

THE MAGAZINE OF THE NATIONAL COUNCIL FOR US-CHINA TRADE JUL-AUG.1977

# The China Business Review



VOL. 4 NO. 4



**NEW FROM THE  
NATIONAL COUNCIL**

# **DIRECTORY of Research Institutes in the People's Republic of China**

The emphasis on China's scientific research is on "Uniting theory with practice", applying science to the needs of changing economic priorities. In the past seven years China's scientific and technical interaction with the world's scientific and industrial community has increased enormously. The need to know the state of China's scientific research has become important.

The *Directory of Research Institutes in the People's Republic of China* is an up-to-date reference that any organization or individual concerned with China's scientific development will find indispensable.

The *Directory* will be a standard reference for the following –

- Members of scientific and technical missions to the PRC
- Companies giving technical presentations in China, and participating in exhibitions in China
- Institutions and firms hosting scientific and technical delegations from China.
- Scientific and technical research institutes studying research in China, overall or in individual categories.
- Companies analyzing the market for scientific instruments and other laboratory equipment in the PRC.
- Companies analyzing China's scientific development in the short-to-long range as it relates to their own product area.
- Individuals interested in learning about the state of science in the PRC.

## **About the Directory**

In 1977, the National Council is publishing a three-volume *Directory of Research Institutes in the People's Republic of China*. The 300-plus page volumes will describe research in the categories listed and will provide comprehensive information about the organization and work of all known industrial research institutes in China through 1976. The *Directory* has been prepared by Susan Swannack Nunn.

The *Directory* contains the following data where known · name and addresses of the institute, in English and Chinese · date of establishment · organization

· staffing · research divisions · subsidiary facilities · affiliates · biographical information of staff · present and past research and publications · recent research and activities (including abstracts of work published) and known equipment installed

The cost of the 3 volume *Directory* is \$300. Individual volumes are \$125 each. Airmail postage overseas is \$20.00 per set or \$7.00 per volume.

**VOLUME I**  
**Agriculture, Forestry,  
Fisheries**  
Animal husbandry  
Crops  
Farm machinery  
Fisheries  
Forestry  
Plant protection and  
pest control  
Soils  
Fertilizers

**VOLUME II**  
**Chemicals**  
Agricultural chemicals  
Industrial chemicals  
Petrochemicals  
Pharmaceuticals  
Plastics  
Synthetic fibers  
**Construction**  
Cement  
Concrete and ceramics  
Foundation and soil  
mechanics  
Structure  
**Electronics, electrical**  
Components  
Computers

Consumer electronics  
Electrical  
Medical equipment  
Precision Instruments  
Telecommunications

**VOLUME III**  
**Energy**  
Coal mining and  
processing  
Nuclear energy  
Petroleum  
Liquefied natural gas  
Power generation  
**Light Industry**  
Food processing  
General  
Paper and timber  
Textiles  
**Machinery**  
Machine tools  
Metallurgy  
Metals and mining  
Iron and steel  
Non-ferrous  
**Transport**  
Air  
Automotive  
Marine  
Rail

## **SPECIAL DISCOUNT for Academic and Other Non-Profit Institutions**

The *Directory of Research Institutes in the People's Republic of China* is available at a discount of 33 percent to academic and other non-profit institutions. The reduced price of \$200 applies only to purchase of the set of 3 volumes. Postage overseas is additional.



EDITOR: N. H. LUDLOW • ASSISTANT EDITOR: S. R. GREEN • EDITORIAL ASSISTANT: H. JACKSON

**OFFICERS**

Chairman  
**William A. Hewitt**

Vice Chairmen  
**John C. Brizendine**  
**Joseph T. Kenneally**  
**David Rockefeller**

Secretary Treasurer  
**Gabriel Hauge**

Counsel  
**Walter Sterling Surrey**

President  
**Christopher H. Phillips**

**WASHINGTON STAFF**

Vice President  
**Stanley Young**  
Director, Publications and Research  
**Nicholas H. Ludlow**  
Director, Business Advisory Services  
**Eric T. Kalkhurst**

Director, Translation Services  
**May Li Phipps**

Director, Importer Services  
**Suzanne R. Reynolds**

Publications Associate  
**Stephanie R. Green**

Publications Assistant  
**Howell Jackson**

Translator  
**Roy Tsung**

Library/Research Assistant  
**Edith B. Terry**

Accounts  
**Richard L. Peterman**

Office Manager  
**Pat Caperones**

Executive and Publications Secretarial  
**Sally Aldridge, Amy M. Burns, Juliet R. Carr, Beatrice Man-Yuen Lam, Jill Perrott, Suzanne Shapiro**

Office Assistant  
**Rodger M. Robinson**

**HONG KONG**

**John T. Kamm**

**MID-WEST**

**Thomas H. Miner**

**NEW YORK**

**Arne J. de Keijzer**

© The National Council for US-China Trade 1977. All rights reserved. Reproduction in whole or in part without permission is prohibited. Articles in the Review do not reflect Council policy, unless indicated.

Design Louise Levine

TABLE OF CONTENTS

|  |                        |
|--|------------------------|
| China Trade Events .....   | <b>2</b>               |
| China's Grand Plan .....   | <b>3-5</b>             |
| Sectoral Report: CHINA'S OFFSHORE PETROLEUM,<br>by Jan-Olaf Willums .....  | <b>6-14</b>            |
| General Sediment Chart of Northern Chinese Shelf .....   | <b>8</b>               |
| Petroleum-Related Equipment Sales to China .....   | <b>10-11</b>           |
| Volumetric Estimates of Hydrocarbon Content of Chinese<br>Continental Shelf .....  | <b>12</b>              |
| General Sediment Chart of Southern Chinese Shelf .....   | <b>12</b>              |
| Storm Wave Frequency and Maximum Wave Height .....   | <b>13</b>              |
| Typhoons Affecting Chinese Offshore Areas During 1970<br>and 1971 .....  | <b>14</b>              |
| Sensitivity Analysis of Results Distribution with<br>Technology Options .....  | <b>14</b>              |
| Expected Hydrocarbon Potential Per Surface Area .....  | <b>14</b>              |
| Council Activities: Council's Chairman and President Visit Peking,<br>Chinese Petroleum Group in US, Council Packaging Delegation<br>in China, Council Names Planning Committee for CCPIT Visit,<br>Fourth Annual Meeting, PRCLO Officials Visit Poultry Farm, ITC<br>Report on Granting MFN Status to China ..... | <b>15-19</b>           |
| EXPORTER'S NOTES .....   | <b>20-23</b>           |
| PRC Agricultural Purchases November 1976-July 1977 .....   | <b>21</b>              |
| China Technology Authority Joseph Needham Receives<br>Honorary Degree .....  | <b>22</b>              |
| Traveler's Advisory, July-October: Peking, Shanghai, Canton ..   | <b>23</b>              |
| IMPORTER'S NOTES .....   | <b>24-25</b>           |
| CHINA ECONOMIC NOTES .....   | <b>26-28</b>           |
| Soviet and American Views of China's Industrial Output .....   | <b>27</b>              |
| RMB: Dollar Rates .....  | <b>28</b>              |
| CHINA INTERNATIONAL NOTES .....  | <b>29-Inside Cover</b> |
| Chinese Oil Exports 1974-1977 .....  | <b>29</b>              |

**Front Cover:** Bicycles, China's premier means of transportation, provide state with revenues from licenses, seen here parked with tags in Shanghai. With China's new program for improved standards of living, will other forms of transportation, such as motorcycles or cars, receive new emphasis?

The CHINA BUSINESS REVIEW is published bimonthly by the National Council for US-China Trade, 1050 17th Street, N.W., Suite 350, Washington, D.C. 20036 USA. The National Council is a non-profit organization incorporated under the laws of the District of Columbia. The CHINA BUSINESS REVIEW is published principally for members of the National Council. Application to mail at controlled circulation rates is pending at Washington, D.C. The magazine is available for subscription in the US and Canada at \$60 per year; elsewhere at \$75 a year including airmail postage.

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 China Business Review.

# CHINA TRADE EVENTS

## NATIONAL COUNCIL FOR US-CHINA TRADE DELEGATIONS

### Delegations to China

Chairman William A. Hewitt and President Christopher H. Phillips; Peking, Sian, and Kweilin, June 23-July 9. National Council Mining Industry Delegation; Peking and other cities, July 18-August 9. National Council Petroleum Industry Committee; Peking and other cities, November 21-December 16.

### Chinese Delegations to the US

China National Machinery Import and Export Corporation and China Petroleum and Natural Gas Exploration and Development Corporation Petroleum Delegation; June 15-July 24. Contact: Stephanie R. Green. China Council for the Promotion of International Trade (CCPIT) Delegation; September 7-28. Contact: Priscilla Rope. China National Export Commodities Packaging Corporation; October 22-November 12. Contact: Howell Jackson.

### CHINA, Second Half, 1977

The National Academy of Sciences' Committee on Scholarly Communications with the People's Republic of China (CSCPRC) will send three delegations to China in the fall of 1977. The first group, a Chinese Painting delegation, will visit China during September and October on the invitation of the Bureau of Cultural Relics and the Scientific and Technical Association of the People's Republic of China (STAPRC). The group will be escorted by Denise Emery of the CSCPRC. Later in September and October, a US Cancer Research group will tour China, accompanied by Pat Tsuchitani. The last CSCPRC delegation scheduled to tour China in 1977 is an Astronomy group, tentatively set to be in China during October. For more details, contact the CSCPRC, National Academy of Sciences, 2101 Constitution Avenue, N.W., Washington, D.C. 20418; telephone: (202) 389-6136.

### PEKING, July 5 to July 20

The China National Light Industrial Products Corporation Peking Arts and Crafts Branch held a mini-fair in Peking to display pearls, precious stones, jewelry, stone carvings, antiques, cloisonne, carved lacquerware, prints, and pictures. Some American buyers were invited.

### PEKING, Late July

The second National Machine Tool Builders Association (NMTBA) delegation to China arrived in Peking late in July to hold technical seminars and symposia for Chinese audiences. Leading the 10-man, 9-company industry-organized, government-approved delegation was Philip R. Marsilius, Chairman of the NMTBA and Vice President of Product Machine Company; Jesse Maffuid from the NMTBA's Virginia headquarters accompanied the group.

### UNITED STATES, Fall

The National Committee for US-China Relations will receive two delegations from China this fall. The first, a delegation of Teachers and Administrators from Institutes

of Higher Learning, will come to America in November, and the second, an All China Sports Federation Men's Soccer Delegation, sponsored with the US Soccer Federation, is scheduled for a US visit sometime this fall. For details contact the National Committee, 777 United Nations Plaza, New York, New York 10017; (212) 682-6848.

### UNITED STATES, Second Half, 1977

The National Academy of Sciences' Committee on Scholarly Communications with the People's Republic of China (CSCPRC) will host four Chinese delegations later this year. The first group, July 7 to August 6, investigated American metrology technology and standard measuring instruments, including optical frequency scale; laser as length primary standard and its application to the measurement theory; and establishment of low temperature scale. The second, a Drilling and Prospecting Techniques and Equipment team, arrived July 21 for a month's tour of American core drilling: high speed drilling of deep-holes, drilling techniques in complicated geological formations, new drilling bits and declination measurement of small diameter holes; and hydrologic drilling: the design, manufacture, and application of drilling rigs with multipurpose uses. In August and September the CSCPRC plans to host a pomology group interested in fruit trees, mainly citrus and apple. The final delegation will be an autumn visit by a Tunnel Boring Machines group, which wishes to investigate the design, manufacture, and use of tunnel boring machines.

### TIJUANA, MEXICO, October 12-24

Fairs and Expositions of Lower California will sponsor a Chinese carpet fair in Tijuana's International Trade Center in October, 1977. This international fair will include displays of Chinese carpets purchased by the Mexican sponsor, and Chinese officials from the China National Native Produce and Animal By-Products Corporation will be on hand to take orders. For details contact Mr. G. A. Stanford, Route 4, Box 236, Leesburg, Virginia 22075; (703) 471-1463.

### YOUR MEN IN PEKING

The US Liaison Office staff in Peking will be happy to assist you; please feel free to call them when you are in China's capital.

Commercial Officers: William W. Thomas, Jr. (Chief)  
Richard Mueller

Agricultural Representative: Koy L. Neeley  
(FAS/USDA)

Telephone: 522033 Ext. 215 or 216

Address: 17 Guanghua Road  
Peking

Cables: United States Liaison Office  
Peking



At left is Teng Hsiao-ping, whose imprint on China's plans is visible, with Chairman Hua Kuo-feng, center, and Vice-Chairman Yeh Chien-ying, at Central Committee meeting of China's Communist Party, July 16-21, at which Teng was rehabilitated.

# CHINA'S GRAND PLAN

## KEY POINTS OF CHINA'S GRAND PLAN

- China to overtake the US economically by 2006–2016 AD.
- The PRC to be divided into six economic regions after 1985.
- Renewed emphasis on industry as opposed to agriculture.
- Acceleration of interior development.
- Stress on productivity, quality control, strong management, and technical education.
- New centralization and consolidation of major industries.
- Ten new Taching-size oilfields by 2000 AD
- Renewed affirmation that import of foreign technology has official approval.

*Is it possible for our national economy to develop faster and better in the next 23 years than it did in the previous 28? We hold that it is entirely possible . . . to greatly increase the speed of development of our national economy is a task which brooks no delay.*

*Chairman Hua Kuo-feng at the National Conference on Learning from Taching in Industry, May 9, 1977. (Source: Peking Review 5.20.1977).*

At China's National Conference on Learning from Taching in Industry in early May, guidelines for the future development of the PRC's economy were spelled out by China's new leadership headed by Chairman Hua Kuo-feng. The Conference, while not revealing a statistical package for the Fifth Five-Year Plan (1976-1980), did issue specific guidelines for economic growth through the year 2000—and beyond, elaborating earlier pronouncements by Hua (see *CBR* 4:1, p. 3).

In a key speech on May 4, Yu Chiu-li, Vice Premier of China's State Council, reiterated ex-Premier Chou En-lai's proposals to modernize China in a two-stage program by the end of the century as China's "Grand Plan." Yu said the decade 1976-85 is "crucial" for accomplishing this plan, and referred to the second, post 1985 stage in which six regions of China (northeast, north, east, central south, south, northwest) will build up their economic systems "so that they can function self-reliantly."

## Overtaking US by 2006 AD

Of particular significance was a 1956 quote by Chairman Mao Tse-tung singled out by Yu in which overtaking the US economically in 50 or 60 years is viewed as "not only possible, but absolutely necessary and obligatory." By recent figures, this aim for 2006 or 2016 AD requires China to increase its economic output by nearly six times to reach the present US GNP, or by more than twenty-five times on a per capita basis to attain the US standard of living in 1976.

Industry rather than agriculture appears to have the priority in China's new Grand Plan, according to Yu; and productivity, quality control, consolidation of industry, increased management responsibilities, reduction of non-production staff, wage levels, and other matters are mentioned as important concerns.

## Ten Taching Oil Fields

Among the salient points of the Plan is the objective enunciated by Hua and Yu that China "should build some ten oilfields as big as Taching within this century." Based on recent US government estimates, the addition of ten more fields producing at Taching's 1976 output would provide China with more than six times its present national output by 2000 AD, an ambitious target.

In another important address, Vice Chairman Yeh Chien-ying stressed that industry must serve "agriculture and national defense more effectively," and that "the importance of accelerating the building of industry in the interior must be fully recognized." The trade-off between regional development and national economic growth may, however, be an important consideration in the longer term.

## New Emphasis on Importing of Foreign Technology, Literature, Art

While the Taching Conference was in progress, Peking's influential People's Daily issued a key article which stated, "We would like to learn from the strong-points of all countries and all nations. We want to learn all that is genuinely good and useful either in the political, economic, scientific and technological fields, or in literature and art; and we shall always do so." (NCNA May 5, 1977).

A later article (NCNA June 24, 1977) said, "Different countries and nations have their own good features and special characteristics. They exchange experience, supplement each other's skills, and advise each other of original developments, thereby constantly promoting the development of science and technology . . . we should . . . import all good things that should be imported and learn from foreign countries that which deserves learning."

Meanwhile the development of a "mighty contingent of scientists and technicians" was called for in another report, a further indication that Chinese tech-

nical education, given a backseat since the 1966-1968 Cultural Revolution, is now a Chinese priority.

And at the end of July a national foreign trade conference was underway in Peking, under the chairmanship of Li Hsien-nien, suggesting that China's foreign trade plans and priorities are ready to be set back on the track again, in spirit if not in detail.

## GUIDELINES ISSUED AT THE LEARNING FROM TACHING CONFERENCE MAY 1977

**Economic priorities** "We must make our national economic plan carefully in the order of agriculture, light industry, and heavy industry, and accelerate the development of industry, particularly the iron and steel, petroleum, coal, power, chemical, machine-building, and other basic industries. Only thus can we meet the ever-growing needs of agriculture for machinery, chemical fertilizer, fuel, electric power, and other products, effectively help agriculture forward, and give full play to the leading role of industry." (Yeh)

**Industry Over Agriculture** "While vigorously developing large-scale socialist agriculture, we must greatly speed up industrial development. It is possible to strengthen leadership by the working class . . . on a new basis only when industry develops faster and supplies agriculture with more and better farm machinery, chemical fertilizer, pesticides, and other such goods, turns out large quantities of light industry products through exchange for farm products, and insures the mechanization of agriculture by and large by 1980, and then proceeds to achieve the modernization of agriculture. Only when industry develops faster will it be possible to push the entire national economy forward rapidly . . ." (Yu)

**Basic industry serves agriculture and defense** "Chairman Mao said . . . that we have two fists and one rump. One fist is agriculture, the other is defense industries. If we want the fists to pack a wallop, our rump must be firmly anchored. The rump is the base industries." (Yeh)

**Industrial priorities** "We must adhere to the policy of *taking steel as the key link* in developing industry, step up geological surveying and launch a big campaign to build mining centers, speed up the development of the iron and steel, fuel and power, petroleum and chemical industries, and strive to turn out more products for farm use and light industrial products." (Yu)

**Consolidation of industry** "We must first of all do a good job of consolidating the leading bodies of key enterprises which affect the national economy as a whole." (Yu)

**Six economic regions** ". . . then (after 1985) on this basis, the six major regions of northeast, north, east, central-south, southwest, and northwest China are to

build up step by step their respective economic systems, which vary as regard standards and characteristics, so that they can function self-reliantly while working in close coordination, and have a fairly harmonious development of agriculture and light and heavy industry." (Yu)

**Development of the interior** "The importance of accelerating the building of industry in the interior must be fully recognized . . . facts show that building industry in the interior is an endeavor of great strategic importance. It not only helps strengthen our national defense, but plays an important role in improving industrial distribution and developing the economy of minority regions and the interior." (Yeh)

**Ten more Tachings** "The day before the conference opened, Chairman Hua gave the instruction that we should . . . build some ten more oil fields as big as Taching within this century. Chairman Hua's instruction . . . sets a Grand Plan for China's oil industry to catch up with and surpass the most developed capitalist countries in the world . . ." (Yu)

**Overtaking the United States** ". . . In 1956, Chairman Mao compared the conditions of our country with those of the United States, and suggested that we overtake it economically in 50 or 60 years. He said *"This is an obligation . . . If after much ado for 50 or 60 years you are still unable to overtake the United States, what a sorry figure you will cut! You should be read off the face of the earth. Therefore, to overtake the United States is not only possible, but absolutely necessary and obligatory."* (Yu)

**Increase Productivity** "We must . . . strengthen scientific and technical research, strive to adopt new techniques, extend multi-purpose use of natural resources, go in for technical innovations and technical revolution in a big way, work conscientiously to tap the potential and renovate and transform the existing enterprises, steadily raise labor productivity, and launch a new upsurge to increase production and practice economy." (Yu)

**Quality control** "For all products, we require not only quantity but quality, and lower consumption of material." (Yu)

**Leadership in management** "Special attention must be paid to selecting and appointing the two top leaders in each enterprise . . . The responsibility does not lie with the masses but essentially with the leadership . . . We should oppose the phenomenon of having no one accepting the responsibility and struggle against anarchism." (Yu)

**Improved management** "To do a good job in production, we must pay great attention to managing enterprises . . . at present, emphasis should be laid on mobilizing the masses to work out ways and means



Planning a Chinese water control project.

