

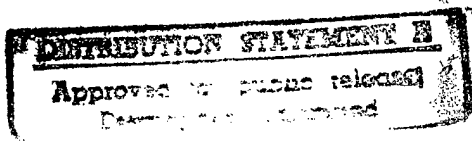


**A SELECTIVE, ANNOTATED BIBLIOGRAPHY ON THE
CHINESE PEOPLE'S LIBERATION ARMY
(August 1977 - December 1980)**

Volume I

*A Report Prepared under an Interagency Agreement
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Library of Congress*

July 1985



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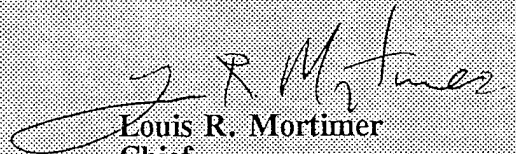
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PREFACE

This bibliography provides selective annotations of information published in open source materials on the Chinese People's Liberation Army (CPLA). It is designed to provide a ready reference aid for those concerned with Chinese military affairs.

The bibliography incorporates information published between August 1977 and December 1980 (although there are some earlier sources due to the nature of distribution of materials) and is the continuation and combination of a series of earlier Federal Research Division bibliographies: People's Republic of China People's Liberation Army, Volumes I-II, DDE-2680-44-78, July 1978; People's Republic of China Space Related Activities, DDE-1400-4-78, July 1978; and The People's Republic of China as a Nuclear Power, DDE-1510-5-79, April 1979.

The bibliography is arranged according to the following topics: General; Historical/Biographical; Ground Forces; Naval Forces; Air Force; Space; Missile; Nuclear; and Military Modernization. The topics are divided into two sections--monographs and serial publications.

Entries have been derived primarily from Chinese and English language sources and are arranged in alphabetical order. Library of Congress call numbers, where applicable, are included to facilitate the retrieval of source material. An author index and a list of serials consulted are provided at the end of the volume.

Illustrations derived from Chinese sources follow the title page of each section and are representative of the focus of that section.

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GLOSSARY

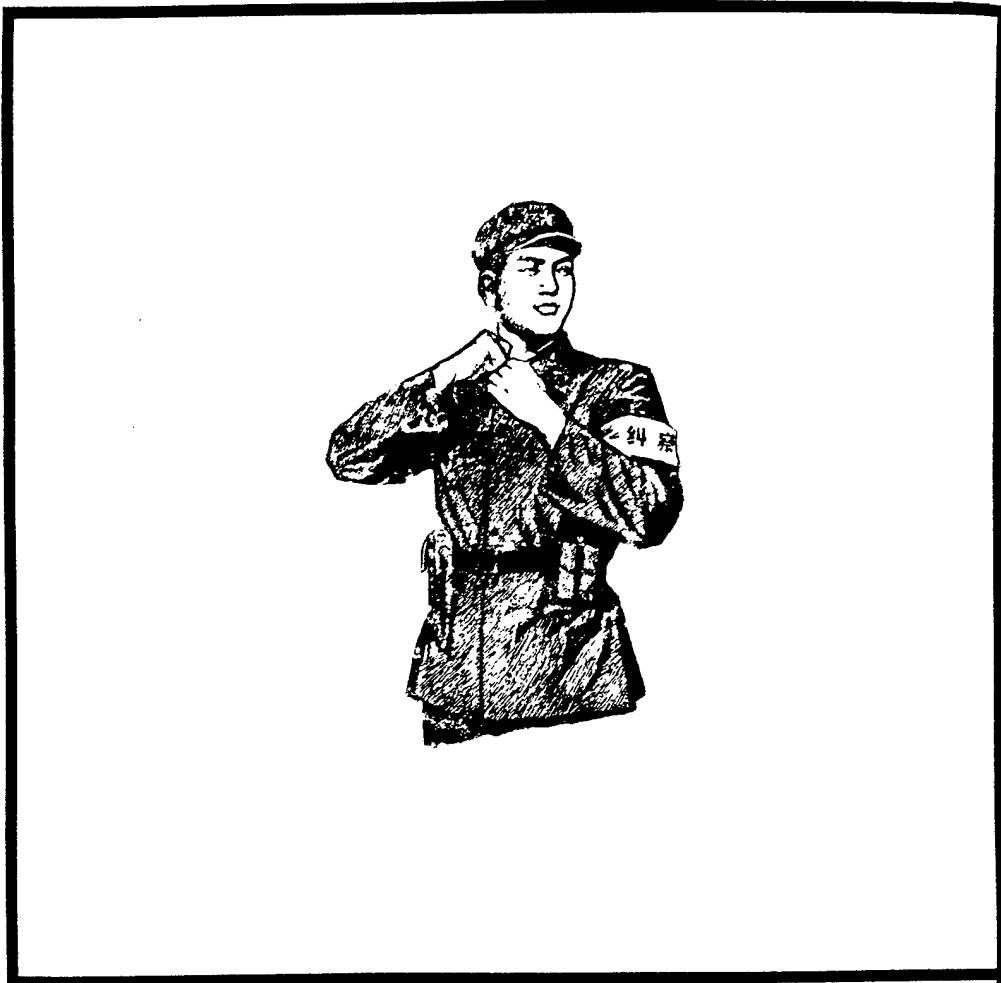
CCP	Chinese Communist Party
CCPCC	Chinese Communist Party Central Committee
COCOM	Coordinating Committee for Multinational Export Controls
CPLA	Chinese People's Liberation Army
CPLAAF	Chinese People's Liberation Army Air Force
CPLAN	Chinese People's Liberation Army Navy
GNP	Gross National Product
<u>Hongqi</u>	Red Flag
ICBM	Intercontinental Ballistic Missile
IRBM	Intermediate Range Ballistic Missile
<u>Jiefangjun Bao</u>	Liberation Army Daily
<u>Jiefangjun Huabao</u>	Liberation Army Pictorial
KMT	Kuomintang
MRBM	Medium Range Ballistic Missile
NASA	National Aeronautic and Space Administration
NATO	North Atlantic Treaty Organization
NPC	National People's Congress
PLA	People's Liberation Army
PRC	People's Republic of China
<u>Renmin Ribao</u>	People's Daily
SALT	Strategic Arms Limitation Talks
STW	Shiyan Tongxun Weixing [Experimental Communications Satellite]
<u>Xiandai Junshi</u>	Contemporary Military Affairs



Map of China's Military Regions

A SELECTIVE, ANNOTATED BIBLIOGRAPHY
CHINESE PEOPLE'S LIBERATION ARMY

1. GENERAL



The Volunteer



Returning in Triumph at Friendship Pass

a. Monographs

Adelman, Jonathan R. The Revolutionary Armies: the Historical Development of the Soviet and Chinese People's Liberation Armies. Westport, Connecticut: Greenwood Press, 1980. xi, 230 pp. Index. Bibliography. Appendices. Tables. US837.A62

In "Part I: The Civil Wars," Adelman discusses the natures of the CPLA and the Red Army, and their effectiveness; in "Part II: Two Decades After the Civil War," he examines Russian and Chinese army, party and societal relations. He concludes that the CPLA has played a greater role in party affairs than the Russian Army in the 2 decades following the civil war, and in the 1950-54 and 1967-71 periods, even exercised considerable governmental power. The CPLA also performed more extensive societal functions outside the barracks than its Soviet counterpart.

Bonds, Ray, ed. The Chinese War Machine. London: Salamander Books Ltd., 1979. 184 pp. Illustrations. Maps. Foldouts. Index. UA835.C454 1979b

Various chapters include the history of the Chinese Armed Forces, the organization of China's ground forces, the modernization of the Chinese Air Force and the Chinese Navy, and a foldout on China's major weapons.

Bullard, Monte Ray. "Party-Army-Government Interlocking Directorate in the People's Republic of China: Structural Linkages Between Central, Military Region/District and Provincial Policy-Making Organs." Ph.D. dissertation, University of California, Berkeley, 1977. 351 pp. DAI 7731305

Hypothesizes that there were major structural changes in the interlocking party-army-government directorate between 1960 and 1973. Military region elites were increasingly involved in provincial politics, and bureaucratic relationships within the military regions and provinces underwent a "general tightening." Concludes that operational party control over the Army comes from the center and that elites with an army affiliation in 1960 were more likely to survive to 1973. Efforts of the Chinese leadership to create a more rational and monolithic bureaucracy in the military regions and provinces may have unintentionally created regional power bases capable of challenging a weakened center.

