asia specialty) seeks marketing/sales negotiations career opportunity with firm having interest in the PRC and Asia. Holds BA in International Relations (Latin America specialty), is fluent in Mandarin Chinese, French, and Spanish, and has had two years of management experience in Asia.

HANDBOOK OF TRADE WITH CHINA

Translated by Toshio Namba and George F. Leslie, Jr. Tokyo-Chugoku Bo'eki Jiten, Inc., 1974

Of any country in the world, Japan has probably been the most active in trading with China. A part of the Japanese effort to get trade with the PRC moving faster and more efficiently following normalization of relations in 1972, was the publication in 1974 of the *Handbook of Trade With China.*

This 1231-page compendium in English, Chinese and Japanese is the only attempt to date to bring together in one volume available Chinese publications on trade-related matters. A good reference for American as well as Japanese traders, its greatest assets are the convenience for the reader of having all such materials bound together for easy reference, and the usefulness of having Chinese products and terminology available in three important languages.

However, the Chinese trade has undergone constant expansion and change since the Handbook's actual compilation in mid-1973, making the publication already out of date in many respects.

Keeping in mind its limitations, the China trader can still find a useful and easily available core of basic information within its pages. It should always be supplemented with newer materials. The Handbook includes:

- *Dictionary of Commercial Terms and Usage*—Covering topics such as currency, banking and insurance, this section lists the Chinese word, followed by romanization, Japanese equivalent, and the English meaning. These rosters are alphabetical by romanization.
- *Chinese Commercial Publications*—Shipping regulations, insurance clauses, tariff rate tables for imports into China, and foreign trade corporation products for export are some of the materials reproduced
- *Other Publications and Information*—This section details basic information such as the names of China's national organizations and parties, and Chinese names for foreign heads of state.
- *Chinese Product Lists*—Quite useful are the lengthy chapters listing products available for export by China's foreign trade corporations. These are reproductions of basic commodities catalogs, most of which are in the National Council library. It is wise to use this guide only as a starting point for familiarizing oneself with the types of merchandise China produces for export.

The selection of products listed is limited. Readers should note that compilers were unable to obtain a single machinery catalogue, forcing them to leave Machimpex out of the handbook. Their rosters on Chinatex (33 pp.) and the Light Industrial Products Corporation (42 pp.) are also scanty. Minmetals is fairly well-represented (99 pp.) although a recent issue of *China's Foreign Trade,* (No. 1, 1976) lists many new products not in the Handbook. A Minmetals delegation recently in the US noted many products no longer available. The most comprehensive inventories are compiled for the Ceroils (347 pp.) Native Produce and Animal Byproducts (192 pp.) and Chemicals Corporation (142 pp.). But here again, these FTCs are now producing many additional commodities.

Of the other commercial publications listed, several are now out of date. For instance, the Business Regulations of the China Ocean Shipping Agency was updated in April 1974 while the Handbook lists a 1965 version. (See National Council Special Report No. 10.) Other publications now available are also not included in the Handbook. However, the section on the Customs Administration Bureau of the Ministry of Foreign Trade should be of interest.

The *Handbook of Trade with China* is regularly $65.00, including postage. Two types of discounts are available: If you write the publishers that you saw this review in UCBR, the price will be reduced to $55.00. If you are willing to accept a soiled copy with a "slightly wrinkled or marred cover," the price is even less—only $20.00. Interested parties should contact:

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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.

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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.