Photo: Hsinhua

to reverse the trend of running enterprises at a loss, improve quality, lower consumption of materials, overhaul and repair equipment and installations, and insure safety in operations." (Yu)

**Discipline and coordination in management** "The leading bodies concerned should strengthen management, institute strict discipline in financial and economic affairs, and take appropriate measures to solve the actual problems in mapping out plans for the enterprises, in linking production with supply and marketing and in coordinating the work of various enterprises." (Yu)

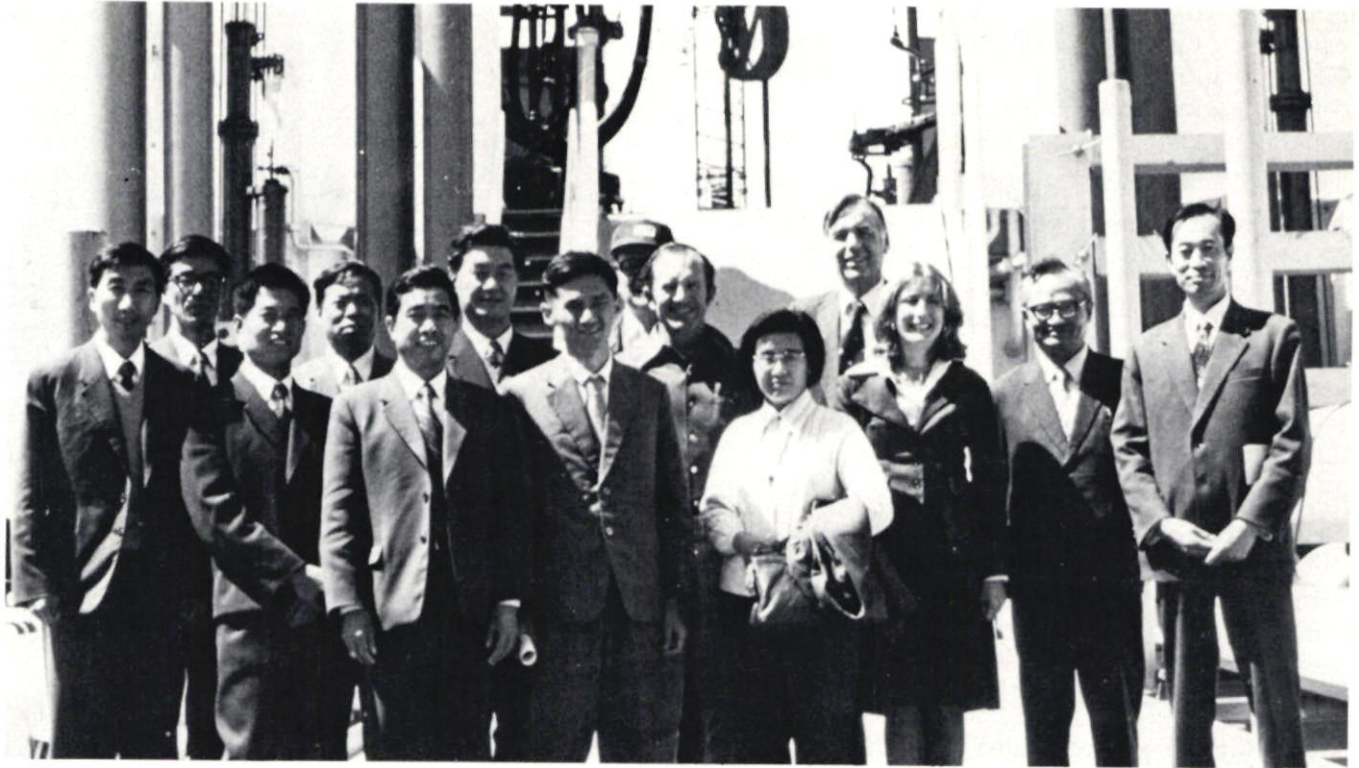
**Reduction of administrative slack** "The number of nonproductive personnel in general should not exceed 18% of the total payroll in an enterprise. Over staffing exceeding this percentage should be reduced step by step. Theoretical contingents, theatrical and propaganda groups, sports teams, and militia organizations should be run well, but only on the principle that the members are not divorced from productive labor." (Yu)

**Vocational training** "Enterprises should create conditions for workers and staff members to become both red and expert, raise their political and technical level, and train their own proletarian technicians and engineers . . . factory run technical schools and other spare time technical training institutions which have suspended operations should be reopened. Enterprises should insure that workers have adequate time for study." (Yu)

**Well-being of staff** "All enterprises should show concern for the material and cultural well-being of the workers and staff and do a good job of running canteens, nurseries, and other collective welfare establishments in a planned way." (Yu)

**Review of wages** "A special conference will be held to study and tackle the problems involving employment and wage rates." (Yu)

完



China's petroleum equipment group in the US on Fluor's drillship, the WODECO IX, Seattle, July, 1977.

# CHINA'S OFFSHORE PETROLEUM

Jan-Olaf Willums

*China's Premier Hua Kuo-feng announced in May, prior to the nation's "Learn from Taching Conference," that China should build "some ten more oil fields as big as Taching within this century." Soon afterwards a ten-person Chinese oil exploration and production equipment group visited the US and Japan to survey the latest techniques; the group had a particular interest in offshore exploration and drilling. And in June, the US government published its estimate of China's oil reserves, placing them at about 39 billion barrels onshore and the same offshore. In this article, Jan-Olaf Willums looks at what China's offshore means in terms of practical extraction of crude oil and the realities facing foreign suppliers of petroleum exploration and production equipment.*

---

*Jan-Olaf Willums of Norway's Saga Petroleum wrote his thesis at MIT on China's offshore oil potential and is presently co-authoring a monograph on China's oil with A. A. Meyerhoff.*

Much has recently been published about the hydrocarbon potential hidden under the Chinese continental shelf; statements that China will soon rival the Middle East in oil production have led to high expectations in many board rooms of the Western petroleum industry. Very few of these studies have taken the effort to look more thoroughly into the problem, comparing both the potentials and the constraints in China's offshore development, and evaluating the transfer of foreign petroleum technology in the light of past and present Chinese policies. This article is an attempt to take such a more rational view at the future of Western exports to the emerging Chinese offshore industry with the aim of outlining the real potential for US business in this new market.

## **China's Offshore Oil Potential**

How much information is available on China's offshore geology? The first scientific survey was conducted in 1969 by a US research vessel working for the United Nations' ECAFE/CCOP program. The publication of the geophysical data from this cruise



in 1970 stirred up much interest and resulted in widespread speculative assessments. Since then, private companies have been active in shooting seismic lines on certain areas of the continental shelf, and we have today a somewhat clearer picture of the geology along the Chinese coast.

Based on such information, we can roughly estimate the total volume of "economic sediments"; i.e., of deposits in which petroleum accumulations are geologically possible. By comparing these data with the sedimentary basins of similar types in other areas of the world where drilling is taking place and where oil has been produced, we can, within the limits of probability theory, estimate the range of the hydrocarbon potential of the Chinese continental shelf.

In cooperation with Professor Meyerhoff of the University of Oklahoma, such an approach has been tried for the East China Sea, the Yellow Sea, and the Gulf of Pohai, as well as the southern parts of the China shelf. The result indicates the total amount of ultimately recoverable hydrocarbons from the Chinese offshore areas to lie around the 30 billion barrels level (i.e., proven, probable, and possible reserves), about the same as expected in the U.K. sector of the North Sea. (The US government believes China's offshore reserves are higher—39 billion bbl.)

It would be misleading to compare these numbers with published reserve data of other nations, and then make a prediction of Chinese crude oil output in the next years. First of all, one must remember that it takes time and technological effort to produce the oil. By looking at the recent experience in the North Sea, which is one of the most promising areas in the world from a geological point of view, one understands that having resources and producing them at an economic cost are two different things. A computer simulation model, developed at MIT, has therefore been applied to "imitate" the drilling activities in a certain area, thereby reflecting both the drilling success and the development time-lag of fields.

With such simulations, we can get some better feeling for how much of a given oil potential is likely to be produced over a given time horizon. In the Chinese case, this obviously depends on the amount of technology and resources the Chinese government decides to put into the effort of looking for offshore oil. Although it is hard to predict what policy the Chinese will follow in the future, we can at least look into a number of scenarios that may cover the range of likely development strategies, and see how far the resulting production figures diverge.

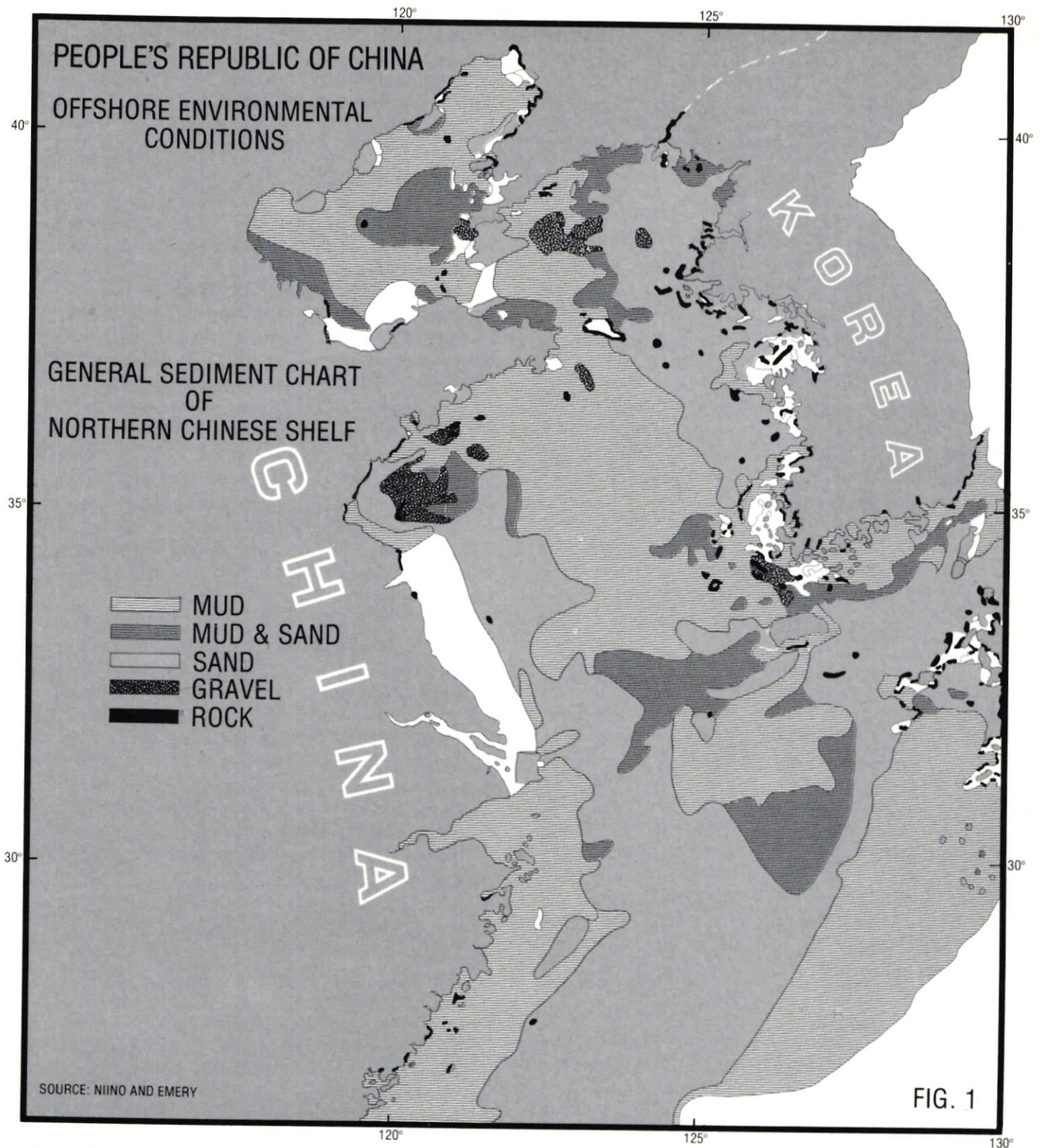
#### **"Go Chinese" versus Foreign Technology**

The results of such analysis suggest that if China opts for a "go Chinese" policy, relying only on domestic technology, the crude production from the continental shelf will be delayed, and not much more than 1 million bbl/day will be produced from the offshore area by 1985. Under the assumption of an

### **THE US GOVERNMENT'S STUDY OF CHINA'S PETROLEUM INDUSTRY**

In June, 1977, the Central Intelligence Agency released to the public "China: Oil Production Prospects," a 28-page analysis of China's oil reserves, crude production, major oilfields, and potential output. This newest addition to the Agency's research aid series is available to non-government users through the Photoduplication Service, Library of Congress, Washington, D.C. 20540. (Reference Number ER 77-10030U) Some of this well-researched study's main points:

- The consensus of knowledgeable observers is that the PRC's onshore oil reserves are roughly comparable to America's 39 billion barrels, and, contrary to previous overly optimistic projections, China's offshore reserves are approximately equivalent to its onshore reserves.
- Through an inordinately large influx of national resources both financial and technical, China's oil production has been increasing at an annual rate of 20%, reaching a 1.7 million b/d (83.6 million metric tons) output level in 1976.
- If output continues to grow at the 20% per annum rate, the 17-30 billion metric tons of oil reserves most easily exploitable in the north and northeast of China would be exhausted at the end of ten years; if, however, the rate of production increase falls to 10% per annum, Chinese domestic demand will go unfilled during the coming decade.
- Chinese offshore and western basin oil reserves will not be able to supplement future demand without expanded use of Western technology and equipment or else assistance from international oil companies.
- By 1980, agency analysts estimate, China's domestic oil output will reach 2.4-2.8 million b/d (118-137 million metric tons), indicating an average annual increase of between 9% and 13.3%.
- The amount of Chinese crude available for export in 1980 will be between 200,000 b/d and 600,000 b/d (9.8 million metric tons and 29.5 million metric tons), compared with 185,000 b/d (9.1 million metric tons) exported in 1976. By the late 1980's, however, domestic demand in China will absorb total output unless offshore and western basin reserves can be exploited more rapidly than current analyses project.
- China's large shale deposits will not play a major role in the country's oil production in the next two decades.
- There is political opposition in Peking towards the policy of lavishing large amounts of the country's resources on oil production, especially if that investment does not result in a viable source of foreign exchange to purchase foreign plants and equipment for other sectors of the national economy.



### CHINA'S OFFSHORE RIGS

**Fuji**

Jackup, Gulf of Pohai

**Kantan I**

Drillship drills to 250', Gulf of Pohai

**Seaside I**

Drillship, Gulf of Pohai

**Seaside II**

\* Name and location unknown.

Drillship, Gulf of Pohai

**South Seas I**

Jackup drills to 300', South China Sea

**South Seas II**

Jackup drills to 300', South China Sea

**(Hitachi-Loh)\***

Jackup drills to 300'

all-out exploration effort on the other hand, requiring much foreign technology and straining the foreign exchange situation of the country far beyond the present lines, several times that amount could be produced by 1985.

Taking the ideological importance of "self-reliance," the political factors of energy independence, and economic considerations into account, and comparing them with the past development of China's oil industry, we come to the conclusion that a middle-of-the-road approach seems the most likely offshore policy China will follow during the next years. It would imply a wish to import a certain amount of Western equipment but only after carefully evaluating the merits—also in the context of technology transfer to the rest of the Chinese industry. The general policy would still follow the self-reliance principle. Under such assumptions, the development model indicates that China's offshore production would slowly rise to a plateau production of slightly more than one billion barrels a year by the early 1980's.

This is by no means a production level that could rival Middle East standards, but it would allow China to maintain a sound overall growth rate of the oil industry. Offshore production could thus compensate for the declining growth rate the industry is experiencing now and would probably rival onshore production in importance by the middle eighties.

### Technological Requirements

What implications would such a policy have for importing foreign technology to China? From a geological point of view, the most interesting areas are the East China Sea, parts of the Yellow Sea, and the deeper sections of the South China Sea. All these areas require exploration technology which the Chinese possess only to a limited degree: only one Chinese-built drilling unit, the catamaran vessel "Kantan," is capable of operating in deeper water, and is at present limited by a traditional anchoring system. With the delivery of the two jack-ups, "South Sea I and South Sea II", built at the Robin Loh Shipyard in Singapore, China has gained access to water depths up to 300 feet. At least one of them has been towed to the South China Sea, thus confirming Peking's wish to explore in deeper areas. A third, similar jack-up, built at the Hitachi Shipyard in Japan and sold to China by Robin Loh, has also been delivered this summer.

Exploring these more promising sectors of the China continental shelf thus requires higher expense levels, and, if equipment has to be acquired from abroad, will demand a higher share of the nation's scarce foreign currency reserves. The trade-offs between operating in shallower waters, such as the Gulf of Pohai, and the more promising deeper sections will thus be very carefully evaluated, and it is most likely that Peking will prefer not to put all the eggs in the same basket.

A typical scenario that would fulfill the above-stated objectives which Peking may wish to follow would imply that China would want to employ nine shallow water jack-ups or drilling barges, five medium depth and five deepwater rigs by 1980. So far, they have several Chinese-built units for shallow water—at least one a conventional jack-up type and two flat-bottom barges with jack-up arrangements. One foreign unit, the "Fuji," has a 175-foot water depth capacity.

Although they have had difficulties with the latter, especially on the muddy bottom of the Gulf, their know-how in operating in shallow water has made quick advances; they have already improved part of the design of the Fuji to cope with the special environmental problems, and it seems likely that they will prefer building these rigs and barges in Chinese yards.

In the medium depth class, the Chinese had practically no equipment at all until the purchase of the two Robin Loh rigs from Singapore. They are of the Robray 300 design, and have a 300-foot depth capacity. They might plan to build one to two similar jack-ups themselves, but if the international rig market continues to remain as low as it has been lately, the Chinese might be willing to opt for one or two rather sophisticated jack-ups at a competitive price.

### Following the Trends

Exploring the deeper and stormier sections of the continental shelf requires substantial economic efforts. It is, however, clear that the Chinese have been following the trends in this field with great eagerness, and have kept continuous contact with both Japanese rig builders such as Mitsubishi, US and Western designers such as the Aker group, and also yards in Singapore.

They have also pushed ahead in an indigeneous research program, in which other materials, such as ferrocement, have been tested. Other unconventional projects have had success, such as the construction of the catamaran vessel "Kantan", which was built from two cargo vessels. These efforts will, however, most likely not be sufficient, and it is, therefore, very likely that Peking will go out on the Western technology market to obtain rigs and technology.

The engineers and technicians in the oil ministry in Peking have followed the recent trends in offshore developments very carefully and are well prepared to choose that rig which suits the special conditions of the Chinese continental shelf best.

It is thus likely that three to four deepwater rigs will be purchased from abroad before the end of the decade. The drilling units will have to fulfill the technological requirements of the area to which they will be assigned quite accurately, which demands from the potential seller an in-depth knowledge of the environmental conditions of the Chinese continental shelf: typhoons may be a special hazard to certain otherwise rather quiet areas, whereas cold winds will bring snow

## PETROLEUM-RELATED EQUIPMENT SALES TO CHINA

| Item   | Firm  | Date or<br>(Date Reported) | Value<br>(US \$ millions) |
|--|---|----------------------------|---------------------------|
| <b>Seismic Surveying and Petroleum Prospecting Equipment</b>   |   |                            |                           |
| Seismic Surveying Computer Equipment, including 3 seismic data processing sets each of which contained a model 704 Raytheon computer.            | GeoSpace  | 10.73                      | 5.5                       |
| Data Processing Center for Offshore Seismic Data Collecting and Prospecting, including 2 Control Data Cyber 172 Computer Systems (Medium Scale). | Compagnie Generale Geophysique (CGG)/Control Data Corp. | 9.74                       | 7.0                       |
| Comprehensive well-logging system with computer component and intermediate software supplied by Interdata of New Jersey.                         | US Firm   | 11.75                      | 23.0                      |
| Seismic Exploration "Respond Systems" (2) with PDP 11/45 minicomputers and ancillary equipment.  | Digital Resources Corporation                           | 11.76                      | 1.7                       |
| Seismic Monitoring Trucks (3) for interpreting data collected through mile-long cables with geological recording devices.                        | US Firm   | 12.76                      | 1.5                       |
|  |   | <b>Subtotal</b>            | <b>38.7</b>               |
| <b>Down Hole Equipment</b>   |   |                            |                           |
| Oil Drilling Equipment   | France  | 1965                       | NVG                       |
| Steel Pipe   | Mannesmann AG and Lowey Eng.                            | 1967                       | NVG                       |
| Drilling Equipment and Spare Parts   | US  | 12.73                      | 0.5                       |
| Land Blowout Preventor Stacks (20)   | Rucker  | 12.73                      | 2.0                       |
| High-Pressure Hydraulic Fracturing Pumping Equipment   | Dowell-Schlumberger                                     | 7.75                       | 3.0                       |
| Oil Filters  | San-netu  | 7.75                       | NVG                       |
| Well Heads and Gate Valves   | Cameron Iron Works                                      | 11.75                      | 0.75                      |
| Steel Casing for Drilling  | Canada  | 11.75                      | 0.7                       |
| Well Heads and Gate Valves   | US Firm   | 11.75                      | 1.0                       |
| Oil Well Servicing Equipment on Trucks (20)  | Stewart and Stevenson Services, Inc.                    | 2.76<br>5.76               | 5.6                       |
|  |   | <b>Subtotal</b>            | <b>13.55 +</b>            |
| <b>Offshore Drilling Equipment</b>   |   |                            |                           |
| Offshore Rigs and Spares   | Romania   | 1966                       | NVG                       |
| Offshore Drilling Rig, <i>Fuji</i> , and 400-ton work-ship, <i>Kuroshio</i>  | Offshore Drilling Co. of Japan                          | 1972                       | 8.4                       |