Cameron, Neil. "China, the USSR and Western Defence Policy." In R.U.S.I. and Brassey's Defence Yearbook, 1981. Edited by The Royal United Services Institute for Defence Studies. London: Brassey's Publishers Ltd., 1980. xxxvi. 357 pp. V10.N3 91st, 1981

The author, a former British Chief of the Defense Staff, claims that China is being thrust into the superpower global balance before it is ready and before it has the military clout to claim a rightful place in the top. He examines China's present geostrategic position and potential and assesses its present and future military power. As far as military modernization is concerned, China's "one credit card" is the size of the CPLA--congruent with people's war, being the "main strategy at the moment." China is developing its nuclear forces, but its conventional forces all have outdated equipment. Cameron assesses Chinese capabilities vis-a-vis the Soviet Union using different scenarios.

Campbell, R. K. The Military Potential of the People's Republic of China. Braamfontein, South Africa: The South African Institute of International Affairs, 1980. 12 pp. Occasional Paper. UA835.C28

China's defense policy "has oscillated between two extremes: nuclear deterrence . . . and 'People's War.'" Campbell discusses China's nuclear force capabilities and deterrent, China's conventional Air Forces, Navy, and Army, and the effect of the Cultural Revolution on the Armed Forces. He concludes that China's military potential is "actually very low, due to the lack of modern equipment."

Fan Chih-yuan. The Paralysis and Reconstruction of the Central Leadership of Peiping's Armed Forces. Taipei: Chung Hwa Information Service, 1978. 16 pp. UA837.F36

This article is a translation from Asia Report (Japan), October 1975. Fan contends that the Party Military Affairs Commission is the central leadership of the CPLA and that the organizations under it were paralyzed for a long time after the Lin Biao incident. Although Mao began to rebuild the organizations under the CCP Military Commission in July 1973, they remain unsound, and will probably not improve in Mao's lifetime. Fan lists the Commission's high-ranking pro-Lin cadres who have been purged, and the high-ranking cadres who have been rehabilitated by Mao.

Hollingworth, Clare. "The Chinese Defence Forces and Their Strategic Role." In R.U.S.I. and Brassey's Defence Yearbook, 1977/78. Edited by The Royal United Services Institute for Defence Studies. London: Brassey's Publishers Ltd., 1977. vi. 430 pp. Photographs. V10.N3 88

Reports that Chairman Hua Guofeng has confirmed the CPLA's traditional role as the bulwark of authority in the state. Notes that the CPLA and "'broad masses' of the cities" are awaiting the announcement of their former Chief of Staff, Deng Xiaoping's rehabilitation, and that the longer the delay, the less likely his reappearance. Hollingworth surveys internal CPLA delays, the size and scope of the regional commands, CPLA's defensive role and deployment, lack of transport, the Navy and Air Force, nuclear weapons, and the militia. Concludes that modernization will increase the morale and efficiency of the services.

Hu, Jason C. "On the Influence of the PLA in Post-Mao PRC Politics." In Chinese Politics After Mao. Edited by Jurgen Domes. Wales: University College Cardiff Press, 1979. 291 pp. Index. DS779.26.C474 1979b

Examines the role of the CPLA as an actor in the Chinese political system and sketches the history of party-army relations. Notes the demise of Mao's people's war and says the CPLA played a major role in the overthrow of the cultural revolutionary left. He concludes the CPLA is enjoying political ascendancy in the post-Mao period, has become a dominant stabilizing force in Chinese society, is determined to be modernized and professional, and will thus have a lesser political role in everyday politics.

Jencks, Harlan. "The Politics of Chinese Military Development: 1945-1977." Ph.D. dissertation, University of Washington, 1978. 730 pp. DAI 7912459

Defines and analyzes "professionalization" in the CPLA. Studies CPLA organization, command, equipment, deployment, the defense industry, technology, and personnel management. Concludes that during the Cultural Revolution there was greater professionalism among those concerned with purely military affairs and technically advanced forces than among political commissars and regional officers--except in the Air Force, with its unique composition and close association to Lin Biao. Jencks touts his dissertation, "drawn from a wide variety of civilian and governmental intelligence studies, as well as primary sources . . . [as] the most detailed study of the PLA openly published to date."

Jordan, James D. "The Maoist vs. The Professional Vision of a People's Army." In The Political Influence of the Military A Comparative Reader. Amos Perlmutter and Valerie Plave Bennett. New Haven: Yale University Press, 1980. x. 508 pp. U21.5 P63

". . . Mao Tse-tung's interpretation of sinified Marxist-Leninist ideology as it applies to military ethic and style" has made its imprint on the orientation of the CPLA since its beginnings in 1927. The planning for a modernized army "commenced simultaneously with the establishment of the PRC" and was speeded up with the onset of the Korean War. The question of a professional/expert army versus one that was revolutionary/red became the 1959 crisis of Peng Dehuai versus Mao. Jordan briefly mentions Lin Biao and the use of the Army in the Cultural Revolution and concludes the mass line and class consciousness still constitute the style and orientation of the CPLA.

Kang, Chong-Sook. China in Waffen: d. Rustungs--u. Abrüstungspolitik d. Volksrepublik China von 1969 bis zum Tod Mao Tse-Tungs (Armed China: The Armament and Disarmament Policy of the People's Republic of China from 1969 until the Death of Mao Tse-Tung). Frankfurt am Main: Haag und Herchen Publishers, 1979. Series Internationale Beziehungen, vol. 2. 143 pp. Bibliography. In German with English summary. UA835.K36

States that the military and foreign policy of China since 1969 is both a reaction to the external threat, and determined by internal socioeconomic conditions. China's split with the USSR strengthened its desire to assert itself in matters of military and foreign policy and accelerated its nuclear armament. China's security policy aims at "monitoring a minimal military deterrent against the superpowers and encouraging other countries to take the same stance, while simultaneously also calling for a world disarmament conference as a forum against the superpowers"

Kau, Michael M. "The Role of the People's Liberation Army in China's Development: The Maoist Model of Army-Building." In China's Road to Development. Edited by Neville Maxwell. 2d Edition. Oxford: Pergamon Press, 1979. xii. 365 pp. Illustrations. Index. HC427.9.C56544 1979

Analyzes the Chinese/Maoist model of army building and its contributions to political development and socioeconomic modernization in China. Discusses the historical roots and organizational characteristics of the

model and the scope and function of the Army's extramilitary activities. Examines the operational dynamics of the model within the context of China's changing political and social systems and the growing challenges to Mao's military thinking based on changes and developments within the CPLA in the past 50 years. Concludes that the continued successful operation of the Maoist model has much to offer--both to China's quest for modernization and transformation and to the Third World as a model for emulation.

Luttwak, Edward N. Strategy and Politics: Collected Essays. New Brunswick, New Jersey: Transaction Books, 1980. viii. 328 pp. Index. U162.L87

A collection of essays on military and international affairs, history, and literature. Luttwak addresses China in his selections entitled: "Chinese Strategic Security After Mao," "Problems of Military Modernization for Mainland China," "Against the China Card," "Seeing China Plain," and "Tibetan Interlude."

Mos'ko, G. N. Armiya Kitaya - orduiye avanyuristicheskoy politiki maoistov (The Army of China - Instrument of the Adventurist Policy of the Maoists). Moscow: Military Press of the Ministry of Defense of the USSR, 1980. 144 pp. Bibliography. In Russian. UA835.M67

Examines the place and role of the Army in the policy of the Chinese leadership, the ways and methods of its transformation into the instrument of the "Maoist regime," and the militarization of China. Claims to unmask the anti-Socialist essence of the internal and external functions of the CPLA and the superpower hegemonistic goals of the Maoists in the international arena. Mos'ko says the rapprochement between the Chinese leadership and the aggressive circles in the West pose a threat to world peace.