**PETROLEUM-RELATED EQUIPMENT SALES TO CHINA—continued**

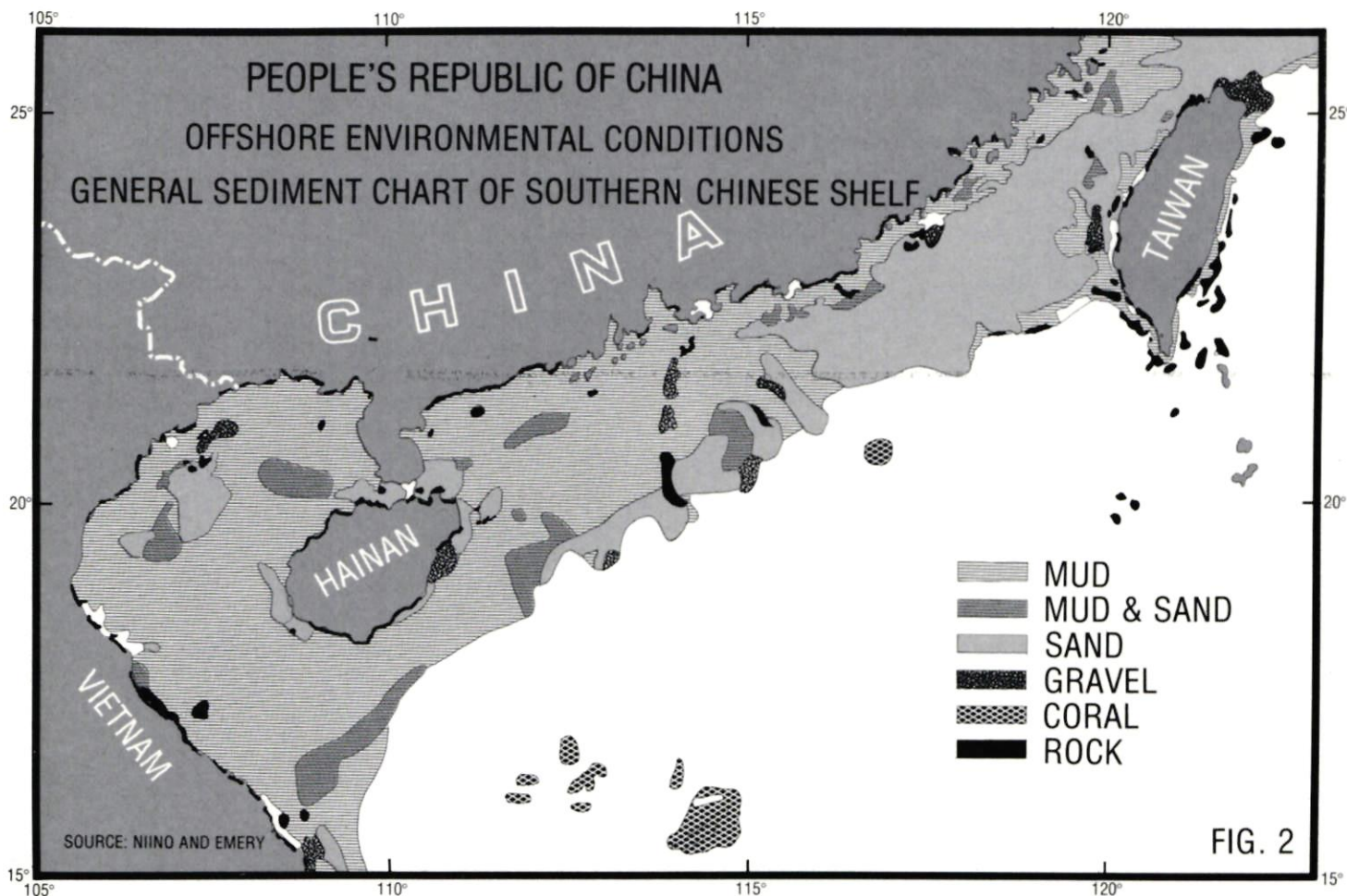
| Item   | Firm                                       | Date or<br>(Date Reported) | Value<br>(US \$ millions) |
|--|--|----------------------------|---------------------------|
| Trailer Suction Hopper (4) Dredges                               | N.U. Industriele Handels<br>Combinate      | 1973                       | 39.4                      |
| Self-propelling Bucket Dredgers (8)                              | Nippon/Kokan                               | 6.74                       | 53.0                      |
| Diesel Supply Boats, 660-Ton Capacity                            | Hitachi Shipbuilding<br>Engineering        | 9.73                       | 10.0                      |
| Oil Rig/Supply & Towing Vessels (8), 160 ft.<br>long; DWT = 739. | Weco Shipping, Aarhus<br>Flydedok A/S      | late 73                    | 20.0                      |
| "Jacket Type" Undersea Drilling Unit                             | Offshore Drilling<br>(Teikoku Oil)         | 1973                       | NVG                       |
| Offshore Drilling Platforms (2)                                  | JOD (Mitsubishi)                           | 1973                       | 41.0                      |
| Rig Oil Supply Ships (5)   | Hitachi Zosen                              | 12.74                      | NVG                       |
| Jack-up Oil Drilling Platforms (2)                               | Robin Loh Livingston Shipyard              | 5.75                       | 60.0                      |
| Ocean Survey Ship  | Japan Ocean Industry and<br>Sumitomi Shoji | 1975                       | NVG                       |
| Offshore Drilling Platform #2 Hakuryu (Heavy<br>Duty)            | Mitsubishi Heavy Industries                | 12.73                      | 22.6                      |
| Tugboats, 9,000 HP, Pulling Capacity—<br>82 Tons (2)             | —  | 12.73                      | 16.7                      |
| Jack-up rig  | Hitachi-Loh                                | 7.77                       | 30.0                      |
|  |  | <b>Subtotal</b>            | <b>301.1 +</b>            |
| <b>Other Petroleum Production Equipment</b>                      |  |                            |                           |
| Mechanical pumps for LPG (26)                                    | Nishijima Manufacturing                    | 12.64                      | NVG                       |
| Instruments  | Stanhope-Seta Ltd.                         | 5.66                       | NVG                       |
| Oil Lubricating Test Rigs (20)                                   | Redman Heenam Froude                       | 8.73                       | NVG                       |
| Onshore Oil Pipeline   | Nippon/Kokan                               | 1973                       | NVG                       |
| Pipelayers (12)  | Komatsu                                    | 1974                       | 1.0                       |
| Pipeline Tape, Coating and Wrapping<br>Machines, etc.            | Proline Pipe Equipment Ltd.                | Spring 1975                | NVG                       |
| 38 Medium-sized Pipelayers & replacement<br>parts.               | Caterpillar Co.                            | 10.75                      | 3.8                       |
| Onshore Rigs (30?)   | Romania                                    | 1975                       | NVG                       |
| Life Saving Systems Accessory to Oil Extrac-<br>tion Equipment   | Nichimen                                   | 1975                       | NVG                       |
| Oil Field Transport Trucks for Moving<br>Drilling Rigs           | International Harvester                    | 5.77                       | 2.5                       |
|  |  | <b>Subtotal</b>            | <b>7.3 +</b>              |
|  |  | <b>TOTAL</b>               | <b>360.65 +</b>           |

Sources: China's Petroleum Industry (NCUSCT); China Business Review; company sources. Full details not given.

## VOLUMETRIC ESTIMATES OF HYDROCARBON CONTENT OF THE CHINESE CONTINENTAL SHELF

| Area         | Technology Class                | Total Surface Area | Total Volume     | Total Recoverable HC Potential |                            |                          | Total in Place HC Potential |                            |                          |               |
|--------------|---------------------------------|--------------------|------------------|--------------------------------|----------------------------|--------------------------|-----------------------------|----------------------------|--------------------------|---------------|
|              |                                 |                    |                  | Pess. 10 <sup>9</sup> bbl      | Middle 10 <sup>9</sup> bbl | Opt. 10 <sup>9</sup> bbl | Pess. 10 <sup>9</sup> bbl   | Middle 10 <sup>9</sup> bbl | Opt. 10 <sup>9</sup> bbl |               |
| Name         | —                               | km <sup>2</sup>    | km <sup>3</sup>  |                                |                            |                          |                             |                            |                          |               |
| 1            | Gulf of Pohai and Korean Bay    | I                  | 161,300          | 383,000                        | 1.3                        | 3.5                      | 13.1                        | 5.2                        | 14.0                     | 52.9          |
| 2            | Yellow Sea                      | II                 | 162,100          | 494,000                        | 1.6                        | 4.2                      | 15.8                        | 6.4                        | 16.8                     | 63.2          |
| 3            | East China Sea Shallow Section  | II                 | 105,500          | 135,000                        | 0.1                        | 2.1                      | 60.0                        | 0.4                        | 8.5                      | 240.0         |
| 4            | East China Sea Deep Section     | III                | 216,100          | 743,000                        | 3.7                        | 10.4                     | 175.0                       | 14.8                       | 41.6                     | 700.0         |
| 5            | Formosa Strait and Taiwan Area  | II                 | 112,900          | 330,000                        | 0.8                        | 3.4                      | 7.6                         | 3.2                        | 13.5                     | 30.4          |
| 6            | South China Sea Shallow Section | II                 | 58,900           | 150,000                        | 0.2                        | 1.0                      | 2.3                         | 0.8                        | 3.9                      | 9.2           |
| 7            | South China Sea Deep Section    | III                | 157,000          | 470,000                        | 0.7                        | 3.0                      | 6.7                         | 2.8                        | 12.2                     | 26.8          |
| 8            | Gulf of Tonkin                  | I                  | 78,000           | 191,000                        | 0.3                        | 1.4                      | 3.1                         | 1.2                        | 5.4                      | 12.4          |
| <b>Total</b> |                                 |                    | <b>1,051,800</b> | <b>2,896,000</b>               | <b>8.7</b>                 | <b>29.0</b>              | <b>283.6</b>                | <b>34.8</b>                | <b>115.9</b>             | <b>1134.9</b> |

Source: Willums



and cause sea-icing in areas like the Gulf of Pohai. The Yellow Sea is very muddy in certain areas, whereas the bathymetry of the East China Sea is extremely uneven in the eastern section.

The same conditions must be taken into account when discussing China's need for field development and production technology. So far, in developing the first shallow water fields in the Gulf of Pohai, one could mainly rely on known technology from onshore operations, as most drilling locations were in or close to man-made dykes. As soon as exploration in deeper water begins to yield discoveries, the question of offshore production technology will become pertinent. China has very little experience in that type of offshore technology, and will therefore have to rely on the West to a greater extent than in the exploration phase—the incentive to do so will probably be greater and the political pressure to use only indigenous technology minor, when a discovery with known hydrocarbon potential, and thus a dominant foreign exchange earner, is awaiting development.

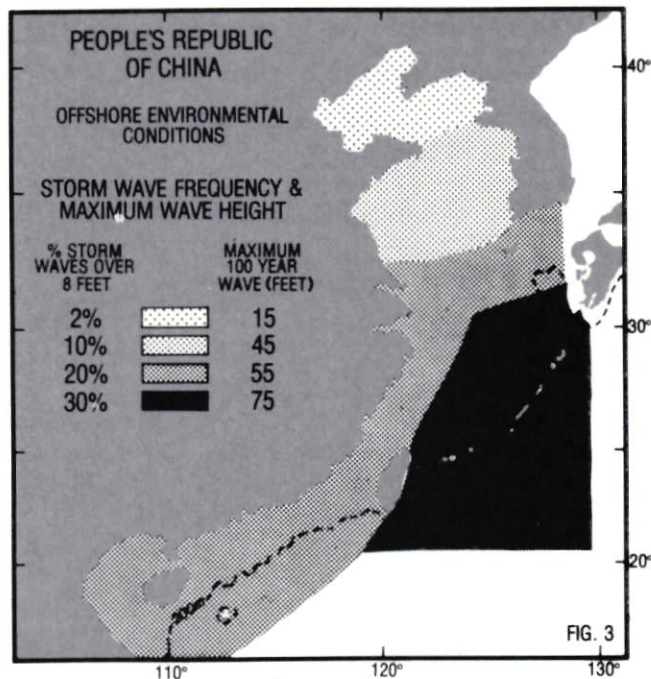
### Effect of Western Technology in China's Oil Output

How would a policy allowing for a moderate amount of foreign technology to be imported affect the Chinese crude oil production in the future?

The phenomenal 23% annual growth rate of China's onshore crude oil production between 1971–1974 is not likely to continue, as it would require a share of above 15% of China's total domestic investment in capital construction. We are already witnessing a slow decline in the annual growth rate of the petroleum industry in 1975, 1976, and especially 1977 (10.6%). Nevertheless, it should be possible for China's onshore production to reach around 130 million tons in 1980.

If we add to these production figures the expected hydrocarbon production from the continental shelf under the above-discussed development policy, the overall production levels may increase to 176 million tons by 1980, and offshore production levels may reach the onshore levels by 1987. Under these assumptions, China's total production curve flattens out at slightly above 330 million tons per year in 1985.

The offshore production levels could thus help keep China's production growth at acceptably high levels until the end of the seventies, which would not be possible if China concentrated on onshore exploration alone. It is thus understandable that the Peking government has put such a high priority on offshore exploration activity, and on the advancement of offshore technology. Most important to note is that this growth rate can be achieved *without* depending heavily on Western technology or Western operators, but by purchasing selected Western highly-advanced equipment and carefully planning the transfer of operational know-how and expertise from the West to China.



### Not a Great Bonanza

For the petroleum industry in the West, this would mean an interesting market, but not the great bonanza once predicted. Probably only a few offshore rigs will be purchased from the West—most likely, some think, 1–2 jack-ups and 3–4 semi-submersibles or drillships before 1980. However, the Chinese have indicated that the PRC intends to emphasize more economical shallow-water equipment, such as jack-ups, over semi-submersibles or drillships. The interest in offshore development and production technology will increase substantially. Still, no foreign operators will be allowed to drill on any concession off China, as the Peking government desires to maintain complete control over all operations. But technical know-how from the West will be obtained by other means.

A wide range of equipment from various countries rather than many items of the same type from one or two nations will be purchased, although the decision will largely be based on best technology for a competitive price. The direct purchase contract will be supplemented with training for Chinese technicians abroad and technical advisory contracts for short periods and with clearly defined obligations in China.

The market for Western petroleum equipment for the offshore industry may reach a peak in the early 1980's, passing the \$1 billion level in that sector alone; thereafter it will decline slightly as the Chinese become more advanced in offshore technology and can produce most replacement equipment domestically. A similar market trend is expected for the onshore petroleum equipment market. Although the major share of this market is likely to be controlled by US busi-

**SENSITIVITY ANALYSIS OF RESULTS DISTRIBUTION WITH TECHNOLOGY OPTIONS:  
Total Chinese Offshore Fields and HC Discovered under Pessimistic, Most Likely, and Optimistic  
Geological Assumptions**

| Option | Wells Drilled | Fields Discovered |                |                 | Hydrocarbon Discovered 10 <sup>9</sup> bbl |                |                 |
|--------|---------------|-------------------|----------------|-----------------|--|----------------|-----------------|
|        |               | Pessi-<br>mistic  | Most<br>Likely | Opti-<br>mistic | Pessi-<br>mistic                           | Most<br>Likely | Opti-<br>mistic |
| 1      | 847           | 13                | 25             | 66              | 3.68                                       | 8.40           | 23.80           |
| 2      | 1266          | 20                | 39             | 105             | 5.62                                       | 12.50          | 34.85           |
| 3      | 1937          | 28                | 63             | 178             | 6.92                                       | 17.42          | 51.72           |
| 4      | 1922          | 27                | 60             | 175             | 6.79                                       | 16.58          | 51.00           |
| 5      | 1695          | 26                | 57             | 147             | 6.30                                       | 15.08          | 43.70           |
| 6      | 1495          | 31                | 37             | 152             | 7.46                                       | 15.70          | 55.72           |
| 7      | 2096          | 30                | 73             | 201             | 7.30                                       | 18.88          | 66.64           |
| 8      | 2875          | 33                | 91             | 295             | 7.86                                       | 22.49          | 76.35           |

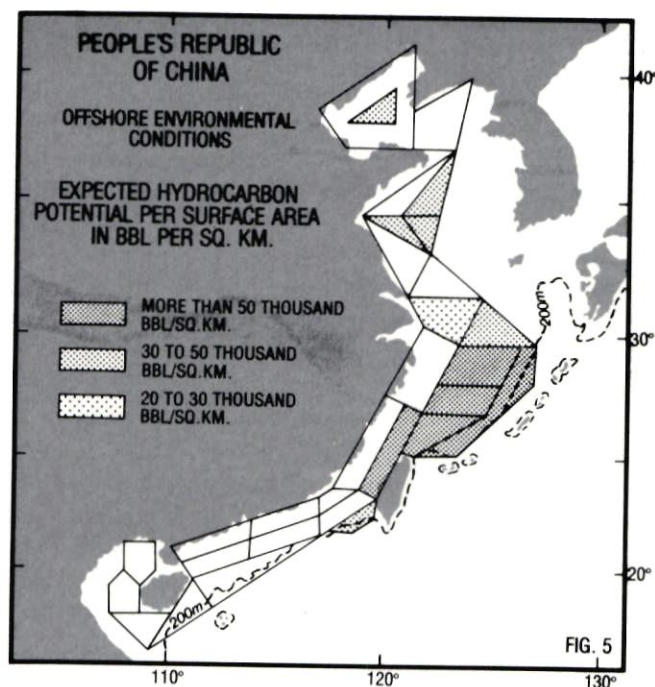
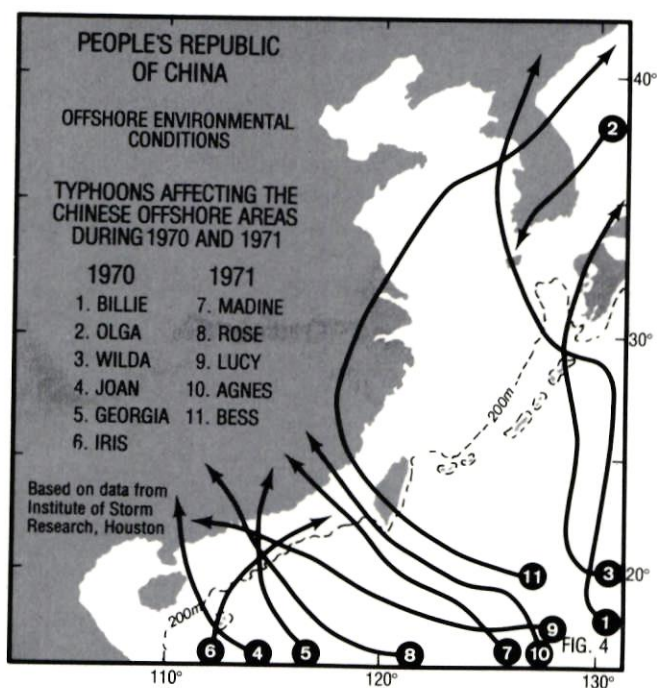
Source: Willums

ness, Peking will tend to spread the market share out for political reasons, and US suppliers will have to face increasingly tough overseas competition.

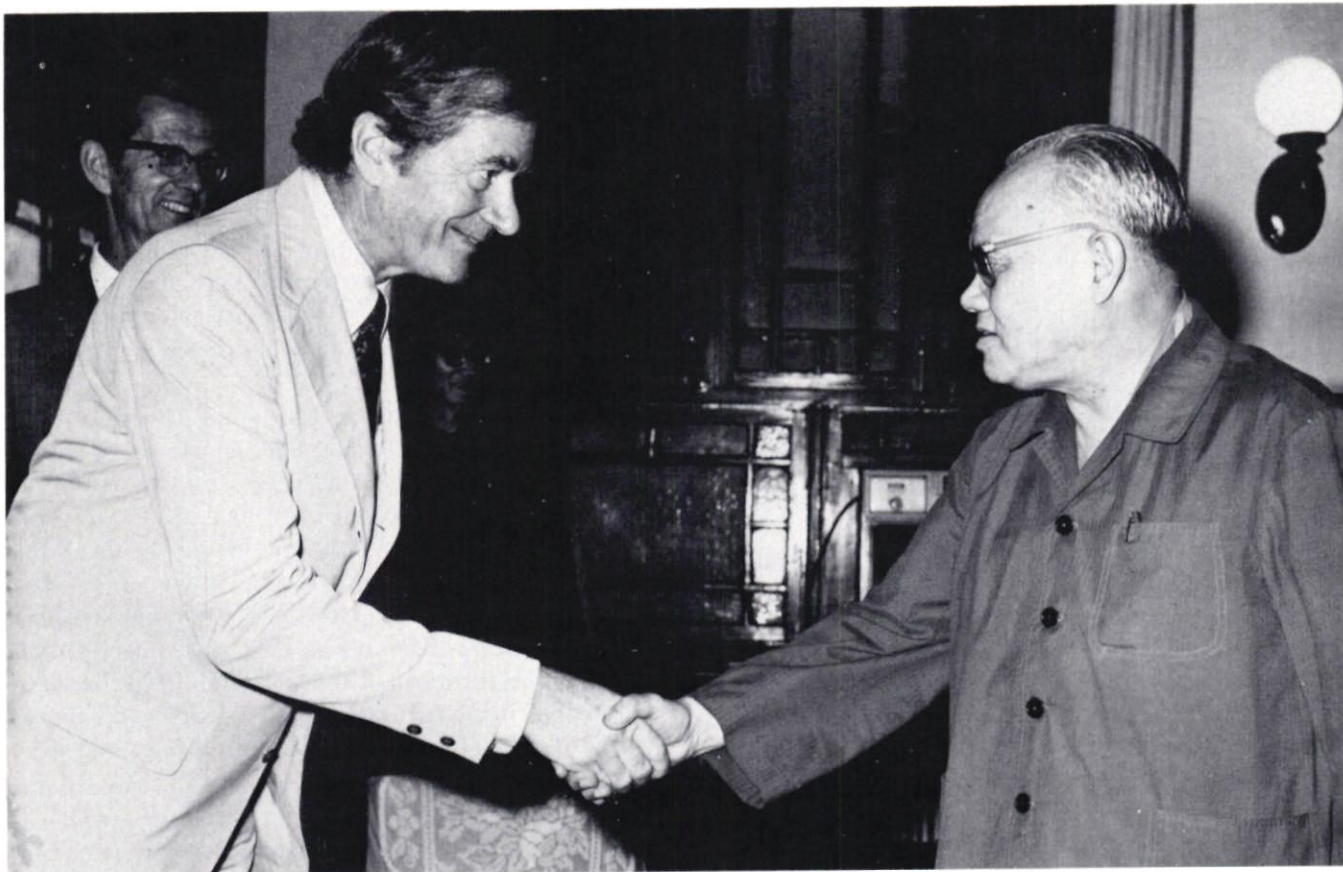
The outlook for Western business opportunities is thus moderately optimistic for the next years ahead, if Peking is able to pay for these purchases. The present trend toward accepting more and more deferred payment deals seems to suggest that no financial problems should excessively constrain the development of China's offshore industry if it follows these moderate policy lines.

The competition for the interesting parts of the Chinese petroleum technology market will thus likely increase in the West, and China will benefit from this situation. Only the companies who have a well-proven technology, are willing to train Chinese in repair and maintenance, and can provide a sufficiently large quantity of spare parts, will have a good chance to benefit from this market. It will take much time and effort to arrive at a deal, but the relationship, once established, may be the key to other business contracts in the future.

完







Council Chairman William A. Hewitt with China's Minister of Foreign Trade, Li Chiang, Peking, June, 1977; Christopher Phillips, Council President, at left.

## COUNCIL ACTIVITIES

**A packed Annual Meeting heard optimistic forecasts and reviews of the busiest Council year ever amidst a surge of activities promising action in the year to come. Arriving the day before the meeting was a Council-sponsored Chinese petroleum equipment mission that would traverse the US from the Mississippi Delta to the Arctic Circle in Alaska. And in China at the time of the meeting was the Council's first Food Processing and Packaging Delegation, which was the first American group to go from Shanghai to Tsingtao by Chinese coastal vessel. Soon after the meeting, Council Chairman William A. Hewitt and President Christopher H. Phillips visited Peking to discuss future activities with the CCPIT.**

### **COUNCIL'S CHAIRMAN AND PRESIDENT VISIT PEKING**

Council Chairman William A. Hewitt and President Christopher H. Phillips spent two weeks in China in June at the invitation of the China Council

for the Promotion of International Trade (CCPIT). Wang Yao-ting, Chairman of the CCPIT, personally hosted the Council's executive officers, and Li Chiang, China's Minister of Foreign Trade, met with them for a discussion on the state of Sino-US trade. Li's main point: normalization of diplomatic relations will spur two-way trade.

Meetings were also held with Li Chuan, Vice Chairman of the CCPIT, to review the CCPIT's forthcoming trip to the US, and with LIGHTINDUSTRY, CEROILS, CHINAPACK, MACHIMPEX, and the Bank of China. Representatives of nine Chinese foreign trade corporations, including Wang Ming-chun, Managing Director, Textile Corporation; Tian Kwang-tao, Managing Director, MINMETALS Corporation; and Tsei Chun, Managing Director, TECHIMPORT Corporation attended the CCPIT's welcoming banquet, hosted by Wang Tao-ting, as well as Tang Wan-sen ("Nancy" Tang), Deputy Director for US and Oceania Affairs at the Ministry of Foreign Affairs, and Cheng Tou-ping, Director of the Third Bureau of the Ministry of Foreign Trade.



Alaska's 48" pipeline in back, Chinese petroleum group poses on last leg of nationwide tour.

### CHINESE PETROLEUM GROUP IN US: FROM GULF TO ALASKA

Closely following China's avowal to discover ten more oil fields the size of that of Taching by the end of the century, a petroleum equipment delegation from China arrived in the US on June 15 at the invitation of the Council's Petroleum Equipment Committee. The ten-member group visited American equipment manufacturers in a comprehensive six-week tour of the US from Texas to Alaska. They saw offshore and land rigs, seismic surveying equipment and vessels, logging systems, downhole equipment, and other petroleum exploration and production equipment.

The delegation included representatives of the China National Machinery Import and Export Corporation (MACHIMPEX), which imports petroleum equipment, and the China Petroleum and Natural Gas Exploration and Development Corporation, the domestic unit in China responsible for exploration and production. Leading the delegation was Chao Sheng-chen, Advisor, MACHIMPEX, and Deputy Director, China Petroleum and Natural Gas Exploration and Development Corporation. The Vice Leader was Wu Hsiao-lan, Vice Manager, Third Department, MACHIMPEX. Other members were, from the China Petroleum Corporation: Tung Shou-pin, Seismic Engineer; Chao Chih-chiang, Offshore Equipment Engineer; Ho Yuan-ching, Vice Manager, Equipment Department; Lu Pang-kan, Vice Chief, Physical Survey Department; Liu Jen, Ships Engineer; Chin Tse-hsien, Secretary; Yang Pai-chao, Interpreter; and, from MACHIMPEX, Wang Tsien-ping, Interpreter. Lo Kai-fu, MACHIMPEX representative from the People's Republic of China Liaison Office (PRCLO), accompanied the group. Eric Kalkhurst and Stephanie Green were the Council escorts.

### NATIONAL COUNCIL PACKAGING DELEGATION HOLDS SEMINARS IN PEKING, IS GIVEN GROUND-BREAKING TOUR OF CHINESE INDUSTRIAL SITES

The National Council's first export industry committee to visit China in 1977, the Food Processing and Packaging Machinery Committee, was welcomed in China for two weeks in June by the China National Export Commodities Packaging Corporation (CHINAPACK). The trip served to establish an avenue of exchange between the American packaging industry and China.

The delegation's stay in China began with a series of technical seminars in the Peking Hotel. Attended by representatives of China's industry, foreign trade corporations, and research institutes, the 27 presentations dealt with three topics requested by the Chinese: aluminum can manufacture, lighter weight container production, and fast-curing inks and coatings.

The Chinese audiences seemed particularly interested in the technical details of establishing modern manufacturing facilities for glass bottles and cans, as well as the production of advanced coatings and inks.

Following a week in Peking, the delegation was taken on an eight-day tour of China, during which it traveled from Shanghai to Tsingtao by Chinese ship, the first American group to do so. It was also the first American group to visit Yentai (formerly Chefoo) since 1949.

The mission saw nine Chinese factories: the Peking Number 2 Glass Factory, the Ma Ling Food Factory, the Chen Hua Paint Factory, the Shanghai Number 2 Bottle Factory, the Shanghai Metal Decorating Factory, the Tsingtao Brewery, the Yentai Winery, the Yentai Can Manufacturing Plant, and the Yentai Food Processing Plant.

In general, the group was impressed by China's capacity to adopt modern techniques to suit particular needs of the country's industry, but, in some areas, particularly materials handling and worker safety, the delegation members felt some improvements would be appropriate. As a result of the trip, the group concluded that some highly sophisticated American packaging products could be useful to China's industry at its present stage of development.

While in China, the delegation was escorted by Lo Ning, the Deputy Division Chief of CHINAPACK's First Division, and by Feng Jui-fang, Lin Yun, and Lu Chi-hsien, CHINAPACK staff members. Li Hsien, the Deputy General Manager of CHINAPACK, was host to the delegation at a banquet. In Peking the delegation was also received by Li Chuan, Vice President of the China Council for the Promotion of International Trade (CCPIT).

Led by Robert P. Piccus, President and General Manager, Continental Can International (Far East) Limited, the delegation included Richard D. Murphy,



The Council's packaging mission in China: above, Charles Depew of Owens-Illinois holds Chinese bottle to the light; above right, Bob Piccus (with glasses) of Continental Can, leader of the group at briefing; right, William E. Lockwood shows how tall it is at technical presentation in Peking.



Managing Director, Alcoa International (Asia) Ltd.; William E. Lockwood, Jr., Vice President, Continental Can Group, Incorporated; Henry V. Wright, Division President, Food Machinery International Division, FMC International AG; William E. Whitmire, Vice President, Industrial Coatings, Fuller-O'Brien Corporation; Richard A. Dow, Business Manager, S. C. Johnson & Son; Charles Depew, Vice President and Technical Director, Glass Containers, Owens-Illinois; and Harry C. DeLonge, Vice President, Engineering and Technical Services, PepsiCo International. The delegation was escorted by Howell Jackson of the National Council staff.

#### NATIONAL COUNCIL NAMES PLANNING COMMITTEE FOR CCPIT VISIT

At the June meeting of the Board of Directors, Chairman William A. Hewitt announced establishment of a planning committee for the CCPIT September visit. Chairman Hewitt will serve on the committee, which is chaired by William B. Graham, Chairman of Baxter Laboratories. The other members are David Rockefeller, Chairman, The Chase Manhattan Bank; Rawleigh Warner, Jr., Chairman, Mobil Oil Corp.; Joseph T. Kenneally, Chairman, International Systems & Controls Corp.; and Tom Clausen, President, Bank of America. The visit will be coordinated via regional subcommittees.

#### ITC REPORT ON MFN STATUS FOR CHINA

In a Special Report to the Congress and the East-West Foreign Trade Board, the International Trade Commission released in May a 105-page study on "Implications for U.S. Trade on Granting Most-Favored Nation Treatment to the People's Republic of China." The implications are fewer than some importers might think. Dividing Chinese exports by the amount their Column II tariffs exceed Column I tariffs, Janet Whistler, the ITC economist who authored the report, concludes that China does not systematically restrain exports to the US in high tariff categories, nor does it take advantage of especially low Column II tariffs. Furthermore, the study reasons, since the Chinese do not seem to respond to higher tariff rates, granting the PRC most-favored-nation status would not substantially increase the volume of PRC exports to the US in the short run. Politically, however, the effect of granting the status to the PRC might be to increase general trade relations with the US, according to the report. A comprehensive work, meticulously prepared over fifteen months of research, this paper will do much to educate the Congress and the American people on the ramifications of extending MFN status to China.



**Council Chairman William A. Hewitt addressing the Fourth Annual Meeting.**

THE SECRETARY OF STATE  
WASHINGTON  
May 3, 1977

Dear Mr. Hewitt and Mr. Phillips:

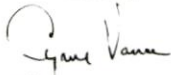
On the occasion of the Fourth Annual Meeting of the National Council for United States-China Trade, I want to congratulate you and your membership for your contribution to the development of trade ties between the United States and the People's Republic of China.

The establishment of the National Council for US-China Trade in 1973 followed the spirit of the Shanghai Communique, in which the United States and the People's Republic of China agreed "to facilitate the progressive development of trade between their two countries." President Carter has said that the Administration's policy toward China will be guided by the Shanghai Communique, and that normalization of relations is our goal.

We are committed to strengthening relations between the United States and the People's Republic of China, and we expect to see expanded opportunities for mutually beneficial US-China trade in the years to come. American industry and agriculture will need the help of those who understand both the U.S. and Chinese markets.

We are pleased, therefore, that the National Council will continue its efforts to encourage the development of trade with the People's Republic.

Sincerely,



William A. Hewitt, Chairman, and  
Christopher H. Phillips, President,  
National Council for US-China Trade,  
1100 17th Street, N. W.,  
Washington, D. C.

**Letter sent by Secretary of State Cyrus Vance to Council's Annual Meeting. The Administration has expressed its full support for the National Council.**

## **PACKED FOURTH ANNUAL MEETING REVIEWS BUSY YEAR**

Over 200 Council members at the Council's fourth Annual Meeting on June 16, 1977, heard Senator Charles H. Percy (Rep.-Ill.), Chairman of the Senate Foreign Relations Committee, say, "We must move forward on negotiations on normalization of relations with the PRC."

Ambassador Han Hsu, Deputy Chief of the Liaison Office of the People's Republic of China, and China's new Commercial Counselor in Washington, Mr. Peng Chin-po, were guests at the banquet. Mr. Wang Tien-ming was also present.

In his report to members, President Christopher H. Phillips reviewed the busiest year in the Council's existence, noting that there will be no less than eleven Council-sponsored trade missions to and from China in 1977.

Other points made by speakers at the meeting were as follows. Earl Morgan, leader of the National Council's first industrial mission to China, said that although utilization of modern fertilizer and pesticide techniques in China is behind the West, China is well ahead in comparison with other Asian countries. Increased mechanization of Chinese agriculture will demand additional inputs of fertilizer and pesticides.

George Krieger, leader of the Council's Importer's Steering Committee's recent delegation to China, emphasized that the Chinese have learned a lot about the US in the past; thus, China traders should not minimize what their counterparts in the PRC know. He

stressed the thoroughness of the preparation of the visit—see details in Importer's Notes.

Professor Kenneth Lieberthal of Swarthmore College said that diplomatic normalization presents long-term benefits and immediate political risks for President Carter. His policy prescription for President Carter: Educate the American public and the Congress on the necessity of a stable and peaceful East Asia, insured by the normalization of relations with the PRC without threatening Taiwan's security, and underscore the fact that previous Presidents were committed to eventual "normalization" and that President Carter is simply carrying forward this past policy.

Holger Hansen of Denmark's East Asiatic Company said the prospect of China's becoming a major economic superpower is not silly or pretentious but a "rational assessment." Predominant goals of the new Chinese administration are to strengthen management, efficiency, and productivity and to concentrate on the agricultural sector as a strong capital accumulation base which will finance China's industrial development.

Professor Nicholas Lardy of Yale University forecast that political disruption in China will soon be eliminated and Chinese economic recovery is on the horizon. Rapid growth in foreign trade is likely to follow during the period 1978-1980. This optimism is premised on the resolution of two key issues: a modest realignment of the wage structure, which should lead to positive feedback on labor productivity that would, in turn, enhance investment and economic growth; and increased emphasis on foreign technology and more flexible methods of trade financing.

#### **New Directors Announced**

Four new directors were elected to fill unexpired terms of less than three years. They include J. Ray Pace, President of Baker Trading Company; Milton Rosenthal, President and Chief Executive Officer of Engelhard Minerals and Chemical Corporation; C. William Verity, Chairman of Armco Steel Corporation; and Julian M. Sobin, Senior Vice President and Director of International Business Development of International Minerals and Chemical Corporation.

In addition, three new directors were named for full three-year terms: William M. Agee, Chairman, President and Chief Executive Officer of Bendix Corporation; J. Paul Austin, Chairman and Chief Executive Officer of the Coca-Cola Company; and David S. Tappan, Jr., Vice Chairman of Fluor Corporation.

Re-elected to three-year terms were: Gabriel Hauge, Chairman of the Board, Manufacturers Hanover Trust; William A. Hewitt, Chairman and Chief Executive Officer of Deere and Company; Harold Potchtar, President, Toscani Imports Ltd.; David Rockefeller, Chairman of the Board, The Chase Manhattan Bank; and Walter Sterling Surrey, Esq., of Surrey, Karasik and Morse.

#### **COUNCIL SENDS MINING DELEGATION TO CHINA**

The National Council's first mining delegation arrived in Peking on July 18 for a two-week visit. The purpose of the trip was to exchange information with the Chinese and to visit Chinese coal, iron metallic, ferrous metallic, and non-ferrous metallic mines. Headed by the Council's Mining Committee Chairman, William MacDonald, the group presented technical seminars on a wide range of topics from geo-statistical mine planning to wheels-versus-tracks on mining equipment. Other members of the group were William J. Cheronis, Vice President, Harnischfeger International Corporation; R. Wayne Adkins, Director of Engineering, Drilling Machine Division, Gardner-Denver Company; Charles D. Albright, Research and Development Manager, FMC Corporation, Mining Equipment Division; George W. Ciracovitch, Manager, International Operations, The Galigher Company; James H. Dye, Manager, Big Hole Products, Reed Tool Company Mining Equipment Division; John Fisher, Manager, Tractor and Scraper Marketing, WABCO; Wayne R. Gerdes, Vice President-Marketing, Goodman Equipment Corporation; R. F. German, Vice President of Engineering Construction Machinery Division, Clark Equipment; James Zung Hao Han, Application Engineer, Caterpillar Tractor Company; Charles L. Metzger, Vice President, Rotadrill Division, Schramm, Inc.; Harry M. Parker, Mining Geological Specialist, Fluor Utah, Inc.; John D. Spaulding, Project Manager, Coal Project, Kaiser Engineering; Robert W. Volpe, Assistant to the President, Unit Rig & Equipment Company. Eric T. Kalkhurst of the National Council served as escort officer.

#### **OFFICIALS FROM PRCLO VISIT POULTRY FARM**

Ten officials from the Chinese Liaison Office in Washington toured the large Rockingham Poultry Company in Harrisonburg, Virginia, on June 14, on a visit arranged by the National Council. The marketing cooperative is an integrated poultry processor that markets 126 million pounds of chicken products yearly with sales exceeding \$50 million. Accompanied by the National Council's vice president, Melvin W. Searls, along with representatives from the American Soybean Association, the Foreign Agriculture Service, and the International Market of Oil Seeds and Products, the group inspected a hatchery, a feed mill, and the processing plant.

#### **PLEASE NOTE**

Please note that the Council's Conference on Technology Transfer and Licensing to the PRC, scheduled for November 17, has been postponed until the spring of 1978.

完

# EXPORTER'S NOTES

## Briefly:

- **American sales activity in China highest in years: trucks, bulldozers, machine tools, drill bits, cotton all have been sold.**
- **China's grain orders for 1977 and 1978 now exceed 11.8 million metric tons. Total agricultural bill for two years estimated at \$1.7 billion.**
- **America's Amoco sells TPA plant technology to China.**
- **Professor Needham receives honorary degree from University of Chicago.**

Exporters to China the world over are looking at the progress in China's planning and especially at Peking's intention to cram its delayed Fifth Five-Year Plan, originally scheduled for 1976-80, into the next three years. Details of China's recently dubbed Grand Plan are fitting into place, along with plentiful reports suggesting that national output suffered a real decline last year. Too, China is once again officially for foreign technology and learning from other nations, despite the efforts of the "Gang of Four." But against the new momentum in the PRC is the fact that China has bought \$1.7 billion worth of food-stuffs for delivery in 1977-78, a considerable short-term burden that may affect China's ability to purchase the plants and technology she needs for the next three years.

## GENERAL

When the National Council's Packaging Delegation arrived in Peking this June, China Council for the Promotion of International Trade Vice President Li Chuan welcomed the group with an assurance that China would buy American plants and machinery "provided the price and quality were acceptable." Apparently, in the past few months, much of what American sellers have to offer has been acceptable to the Chinese. **From peanut butter machines to bulldozers, from machine tools to videotape equipment, sales are being reported from a wide variety of company representatives in a hospitable Peking.** In addition to the first American petrochemical license sale to China in over a year, US agricultural produce traders have

signed contracts with China for over 175,000 bales of American cotton, and additional cotton contract signings seem possible in 1977. US exports to China during the first half of 1977 were \$62.2 million, and with the current upswing, total US exports to China in 1977 should top \$200 million, compared with \$135 million in 1976. A large part of the contracts just signed in Peking, however, will be for shipment to China after the end of the year and will, therefore, appear on 1978's export books. But, whenever the goods are delivered, the summer of 1977 has had a most salutary effect on US-China trade.

## AGRICULTURAL SALES: THE PRC CONTINUES TO BUY

**Six million more metric tons of grain contracted** Just as China's wheat purchases seemed to be stabilizing, a Sino-Canadian grain contract in May for three million metric tons pushed Chinese purchases of grain over 8.7 million metric tons for delivery in 1977 and 1978. Shortly thereafter, on July 2, the Australian Wheat Board also completed a three million metric tons contract with Chinese buyers, tipping total purchases to an unprecedented 11.7 million metric tons. The Canadian deal, the third since December, 1976, calls for delivery of the grain between August, 1977, and July, 1978, while the Australian contract, also the third since late 1976, stipulates delivery of various classes of wheat, in-

cluding off-grade wheat, to Chinese ports between August, 1977, and August, 1978. One million tons of this latest Australian deal is expected to be shipped in calendar 1977. The Australian deal, valued at roughly \$308 million, is to be financed with the normal grain payment terms: 10% on shipment, 20% at six months, 20% at nine months, and 50% at twelve months, plus interest. When added to previous contract commitments, **these new sales will bring the PRC purchases to 7.01 million metric tons** of foreign wheat in 1977 with 4.75 million metric tons already ordered for 1978. Though baffled by the high level of Chinese grain imports, experts theorize that Peking planners, faced with poor 1976 harvests of miscellaneous grains in North China, plus unusually low grain imports of 2.0 million metric tons in 1976 and 3.4 million metric tons in 1975, found their reserve stock precariously low coming into 1977. Grain imports were restricted in the past two years due to foreign exchange shortages and perhaps political pressure from the now purged "Gang of Four" to maintain self-sufficiency, some analysts reason. With the death of Mao and the establishment of a new administration in Peking, **the new leadership was perhaps unwilling to reduce food rationing levels in its first year of power and, therefore, turned to foreign sources to supplement the nation's diet.** The astro-