Ngok Lee. "The Military and the Military Line in Post-Mao China." In China: Development and Challenge Proceedings of the 5th Leverhulme Conference. vol. 1. Edited by Lee Ngok and Leung Chi-Keung. Hong Kong: Centre of Asian Studies, 1979. xiv. 328 pp. DS702.L48 1979

Analyzes the role of the military in power politics and says there is a well-defined military line which is part and parcel of the party's major direction--adhere to Mao Zedong thought while promoting the four modernizations. Points out that the military plays an important role in stabilizing the political situation as it becomes an integral part of the movement to strengthen the cadre system. Ngok believes China's Yanan heritage is responsible for directing the drive toward modernization and for stressing party control over the military. Tables show the promotion of commanders and commissars and civilians to the personnel Politburo/Central Committee in post-Mao China.

Perlmutter, Amos. The Military and Politics and Modern Times. New Haven: Yale University Press, 1977. xix. 335 pp. Illustrations. U21.5.P36

Chapter 8, "China: Professionalism versus Guerrillaism," discusses the Chinese Communist "national liberation movement" and the CPLA. Perlmutter says: "The Chinese military accepts the political supremacy of a civilian and ideological group. It has directed its revolutionary orientation

toward modernizing and mobilizing China and toward reasserting China's position as an international actor."

Pollack, Jonathan D. "China as a Military Power." In Military Power and Policy in Asian States: China, India, Japan. Edited by Onkar Marwah and Jonathan D. Pollack. Boulder, Colorado: Westview Press, 1980. xviii. 198 pp. Tables. US830.M54 1980

Discusses the CPLA as an organizational system; threat perception; Chinese military power--main ground force operations, small unit border operations, coastal defense operations, coordinated air and sea operations, the protection of airspace and territory; China's nuclear deterrent and people's war; technology; industry; national power; and the future of Chinese military power. Concludes that China's leaders agree on the necessity for military modernization, but there is substantial diversity of opinion on what to acquire, how much, how quickly, by what means, and for what purposes.

Rohl, Henning, and Schneider, Gerd. "Die Volksbefreiungsarmee und Volksmiliz (The People's Liberation Army and the People's Militia)." In Funkreport China Sudwestfunkmitarbeiter Berichten (Radio Report China: Reports from Correspondents of Southwest Radio). Berlin: Verla Bolker Spiess, 1979. 231 pp. DS777.55.B23 1979

States that the CPLA's role as a model with respect to political principles, organization, and methods has perpetuated itself to this day because the Army has never completely retreated into the barracks. Comments on the vacillating models of the CPLA--one professional, one ideological. Notes the lengths of service for the various CPLA branches, and that there are approximately 3 million men and women in the CPLA--many in noncombat roles. Since its founding in 1927, the CPLA has been an essential element in the success of China's revolution.

Schneider, William. "China's Military Power." In About Face: The China Decision and its Consequences. Edited by John Tierney, Jr. New Rochelle, New York: Arlington House, 1979. 444 pp. Bibliography. E183.8.T3 A26

"The death of Mao, and, perhaps with it, important aspects of Maoist military doctrine, may be a watershed in Chinese military history." Post-Mao initiatives seek to transform the CPLA into a "genuine regional and possibly global power" within the next 2 decades. Schneider evaluates a "plausible path" for the evolution of China's military power and also discusses people's war. He briefly notes the ground order of battle, China's naval and air forces, and China's strategic nuclear forces, which he concludes, have suffered the least from the Cultural Revolution and death of Mao.

Shulman, Frank Joseph, ed. Doctoral Dissertations on China, 1971-1975. Seattle: University of Washington Press, 1978. xx. 329 pp. Appendices. Indices. Z3106.G65

This bibliography of Western language doctoral dissertations on China, 1971-75, includes several under the section heading, "The Armed Forces." There are also appendices for dissertations completed between 1945 and

1970, for which bibliographical information was received too late to be included in the predecessor to this volume: Doctoral Dissertations on China: A Bibliography on Studies in Western Languages, 1945-1970. Seattle: University of Washington Press, 1972.

Smaldone, Joseph P. "Soviet and Chinese Military Aid and Arms Transfers to Africa: A Contextual Analysis." In Soviet and Chinese Aid to African Nations. Edited by Warren Weinstein and Thomas H. Henriksen. New York: Praeger Publishers, 1980. xv. 184 pp. Tables. Figures. Maps. DT38.9.R8S65

The author says China has "... expanded its modest military aid program in Africa, though not to the level where it has altered local military balances" China's African military aid has been extended in the context of cold-war and Sino-Soviet competition. He analyzes China's arms deliveries to Africa and assesses them in comparison with the record of Soviet military relations with Africa. Tables provide data on Chinese arms transfers to Africa (1967-76) in dollar amounts, and the number of African military personnel trained in China (1955-76).

Ting, William Pang-yu. "A Causal Model of Chinese Military Coalitional Behavior." Ph.D. dissertation, University of Washington, 1976. 175 pp. DAI 7718429

Reformulates into testable mathematical models the existing verbal theories of Whitson, Nelsen, and Parrish on factionalism in the CPLA. Tests the models using empirical data and constructs a "multivariate and testable causal model of coalitional behavior capable of being generalized to the CPLA case." A data set of 423 CPLA elites for the 1972-73 period was used to test the model and it was found that during this period, CPLA coalitional behavior was dominated by "interest groups" rather than "factional" politics. Ting says the CPLA elite system may represent two distinct elite systems characterized by differences in recruitment and promotion procedures.

US Congress. House of Representatives. Committee on Foreign Affairs. Subcommittee on Asian and Pacific Affairs. The United States and the People's Republic of China: Issues for the 1980s. 96th Congress, 2d session, 1980. Washington, D.C.: ~~US Government Printing Office.~~ v. 163 pp. ~~KF27.F638~~ 1980d

Hearings address questions on Sino-US relations including whether military ties with China are an important "quick fix" for an alleged strategic imbalance in East-West relations. Testimony is given on US-China military relations--the security dimension, expanded relations, export licenses and process, intentions, technology transfer, the future use of weapons, and other issues.

US Congress. Senate. Committee on Foreign Relations. Sino-American Relations: A New Turn. 96th Congress, 1st session, 1979. Washington, D.C.: US Government Printing Office. vi. 140 pp. E183.8.C5G56

Addresses Senator John Glenn's report of his delegation's January 1979 trip to China. In the next 21 years, military modernization will aim at

updating the ground forces with nonsophisticated equipment and building more credible naval and air forces. The CPLA is expected to modernize slowly with purchases from the West spread out over the next 10 to 15 years. A chapter on Chinese defense policy and the CPLA briefly notes doctrine, roles, organization, and command and control. The delegation said it is not in the US national interest to sell military arms technology to China, though it recommended a continued military presence in the Western Pacific and aid in modernizing the Chinese economy.

Wang Shu-shin. "Party-Army Relationship in the People's Republic of China, 1959-1977." Ph.D. dissertation, West Virginia University, 1977. 555 pp. DAI 7808749

Analyzes army-party relations from 1959 to 1977 in terms of ideological conflict and power struggles between political and military elites. Wang verifies five hypotheses: the more intraparty conflict, the harder for the party to control the Army; the more intraarmy conflict, the easier for the party to control the Army; the greater the intraparty conflict, the greater importance of the party's role in the conflict; the greater the intraparty cohesion, the less the Army's role in the policymaking process; and the greater the incompatibility of political goals between party and Army, the harder to reconcile among various groups and factions. Concludes that the Army will continue to play a decisive role in China's political development.

b. Serials

Adelman, Jonathan R. "The Formative Influence of the Civil Wars: Societal Roles of the Soviet and Chinese Armies." Armed Forces and Society (Chicago), vol. 5, November 1978, pp. 93-116. UZ1.5.A74

Despite many similarities, differences exist between the Soviet and Chinese Armies. Though both Armies extensively and successfully pursue societal functions within the barracks, the CPLA performs far more extensive societal functions outside the barracks than the Soviet Army in the 2 decades after the end of the civil war.

"Arms for China." NATO's Fifteen Nations (Amsterdam), vol. 23, no. 3 (June-July 1978), p. 115. UA646.F5

The Western European Unit has agreed to debate a resolution to consider China's request for "increased industrial technology," i.e. advanced weapons systems.

Audrey, Francis. "L'Armee et le Pouvoir" (The Army and Power). Pouvoirs (Paris), no. 3, 1977, pp. 81-85.