**US oilfield equipment to PRC: International Harvester's 5000 Paystar INTERNATIONAL with special body and winch for use in oilfields.**



nomical price of the grain purchases, over \$1.2 billion, not including insurance and freight, would seem certain to encourage improved agricultural output in China in coming years. The last series of Australian and Canadian purchases, however, have a much more immediate significance to China. Although early spring droughts had plagued North China fields this year, rains in April seemed to alleviate most of the danger to the country's winter wheat crop, accounting for roughly 85% of the nation's total grain harvest. Since the last two purchases and especially the July Australian purchase must have been made by negotiators cognizant of early summer harvest results, Western observers are once again concerned that this year's low rainfall had a significant effect on the Chinese crop. Additional large PRC purchases of sugar, cotton, and soybeans further suggest the inadequacies of China's current agricultural position. The total cost of known Chinese agricultural purchases for calendar 1977 is approximately \$1.3 billion. Should Chinese total imports in 1977 equal 1976's \$6.2 billion, agricultural purchases would represent an inordinately large 21% of total expenditures. Such a large bill will almost certainly have some negative effects on China's ability to purchase complete plants and other advanced equipment, at least in the short term. **New wrinkles in China's agricultural trade** While China's massive grain purchases in the past eight months have dominated recent accounts of PRC agricultural trade, two less visible, but equally significant, developments have surfaced in China's post-Mao foreign agricultural trade. First, China has purchased US cotton, some 178,200 bales of it. China's first American cotton purchase was reported on May 1 for 47,600 bales, at a price of roughly 70¢ per pound. Later, on June 5, another 5,000 bales were announced sold, and then on June 19 an additional 20,000-bale sale was reported. The price of the second and third sales was approximately 60¢ per pound. Finally, after PRC officials had indicated that further US cotton sales might be pending, a fourth order for 105,600 bales of American cotton was made public by the USDA on July 14, bringing the total volume of US cotton sales to 178,200 bales. The total value of these agricultural shipments, estimated at between \$55 million and \$60

| Product                          | 1977<br>Delivery     | 1977<br>Cost     | 1978<br>Delivery | 1978<br>Cost   | Total<br>Delivery | Total<br>Cost    |
|----------------------------------|----------------------|------------------|------------------|----------------|-------------------|------------------|
| <b>Grain Total</b>               |                      |                  |                  |                |                   |                  |
| (million metric tons)            |                      |                  |                  |                |                   |                  |
|                                  | 7.06                 | 751.8            | 4.75             | 495.4          | 11.81             | 1,247.2          |
| Argentinian <sup>1</sup>         | 0.9                  | 90.0             | —                | —              | 0.90              | 90.0             |
| Australian                       | 3.35                 | 354.9            | 2.25             | 237.6          | 5.60              | 592.5            |
| Canadian <sup>2</sup>            | 2.81                 | 306.9            | 2.50             | 257.8          | 5.31              | 564.7            |
| <b>Soybeans<sup>3</sup></b>      | 390,000              | 100+             | —                | —              | 390,000           | 100+             |
| (metric tons)                    |                      |                  |                  |                |                   |                  |
| <b>Cotton<sup>3,4</sup></b>      | 600,000 <sup>e</sup> | 202.0            | —                | —              | 600,000           | 202.0            |
| (bales)                          |                      |                  |                  |                |                   |                  |
| American                         | 178,200              | 55-60            | —                | —              | 178,200           | 55-60            |
| <b>Soybean Oil<sup>3,4</sup></b> | 70,000               | 49.0             | —                | —              | 70,000            | 49               |
| (metric tons)                    |                      |                  |                  |                |                   |                  |
| <b>Sugar<sup>4</sup></b>         |                      |                  |                  |                |                   |                  |
| (thousand metric tons)           | 750 <sup>e</sup>     | 149              | —                | —              | 750               | 149              |
| <b>Total Cost</b>                |                      | <b>\$1,251.8</b> |                  | <b>\$495.4</b> |                   | <b>\$1,747.2</b> |

<sup>1</sup> Total orders estimated at \$100 per ton.  
<sup>2</sup> Final order of 3 million tons estimated at \$100 per ton.  
<sup>3</sup> Cost based on current market prices at time of purchase.  
<sup>4</sup> Sales for market year 1977/1978.  
<sup>e</sup> Estimated on best available information.

million, will certainly have a significant impact on Sino-American trade in the coming months. While all of the sales are scheduled for shipment in the crop year 1977-78 (August 1, 1977, to July 31, 1978), it is thought that only a small amount of the goods will leave the United States in this calendar year. Provided no additional purchases are made of US crops by China in the 1977-78 crop year, the recent purchases will not approach the high levels of cotton purchases made in the early 1970's. In 1972-73, China imported some 585,142 bales of US cotton; in 1973-74, 897,931 bales; and in 1974-75, 306,812 bales. In both 1975-76 and 1976-77, China did not import US cotton. The significance of these sales is that **America, once considered only a supplier of last resort by China, is now being regarded as a primary market, at least for cotton.** In light of the current world cotton supplies, China was not forced to come to America to make its recent cotton purchases. These purchases, therefore, must reflect some new PRC policy or posture towards the United States. The second major development in China's foreign agricultural trade

pertains to soybeans. So far this year, China has contracted to buy 390,000 tons of soybeans from Brazil. (There is a small chance that some of those beans might come from US fields.) Meanwhile, China's CEROILS Corporation has arranged to sell Japan some 200,000 tons of PRC soybeans, higher in protein, but lower in oil, than Western Hemisphere beans. If these are the only Chinese soybean transactions for 1977, then for only the second time since liberation in 1949, **China will be a net importer of soybeans (in 1974, the PRC also imported more soybeans than it exported).** That China has been a net importer of soybeans in two of the last four years might indicate a Peking decision to deemphasize China's soybean harvest, once the second largest in the world after the US, in favor of grain or cotton production.

**CHINA BUYING PLANTS AGAIN**  
**China buys petrochemical plants with US technology** The first complete plants to be imported by China in 1977 were contracted in the final days of May. A 36,000-ton per year terephthalic (TPA) facility and a 40,000-ton per year polyester fiber facility

were sold to the Chinese as the last units to complete the present stage of development in the Peking Petrochemical Works, where many of the petrochemical units bought by China during the Fourth Five-Year Plan have been installed. The TPA section of the plant is to be constructed by Germany's Lurgi, using technology subcontracted through America's Amoco, while Zimmer of Germany will construct the polyester section of the plant with its own know-how. The total value of the two units, scheduled to be completed in 1979, is reportedly DM 92 million (US \$39.1 million) with payments spread out over the period of construction. Originally part of the Chinese Fourth Five-Year (1971-1975) Plan's shopping list, the purchase of this plant was postponed due to delays in negotiations until the beginning of the Fifth Five-Year (1976-1980) Plan. During the final six months of negotiations in Peking, Lurgi and Zimmer won the contract over Britain's Sim-Chem and several other contenders.

#### US SALES TO PRC PICKING UP

**US Petroleum Extraction Equipment to China** Smith International, Inc., a Newport Beach, California-based supplier of downhole tools and services, has signed a contract with China's MACHIMPEX. In China for the fourth time in three years, company officials signed their largest contract with China to date, after holding a series of technical seminars for Chinese audiences in Peking in early May. The talks, which covered various facets of advanced drilling technology, were conducted by representatives from Smith's Drilco, Dyna-Drill, Servco, and Smith Tool

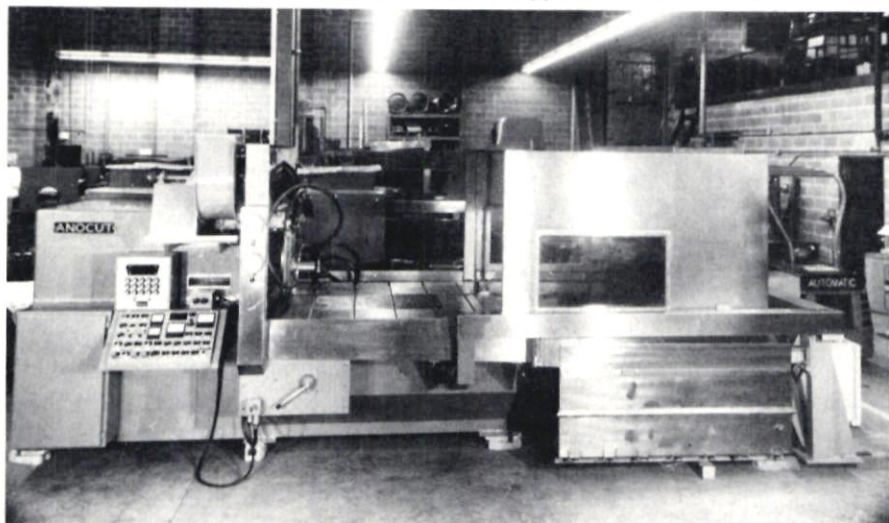
divisions. In addition to lectures and negotiations, while in China the company representatives were taken on a tour of the famous Taching oil fields in northern Heilungkiang province, where they were impressed by China's production field machinery, largely based on Russian designs. Smith International, Inc., has had trade relations with the Chinese for several years, covering both prior purchases of raw materials from China and sales of US equipment to China. The equipment contracted in the most recent Smith deal is scheduled for export to China late in 1977 and 1978. **International Harvester oil field units sold to China:** In May of this year, the International Harvester Company concluded a sale with the PRC for approximately \$2.5 million of oil field transport equipment, consisting of specialized heavy-duty trucks to be used by the Ministry of Petroleum and Chemicals Industries for the transportation of oil well drilling rigs between sites. With special mounted attachments, these machines will make up a system intended to improve the efficiency of oil well digging across China. The contract includes three sets of equipment, each to be used in a different oil field. A comprehensive operator training program has been included in the contract to familiarize the Chinese with the new technology. Delivery of the units is scheduled for 1978. **US Bulldozers to go to China:** In its second major deal with the People's Republic, Caterpillar Far East revealed to the *China Business Review* that it had sold China's MACHIMPEX some \$2-3 million worth of heavy equipment. The deal, for three D8K 300-hp bulldozers and nineteen

977L track-loaders with 2.5 to 3.75-cubic yard buckets, will be delivered to China in late 1977 and 1978. The bulldozers will be supplied by Peoria, Illinois-based Caterpillar Tractor Co., while the track-loaders will come from Japan's Caterpillar-Mitsubishi. During negotiations with Chinese officials, Caterpillar executives learned that the bulldozers, scheduled for delivery at Canton's Whampoa harbor, may be reexported for use in China foreign aid projects in Mauritania. **China resumes purchases of American machine tools, buys ECM** Nearly a year after TECHIMPORT sent a machine tool purchasing delegation to the US in the summer of 1976, Chinese buying authorities appear to have begun a new series of deals with American machine tool suppliers. The first sale to be announced in this summer's spree was a single order for a 10,000-amp horizontal electro-chemical machine (ECM),

#### CHINA TECHNOLOGY AUTHORITY JOSEPH NEEDAM RECEIVES HONORARY DEGREE FROM CHICAGO UNIVERSITY

During its June 10 commencement exercises, the University of Chicago awarded an honorary doctoral degree to Dr. Joseph Needham, author and compiler of the monumental study, *The History of Science and Civilization in China*. Dr. Needham, of Cambridge University, who was nominated for the degree by National Council member Erwin A. Salk of Salk, Ward & Salk, Inc., is currently visiting and lecturing in the United States. Needham's *History* is a seven volume chronicle of all scientific and technological developments in China from the beginning of time through the arrival of the Jesuits, covering the invention of kites, gunpowder, clocks, printing, etc. This massive project, the last three volumes of which are still to be published, is the definitive work on the subject, in Chinese or English, and stands as one of the great academic milestones of the twentieth century.

Anocut's 10,000 amp ECM will be shipped to China in 1978.





produced by Anocut Corporation. The company began its China marketing program with a technical presentation made in Peking by Anocut Chairman Ron Stoupe, who visited China as part of a National Machine Tool Builders Association delegation in November, 1975. When proposing the delegation, TECHIMPORT, the Chinese host organization, had requested that ECM be one of the topics of discussion. Although the TECHIMPORT reciprocal delegation which came to America in the late spring and early summer of 1976 did not tour Anocut's facilities during its visit, the Chinese trade corporation did request a quotation on an Anocut ECM machine in December, 1976. With the assistance of WJS, Inc., a Washington, D.C., consulting firm specializing in China trade, the company returned the requested quotation and eventually earned an invitation to travel to Peking for further negotiations in late May, 1977. After less than two weeks in China's capital, a company representative signed a contract on June 11. The contract, with standard Chinese terms, stipulates delivery in June 1978, based on FOB-stowed East Coast terms; the equipment will be custom built for the Chinese with metric system readouts.

#### CONSTRUCTION ADVERTISEMENT OPPORTUNITIES IN THE PRC

The *American Industrial Report*, a technical magazine published in modern Chinese characters for circulation inside the People's Republic of China by China Consultants International Ltd. and McGraw-Hill's International Management, is planning a special construction industry focus issue for publication in October, 1977. Construction equipment, methodology, and materials will be reviewed in a technical light with reference to the latest developments and techniques, especially those of particular interest in China. Topics covered will include the construction of transport systems and facilities (ports, harbors, rail, highway, and airport), water control, industrial and residential construction. With 8,000 copies planned for distribution inside of China, this special issue has an advertisement deadline of September 1, 1977, and an editorial deadline of August 1. Inquiries should be directed to William E. Donnett, China Consultants International Ltd., 3286 M Street, N.W., Washington, D.C. 20007; telephone: (202) 338-2388; or any

### TRAVELER'S ADVISORY July-October

#### PEKING

165' above sea level; approximately same latitude as Philadelphia or Denver. Is uncomfortably hot and dusty in summer with occasional light rainfall. As fall approaches, city will become cooler and drier. Light clothes appropriate for late summer months, but sweaters will be needed for evenings in September and October.

#### SHANGHAI

50' above sea level; approximately same latitude as Jacksonville, Florida; summer is extremely hot and damp. Light, comfortable clothing needed with plenty of anti-perspirant. By October, Shanghai will be more comfortable and less muggy.

#### CANTON

50' above sea level; approximately same latitude as Jamaica. Summer climate even hotter and wetter than Shanghai. Lightest clothing possible. Autumn brings some relief and less rain.

#### July-October Temperatures (°F)

|  | <i>Peking</i> | <i>Shanghai</i> | <i>Canton</i> |
|--|---------------|-----------------|---------------|
| Mean Daily Maximum Temperature         | 89-69         | 91-75           | 91-85         |
| Mean Daily Minimum Temperature         | 71-44         | 75-56           | 77-67         |
| Mean Number of Days with Precipitation | 13-3          | 11-9            | 16-6          |
| Mean Monthly Precipitation (inches)    | 9.6-0.6       | 5.8-2.9         | 8.1-3.4       |

McGraw-Hill International Management office.

#### CHINESE TELECOMMUNICATIONS AND GENERAL TRADE POSITION REVIEWED

"The Chinese Economy and Foreign Trade Perspective—1976" and "Telecommunications Equipment: A Market Assessment for the People's Republic of China" are two new reports prepared by the US Department of Commerce's Bureau of East-West Trade, People's Republic of China Division, in 1977. The first is a 57-page overview of China's recent economic performance and foreign trade position, coupled with a brief analysis of the major issues confronting the development of Chinese trade, with a special emphasis on Sino-American commercial relations. The bulk of this study comprises two appendixes which list Chinese exports to and imports from the United States by rank at the seven-digit Schedule B and TSUSA level. "Telecommunications," a 37-page

report prepared by Commerce staff member David Denny, is another in the department's market survey series. The survey concludes that China may import as much as \$40 million of telecommunications and cinematographic equipment per year through the mid-1980's. Special purchases are possible for "individual pieces of advanced equipment" for installation in high-capacity transmission links, such as multiplexing and telephonic exchange equipment, or studio equipment for television, radio, and movies. Provided foreign exchange difficulties can be overcome, the report speculates, Chinese buyers may import complete plants "to produce color television tubes and telephone exchanges." While this survey has much general background on the Chinese economy and Chinese foreign trade practices, it is a comprehensive compilation of information on the subject. As such, it will be a helpful reference tool for companies interested in this aspect of Chinese trade. 完

# IMPORTER'S NOTES

## **Briefly:**

- **Steering Committee meets to plan for CCPIT visit to US, Light Industrial Subcommittee trip to China.**
- **China files first low-acid registration and processing forms with the FDA, takes major step towards increasing sales to US.**
- **Textile Subcommittee in China discuss inspection procedures with officials, devise new procedures for supplying specifications.**
- **Checklist for successful delegation to China includes preparation, conservation of time, and cooperation.**

## **IMPORTERS' STEERING COMMITTEE—PLANNING AHEAD**

The Importers' Steering Committee met on July 12 in New York City in the offices of AMAX to discuss the visit of the delegation from the CCPIT this fall. An additional topic covered was the Light Industrial Subcommittee delegation to China. This mission wishes to hold discussions in Peking with the China National Light Industrial Products Import and Export Corporation, as well as the Arts and Crafts division of the Native Produce and Animal By-products Import and Export Corporation. The delegation will be called the Consumer Products/Handicrafts Delegation and hopes to visit China prior to the fall Canton Fair. The subcommittee, which is now to be referred to as the Light Industrial/Handicrafts Subcommittee, will be sending out a questionnaire to all committee members. The delegation will be formed of those members who can make substantial contributions to the report which will be prepared prior to the visit. The Importers' Steering Committee confirmed on June 8 the disbanding of the Machinery Subcommittee. The limited volume of imports in this area obviates the need for a permanent subcommittee devoting efforts to this subject. But all persons having an interest in this matter are requested to continue communicating with the Importers' Steering Committee and the National Council staff. The Committee will discharge its obligations by accumulating such information and making it available, when requested, to members of the

National Council. The Textile Subcommittee of the Importers' Steering Committee now has two more chapters. A West Coast chapter is headed by Harold Alden, President of Brentwood Originals, and Melvin Rosenthal, Executive Vice President. A Mid-West Chapter is headed by J. S. Goodson, President of International Hat Company. Textile members in these areas should get in touch with the chapter heads.

## **CHINESE REGISTER LOW-ACID FOODSTUFFS FOR EXPORT TO US—MAJOR BREAKTHROUGH**

As of June 24, the Chinese filed with the FDA both registration and processing forms for low-acid canned food stuffs, including processed pork, mushrooms, peas, and beans. This constitutes a major breakthrough in getting Chinese low-acid foodstuffs through US Customs, and follows almost two years of effort by the National Council. Products from factories in three branches have been registered, and the FDA has already assigned numbers to two of those branches. For Shanghai Branch the number is 06186, for Kwangtung Branch, 06188 and for Hangchow, 07091. These numbers must appear on the shipping manifest for clearance through Customs. The numbers given to Shanghai and Kwangtung are old numbers that were issued to those branches when they were registered by a US trading company. As China did not authorize this company to register its foodstuffs, that registration has been canceled. However, the numbers for those two branches were retained merely to speed and facilitate registration. The Council hopes CEROILS will continue the registration process to cover all low-acid foodstuffs available for export to the US. (Importers should note that meat products are not handled by the FDA and cannot, therefore, be registered with the FDA. Meat comes under the jurisdiction of the USDA and must comply with USDA requirements. Sauces containing 2 percent meat and over come under the USDA.) The registrations are as follows.

### **PARENT COMPANY**

Shanghai Foodstuffs Branch (#06186)

### **Establishment Name**

Maling Canned Food Factory

### **Products**

Pork luncheon meat  
Chopped pork with ham  
Stewed pork (sliced)  
Stringless green beans (whole)  
Mushrooms (whole, sliced, pieces & stems)  
Long-tailed anchovy (fried)  
Szu Hsien bran dough  
Pickled cabbage (chinese style)  
Szechwan preserved vegetable

### **PARENT COMPANY**

Chekiang Cereals & Oils Branch  
(#07091)

### **Establishment Name**

Hangchow Canned Foods Factory

### **Products**

Pork luncheon meat (cured, solid pack)  
Stewed pork (fried, sliced)  
Mushroom (whole, sliced, pieces and stems) in brine  
Green beans (whole, cut type) in brine  
Water chestnuts (whole, peeled)  
Fresh green peas in brine  
Braised bamboo shoots (seasoned, sliced)  
Asparagus (whole, cut type) in brine

### **PARENT COMPANY**

Kwangtung Foodstuffs Branch  
(#06188)

### **Establishment Name**

Kwangtung Cannery

### **Products**

Stringless green beans (whole)  
Stringless green beans (cut)  
Water chestnuts (whole)  
Water chestnut (sliced)  
Bamboo shoots (piece)  
Bamboo shoots (sliced)  
Bamboo shoots (whole)  
Fresh lotus roots (piece)  
Straw mushrooms (whole)  
Green peas (in brine)  
Bitter melon (piece)  
Pa Pao Chai (solid pack)

## **TEXTILE SUBCOMMITTEE IN CHINA—IMPORTANT PROGRESS IN INSPECTION CLAIMS, BUT NO US BRAND NAMES**

The Textile Subcommittee of the Importers' Steering Committee delegation to China reports that the cooperative attitude on the part of CHINATEX during talks in Peking was most encouraging. Along with audio-visual aids, the Subcommittee made verbal

presentations and discussed textiles, fibers, apparel, silks, and woollens. Among the topics discussed with CHINATEX were the following:

**Inspection.** During a meeting with the Chinese Commodities Inspection Bureau (CCIB) in Peking, it was pointed out that American buyers require inspection and certification of all other markets for apparel and often must include buyers' visitations to factories. The Chinese explained that it was against Chinese principle to have anyone except themselves inspect at the factories and that contracts were usually written and confirmed against samples and specifications. One official indicated that it would be difficult to inspect garments as that would involve a new training process and might result in reduced production and increased prices. They added, however, that they would be pleased to inspect apparel during and after production (which includes fabric and specifications) if agreed to by the buyer and seller and if the inspection clause along with other necessary information (i.e., specifications) is included in the contract. It was decided that inclusion of the inspection clause would be taken up with individual buyers during negotiations. The Council's Textile Subcommittee recommends that importers firmly request CCIB inspection clauses to be included in purchasing contracts, particularly for quantity buyers.

**Claims.** The Chinese indicated that they realized that as business increases, so does the chance for errors and they expected claims to be made. Importers should notify CHINATEX of damage and then immediately obtain a third party inspection report (for example, the Superintendence Company, which specializes in inspection). Based upon the report, it would then be up to the buyer and CHINATEX to reach an agreement. One option may be to send back a large sampling or even the entire order of damaged merchandise.

**Specifications and other Pertinent Information.** The Chinese said that US buyers should go to China prepared with complete specifications such as actual samples (made in material as identical to the item to be purchased as possible), paper patterns (for fashion items), specifications and diagrams of how to measure. This can help to eliminate many errors and misunderstandings that have previously occurred with various US firms.

**Letters**

**of Credit.** In order to save time (between 2 to 3 weeks often) when issuing L/C's, all conditions should be telexed directly to the Bank of China by correspondent banks as well as by individual firms to CHINATEX. In addition, no two contracts should ever be included in one L/C. Similarly, merchandise sought for the US and foreign countries should never be on the same L/C even if the merchandise is identical.

**Shrinkage Testing.** If requested, the Chinese will provide 1/2 yard to 1 yard of fabric specified for buyers to do their own testing.

**Documents.** Green customs forms, packing lists, invoices, and bills of lading should arrive with or before shipping. This is crucial in the situation of train and air when documents often arrive much later than the merchandise.

**Labels.** In general, Chinese labels are always required with or without an accompanying American label. Whether the label is to be "combined" (such as "P and E Made in China for X Company") or "dual" (separate labels) is a matter of negotiation between the two parties. US companies, however, cannot use their brand names; rather, they must use their company names on the labels. In the case of cashmere and silk articles, US importers must accept the given Chinese brand name and cannot choose another. For other textile fabrics, there is more flexibility.

**Communications.** Although there has been definite improvement in this field, US buyers want more complete communications particularly regarding lack of supply situations. Importers would appreciate knowing when a tight supply can be expected to ease. The Chinese did promise to increase their cooperation in providing a continuity of supply especially for "old friends." This was certainly evident during the last Canton Fair. For their part, the Chinese would welcome additional information regarding style and fabric trends in the US market. They commented that it would facilitate production planning and price stability if buyers had annual purchasing plans when visiting China. The CHINATEX officials in Peking also expressed strong encouragement for US imports of moderate-price, medium-quantity types of merchandise.

#### SHORT TAKES

**An Arts and Crafts Mini-Fair** was held in Peking from July 5 to July 20. The Fair featured pearls, precious

stones, jewelry, stone carvings, antiques, cloisonne, carved lacquerware, prints, and pictures.

**Chinese natural drugs:** As very little is known about these herbs and animal by-products, their ingredients, or their medicinal qualities, the Miscellaneous Drug Evaluation Panel of the FDA would be interested in having importers, Chinese pharmacologists, and others familiar with these products participate on the panel. The FDA has agreed to provide the National Council with the reports they publish concerning Chinese patent medicines.

**Ginseng and royal jelly.** According to FDA regulations, the importation of ginseng is legal only if it is imported as a powder, root, or in ground form for use as a tea. The label may not contain health claims. Similarly, royal jelly may be imported only as a foodstuff and must not contain markings that claim that the product can alter health or is favorable to health.

**Leather importers** note that leather goods are handled by the Animal By-products Branch of the Light Industry Corporation. Before the corporations were reorganized, this branch was under China's National Native Produce and Animal By-products Corporation.

**Garments,** depending upon their stuffing, are handled either by the Textile Corporation or by the Native Produce Corporation.

**A shift to 50-50.** CHINATEX has indicated that it has begun manufacturing 50% polyester/50% cotton blends. CHINATEX and US buyers are uncertain, however, as to how US Customs will levy duty on 50-50 textiles. The question is whether the duty will be according to chief value or according to weight. The advantage in CHINATEX switching to 50-50 will not be seen until the method of levying duty on the 50-50 fabric is determined.

**Meetings with Bank of China:** At the Spring Canton Fair, one official affirmed that some American importers had been offered contracts with payment in "sight draft" D/P (documents against payment) terms.

#### CHINAPACK TO US LATER THIS YEAR

China National Export Commodities Packaging Corporation (CHINAPACK) will send an eight-man delegation to the US to study packaging technology and consumer tastes in late October, 1977. Importers interested in this delegation should contact the Council. 完

# CHINA ECONOMIC NOTES

## From Chinese Media Reports

### Briefly:

- **China's economy begins recovery, growth reportedly in all major industrial sectors.**
- **Agricultural output seems relatively strong this year, but continued foreign purchases suggest mixed returns.**
- **Chinese railroads begin to show improvement from recent reorganization; motor vehicle repair to be more centralized.**
- **Chinese press announces new X-ray machines, drill bits, and microcomputers; foreign visitor reports on radio telescope.**

### GENERAL—FIFTH FIVE-YEAR PLAN BEING IMPLEMENTED SECTOR BY SECTOR

**Hints of Recovery:** After one of the bleakest years China's economy has suffered since the height of the Cultural Revolution, preliminary signs are beginning to surface that the nation's cumbersome economic machinery is beginning to move forward again, but slowly. The major Chinese industrial sectors—oil, coal, power, steel, chemical fertilizers, and consumer goods—are all reporting advances over last year's production levels. The question is however, whether Chinese planners can sustain this initial up-swing. The Fifth Five-Year Plan, which is being implemented sector by sector across the Chinese continent, is threatened by basic inadequacies in many key areas. Steel production, still considered to be the "key link" of China's economy, cannot substantially increase until expensive and complex blast furnaces are put in place. Petroleum, once the darling of China's industry, is faced with lagging output increases coupled with mounting domestic demand. (Increases of 10.6% in the first half of 1977 over the same period last year indicate a slowing of the previous 20% annual growth of oil output.) Transportation, power generation, and consumer goods are all areas in which Chinese leaders will have to show perceptible gains during the remaining

years of this decade to satisfy the needs of the expanding national economy and the rising expectations of workers. Ominous rumblings have been heard at the very heart of China's economy, in agriculture. Recent grain purchases, worth some \$1.2 billion in calendar 1977 alone, certainly have threatening overtones for China's entire economy. If Chinese harvests can no longer fulfill the dietary requirements of the country's 900 million-plus mouths, the ramifications for all aspects of the economy could be catastrophic. That China must spend over 20% of its foreign exchange earnings on foodstuffs this year will certainly restrict the amount of foreign machinery and technology it will be able to import in the coming months. **Now more than ever, the Chinese seem in need of and predisposed to the infusion of foreign know-how into the nation's economic mainstream.** One of the major speeches reprinted from the Learn-From-Taching Industrial Conference was titled "Self-Reliance and Making Foreign Things Serve China." In it, Chairman Mao's and Premier Chou En-lai's support for developing foreign trade was stressed, and the article concluded, "Every nation and country as it develops is bound to absorb and make use of the fruits of the scientific and technological research of other nations and countries. Foreign countries learning from each other and providing what the other lacks through trade on the basis of equality and mutual benefit help the development of each country's economy, culture, national defense, and science and technology. Blind conceit and total rejection of all things foreign are anti-Marxist and unscientific." If balance of payments difficulties can be overcome, the opportunity exists, as it has never before in the history of the People's Republic, for large-scale trade between China and the West in a wide variety of industrial areas.

### AGRICULTURE— UNCERTAIN SO FAR

**Mixed Returns:** The condition of China's 1977 crops is uncertain as of

mid-July. Widespread droughts across the North China plain in the early months of 1977 seemed to have been partially alleviated by the rainfall of April and May, but some permanent damage to the season's crops may have been sustained, especially in the all-important winter wheat. In northeastern China, the early summer harvest of wheat may have been improved by the spring rains, but in northwestern provinces, crops seem less healthy, due, in part, to the uneven rainfall. Central China's fields have received an abnormally high amount of precipitation in May and June of this year, and, to the south, the important rice-producing provinces of Kwangtung, Kwangsi, and Fukien seem to have recovered from early water shortages. Szechwan province, however, is still reporting dry conditions. **In general, this year's spring crop seems to be somewhat better than last year's admittedly poor harvest,** and a prospectively strong second rice harvest should sustain the general agricultural output. While soybean fields appear fertile this year, the cotton acreage may return unusually low yields. Recent Chinese purchases of both grain and cotton for delivery in 1978 reinforce experts' fears of poor 1977 results in these two important areas. In late May and early June of this year, Chinese officials called a National Conference on the Summer Harvest, Summer Sowing, and Management, but whether this meeting signifies a bumper crop or not is unclear to Western observers. Over the past two months, Chinese press accounts have noted several advances in agricultural techniques: The CAS Peking Institute of Botany with the Institute of Microbiology, during research underway since 1974, has succeeded in developing a **new method for preventing potato degeneration from virus** by inbreeding seed potatoes from potato stem tips. Elsewhere the NCNA praised the Kwangsi Chuang Autonomous Region for **producing 80% of its tractors locally** in the region's 70 farm machinery factories. The region was cited in another article for its **effective use of cloud seed-**

ing, which brought as much as 22 mm of precipitation to 20,000 hectares of drought-stricken land. Bringing additional mechanization and advanced crop types to Chinese rural regions has been often mentioned as a major goal of China's Fifth Five-Year Plan (1976-1980).

### ENERGY—OIL OUTPUT SLACKENS

**Production rates edge up, but fall short of previous growth.** Electrical power output in China was 6% higher this May than last year, according to

a June 1 NCNA report, but that growth is about half of the 11.2% increase enjoyed annually by China's power generation industry from 1965 to 1975, according to US government statistics. A May National Conference on Electricity held in Kweichow by the Ministry of Water Conservancy and Power has sparked a new wave of interest in expanding China's electrical output, and plans have been announced for the completion of three 220kV transmission lines in the Peking-Tientsin-Tangshan area during the coming year. Competi-

tion has been reported in Chinese papers between various provincial power generation divisions to reach target generation capacities by the end of the year, and if the workers can reach proposed goals, Chinese electrical output may grow dramatically from the 121 billion kWh estimated generated in 1975. Both coal and oil production through June have exceeded last year's output levels, coal by an unspecified amount and oil by 10%. Most experts agree, however, that coming years will not see the same magnitude of growth experienced during the decade in either coal (6.8% per annum) or oil (21.1%). To supplement the development of new oil fields, **Chinese petroleum teams are turning to secondary and tertiary recovery techniques**, especially in the now depleted western Chinese oil basins. A May 4 NCNA article noted that new oil-bearing strata have been found beneath old ones and high-yielding flush wells have doubled at the Yumen oilfields in Kansu.

### A STEREOSCOPIC VIEW OF CHINA'S ECONOMY

Four Russian Sinologists published an account of "China's Economy in 1976" in a recent issue of *Far Eastern Affairs* which revealed the Soviet Union's latest official assessment of China's development in the turbulent year of 1976. While the Russian estimates are characteristically 5% to 25% below the corresponding American entry, their overall view of 1976 might be more optimistic than that of US government analysts. In the following table, the Russians

have calculated that 1976 Chinese production fell in only three areas: steel, machine tools, and automobiles. Once completed, American analyses of China's economic performance in 1976 may be less positive, especially regarding China's total national product. In considering the following table, one should bear in mind that by at least one Russian official's admission, it is "Soviet policy" to underestimate China's output.

### SOVIET AND AMERICAN VIEWS OF CHINA'S BASIC INDUSTRIAL OUTPUT

| Product                              | US Estimate 1975 | USSR Estimate 1975 | US Estimate 1976 | USSR Estimate 1976 |
|--------------------------------------|------------------|--------------------|------------------|--------------------|
| Total Output* (billion RMB)          | 568              | 215                | 580-585          | 221                |
| Coal (million tons)                  | 427              | 365                | 440              | 376                |
| Oil (million tons)                   | 74.5             | 56                 | 83.6             | 60                 |
| Electric Power (billion kWh)         | 121              | 115                | 133              | 125                |
| Steel (million tons)                 | 26               | 25                 | 23-24            | 21-22              |
| Machine Tools (thous. units)         | 90               | 76                 | N.A.             | 70                 |
| Automobiles** (thous. units)         | 145              | 92                 | N.A.             | 80                 |
| Cement (million tons)                | 40               | 23                 | N.A.             | 25                 |
| Mineral Fertilizer*** (million tons) | 27.9             | 30                 | N.A.             | 33                 |
| Cotton Fabric (Billion lin. meter)   | 7.6              | 9                  | N.A.             | 9                  |

\* US figures indicate GNP evaluated in RMB; Soviet definition of output unclear.

\*\* US figures for trucks; Soviet figures probably for all highway vehicles.

\*\*\* US figures for chemical fertilizers; Soviet definition unclear.

Sources: *Far Eastern Affairs*, No. 2, 1977, page 14; various CIA research aids; and Department of Commerce, Bureau of East-West Trade.

### TRANSPORTATION—BACK TO WORK

**Railways begin to improve.** China's railroads, which became what one American observer has described as an "open scandal" during the politically volatile months of 1976, are apparently on the path to rehabilitation. Chinese press accounts in May initiated a series of exhortative articles claiming new material handling records being set in Chengchow, a key center of China's rail system which was taken over by the military in early 1977. Encouraged by a much-publicized national conference in February this year, China's railway workers have apparently begun to improve their notoriously low levels of productivity, and, according to recent articles, various bureaus across the country have been exceeding planned requirements. **At the Yangtze River Bridge in Nan-king**, Chinese officials are reporting train crossings at 120 units per day, compared with 80 units per day under the influence of the "Gang of Four" in 1976 or 100 units per day during other more typical years. **On the double-track Shanghai to Peking railway line**, during mid-June of this year, trains seemed to be spaced roughly fifteen minutes apart in both directions with about an even split between

freight and passenger carriers. In another area of transportation, Chinese officials called a National Conference on Exchanging Experiences in Motor Vehicle Repair and Parts Supply at Fixed Locations, which was held in Kwangtung Province's Tungkuang County during late April. Attended by representatives from all of China's provinces, municipalities, and regions, the conference seems to have focused on **centralizing the repair of motor vehicles in order to reduce excessive inventories** which had previously been sold "at retail" to dispersed consumers. As such, this conference might signal at least a partial reversal of the Chinese policy to decentralize machinery repair and maintenance, in effect since the Cultural Revolution of the mid-1960's.

#### NEW TECHNIQUES AND TECHNOLOGIES

**New X-ray machines:** The Shanghai Hsinyueh Instrument and Meter Factory in conjunction with the Shanghai Juichin Hospital has developed and tested a new X-ray machine designed especially for the detection of breast cancer at an early stage. In tests on 1,500 known cases, the new machine correctly diagnosed the condition in 97% of the patients. Production has begun on the machine on a small scale, according to a June 13 NCNA report. Also reported during June was **a Chinese breakthrough in synthetic diamond drill bits** by the Metallurgical and Geological Research Institute of Kweilin. In research since 1969, the researchers have developed a highspeed drilling technology and machinery design fitted with synthetic diamond bits that can now claim a rate of core recovery up to 90% compared with 50% to 70% in old drill bits. **A giant Chinese radio telescope** has been reported by Professor W. N. Christiansen, a participant in an April Australian Academy of Sciences delegation to China. During his visit, the Australian professor was impressed by a large radio telescope, more than two kilometers in diameter, constructed by Peking Observatory scientists. Described as "an earth rotational synthesis telescope," the unit is being used to chart celestial maps through the analysis of radiation in the universe. Elsewhere, the Chinese Institute of Metrology has reported the development of a **100-dwt class pressure measuring machine** which can

test the pressure of a variety of machines with an error of one 100,000th. With more than 10,000 parts, this 200-ton, 12-meter high machine is being used to measure the pressure of rolling mills for the steel industry, the strength of railway tracks, the calibration of electronic weighing machines, and the thrust of jet engines or rockets. It is said to be "up to advanced world standards." Through the combined efforts of the Anhwei Radio Works, the Chinghua University Electronic Engineering Department, and the No. 6 Research Institute of the Fourth Ministry of Machine Building, **China has trial-produced its first DJS-050 electronic microcomputer**, according to an April 14 NCNA report. Built with Chinese metal oxide semiconductor large-scale integrated circuits, this unit is hailed as appropriate for use

in network terminals, data processing, automation for industrial production, and handling of daily bank affairs. According to the Chinese report, Chinese researchers "critically absorbed the experience of foreign countries in the research and manufacture of microcomputers . . . and made foreign things serve China." Chinese semiconductor technology, however, has not succeeded in copying every aspect of Western development. For instance, **China is still grappling with P-channel MOS and has achieved only an eight-bit MPU in a 10-bit configuration**, according to IBM Researcher Dr. B. L. Crowder in an early 1977 *Electronic News* report. The present state of China's semiconductor technology can produce only silicon MOSPET P-channel integrated circuits, notes the scientist who visited China in 1975. 完

RMB: DOLLAR RATES AS OF JULY 1977

| Date     |        | RMB/US\$ | US\$/RMB | RMB/US\$ % Change |
|----------|--------|----------|----------|-------------------|
| March 17 | Bid    | 1.9020   | 52.5762  |                   |
|          | Offer  | 1.8926   | 52.8374  |                   |
|          | Median | 1.8973   | 52.7065  | -0.40             |
| April 13 | Bid    | 1.8963   | 52.7343  |                   |
|          | Offer  | 1.8869   | 52.9970  |                   |
|          | Median | 1.8916   | 52.8653  | -0.30             |
| April 14 | Bid    | 1.8887   | 52.9465  |                   |
|          | Offer  | 1.8793   | 53.2113  |                   |
|          | Median | 1.8840   | 53.0786  | -0.40             |
| May 5    | Bid    | 1.8812   | 53.1576  |                   |
|          | Offer  | 1.8718   | 53.4245  |                   |
|          | Median | 1.8765   | 53.2907  | -0.40             |
| July 12  | Bid    | 1.8605   | 53.7490  |                   |
|          | Offer  | 1.8513   | 54.0073  |                   |
|          | Median | 1.8559   | 53.8822  | -1.10             |
| July 19  | Bid    | 1.8531   | 53.9636  |                   |
|          | Offer  | 1.8439   | 54.2329  |                   |
|          | Median | 1.8585   | 54.0979  | -0.40             |
| July 21  | Bid    | 1.8457   | 54.1800  |                   |
|          | Offer  | 1.8365   | 54.4514  |                   |
|          | Median | 1.8411   | 54.3154  | -0.40             |
| July 26  | Bid    | 1.8365   | 54.4514  |                   |
|          | Offer  | 1.8273   | 54.7256  |                   |
|          | Median | 1.8319   | 54.5881  | -0.50             |
| July 30  | Bid    | 1.8457   | 54.1800  |                   |
|          | Offer  | 1.8365   | 54.4514  |                   |
|          | Median | 1.8411   | 54.3154  | +0.50             |

Source: Standard Chartered Bank, Ltd.

# CHINA INTERNATIONAL NOTES

## Briefly:

- China's oil exports expected to drop in 1977, perhaps below 8 million metric tons.
- In 1977, Sino-Japanese trade should rise somewhat; Sino-Soviet trade to remain in the \$220 million range.
- About 4 million tons of Japanese steel to be sold to China this year, purchase of Japanese plants also considered possible.
- Volume of delegations to and from China picks up.

## CHINA'S OIL EXPORTS TO FALL THROUGH 1977

Despite China's renewed effort to develop its domestic oil production and increase petroleum exports, the volume of PRC crude to be sold abroad during the current calendar year will decline compared with 1976. China became a significant oil exporting country in 1974 when it shipped 5.4 million metric tons of oil to foreign consumers; then, during the following year, 1975, its crude exports more than doubled to 11.3 million metric tons. The past eighteen months, however, have seen a steady decline in China's oil exports, falling to slightly over 9 million metric tons in 1976 and an even lower 7.5-8.5 million metric tons in 1977, according to preliminary estimates. **Japan** has maintained its posi-

tion as China's premier oil market, and negotiations held during the early months of 1977 between Chinese and Japanese officials raised hopes that Japan could consume between 15 and 30 million metric tons of PRC crude annually in the early 1980's. **Hong Kong**, as a buyer of Chinese refined products, has gained prominence through the past four years, and as additional PRC-owned FEOSO gasoline stations open in the British colony during coming months, the volume of Hong Kong's oil imports should continue to expand. **North Korea**, connected to Northeast China's oil-rich basin by a 400-kilometer pipeline with an estimated 1.5 million metric tons annual capacity, is thought a likely candidate for continued Chinese oil sales. **The Philippines** is also interested in long-term oil purchases from China, and recent reports indicate that a new Sino-Philippine trade agreement may call for another 1 million metric tons of Chinese petroleum to be shipped to the Philippines in the near future.

## CHINA BUYING REPORTS

The Chinese Communist Party newspaper, the *People's Daily*, on May 6 urged **import of more foreign technology and equipment to help speed up economic development**. "Every nation and country as it develops is bound to absorb and make

use of the fruits of the scientific and technological research of other nations and countries," the paper said in an article transmitted by the New China News Agency. The article was considered highly significant by China specialists because of its forcefulness, timing and scope. **JETRO's assessment of China trade in 1977 is that China's policies have gradually returned to their former aggressive-ness**. The balance of payments problem which restricted Chinese imports over the past two years can now be expected to ease due to an estimated trade surplus of \$900 million in China's total 1976 external trade. China's imports of machinery other than plants may increase in 1977, says JETRO. In addition, offers to import plants are expected to pick up in the second half of this year with the prospect of implementation of the delayed Fifth Five-Year Plan. In short, **a cautious optimism would be advised to those anticipating China's shopping list for this year**. As for China's buying spree during the first half of 1977, Japan as usual figures largely in the overall picture. Steel export negotiations are held with China twice a year. As a result of talks for export steel for loading in the first half of this year, China contracted to import 2.2 million tons of steel products. It is expected that it will buy another 2 mil-

**KNOWN CHINESE OIL EXPORTS 1974-1977**  
(Volumes in thousand metric tons; Values in millions of US dollars)

|                      | 1974             |          | 1975             |          | 1976             |         | 1977 <sup>1</sup> |                 |
|----------------------|------------------|----------|------------------|----------|------------------|---------|-------------------|-----------------|
|                      | Volume           | Value    | Volume           | Value    | Volume           | Value   | Volume            | Value           |
| HONG KONG            | 250 <sup>2</sup> | \$ 26.1  | 630 <sup>2</sup> | \$ 56.8  | 641 <sup>2</sup> | \$ 62.3 | 700+ <sup>2</sup> | 66+             |
| JAPAN                | 4,000            | \$410    | 8,100            | \$740    | 6,100            | \$566   | 5,200-6,200       | \$480-\$580     |
| LAOS                 | —                | —        | 7.5              | —        | —                | —       | —                 | —               |
| NORTH KOREA          | 500              | —        | 900              | —        | 900+             | —       | 900+              | —               |
| PHILIPPINES          | 150              | \$ 8     | 150              | \$ 30.5  | 500              | \$ 32.8 | 400+              | \$25.3          |
| ROMANIA              | —                | —        | 500              | \$ 35    | 500+             | —       | —                 | —               |
| THAILAND             | 50               | \$ 4.5   | 395 <sup>2</sup> | —        | 500 <sup>1</sup> | —       | 250 <sup>1</sup>  | —               |
| VIETNAM/<br>CAMBODIA | 500 <sup>2</sup> | —        | 600 <sup>2</sup> | —        | —                | —       | —                 | —               |
| TOTAL                | 5,450            | \$448.6+ | 11,282.5         | \$862.3+ | 9,141            | \$661.1 | 7,450-8,450       | \$571.3-\$671.3 |

<sup>1</sup> Estimated

<sup>2</sup> Refined

<sup>3</sup> Of which 75,000 tons were refined products, valued at \$6.9 million.