The CPLA plays an important role in Chinese politics and economic development and has exercised actual political power twice since 1949. Military commanders, who participate constantly in politics, made their influence felt both inside and outside the party. The organization of the control structure of the CPLA, as well as the broad lines of recent Chinese history, explain this symbiosis of political and military power. The majority of Politburo members have both party and CPLA affiliations.

Audrey, Francis. "Les Contraintes De La Defense Nationale (The Constraints of National Defense)." Projet (Paris), no. 132, February 1979, pp. 237-251. HN37.C3A46

The CPLA, party, and government are the three pillars of China. The role of the military has increased over the past 2 years, but there have been neither "militarist" tendencies nor conflicts between civil and military leaders since the elimination of the Gang of Four. The CPLA has disregarded both its adversaries and the backwardness of its equipment. Its military capabilities are insufficient, particularly in the face of the Soviet menace. China must improve its defense potential by consolidating the organization of "people's war," accelerating the development of its strategic nuclear capabilities, and renovating its convention armaments.

Bonavia, David. "All Anti-Moscow Men are Brothers." Far Eastern Economic Review (Hong Kong), vol. 107, no. 8, 22 February 1980, p. 37. HC411.F18

The author says the Afghan crisis resulted in China's rethinking its global strategy--"with important implications for the country's arms industry and purchases of arms abroad." Chinese arms shipments and aid will go increasingly to regimes opposing Soviet or Cuban-backed aggression in the Third World. Calls for importing foreign technology will not be dismissed. There have been recent reports of meetings and discipline campaigns geared to improving military-civilian relations. It is also believed that the CPLA has been losing some of its traditional prestige as the backbone of people's war--due in part perhaps to its showing in the

1979 Vietnam war. Indeed, people's war and military self-sufficiency have been under attack in the media.

Bonavia, David. "The Balance Tips Toward China." Far Eastern Economic Review (Hong Kong), vol. 103, no. 5, 2 February 1979, pp. 14-15. HC411.F18

Analyzes the state of Beijing-Washington-Moscow power triangle, and discusses the reevaluation of Mao Zedong's people's war ideas by Vice Minister of Defense Su Yu. Su stated that Mao's basic principles were still applicable, but added that "Some principles which no longer fit actual conditions must be changed and there must be new solutions and new answers, about which Comrade Mao Zedong never spoke, to questions arising in future wars." Su also talked of the need for antitank artillery, guided missiles, and air cover in large-scale mobile warfare.

Bonavia, David. "Changing the Course of History." Far Eastern Economic Review (Hong Kong), vol. 103, no. 9, 2 March 1979, pp. 8-10. HC411.F18

China's "punitive" attack on Vietnam may prove to be a turning point in modern history, as it may provoke a rethinking of East Asian policy by the US, USSR, Japan, and Western Europe. Two explanations for China's actions in Vietnam are: (1) the Chinese leadership's "18th century imperial" thinking, and (2) Deng Xiaoping wants to make a point about Soviet expansionism to the West. How long Chinese troops remain in Vietnam will depend on how China gauges the effectiveness of its punitive strike.

Bonavia, David. "Lessons of a Border War." Far Eastern Economic Review (Hong Kong), vol. 106, no. 49, 7 December 1979, pp. 24-25. HC411.F18

States that the CPLA "high command" disclosed problems of logistics and supply related to the February-March 1979 invasion of Vietnam. Hongqi, in "an unusually detailed discussion of military matters," admitted to problems in fuel supply for the Chinese forces' vehicles and said new measures had been introduced. China is also reexamining the system of supplying food to troops in the field, logistic facilities, health work and care of the wounded, repair--especially heavy repair of machinery--and greater stress on the study of tactics and logistics.

Bonavia, David. "Lessons of the 16-Day Battle." Far Eastern Economic Review, vol. 104, no. 18, 4 May 1979, pp. 11-12. HC411.F18

Reports that Zheng Ming (Hong Kong), a pro-Beijing monthly, has printed a battlefield account of China's 1979 incursion into Vietnam. The Chinese troops encountered great difficulties "fighting a well-entrenched and determined enemy in rugged terrain." Their soldiers were faced with fighting the tactics they pioneered in the anti-Japanese war. The weapons and equipment used by the Chinese were inferior to those used by the Vietnamese. Some of the Chinese heavy artillery used in preparation for the Chinese infantry advance was of World War II vintage. The Chinese reportedly used restraint in airpower since their equipment was of no match to that of the Vietnamese.

Bonavia, David. "Peking Learns Its Own Lesson." Far Eastern Economic Review (Hong Kong), vol. 103, no. 13, 30 March 1979, pp. 9-10. HC411.F18

Reports that the recent Chinese invasion of Vietnam has led to a critical examination of the performance of the CPLA with an eye to updating and improving its tactics. The weapons used by frontline units were admittedly mostly of 1950s vintage and the more modern hardware was kept in reserve. Since Deng Xiaoping has spoken of the CPLA's shortcomings in Vietnam, it is thought he wishes to impress on China the need for urgent upgrading of the quality of the Armed Forces' weapons.

"Bounties Offered." Aviation Week and Space Technology (New York), vol 108, no. 10, 6 March 1978, p. 17. TL501.A8

China renewed its offer to pay gold bullion to defectors bringing ships and aircraft from Taiwan. Destroyers fetch \$5.8 million, F-5E fighters \$2.1 million, and Douglas C-54s a mere \$500,000.

Burman, Rahul. "Whither Sino-Soviet Relations?" Vikrant: The Defence Journal (New Delhi), vol. ix, no. 7, April 1979, pp. 17-25. UA840.V45

States that Sino-Soviet relations, like Sino-American relations, are at a turning point and hinge on strategic-territorial issues. Discusses the Soviet Far East military buildup and changes in Chinese defensive strategy, specifically the CPLA ground and air forces, and nuclear missile deployments.

"Central Military Committee Awards Model Heroism and Meritorious Service Decorations." Jiefangjun Huabao (Beijing), no. 384 (June 1979), p. 1. In Chinese.

Color photographs of five CPLA decorations awarded for model heroism and meritorious service during the Sino-Vietnamese Border War in 1979.

"Chairman Hua's Speech at All-Army Political Work Conferences." Peking Review, vol 21, no. 24, 16 June 1978, pp. 6-12. DS701.P42

Hua's 29 May 1978 speech addressed strengthening ideological and political work for the fulfillment of the general task in the new period. Hua notes the importance of being mentally prepared against war and that "really powerful combat effectiveness comes from a close integration of people who have a high level of proletarian consciousness with modern weapons and equipment." Among the black and white photographs accompanying the article is one captioned "An aircrew of the First Flight Division exercising with models."

Chanda, Nayan. "Cambodia's Cry for Help." Far Eastern Economic Review (Hong Kong), vol. 101, no. 32, 11 August 1978, pp. 10-13. HC411.F18

Discusses the visit of Cambodia's first military delegation to Beijing. The delegation, seeking aid, was led by Defense Minister Son Sen. In view of the deteriorating military situation and Beijing's embarrassment with the Pol Pot regime, China seems unlikely to clearly commit itself to total support of Phnom Penh against Vietnam.

Chanda, Nayan. "Mustering for a Battle on the Border." Far Eastern Economic Review (Hong Kong), vol. 103, no. 7, 16 February 1979, pp. 10-11. HC411.F18

Describes Chinese and Vietnamese military preparations as tensions on the Sino-Vietnamese border which have led China to threaten "to teach Vietnam a lesson." China has assembled 160,000 troops, 700 aircraft, and much armor and artillery along the border. Analysts predict a swift punitive blow rather than a massive invasion to punish Hanoi and warn Moscow, rather than provoke their intervention.

Chandra, P. "China's Military Strategy After Mao." IDSA Journal (New Delhi), vol. 13, October-November 1980, pp. 149-76.

Mao's death was followed by a sudden change in the ruling coalition which was accompanied by a shift in military strategy toward greater emphasis on modernization and professionalization of the CPLA.

Cheng Tzu-ming. "Evolution of the People's Liberation Army." Issues & Studies (Taipei), vol. xv, no. 12, December 1979, pp. 72-98. D839.I732

Traces the evolution of the CPLA from the formation of the Chinese worker-peasant Red Army in 1927, through the integration of the Red Army into the National Revolutionary Army in 1937, to the CPLA's formal development in 1949. Cheng briefly covers the current status of China's ground, naval, and air forces. Included are tables on the evolution of the Chinese Communist Armed Forces from their founding to the Long March; on the evolution of CPLA factions (1937-49); and on the CPLA Regional Command System--the military regions, provincial military districts, and military sub-districts.

Chien, Tieh. "The CCPCC Military Commission: Its Development and Responsibilities." Issues & Studies (Taipei), vol. 14 (May 1978), pp. 45-64. D839.I732

Discusses the history of the CCP Central Committee Military Commission and its functions as the highest policymaking body for military affairs and the highest command organ for military operations.

"China." Vikrant: The Defence Journal (New Delhi), vol. viii, no. 4, January 1978, pp. 21-22. UA840.V45

Contains a modified table of Chinese organization and equipment for the CPLA, plus estimated GNP and defense expenditures.

"China's Defence Posture." Vikrant: The Defence Journal (New Delhi), vol. viii, no. 4, January 1978, pp. 20-21. UA840.V45

Describes China's nuclear weapons capabilities and its conventional forces--the elements in China's two-pronged defense strategy.

"China's Military Strength." Vikrant: The Defence Journal (New Delhi), vol. ix, no. 4, January 1979, pp. 25-26. UA840.V45

Vikrant correspondent surveys China's nuclear weapons program, conventional forces, and bilateral military agreements.

"Chinese Army." Vikrant: The Defence Journal (New Delhi), vol. x, no. 9, June 1980, p. 4. UA840.V45

Editorial says that while China attempts to retool its military machine, it must also rethink the role of its professional soldiers. The CPLA is criticized for poor training, poor discipline, elitism, incompetent commanders, and preoccupation with nonmilitary activities, especially political intrigue.

"Chinese Offer Gold for Western Aircraft." Flight International (London), vol. 113, no. 3602, 1 April 1978, p. 910. TL501.F5

China has reopened a campaign to attract defectors by offering gold for any Western military equipment brought to China. Destroyers will bring a reward of 100 kilograms of gold, F-104s will bring 300 kilograms, but piston-engined trainers are only worth 10 kilograms of gold.

"Chinese Press Survey--Guideline for P.L.A.'s Work." Peking Review, vol. 21, no. 6, 10 February 1978, pp. 14-15. DS701.P42

A 26 January 1978 Jiefangjun Bao editorial: "We Must Grasp the Key Link of Class Struggle in Running the Army Well and the Army Must Prepare Itself for Fighting" noted that this is the guideline for all fields of work in the Army for some time to come. The editorial put forward several tasks to ensure success--including reorganization of the ranks of cadres, carrying out education and training with an eye to strategic needs, stepping up research work on national defense and technology and the production of military industries to modernize national defense, and keeping to the system of building up the Armed Forces by combining field armies with regional forces and the militia.

Choudhury, G. W. "China's Dynamic Foreign Policy." Asia-Pacific Community (Tokyo), no. 3, winter 1978-79, pp. 53-69. DS1.A47278

The section on strengthened Sino-US relations says new trends in China's foreign policy ". . . likely made the US look at the normalization of relations not only in terms of the Sino-American relationship but in the broader context of the US-USSR-Peking triangular relationship." President Carter's lifting of a ban on sales of airborne scanning equipment to China is no indication that the US will supply arms to China, though there are signs China could acquire Western military equipment and technology from NATO countries with US consent.

"Commerce Department Eases China Export Guidelines." Aviation Week and Space Technology (New York), vol. 113, no. 15, 13 October 1980, p. 23. TL501.A8

Lists new, less stringent US Commerce Department guidelines for exporting to China commodities and technical data controlled for national security

purposes. The new rules on dual civil-military use items are now in line with the State Department's revised Munitions Control List which covers military support equipment available to China. Equipment includes electronic test equipment, integrated circuits, and computers.

"The Constitution of the People's Republic of China." Peking Review, vol. 21, no. 11, 17 March 1978, pp. 5-14. DS701.P42

A new constitution was adopted at the 1st session of the 5th National People's Congress on 5 March 1978. Chapter One, General Principles, Article 19 says that the Chairman of the CCP is the commander of the Armed Forces and that the CPLA is the workers' and peasants' own armed force led by the CCP. China's Armed Forces are a combination of field armies, regional forces and the militia; its fundamental task is to safeguard the Socialist revolution and Socialist construction, defend the sovereignty, territorial integrity and security of the state, and guard against subversion and aggression by social-imperialism, imperialism and their lackeys. The state devotes major efforts to the revolutionization and modernization of the CPLA. Chapter Three, The Fundamental Rights and Duties of Citizens, Article 58 says it is the honorable obligations of citizens to perform military service and join the militia.

Correspondent. "A Little Help from Peking." Far Eastern Economic Review (Hong Kong), vol. 107, no. 3, 18 January 1980, pp. 13-14. HC411.F18

Reports that since the Soviet invasion of Afghanistan there have been "seismic changes in US foreign policy which will involve new military ties with China." The US is seeking an agreement with Beijing on close coordination in defense and security matters--vis-a-vis the Soviets. US Secretary of Defense Brown's trip to China will probably revolve around what China could do to help bolster Pakistan--notably supplying large quantities of small arms, such as AK47 rifles, both to the Pakistani Army and the Afghan rebels. Though China also has a weapons shopping list, the US will likely be reluctant to agree to sell advanced equipment. A recent US Defense Department study places China 15 years behind the US and USSR in advanced weaponry.

Day, Bonner. "China's Military Potential: A Growing US Dilemma." Air Force Magazine (Washington, D.C.), vol. 62, no. 1, January 1977, pp. 38-42. UG633.A65

The author asks whether or not helping China achieve its military and economic potential presents a foreign policy challenge for the US. He describes how border tensions with the Soviet Union and Vietnam have complicated this challenge and led to the "China Card" strategy for dealing with China and the USSR. The article surveys CPLA capabilities, especially in relation to the Soviet Union, and the recent Chinese desire to acquire foreign arms. Day concludes that the "American card"--i.e. balanced relations with China and the USSR combined with a strengthened US military--rather than the "China card," better serves US interests in Asia and worldwide.

Defence News Service. "China's Military Strength." Vikrant: The Defence Journal (New Delhi), vol. viii, no. 1, October 1977, p. 35. UA840.V45

The backward state of the CPLA has caused enough alarm so that more resources will be diverted to the military in a year or two. A truncated table of CPLA organization and equipment is included.

Deshingkar, G. D. "India-China: The Security Dimension." China Report (Delhi), vol. xv, no. 2, March-April 1980, pp. 69-75. DS777.55C4484

The Sino-Vietnamese border war has heightened India's perception of threats to its security from China. Looking closely at the threat today, however, one sees that in conventional warfare India is more than a match for China along the northern border. Chinese nuclear weapons do not pose a strategic threat to India, nor does China's road building activities in Pakistan and Nepal constitute a flanking movement for conventional war against India.

"Documents: China's Military Thinking." China Report (Delhi), vol. xii, no. 5, September-October 1977, pp. 54-76. DS777.55C4484

Reprints, without commentary, Chinese articles on military topics, such as "Improvement of Weaponry is a Prerequisite to Greater Combat Effectiveness," "It is Imperative to Modernize Our National Defense," and Parts II and III of "A Great Victory for Chairman Mao's Guidelines on War."

"The Enigma of the Sino-Vietnam War." Vikrant: The Defence Journal (New Delhi), vol. ix, no. 8, May 1979, pp. 21-24. UA840.V45

Vikrant correspondent states that conclusions on whether China won or lost the war with Vietnam depend on one's own basic sympathies, since China's true motives and objectives are unclear. The important lessons for India are: (1) China will use force if it can do so on its own terms; (2) the Chinese demonstrated both CPLA limitations (obsolete weapons, lack of firepower, a worthless air force) and capabilities (ability to deploy and fight very large forces, absorb heavy casualties, and continue fighting); and that (3) the Soviet Union, which did not intervene on behalf of Vietnam, is even less likely to intervene on behalf of India.