SOURCE: Nai-Ruenn Chen, US Department of Commerce

lion tons for loading in the latter half. Comparable contracts in the first and last halves of 1976 stood at about 650,000 tons and about 1,600,000 tons, respectively. With an annual import of about 4 million tons, **China has become the second largest buyer of Japanese steel**, following the United States. However, Nippon Steel Corporation, Nippon Kokan Kaisha and other major Japanese steel makers consider that now that Japan's steel export to China has reached an annual 4 million ton level, it is necessary to revise the steel prices for stable future transactions, in view of the fact that the prices are relatively low. Mitsubishi Light Metal has exported **50,000 tons of aluminum ingot** to China at about \$1,030 FOB per ton. Mitsubishi officials indicated that the latest deal with China, concluded in March, was not attractive to them in terms of profitability, but they decided to export in order to slash swelling stockpiles. Toyota Motor Sales Company Ltd. announced in May that it received an order from China for **60 small trucks worth \$216,000**. The trucks—21 Dinas, 30 Landcruisers and 9 Coasters—will be shipped from Nagoya to China from the end of July to early August. In addition, **China is negotiating purchases of some 100 Japanese trucks along with a \$720,000 order it has placed with Isuzu Motors for 60 trucks**. The additional Chinese offers made to Hino Motors for 13 trucks, Mitsubishi Motors Corporation for a trailer, and others are raising hopes that Japan's truck exports to the PRC are finally pulling them out of their recession. Japanese truck exports to China this year are expected to exceed 5,000 units, up from nearly 4,000 units in 1976. **Nissan Chemical Industries Co. Ltd. has received a Chinese inquiry for its technology for the manufacture of phosphatic fertilizer**. This is the first time China has made such an inquiry. Earlier, Mitsui Toatsu Chemicals and other Japanese companies exported ammonia and urea manufacturing plants to the PRC. Apparently, China is interested in the company's new, efficient process of manufacturing phosphatic acid. Oka Okano Valve Co. Ltd. has received an order from MACHIMPEX for various types of **valves for petrochemical plants**. Delivery will be made in August and September. The deal is valued at

about \$300,000. Kurita Machinery Co. Ltd. has received an order from MACHIMPEX for **12 fully automatic filter presses**, which are to be used **to remove paraffin from crude oil**. The presses are supposed to be shipped to China before the end of this year. Installation and test operation will be carried out by the Chinese. The deal was arranged by Marubeni Corp. Izumi Automotive Industry has received an inquiry from MACHIMPEX on a **forging plant capable of manufacturing 700,000 pistons for small trucks annually**. The price of the plant is estimated at \$9 million. Negotiations started in June on the basis of an estimate already submitted by the Japanese company to MACHIMPEX. An **ethylene plant, with a rated capacity of 115,000 tons per year, was recently completed and operationally tested in Shanghai** for TECHIMPORT by Mitsubishi Heavy Industries Ltd. (MHI) in cooperation with the Mitsubishi Petrochemical Co., Ltd. (MPC). This plant is the first export of this type for MHI and was contracted for in February, 1973, based on an order received through MPC. The plant will function as the main component of a petrochemical complex being built in the suburbs of Shanghai. The complex includes a cracked gasoline hydrogenator plant, a wastewater treatment system and a processing computer, which have all been completed by MPC. TECHIMPORT has also placed an order with MHI for **cracking furnace equipment** and materials to be used in another ethylene plant, as a result of the high efficiency of the just completed plant. Ikegami Tsushinki Co. and trader Kanematsee-Gosho Ltd. have jointly won an order for **two sets of color TV cameras** from MACHIMPEX. The cameras, dubbed "color handy kookie system HL-33," will be delivered to the Peking television station by next January. On another front, that of Sino-British trade, **British exports to China have declined sharply while imports from China have increased enormously**. Regarding British exports, figures for the first quarter of 1977, at \$19 million, were about half those for the same period last year, which reached \$34 million. This quarter's British export figures were boosted by March aircraft deliveries, which added \$11.2 million and left them looking healthier than they

have been for some time. However, the aircraft deliveries were made under an old contract and once that is completed, there are few new items to replace them. The categories which have dropped most are man-made fibers, iron and steel, and machinery. Among the spring activities in China of the '48 Group' of British traders are technical presentations by Rank Xerox on Xero-Radiography for Diagnostic Purposes, and by Ricardo on Design and Development of Diesel Engines for Automotive and other uses. A **\$9 million contract won by Vickers Engineering**, announced in mid-June, is **the first major plant order to be received by the company from the PRC for many years**. It is the result of three years' close cooperation between engineers from both countries working out specifications and details. **Vickers will supply an aircraft tire, wheel and brake test dynamometer to TECHIMPORT**. It comprises over 500 tons of complex equipment and will be delivered within two years to become operational in 1980. This deal exemplifies the **PRC's determination to buy advanced technology**. This will be only the third installation of its kind in the world and should improve aircraft safety standards. The first was built for Dunlop at Birmingham, England, and the second, currently being completed, went to the USSR. British Federal Welder and Machine Company stated that they received an **order from China worth \$72,000 for special purpose spot and stitch single-phase welders for heat-resisting alloys**, used in civil airline maintenance and repair hangars. In addition, Coventry Gauge Ltd. has won orders from China worth more than \$460,000 for **advanced electronic and other precision gauging equipment** following a recent visit to the UK by a delegation from TECHIMPORT. The gauging equipment will be used on a number of projects including multi-point measurement of compressor blades for aero-engines being manufactured in China. The equipment includes the company's latest in electronic neon column gauges, which give clear, high-accuracy measurement indication. TECHIMPORT has ordered **\$112,000 worth of pumps from the Reddish firm, Crane Ltd.** This is a further order received from China by the Reddish firm and consists of all stainless steel-end suction pumps. They



will be used for expansion and replacement programs at a large textile mill in Peking, and will be assembled at Reddish and shipped direct to Peking before the end of this year. **Chinese market for English technical press?** A British publisher, Robert Maxwell, predicted on May 18 a booming market for English-language scientific and technical journals in China. After several days of talks in Peking, Maxwell said that with the emphasis China is placing on industry and scientific research, there would be a market measurable in millions of pounds. China has increased orders for journals printed by his own company, Pergamon Press, and he hoped to publish Chinese scientific papers. One of Pergamon's journals will shortly print data on a Peking-developed machine for treating cancer of the cervix. **Australia is increasingly in China news.** Two relatively large sales were agreed upon this spring. In March Australia signed a \$200 million contract to supply China with **two million tons of wheat** ensuring the clearance of virtually the entire carryover stocks from last year's Australian harvest. The wheat will be shipped between next June and January with payment and interest due within twelve months. Closely following the above sale, it was announced that Australia will sell **over \$57 million worth of sugar** to the PRC. This is the largest sugar contract negotiated with China since that country started buying sugar from Australia in 1972. The contract calls for delivery of the 260,000 metric tons by the end of December. Terms of the contract remain confidential, but it is believed that the price for the sugar is about \$230 per ton, with a premium to cover forward sales. Some 7,800 tons have already been shipped. The contract represents about 9% of Australia's total sugar exports of about 2.6 million tons. Last year, a record 225,471 tons of sugar was sold to China, surpassing the 66,220 tons of 1973 and 37,157 for 1972. March reports note that **Hawker de Havilland (HDH) Australia has sold two Allison 250's** to the PRC **for installation in Messerschmidt (MBB) BO 105 helicopters used in off-shore oil exploration.** This order, worth over \$300,000 with spares, is a trial for an anticipated larger order by China when options are taken up for a further 16 BO 105's from MBB. Hawker has also received a request

from the PRC to set up engine overhaul facilities as it has done in Indonesia and the Philippines. HDH is the sole Allison engine distributor in Australia and SE Asia where about 600 of these engines are in service in many aircraft types, including the GAF Nomads. The **Australian Broken Hill Pty. Co. Ltd. has finalized its pig iron sale to China** (see *CBR* 4:3). The company will sell **210,000 tons of pig iron and 40,000 tons of wire rods** to China for delivery this year. BHP also reached agreement for an additional 90,000 tons of pig iron for fourth quarter 1977 shipment. According to May reports, two **West German contractors, Lurgi and Zimmer**, recently won **\$39 million worth of contracts** from TECHIMPORT. Although the contracts have yet to be signed, both Lurgi and Zimmer admitted that they had been chosen to handle the projects comprising **terephthalic acid (TPA) and polyester fiber plants.** The plants completing the present stage of the Peking Petrochemical Complex, will be capable of producing 36,000 tons per year of TPA and 40,000 tons per year of polyester using Amoco's and Zimmer's technology respectively. All services, apart from the construction, which will be handled by the Chinese, will be provided by the German companies. The plants are anticipated to be complete in two years. A second large German sale worth just under a half million dollars has been won by **Ritz Pumpenfabrik AG for the supply and installation of heavy duty mine submersible pumps in an underground coal mine** in China. The supply voltage will be 6kV and power consumption 2,400 kW. According to the *Financial Times*, China has been forced to step up its **wheat purchases from the Western world** to higher than normal levels because of the drought that hit its harvest. Canada announced on May 31 it had sold 3 million tons of wheat to the PRC. This is in addition to the sale of 1.5 million tons of wheat announced last January. Shipment of this wheat, including a 5% more or less option, against the total 3 million tons, will begin from Pacific Coast ports in the new crop year commencing August 1, and will continue through to July 1978. Payment will be made in Canadian dollars and, as in previous sales, will involve 25% in cash when each vessel

is loaded and the balance with interest payable in 18 months with a Canadian government credit guarantee. Figures released in late March by the **New Zealand Wool Marketing Corp.** revealed that China entered the New Zealand wool market for the first time in February with a **purchase of 20,857 bales.** The Korean Government has been asked by the Federation of Industries in Seoul to propose joint ventures with Britain to manufacture **heavy industrial and chemical products in South Korea for exports of China.** According to a Reuters report in May, the **Swedish ASEA** heavy electrical equipment group has won an order from the PRC worth **\$3.3 million for four coal mine lift systems.** The **Bank of China may buy computer software systems** from its next-door rival, the Hong Kong and Shanghai Banking Corporation, according to the 1977 Asian Computer Yearbook. Three software systems, all written for IBM systems, are believed to have been proposed to the Chinese by the British-owned bank. The People's Bank of China (PBOC) has already purchased Honeywell computers via France, and has been talking with various western companies regarding computerizing its 33,000 branches throughout the country. China will purchase almost **\$12 million of goods from Bangladesh this year**, according to Liu Yen, leader of a four-member Chinese delegation which held trade talks in Dacca in mid-March. China will buy 20,000 tons of raw jute, 4,000 bales of jute goods, 365,000 pieces of raw leather and 50,000 square feet of finished leather. In return, Bangladesh will buy 500 tons of Chinese tobacco valued at \$600,000.

#### CHINA SELLING REPORTS

Trade figures for the first quarter of 1977 indicate that **China may be stepping up its selling efforts to Japan, its largest trading partner.** According to the Japanese Finance Ministry, China's exports to Japan in the first quarter of 1977 rose 6.2% over the same period of last year to reach \$352 million. Oil purchases from China by Japan, January through March, were valued at \$140 million, up by 23% over a year earlier. Japan's imports of Chinese textiles and textile products rose 47% over the year before. But imports of animal products were down by 33%.



Washington State has trade mission to China: in May ten executives of the State of Washington visited China at the invitation of the CCPIT. In this photo the leader of the delegation, C. M. Berry, President of the Seattle-First National Bank, sits with Hsiao Fang-chou, Vice President of the CCPIT. To his right is Madame Han Fang-yu, Deputy Managing Director of CHINATEX, and Mrs. Berry.

and imports of coal from China, mainly anthracite, were also down by about 40 per cent. In view of Chinese Foreign Trade Minister Li Chiang's proposal for a long-term trade pact (see *CBR* 4:3) under which China would export oil and coal to Japan while Japan in return would send China industrial plants and technology, Japan's ruling Liberal Democratic Party has decided that the government should help the oil industry build special refineries to handle growing imports of Chinese crude in the future. It is not yet clear how much oil China can offer or how much Japanese refineries and

power companies will want on a regular basis. Last year, according to Chinese Foreign Trade Minister Li Chiang, due to natural disasters and political turmoil, China's coal production dropped by 25 million tons, necessitating increased domestic consumption of oil and thus cutting into oil exports. Now, however, a more stable political situation in China, along with official endorsement of China's export of natural resources in exchange for imports of plants and technology, indicates that increased oil exports to Japan over last year's first quarter may signal the beginning of a major pick-up in Sino-

Japanese trade. **Hong Kong is also benefiting from China's intent to expand oil exports.** The second Chinese-sponsored petrol station operated by Far East Overseas Oil Ltd. (FEOSO) has opened in Hong Kong; planning is underway for the setting up of three more stations this year. FEOSO, capitalized at about \$200 million, markets Chinese petrol, diesel, lubricants and shipbunker fuel supplied by China Resources in Hong Kong. Over the past two years, approximately one million metric tons of Chinese petroleum products have been sold to Hong Kong annually, comprising 20% of the colony's total oil imports. According to FEOSO, these purchases were worth \$85 million in 1975 and \$104 million in 1976. Most of FEOSO's processed oil imports from China come from a refinery in Hunan Province and are transported to Hong Kong by train. Some oil is shipped to Hong Kong by tanker from the Liaoning port of Dairen or is transported overland from Tsamkong in South China. **Further developments in China's oil exports:** According to President Marcos of the Philippines, China has agreed to supply about 1 million tons of crude oil to the Philippines in 1977. **Export of coal is another facet of China's drive to export natural resources as a means to build up valuable foreign exchange reserves.** In April, a trial shipment of 7,500 tons of anthracite was on its way from China to Belgium. This coal sale, handled by the Belgian Societe Generale de Minerais as agent, is not the first; such shipments, however, are rare. This particular shipment should have been delivered earlier but was delayed because of last year's earthquakes in China. **On another front, the British company Tube Investments is buying machine tools from the PRC.** Ray Westwood of TI says, "The Chinese machine tool industry is little known in this country, but in terms of, say, center lathes, China is the largest manufacturer in the world." The British company has imported about thirty machines from China for a trial run. However, **China's selling efforts to British companies are not always so successful.** Peter Grenville and Co., British importers and distributors, pleaded guilty to charges of selling **Chinese toys** which did not conform to statutory regulations. The toys, a lion and an elephant, were delinquent because, in both cases, the

eyes were fastened to each other by a simple thread attached to a piece of wire. When pressure was applied, the wire detached itself and the eyes easily came away. They could be swallowed, or damage could be caused by the sharpness of the wire, according to the prosecutor. The firm has halted supplies from China and is now importing safe animals from Korea.

**British imports of Chinese hand-knotted carpets and rugs** in 1976 for the first time topped the \$4.8 million mark with a figure of \$5 million for 109,408 square meters compared with the previous year's \$4.6 million and 95,742 sq.m. According to the *China Trade Report* (April, 1977), a deal concerning **a Hong Kong company's plans to manufacture Chinese machinery for export to Southeast Asia** has attracted considerable attention. The company, Taitung Industrial Equipment Ltd., plans to erect a \$20 million factory to become operational in 1979 in Hong Kong to produce Chinese machinery which will be exported throughout the area. Informed sources suspect that the Bank of China is to provide some of the capital, although company spokesmen say the project is a "wholly private commercial enterprise." The major market for machines produced at the factory will be Hong Kong. In 1976, China sold \$41 million worth of machinery to the colony, an impressive gain of 20% over the previous year. It is anticipated that this new project will give China's Southeast Asian marketing efforts a major boost. Oriental Machinery Ltd., one of Taitung's backers, has exclusive rights to sell Chinese machinery in the Philippines and Thailand. Hong Kong's superior transportation facilities are a positive factor in promoting such overseas sales. In addition, the project should open the way for further ventures between the PRC and Hong Kong.

**Additional information on Chinese-Hong Kong trade:** China exported 3,664 tons of frozen meat to Hong Kong in the first two months of this year, 50% short of the figures for the corresponding period last year. However, a spokesman for the Kowloon-Canton Railway reported a 25% increase of frozen poultry imports from China. The figure for the first two months of this year is 2,549 tons. During the same period, China exported a total of 3,964 tons of vegetables to Hong Kong, representing a 93% in-

crease. Frozen meat from the PRC takes up over 80% of the local Hong Kong market, and the decrease in supply has resulted in an increase in prices. **Reports of a new refrigeration plant which can process 10,000 chickens and rabbits daily for export suggest that attention is being paid to increasing the supply of such goods abroad.** The plant has been put into operation in Tsinan, Shantung Province, under the auspices of the Foreign Trade Bureau there; it is said to have a freezing capacity of 3,155 tons and can store 155 tons of rice. In the light of early March reports of purchases of primary aluminum ingot by the Chinese, it is worth noting that **China agreed in late March to export aluminum mill products,** probably made from the ingot China imported from Western suppliers at the end of 1975 and early 1976. A spokesman for Indian Aluminum Co. Ltd. said his firm lost an order to the Chinese to supply Bangladesh with a small quantity of aluminum sheet. Although the quantity was considered insignificant, the Indian firm found the whole episode rather curious. January press reports indicate that the **Pakistan Tractor Corporation will import another 1,000 small Chinese tractors** during the next financial year. The corporation has already imported over 400 tractors out of a contract for 2,000 signed with the Chinese. **Two developments on the Sino-Japanese trade front:** Nippon Kokan Kaisha has agreed with MINMETALS to reduce the import of **ferro-manganese** in fiscal 1977 to 27,000 tons. In fiscal 1976, the Japanese company imported about 35,000 tons of ferromanganese from China. The Japanese reportedly demanded a cut in price but the Chinese refused and demanded that the company buy more. The new agreement sets the per ton price of the material at about Yuan 42.25 and requires the Japanese to import the volume by the end of March next year. Another Chinese export to Japan, **silk,** is being limited by a Japanese protectionist import policy. China launched special exhibitions of silk products in large Japanese department stores and captured 60%-70% of the market. However, in order to deal with the Chinese competition, the government under Prime Minister Miki slapped stiff import controls on all silk products. China's share of the market

dropped to a mere 35% last year. At present, Japan plans to limit imports of thrown silk this year under the 40,000-bale level against last year's 52,000 bales. The planned measures will require importers in Japan to obtain MITI's prior approval of silk imports. The measures are being taken because large amounts of silk products from China and South Korea enter the Japanese market through the US, Italy and other third countries, despite Japan's current bilateral silk import quota agreements with South Korea and China. According to the *Sino-British Trade Review*, **milk products are being exported to foreign countries from Heilungkiang Province** in the extreme northeast, as well as to over twenty provinces and cities in the PRC. A quarter of China's total milk products output is credited to Heilungkiang.

#### JAPANESE TRADE WITH CHINA

**Oil Imports** Japan's crude oil purchases from China fell to 6.1 million metric tons in 1976, down nearly 1.7 million tons from 1975's 7.8 million metric tons, according to JETRO. Due to difficulties in China's own planning processes, Chinese exports of crude are not expected to rise substantially in 1977 and should total between 5.4 and 6.2 million metric tons during the current year. By 1980, however, the level of Chinese oil exports to Japan may increase to roughly 15 million metric tons. In addition, by the early 1980's Japanese oil consumers will have completed some refining units designed to process Chinese crudes into various petrochemical products. By the middle of the 1980's, Japanese demand for Chinese petroleum may be between 25 and 30 million metric tons.

**Japan's Exports to China** In 1976, Japan exported \$1.7 billion worth of goods to China, 26% less than the amount exported in 1975. Despite the decline, Japan's exports to China were still ten times larger than America's during the same year. The leading Japanese exports to China were urea for the production of fertilizer, \$56 million; iron and steel products, \$824 million; metal rolling mills, \$47 million; polyester fibers, \$56 million; and \$349 million of other equipment and machinery.

**Japan's Imports from China** Japanese imports from China were roughly \$1.4 billion in 1976, down over 10% from its imports in



At Chinese bottle factory, 1977

1975, but still some seven times larger than American imports from China. The most important area of Japanese imports from China is mineral products, totalling nearly \$625 million in 1976, of which crude oil, valued at \$566 million, was the most important. Other major Japanese imports are foodstuffs (\$243 million), fibers and textiles (\$266 million—of which \$47 million was in raw silk), chemical products (\$45 million), and raw materials (\$107 million). **Overall Sino-Japanese Trade** With total Chinese worldwide trade estimated at \$13.2 billion in 1976, China's trade with Japan still accounts for almost a quarter of the total figure. And, according to recent reports, Japanese trade with China is once again on the up-swing. At the Spring 1977 Canton Fair, Chinese FTC officials signed \$370 million in contracts with the Japanese compared with \$230 million signed at the Fall 1976 Fair and \$195 million at the Spring 1976 Fair. According to Toshio Oshikawa, Managing Director of the Association for the Promotion of International Trade, \$240 million of the contracts were for Japanese exports (mostly heavy machinery and textiles). During the early months of 1977, Chinese and Japanese officials have been meeting to negotiate a long-term trade agreement that may include certain minimum purchase levels for both sides, an indication that China is now ready to normalize its trade relations with the rest of the world. These new agreements may encompass some longer term finance arrangements for China, but to date nothing has been finalized.