"Enthusiastically Hail the Great Victory of the Self-Defense Counterattack and the Fight to Defend the Borders." Jiefangjun Huabao (Beijing), no. 382, April 1979, inside front cover, pp. 1-5. In Chinese.

Briefly describes China's victory in the "Self-Defensive Counterattack" against Vietnam 17 February-5 March 1979. Decries Vietnam's aggression and provocations, and praises CPLA troops' heroism and martial prowess. Includes numerous black and white photographs of battles, prisoners, and troops in action.

Epstein, Israel. "Big Drashi--Soldier of New Tibet." China Reconstructs (Beijing), vol. xxvi, no. 10, October 1977, pp. 42-45. DS701.C643

The author recounts the story of Big Drashi, a Tibetan member of the CPLA, whom he met in 1965 and again in 1976. Big Drashi rose from assistant

political instructor of a company in Shigatse and member of the People's Congress of the Tibetan Autonomous Region, to become an assistant political director of the CPLA in Namuling County and member of the Revolutionary Committee of the Tibetan Autonomous Region. Big Drashi joined the CPLA in 1957 and has since learned that weapons are not enough--they must be combined with Mao Zedong Thought.

Fan Chih-yuan. "Problems of Military Leadership in Mainland China." In Proceedings of the Seventh Sino-American Conference on Mainland China. Taipei: Institute of International Relations, 1978. Ca 478 pp. (various pagings).

Discusses Chinese Communist military leadership problems from the establishment of the first armed force in 1927 to the present. Reports that Mao was able to control the military leadership for 41 years because he built and led the main force of the Red Army; he had considerable leeway to play the party and Army off against each other; and he was "tyrannical, dictatorial, cunning and cruel." Fan concludes that military leadership belongs to the CCPCC Military Commission. Six tables, including one on the military command system, January 1975-June 1978, accompany the text. Discussants' commentary follows the article.

Furlong, R. D. M. and Biegel, Al. "Chinese Military Links with NATO?--An Assessment of the Kremlin's Concerns." International Defense Review (Geneva), vol. 12, no. 9, September 1979, pp. 1467-1968. U1.I48

Argues that a Sino-Soviet war, due to a second Chinese invasion of Vietnam, ". . . might dramatically accelerate Western military aid and technological assistance to China" and force NATO to place its troops in Western Europe on alert, and make serious defensive preparations. Speculates on the types of hardware Western European countries might provide for China and that the US could also step into the act. Though weapons requests would affect China's modernization programs, in the long term, China will want to produce most of its new military hardware indigenously.

Ginsburgh, Robert N. "China Touches the Tigers' Bottoms." Air Force Magazine (Washington, D.C.), vol. 62, no. 6, June 1979, pp. 40-45. UG633.A65

Describes the author's April 1979 visit to China, including his interviews with senior officials of the Ministry of National Defense. Ginsburgh discusses Chinese views on strategy, modernization plans, the recent war and current negotiations with Vietnam, and relations with the US and the USSR. He conveys the Chinese viewpoint sympathetically, and largely uncritically, especially vis-a-vis dealings with the Soviet Union. Color photographs accompany the text.

Gittings, John. "China's Tacit Tilt Towards USA." Vikrant: The Defence Journal (New Delhi), vol. x, no. 8, May 1980, p. 9-10. UA840.V45

China has tactfully kept quiet as the US edges toward Sino-American military cooperation. The US will not sell arms to China, but will allow technology transfers with potential military use. The Chinese are well aware of their need for advanced technology to defend the motherland, especially from a possible Soviet attack.

Haggerly, J. J. "The Chinese-Vietnamese Border War of 1979." Army Quarterly and Defence Journal (Tavistock, United Kingdom), vol. 109, no. 3, July 1979, pp. 265-272. Illustrations. U1.A85

Describes the Chinese invasion of Vietnam, and CPLA tactics and performance. Analyzes Chinese objectives, and Chinese and Vietnamese claims of victory. Concludes with a list of lessons learned--for example--that the CPLA is not equipped to wage a modern war that demands swift movement and technological sophistication.

Heaton, William R., Jr. "Professional Military Education in China: A Visit to the Military Academy of the People's Liberation Army." China Quarterly (London), no. 81, March 1980, pp. 122-128. DS701.C472

The author, as part of a US National Defense University delegation visiting China in the spring of 1979, reported: "Although China's military forces are unique in many respects, they are similar to those of other countries in that a great deal of emphasis is placed on professional military training for the officer corps." He observed that the Senior Course, given to students equivalent to the rank of major general, is unique in that no other nation gives professional military training to such high-ranking officers of long service; and that the Chinese are rank conscious in their dealings with foreigners, and that leading military officers are probably reassessing China's military doctrine. He also discusses the purpose, organization, and course content of the Military Academy.

Henning, Stanley, E. "Chinese Defense Strategy: A Historical Approach." Military Review (Fort Leavenworth, Kansas), vol. lix, no. 5, May 1979, pp. 60-67. Z6723.U35

Two basic military strategies are interwoven in China's history--a yielding defense strategy that trades space for time--and a forward defense strategy that seeks a decisive engagement well forward. Mao's legacy to the Chinese people is the former strategy. Since the 1950s, CPLA professionals have been concerned with developing a forward defense strategy. The two strategies are complementary, and until China upgrades its industrial base, there will be a gradual transition to the forward defense strategy and the yielding defense strategy will remain dominant.

"How the Aggression Took Place (An Interview with Colonel Tran Cong Man)." Vikrant: The Defence Journal (New Delhi), vol. ix, no. 9, June 1978, pp. 20-22. UA840.V45

Vietnamese Colonel Tran Cong Man, Chairman, Editorial Board, People's Army Daily News, explains in an interview how Vietnamese "army on the spot" tactics beat CPLA "human wave tactics." Colonel Tran describes the CPLA as poorly led, poorly trained, logistically weak, and with a poor ability to take offensive action.

"How the PRC Would Attack Vietnam Again." Strategy Week (Washington, D. C.), vol. vi, no. 29, 21-27 July 1980, pp. 7, 13.

It is believed that if China attacks Vietnam again, a less fragmented assault will be planned. Details on China's possible strategy are provided.

"How Vietnam Taught a Lesson to the PLA." Far Eastern Economic Review (Hong Kong), vol. 108, no. 16, 11 April 1980, pp. 46-47. HC411.F18

Reports that since the 1979 Vietnam War the CPLA is at a crossroads--whether to preserve and develop its traditional role as a major sociopolitical institution and contributor to Socialist construction--or to become a more thoroughly modern and credible defense force. Since the Vietnam debacle, there has been new stress on the need for better tactical training and modernization of equipment. There will probably be less CPLA aid to the civilian sector.

"Hua Guofeng's Speech At the Third Session of the Fifth National People's Congress." Beijing Review, vol. 23, no. 38, 22 September 1980, pp. 12-29. DS701.P42

Hua said that although the CPLA ". . . is the staunch pillar of the dictatorship of the proletariat and the loyal defender of the Socialist motherland and the four modernizations" it would not be possible in the near future to increase the national defense expenditure by a big margin. However, it is still necessary to strengthen defense and the CPLA must continue to step up political and military training.

Hunt, Kenneth. "The Chinese Armed Forces and the Soviet Union." NATO's Fifteen Nations (Amsterdam), vol. 23, no. 3, June-July 1978, pp. 72-75, 78. UA646.F5

The Chinese regard the 45 Soviet divisions along their common border as a great threat. The CPLA, 4 million strong yet poorly equipped, is undergoing a selective program of modernization. Defense rests on people's war, modified for a section of the forces re-equipped and retrained in modern conventional operations, and backed by a nuclear deterrent. Hunt feels Europe should provide technical or other aid to China, since constraining the Soviet Union serves both NATO and Chinese interests. Black and white photographs of CPLA personnel and equipment accompany the text.

Jencks, Harlan W. "China's 'Punitive' War on Vietnam: A Military Assessment." Asian Survey (Berkeley), vol. xix, no. 8, August 1979, pp. 801-815. DS1.A492

Considers China's military strategic objectives, the actual conduct of military operations, and what the military results indicate about Chinese military objectives in the Sino-Vietnamese war of February-March 1979. The author notes CPLA losses and operations and concludes that the CPLA ground forces gained valuable combat experience though, "There is no reason to believe the PRC can project conventional military power any farther beyond its borders today than it could in 1950."

Joffe, Ellis. "The Chinese Army: A Balance Sheet." Quadrant (Sydney), no. 136, vol. xxii, no. 11, November 1978, pp. 44-48. AP7.Q8

Attempts to evaluate the Chinese Armed Forces are confronted with the paradox between China's actual and perceived power. Many Western military experts believe the CPLA is not equipped to fight a modern war and that in terms of military technology, it is no match for the superpowers. China believes it can successfully defend itself against an invasion by the US or USSR by using its "other than technological sources of strength"--the basis of China's strategic military doctrine. Joffe notes China's military modernization debate--agreement on the need to modernize, and disagreement on the pace and related issues, and concludes that China's modernization will be slow.

Joffe, Ellis and Segal, Gerald. "The Chinese Army and Professionalism." Problems of Communism (Washington, D.C.), vol. 27, November-December 1978, pp. 1-19. HX1.P75

Examines the process by which the Chinese Armed Forces are returning to an attitude of military professionalism and disengagement from politics.

"Joint Defense and Construction of an Isle by Armymen and Civilians." China Pictorial (Beijing), no. 9, September 1977, pp. 28-29. DS777.55.C447

The soldiers of a CPLA artillery company stationed on an island in the East China Sea helped when four peasant houses belonging to the Weido agricultural brigade caught fire. The CPLA company and the Weido brigade have had a close relationship for 10 years and "have guarded and built up their island together, turning it into an impregnable bastion." Black and white photographs show leading members of the CPLA company and the brigade's military company working out a defense plan and fighters and militiamen training and patrolling together, and a joint practice.

Kakkar, Ranjana. "The Role of the PLA during the Cultural Revolution." China Report (Delhi), vol. xiii, no. 5, September-October 1977, pp. 29-36. DS777.55C4484

During the Cultural Revolution, Mao used the CPLA to rectify the party, as the CPLA had already undergone a cultural revolution between 1959 and 1965. The CPLA was brought into the political arena by the civilian political leadership and aided that leadership in intraparty conflict. Power gravitated to the military as the CPLA was called on to "support the revolutionary left" and then to restore order after anarchy developed. There was not a military coup d'etat, however, as the CPLA leadership was aware that both national unity and CPLA internal cohesion would suffer.

Kux, Ernst. "China--A Nuclear Power: Strategic Posture and Defense Modernization." Armada International (Zurich), vol. 4, no. 2, March-April 1980, pp. 106-108, 110, 112, 116. HD9743.A1A75

Discusses the priorities in China's "strategic masterplan" for defense modernization. China seeks to protect effectively its development effort and to adapt to the conditions of modern warfare through organizational and technological steps. Kux notes China's existing strategic

potential--its missile inventory, the rapid expansion of its research facilities, and its preparations for manned spaceflight. The title of this article is misleading; it is more of an overview of China's defense capabilities and future defense potential than a report on China's strategic posture and defense modernization.

"Letter of Appreciation from the Communist Party Central Committee, National People's Congress Standing Committee, State Council, Central Military Committee to the Guangxi and Yunnan Border Defense Units, Militia, and Frontline Labor Volunteers." Jiefangjun Huabao (Beijing), no. 383, May 1979, Inside Front Cover. In Chinese.

Explains China's reasons for its "Self-Defensive Counterattack" against Vietnam in 1979. Praises Yunnan and Guangxi border defense units, militia, and frontline labor volunteers for their heroic exploits.

Lewis, John Wilson. "China's Military Doctrines and Force Posture." Stanford Journal of International Studies, vol. xv, fall 1979, pp. 147-197. DS777.75.C485

A wide-ranging article on China's military doctrine, Lewis examines China's views on the use of force, the operational elements in China's military politics, China's weapons and technology, and weapons acquisitions and deployment. He discusses China's nuclear development, nuclear deterrence doctrine, and the employment of nuclear weapons. The major issues facing China's military force development--developing a second stage nuclear posture, technological considerations in military modernization, cost of the defense sector, setting national priorities, the role of people's war, military cooperation with other nations, arms control posture, and policy implications for the US--are also covered. Tables on China's force levels, nuclear tests, estimates for GNP and military expenditures for 1967-76, and a military organization chart are included.

Liu, Alan P. L. "The 'Gang of Four' and the Chinese People's Liberation Army." Asian Survey (Berkeley), vol. xix, no. 9, September 1979, pp. 817-837. DS1.A492

Describes and analyzes the power struggle between the "gang of four" and the CPLA high command from 1974 to 1976 and accentuates the various manifestations of the CPLA's political values and corporate interests. During this time CPLA expertise was weakened due to the lid on military procurement. Since the gang's downfall, the CPLA seems to be guarding the political aspects of the total system and leaving modernization to the experts.

Liu, Leo Y. "The Chinese People's Liberation Army." Current History (Philadelphia), vol. 75, no. 439, September 1978, pp. 57-60, 85-88. D410.C82

Surveys CPLA ground, air, naval, and nuclear force capabilities. Discusses changes in defense strategy vis-a-vis changing relations with the Soviet Union, Vietnam, and Taiwan. Analyzes the attempts to balance military and economic modernization, and the decision to integrate limited amounts of advanced foreign technology into the weapons modernization effort. Says China's options in both offensive and defensive strategies

are restricted, since China has limited resources and an inferior military capability.

Liu, William H. "The Other Side of Luttwak's China: An Opposition View." China Report (Delhi), vol. xiii, no. 5, September-October 1977, pp. 37-49. DS777.55C4484

A leftist analysis of Edward Luttwak's article "Seeing China Plain" (first published in Vikrant in December 1976). Liu believes Luttwak's failure to view China as a Socialist political economy and his imposition of Western values makes his commentary biased and trivial. He criticizes Luttwak's assessment of China's military strength for failing to take political factors into account and for underestimating CPLA ability to defend China from a Soviet attack.

Luttwak, Edward N. "Chinese Strategic Security After Mao." Jerusalem Journal of International Relations, vol. 2, summer 1977, pp. 97-111. JX18.J47

The author believes unclassified literature widely overestimates China's military strength. China has major vulnerabilities vis-a-vis the Soviet Union--which the present Soviet leadership has not tried to exploit either militarily or politically.

Luttwak, Edward N. "Problems of Military Modernization for Mainland China." Issues & Studies (Taipei), vol. 14, July 1978, pp. 53-65. D839.I732

Examines the gaps in China's defense by measuring the present Soviet threat against China. Looks at the weapons available on foreign markets to fill China's needs.

"A Meeting with Chinese Prisoners." Vikrant: The Defence Journal (New Delhi), vol. ix, no. 9, June 1979, pp. 28-29. UA840.V45

"Special to Vikrant" article describes interviews with three CPLA soldiers in a Vietnamese prisoner-of-war camp. Highlights humanitarian treatment by the Vietnamese, poor training in the CPLA, and the desire of CPLA soldiers to return home.

"Militaristic Boom in Tibet." Vikrant: The Defense Journal (New Delhi), vol. viii, no. 6, March 1978, pp. 8-9. UA840.V45

Describes the military buildup in Tibet: transfer of CPLA divisions to the Sino-Indian border, construction of modern strategic roads and an oil pipeline between Lhasa and Xinjiang, and development of nuclear missile launching pads and tracking stations. Asserts that this buildup increases the tension between China and south and southeast Asian countries, and poses a threat to peace.

The Military Balance, 1977-1978. London: The International Institute for Strategic Studies, 1977. viii. 111 pp. Tables. U162.S77

Section on China in this annual volume has a modified table of organization and equipment, plus GNP and defense expenditure figures.

Also see "The Military Balance, 1977/78: China." Air Force Magazine (Washington, D.C.), vol. 60, no. 12, December 1977, p. 98. UG633.A65

The Military Balance, 1978-1979. London: The International Institute for Strategic Studies, 1978. viii. 119 pp. Tables. U162.S77

Section on China in this annual report surveys nuclear weapons, conventional forces, bilateral agreements, and recent changes in defense policy. Includes a brief table of organization and equipment, plus GNP and defense expenditure estimates.