#### SINO-SOVIET TRADE: 1976 AND 1977

In 1976 the USSR exported to China goods worth Rubles 179.8 million, while Soviet imports from China for

1976 were R134.6 million (R:US\$0.70). Total Sino-Soviet trade was R314.4 million, an increase of 56.8% over the 1975 figures. The increase was due in part to postponed deliveries from the previous year in both imports and exports, the postponed deliveries accounting for about R100 million of the total. At the same time in 1976 total commitments were not fulfilled under the 1976 trade agreement so the total trade could have been larger by R50 million last year. Soviet exports to the PRC consisted mainly of machines and equipment. One third were planes, helicopters and energy equipment. The planes sold were AN-24's, a type of passenger aircraft. Also important were timber and spare parts for machines, tractors, planes, and helicopters. Soviet imports from China were nonferrous metal ores, cotton garments and piece goods, fruit, pork meat, fur goods, sport shoes, and other light industrial products. The outlook for Sino-Soviet trade in 1977 is for the same or perhaps a little less than the total for last year. Negotiations with the Chinese began in April and the Sino-Soviet Trade Protocol for 1977 was signed on July 15.

#### DELEGATIONS TO CHINA

**AUSTRALIA**, 5/22/77, **Language teaching** education delegation arrived in Peking.

**BANGLADESH**, 6/6/77, **Trade** delegation arrived.

**CANADA**, 4/22/77, Four-member **crafts** delegation arrived in Peking.

**CHILE**, 3/28-4/1/77, **Business** delegation.

**EGYPT**, 4/17/77, **Meteorological** delegation arrived in Peking.

**EQUATORIAL GUINEA**, 6/7/77, **Trade** delegation left Peking after holding talks with Chinese import and export corporations.

**FINLAND**, 4/17-21/77, **Minister of Foreign Trade** and delegation paid official visit to China.

**FRANCE**, 6/1-8/77, **Economic** delegation from the French Ministry of Economy and Finance held talks with Chinese counterparts on air transport and duties. They agreed on **reciprocal exemption of duties and taxes for aviation enterprises**.

**GERMANY**, 5/4/77, **Government trade** delegation left for home.

**GERMANY**, 5/25/77, **Biochemistry and organic chemistry** study group of the Max-Planck Institute arrived in Peking.

**GREAT BRITAIN**, 4/77, Delegation from the **Agricultural Engineers Association** hosted by the China Agricultural Machinery Society. Included on the delegation was Massey-Ferguson, which has made substantial tractor sales to the PRC. In addition to tractors and farm tools, the mission's brief embraced **wheat cleaning techniques, pesticide application and less familiar aspects of crop husbandry**. Another experienced China trader represented was the Lucas Group.

**GREAT BRITAIN**, 4/77, **Glasgow Chamber of Commerce** delegation of **ten companies**, mostly in the **heavy engineering** field, closely reflected the character of Chinese import trade in recent years (mining and steel plant equipment, heavy electrical machinery and heavy handling equipment). Firms with an established China trade connection included Anderson Strathclyde, Hugh Smith (Glasgow) and Parsons Reyrolle. Diamond Power Specialty of Babcock and Wilcox and Govan Shipbuilders were also on the mission.

**GREAT BRITAIN**, 5/16/77, **National Farmers Union** was received in Peking by the Chinese Society of Agronomy.

**GREAT BRITAIN**, 5/11-15/77, **Lloyd's Register of Shipping** delegation visited Peking at the invitation of the Register of Shipping of the PRC. The two sides held talks on an agreement concerning cooperation in **technical surveys of ships**.

**GREAT BRITAIN**, 5/77, Eleven-member **Chamber of Commerce** delegation from Leicester visited China at the invitation of the CCPIT.

**IRAN**, 5/29/77, **Atomic energy science** delegation arrived in Peking at the invitation of Chinese Academy of Sciences president Kuo Mo-jo.

**ITALY**, 6/77, **ENI natural fuels state corporation** delegation held business talks with foreign trade corporations.

**JAPAN**, 5/30/77, **Fishery** delegation arrived for a friendly visit.

**JAPAN**, 5/20-26/77, **Insurance** delegation visited China at the invitation

of the Chinese People's Insurance Company.

**JAPAN, 5/26/77, Photo-electrical technical** delegation led by the director of the Central Research Institute under the Mitsubishi Electrical Machinery Company arrived in Peking.

**JAPAN, 5/7/77, Delegation of the Sea Power Society** of the Japan Maritime International Question Institute held talks with Chen Hsi-lien, Vice Premier of the State Council.

**JAPAN, 6/6-21/77, Twelve-member sewing machine industry** delegation arrived in Peking to promote trade with China.

**JAPAN, 4/21-24/77, Government silk trade** delegation visited Peking. After two days of silk trade negotiations, the two sides reached **no agreement**. Japan proposed a cut in its annual imports of raw silk and silk textiles of 19 million tons agreed on in May last year. China asked Japan to import more than the figure.

**JAPAN, 5/25/77, Seismologist** delegation met with Wang Chen, Vice Premier of the State Council.

**KUWAIT, 5/4/77, Delegation from Kuwait Chamber of Commerce and Industry** met with Tan Chen-lin, Vice Chairman of the Standing Committee of the NPC.

**NEPAL, 4/4/77, Farm irrigation and water conservancy** delegation arrived in Peking.

**PAKISTAN, 5/30/77, Army medical** delegation concluded its visit to the PRC after touring hospitals, pharmaceutical plants, etc.

**PERU, 4/22/77, Trade** delegation concluded visit to China.

**PHILIPPINES, 6/3/77, Delegation to the first meeting of the Joint China-Philippines Trade Committee** left Peking for Shanghai after exchanging letters on the 1977 import and export trade schedules of the two countries.

**ROMANIA, 4/18/77, Four-member public health** delegation arrived in Peking to sign an executive plan of the China-Romania Agreement on Cooperation on Public Health.

**ROMANIA, 5/9-13/77, Chemical industry** delegation held talks with the China National Chemicals Import and Export Corporation.

**SPAIN, 4/25-30/77, Eight-member trade** mission of the Barcelona Chamber of Commerce.

**SWEDEN, 5/15/77, Government trade** delegation led by Curt Wiik of the Ministry for Foreign Affairs and Commerce concluded visit to Peking after attending the 1977 China-Sweden trade discussions.

**THAILAND, 5/11/77, Petroleum Study** Group arrived at the invitation of the China National Chemicals Import and Export Corporation. They visited the Peking General Petrochemical Works.

**TUNISIA, 5/16/77, Government economic trade** delegation held talks in Peking with Chinese Foreign Trade Minister Li Chiang.

**UNITED NATIONS, 5/16-30/77, United Nations Industrial Development Organization (UNIDO)** delegation on a **study tour** in the field of **cotton textile technology**. The 16 participants were textile experts from Bangladesh, Ethiopia, Ghana, Nepal, Nigeria, Pakistan, Sri Lanka, Tanzania, Uganda and Yemen.

**UNITED NATIONS 5/20/77, UNESCO ex-chairman** Hector Wynter concluded visit to China.

**UNITED NATIONS, 5/77, UN Food and Agriculture Organization (FAO)** Director-General Edouard Saoma visited the PRC at the invitation of Sha Feng, Minister of Agriculture and Forestry.

**VENEZUELA, 5/16/77, Entrepreneurs** delegation from Zulia State of Venezuela left for home after holding talks with foreign trade corporations and with the CCPIT.

**YUGOSLAVIA, 5/29/77, Government trade** delegation arrived to attend the meeting of the joint China-Yugoslavia Trade Committee.

**YUGOSLAVIA, 5/29/77, Scientific and technical cooperation** delegation arrived for talks on scientific and technical cooperation between the two countries.

**ZAIRE, 6/14/77, Government trade** delegation returned home.

#### DELEGATIONS FROM CHINA

**AUSTRALIA, 5/22-6/2/77, Ten-member CCPIT** delegation led by Wang

Yao-ting toured Australia.

**AUSTRIA, 4/77, Trade and economic** delegation discussed trade expansion between the PRC and Austria. This delegation was the first to visit Austria. The Chinese reportedly expressed particular interest in acquiring Austrian **technical know-how**.

**BELGIUM/EEC, 5/29-6/5/77 Bank of China** delegation visited EEC and Belgium banks and officials.

**CANADA, 4/8/77, Civil aviation** delegation left for a special air transport conference of the International Civil Aviation Organization in Montreal.

**CZECHOSLOVAKIA, 5/21/77, Delegation of the China National Mining Committee** led by Fan Wei-tang left Peking to attend the 40th meeting of the International Organizing Committee of the World Mining Congress.

**DENMARK, 5/29/77, Chinese Minister of Communications** Yeh Fei and his party left for home after a friendly visit.

**GREAT BRITAIN, 5-6/77, Delegation of eminent scientists from the Chinese Academy of Sciences** investigated the latest methods for making **reconnaissance surveys from satellite and aircraft**. Among the objects of investigation was a new scheme developed by the Center for Overseas Pest Research in collaboration with Bristol University for detecting from spacecraft the breeding grounds in remote districts of locusts and pests. The Chinese are interested in exploring such areas as **remote sensing photography, multispectral and infrared scanning and its applications, side-looking radar and microwave imaging techniques**. The breadth of the investigations clearly indicates Chinese interest in so-called Earth Resources Technology Satellites, for mapping and mineral prospecting and for weather forecasting and agricultural planning.

**GREAT BRITAIN, 6/5-20/77, High-level** delegation from the **Bank of China** led by Pu Ming, Vice Chairman of the Board of Directors and General Manager, after visiting West Germany. The delegation expected to see mainly British banks. This is the first senior group from the Bank of China to visit London since 1973. Its advent has caused considerable **speculation as to whether the Chinese plan new**

**financial initiatives.** However, the Bank of China reportedly maintains that the delegation is simply returning the visit of European bankers who have come to Peking. The trip follows the visit to China of important US and Japanese banking teams. The Japanese press reported that their bankers had been discussing the extent of substantial overdraft facilities to the Chinese, that already extend over 90-days.

**GREAT BRITAIN, 5/77,** Four-member delegation of Chinese **mink** experts on a tour of Europe.

**IRAN, 4/8/77, Broadcasting and television** delegation led by Chin Chao, Deputy Director of the Chinese Broadcasting Administration arrived at the invitation of National Iran Radio and Television.

**ITALY, 6/1/77,** Li Yung-kai, representative of the Chinese delegation to the 71st session of the Council of the **Food and Agriculture Organization of the United Nations,** left for Rome.

**JAPAN, 5/11/77,** Chinese mission to negotiate **Japan's fertilizer exports** to China during the period from July 1977 to June 1978 arrived for negotiations with Japanese businessmen. Japan's fertilizer exports to China are **expected to grow sharply** in the coming year with Chinese fertilizer inventory considered to have begun dwindling and fertilizer being taken up as one of the main items in bilateral trade.

**MEXICO, 4/22/77,** Four-member **medical** delegation left to attend the "Symposium on the Evolution of the Traditional Medicines of the Contemporary Society."

**MOROCCO, 6/14/77, Government trade** delegation left China to attend a meeting of the Joint China-Morocco Trade Committee.

**NORWAY AND DENMARK, 6/8/77, Government trade** delegation left Peking to attend the third session of the joint Chinese-Norwegian and Chinese-Danish trade commissions.

**NORWAY, 5/19/77,** Yeh Fei, Chinese **Minister of Communications,** and his delegation arrived in Norway after visiting Finland.

**ROMANIA, 4/30/77,** Peking **agricultural goodwill** delegation left for home.

**SENEGAL AND ETHIOPIA, 5/11/77, Government civil aviation** delegation led by Chang Jui-ai, Deputy Director of the General Administration of Civil Aviation of China, left Peking.

**SWEDEN, 5/4/77,** Seven-member **telemetric sensors study group** of the Chinese Academy of Sciences left Peking. They will also visit Great Britain.

**SWEDEN, 5/9/77,** Yeh Fei, Chinese **Minister of Communications,** and his party arrived in Stockholm at the invitation of the Swedish Minister of Transport and Communications.

**SWITZERLAND, 4/28/77,** Six-member **postal** delegation left for Bern to attend the annual meeting of the Executive Council of the Universal Postal Union.

**SWITZERLAND, 5/20/77, Meteorology** delegation left for Geneva to attend the 29th session of the Executive Committee of the World Meteorological Organization.

**SWITZERLAND, 6/1/77,** Delegation left for the 24th session of the Governing Council of the **United Nations Development Program.**

**WEST GERMANY, 5/14-28/77, Bank of China** delegation visited 14 banks and several factories.

## EXHIBITIONS

**CANADA, 5/16-20/77, National Industrial Production and Machine Tool Show** in Toronto. Machines and equipment from the PRC were on display alongside displays from at least 23 other countries.

**CAPE VERDE, 4/23/77,** Chinese **Photo** exhibition opened to mark the first anniversary of the establishment of diplomatic relations between China and Cape Verde.

**CZECHOSLOVAKIA, 5/3/77,** The **Eighth International Consumer Goods Fair** opened at Brno with a Chinese pavilion displaying many types of light industrial products, textiles, and handicrafts.

**HUNGARY, 4/20/77,** Chinese **ancient bronzes exhibition** opened in Budapest under the sponsorship of the East Asian Art Museum of Hungary. The over 150 exhibits include containers, bronze statues, ancient coins, and working tools from the Chou to Ching

dynasties. The exhibition is scheduled to be on show for one year.

**JAPAN, 5/22/77,** Chinese exhibition at Nagoya closed after receiving **1.31 million visitors** since May 3.

**MADAGASCAR, 4/25-5/8/77,** Chinese exhibition which was visited by about 250,000 people.

**NETHERLANDS, 4/22/77, Economic and trade** exhibition opened in Amsterdam for two weeks. Chinese Vice Minister of Foreign Trade Mao Yi-lin presided over the opening. Occupying an area of 1,000 square meters, the display included over 2,199 exhibits including **textiles, other light industrial articles, and handicrafts.** About 50,000 people were attracted to the fair, which brought to an end the 1977 exchange of exhibitions between the two countries.

**PEKING, 6/1/77,** A national exhibition of **toys** sponsored by the art handicrafts company of the Ministry of Light Industry opened in Peking to celebrate International Children's Day. There were over 4,000 types of toys on display in five pavilions.

**POLAND, 5/18/77,** The head of the Chinese pavilion at the Poznan International Fair, Hsueh Che, left for Poland.

**SPAIN, 4-5/77,** Although Spain is not yet an established area for Chinese trade promotion, the Chinese pavilion at the **International Valencia Fair** was a success and received 10,000 visitors. A "China Day" was held on May 3.

**SWITZERLAND, 4/16/77,** For the first time, China participated in the **Swiss Industries Fair** which opened in Basel. The Chinese pavilion covered an area of 1,400 square meters and included **light industrial, textile, and handicrafts products.** A CCPIT delegation led by Hsiao Fang-chou was present.

**TOGO, 4/77,** Two-week **economic and commercial** exhibition in Lome ended. It was the first ever held there since China and Togo established diplomatic relations and attracted some 150,000 visitors. On display were **agricultural, industrial, and craft** products and techniques. The exhibition, which has been touring throughout West Africa, has already been to Niger and is to go on to Gabon.

## AGREEMENTS

**AFGHANISTAN**, 4/13/77, **Trade and payments agreement** and a **barter protocol** for 1977 signed in Kabul. **COMMON MARKET**, 6/77, Pu Ming, Vice Chairman of the **Bank of China**, proposed to negotiate a **trade agreement between China and the Common Market**. Pu said that China wants to bring its trade with the nine-nation Common Market in line with Japan, its main trading partner.

**CUBA**, 4/15/77, **Trade protocol** for 1977 signed in Peking. Liu Hsi-wen, Chinese Vice Minister of Foreign Trade was present along with Li Chiang, the Chinese Minister of Foreign Trade.

**CZECHOSLOVAKIA**, 5/19/77, **Goods exchange and payments agreement** for 1977 signed in Prague. Czechoslovakia will export machine tools, lorries, rolled metal and diesel engines and will import foodstuffs, textiles, raw materials, tinned fruit and vegetables, crockery and pharmaceuticals. Trade is to increase by 6% compared with last year.

**EAST GERMANY**, 5/3/77, **Trade agreement** signed in Peking and attended by Foreign Trade Minister Li Chiang. East Germany has never allowed its trade relations with the PRC to collapse and has repeatedly held trade exhibitions in China. It is a year since the successful East German instrument exhibition in Shanghai.

**GUINEA**, 4/25/77, **Trade protocol** for 1977 signed in Conakry.

**HUNGARY**, 4/20/77, **Trade and payments agreement** for 1977 signed in Budapest. Hungary is to deliver items including machine tools, truck chassis, television sets, measuring instruments, medical equipment, steel-aluminum cable, etc.; China is to supply chemicals, primary materials for drug manufacture, non-ferrous metals, canned food, rice, fruit juice, tea, cocoa, knitwear, woolen, cotton and silk textiles, etc.

**INDIA**, 5/20/77, Reports that **India and China have agreed to resume trade after a break of 15 years**. The first deal worth \$160,000 has been concluded: India is to export shellac to China and import Chinese antimony, zinc and mercury. Indian sources claim other larger deals are in the pipeline and the two countries are

expected to become firm trading partners.

**IRAQ**, 5/18/77, Letters on **1977-1981 trade** between the PRC and Iraq signed in Baghdad.

**JAPAN**, 4/77, **Nitchu Air Cargo Consolidators Co.** has concluded an agreement with the China National Foreign Trade Transportation Corp. to mutually undertake **agent service for assembling and shipping out small air cargoes** on a consolidated basis between Japan and China. Assembling small cargoes and shipping them as a large unit enables lowering of transport costs.

**NORTH KOREA**, 4/13/77, Protocol of timber transportation on the Yalu and Tumen rivers renewed in Pyongyang.

**PERU**, 4/29/77, **Trade agreement** providing for steadily rising exports of Peruvian copper and lead to China, along with silver, sugar, fishmeal, and coffee, and for the Chinese reciprocal deliveries in the form of machinery, laboratory and office equipment, chemicals, and silk.

**POLAND**, 5/25/77, **Trade and payments agreement** for 1977 signed in Warsaw.

## FOREIGN AID

**ALGERIA**, 4/26/77, Sixth group of Chinese **medical** teams left for home and seventh group of medics arrived.

**ALGERIA**, 4/20/77, Chinese agree to construct a **brickworks** with a capacity of 50,000 tons a year in the Souk-Ahras region. Chinese credit handled by the Algerian Development Bank will finance the construction. China is already experienced in setting up brickworks in other developing countries such as Egypt, Guinea, Uganda, Tanzania, Mongolia, Guyana and Nepal.

**CONGO**, 5/28/77, Reports that Chinese **technicians** are working at Brazzaville **shipyard**.

**GAMBIA**, 5/25/77, Minutes of talks on the construction with Chinese assistance of a **stadium** and a **sportsmen's hostel** in Banjul were signed.

**GUINEA**, 4/15/77, Handing over to Guinea of **fishing projects** built with Chinese aid took place in Conakry port.

**GUYANA**, 5/28/77, Chinese **agrotechnical team** completed its mission of introducing **cotton planting tech-**

**niques**. The Chinese technicians worked along the coastal areas where soil is acidic and sandy.

**MALI**, 5/10/77, Protocol on the dispatch of a Chinese **medical team** from the PRC was signed.

**MALTA**, 4/25/77, Reports that a **drydock and wharf** are being built with Chinese technical assistance.

**MAURITANIA**, 4/4/77, New protocol on sending a **medical** team from the PRC was signed.

**SRI LANKA**, 5/29/77, Reports that China decided to provide the **latest equipment** for the **acupuncture unit** to be set up in a Colombo hospital.

**TANZANIA**, 4/17/77, Reports that Chinese technicians are working at the Bihawana **agrotechnical popularization center** in Dodoma region, central Tanzania.

**TUNISIA**, 5/2/77, Chinese ambassador to Tunisia presented a gift of two **military patrol boats** to the Tunisian people.

**UGANDA**, 5/8/77, Reports of President **Idi Amin's** inspection of the Chinese-aided **rice project** in Busoga Province.

**UPPER VOLTA**, 6/4/77, Agreement that Chinese technicians will aid in the construction of a **stadium** which will accommodate 35,000 spectators.

**YEMEN**, 6/4/77, Thirty-member Chinese **medical** team headed by Wang Chun returned home; another Chinese team arrived.

**ZAIRE**, 6/6/77, Agreement for Chinese technicians to aid in the construction of an **agrotechnical station**.

## CORRECTIONS

*CBR* 4:2, p. 2, col. 22: The first sentence of the last paragraph should read, "Accompanying Ambassador Huang were his wife, Madame Chu Lin; the Counselor of Commercial Affairs, Chang Tsien-hua; the Second Secretary of Commercial Affairs, Tung Chih-Kuang; Third Secretary, Hsu Shang-wei; and Mr. Hsu's wife Madame Wang Hung-Pao."

*CBR* 3:6, p. 52, col. 1: Under "Banking Arrangements," the Bank of China neither deals with nor exchanges foreign currencies with the Bank of Canton.

# The China Business Review



is Published by

The National Council for United States-China Trade  
1050 Seventeenth Street, N.W., Suite 350  
Washington, D.C. 20036

202/331-0290

## 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 \$2,875; (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 \$1,150; 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 \$575.

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 \$287.50.

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.