Also see "The Military Balance, 1978/79." Air Force Magazine (Washington, D.C.), vol. 61, no. 12, December 1978, pp. 61-127. UG633.A65

The Military Balance 1979-1980. London: The International Institute for Strategic Studies, 1979. viii. 119 pp. Tables. U162.S77

Section on China in this annual volume surveys CPLA defense policy, nuclear weapons program, conventional forces, bilateral agreements, and GNP and defense expenditure estimates. Includes a brief table of organization and equipment.

Also see "The Military Balance 1979/80: China." Air Force Magazine (Washington, D.C.), vol. 62, no. 12, December 1979, pp. 104-105. UG633.A65

The Military Balance, 1980-1981. London: The International Institute for Strategic Studies, 1980. viii. 119 pp. Tables. U162.S77

Section on China in this annual report surveys defense policy, nuclear and conventional forces, bilateral agreements, and GNP and defense expenditure estimates. Includes brief table of organization and equipment.

Modern China Studies International Bulletin (London), no. 11, October 1977, v. 73 pp. Index. DS77383.M64

An annual bulletin of current post-graduate research, new research materials, conferences, and staff movements in the China field. A section devoted to "military affairs" has 19 entries on works in progress. Each entrant is asked to list his or her name, university/institution and department, address (if different from affiliation), title of research project, subject heading, and a brief description of objectives and research methods. Topics include "The Chinese Communist Military in Politics 1958-1971" and "The Role of the PLA in the Chinese Cultural Revolution."

Modern China Studies International Bulletin (London), no. 12, October 1978, v. 84 pp. Index. DS77383.M64

An annual bulletin of current post-graduate research, new research materials, conferences, and staff movements in the China field. A section on "military affairs" lists 18 entries on works in progress. Topics include "The PLA as an Organizational Interest Group in Chinese Policy Formation, 1969-74," and "An Historical Survey of the Chinese Red Army."

Modern China Studies International Bulletin (London), no. 13, October 1979, v. 84 pp. Index. DS77383.M64

An annual bulletin of current post-graduate research, new research materials, conferences, and staff movements in the China field. A section on "military affairs" lists 19 entries on works in progress. Topics include "Civil-Military Relations in China: Lin Piao and the New Role of the PLA, 1960-65" and "The Relevance of Social Order to the Theory of Strategy."

Modern China Studies International Bulletin (London), no. 14, October 1980, v. 79 pp. Index. DS77383.M64

An annual bulletin of current post-graduate research, new research materials, conferences, and staff movements in the China field. A section on military affairs lists 14 entries on works in progress. Topics include "Chinese Defence Policy and Strategy," and "History of the Chinese People's Liberation Army (1937-1949)."

Nelsen, Harvey W. "China's Great Wall: The People's Liberation Army." Current History (Philadelphia), vol. 73, no. 429, September 1977, pp. 59-64, 88-89. D410.C82

Discusses the equipment, weapons production, and capabilities of the CPLA air, naval, ground, and nuclear forces. Analyzes specific weaknesses of various branches, such as technically deficient domestically produced aircraft, lack of firepower and mobility in the ground forces, and the inability to project naval power overseas. Also discusses the recent emphasis on military modernization, a moderate increase in the defense budget, and the movement to a forward defense strategy since Hua Guofeng's accession to power.

Ness, Leland S. "The Chinese People's Liberation Army." Armies & Weapons (Farnborough, United Kingdom), no. 44, 15 June-15 July 1978, pp. 45-52. U1.A59

Discusses the history of the CPLA, its dual chain of command, organizational trends, and current strength and disposition. Ness believes the CPLA is now realizing the limitations of the doctrine of people's war, though China's one real military asset is its population. China's poverty limits the number of men who can be put into the "unproductive military"--necessitating self-sufficient military units, use of the army for productive labor, the stress on militia, and the creation of the Production and Construction Corps. Photographs and drawings of various types of CPLA equipment and a chart on CPLA weapons accompany the text.

Ngok, Lee. "The Post Mao Military Elite: A Study of Power Distribution and Policy Issues." Asian Thought & Society (Oneonta, New York), vol. 5, no. 14, September 1980, pp. 175-185. DS1.A493

Examines power distribution with the CPLA both at the regional and central levels, with a view to relating political changes since the Cultural Revolution to post-Mao politics. There are new orientations within the military elite caused by the reemergence of Deng Xiaoping and the four

modernizations--especially the modernization of national defense. Charts and appendices show power distributions in the military elite, postings and lateral mobility, and power shifts in military institutions.

"The People's Liberation Army." Vikrant: The Defence Journal (New Delhi), vol. ix, no. 5, February 1979, pp. 9-16. UA840.V45

Article by a Vikrant correspondent outlines CPLA history and analyzes the dual military-political chain of command and organizational trends since the Korean War. Discusses the organization of various types of divisions, and ground force weapons and equipment.

Perlmutter, Amos and LeoGrande, William. "The Party in Uniform: Toward a Theory of Civil-Military Relations in Communist Political Systems." The American Political Science Review (Washington, D.C.), vol. 76, no. 4, December 1982, pp. 778-789. JAL.A6

Establishes a comparative theoretical framework for studying civil-military relations in Communist political systems and finds that on ideological issues there is usually little conflict between party and army; in issues of "normal politics," the military is a "functionally specific elite engaged in bargaining to defend its perceived institutional interests;" and in "crisis politics," is a political resource various party factions seek to enlist against their opponents. The section on China's "symbiotic civil-military relationship" notes a highly dependent partnership associated with the survival of each unit, characterized by low levels of differentiation between military and nonmilitary elites, and with an important role in the politics of succession.

Pfaltzgraff, Robert L., Jr. "China, Soviet Strategy, and American Policy." International Security (Cambridge, Massachusetts), vol. 5, no. 2, fall 1980, pp. 24-28. JX1901.I67

Though China perceives the USSR to be its greatest enemy, "China herself remains deficient in modern military capabilities to counter the Soviet Union." China's military capabilities run from the "vast People's Army created by Mao" to a developing strategic force which includes a liquid-fueled CSS-X-4 ICBM and a solid-fueled ICBM. China's leaders are not stressing the need for access to Western military technology due to the relative backwardness of China's defense capabilities.

Pillsbury, Michael. "The Military-Security Dimensions of Recent Sino-American Relations." Contemporary China (New York), vol. 2, no. 1, spring 1978, pp. 13-20. DS779.15.C65

Summarizes recent media reportage and commentary on national security aspects of Sino-US relations. Describes security-related events of 1976 and 1977--including the visits to China of top US officials, the "leaks and ambiguities of the Ford-Kissinger era," the cancelled sale of an advanced computer to Beijing, and the beginning of Carter's China policy in which Presidential Review Memorandum 24 permitted the transfer of defense technology to China.

Pollack, Jonathan D. "The Logic of Chinese Military Strategy." Bulletin of the Atomic Scientists (Chicago), vol. 35, no. 1, January 1979, pp. 22-23. TK9145.A84

Pollack says China's overall defense effort shows evidence of the "subtle process of de-Maoization." The decline of people's war was accompanied by the buildup of a Chinese nuclear deterrent--the high priority program of the 1960s. Discusses the overall strategic reassessment in Chinese foreign policy since the early 1970s and its consequences for Chinese defense strategy. Pollack notes China's air force and naval power, production and capabilities, and says China's 1979 military action against Vietnam demonstrated its willingness and capacity to project air and seapower beyond its coastline.

"PRC: Military Needs in the 1980s." Strategy Week (Washington, D.C.), vol. vi, no. 33, 18-24 August 1980, p. 11.

Excerpts a declassified 1979 DIA report on China's military needs in the 1980s noting army, navy, and air force equipment requirements. Says that until equipment levels are built up, China will continue to rely on the "useful aspects" of people's war to meet the Soviet threat.

Raghavan, V. R. "The Role of the Army in Mao's China and the Future." Journal of the United Service Institution of India (New Delhi), vol. cix, no. 455, January-March 1979, pp. 21-29. U1.U5

Discusses the founding of the CPLA, field armies in Communist politics, the Army vis-a-vis the party, the role of the military in the policy process, and the Army in post-Mao China. Concludes that the CPLA would back any Chinese Government that would encourage modernization and professionalization, and that it would, in the near future, support moderate elements to gain control of China. The regional power bases of the CPLA, and the interregional and intergenerational sectors vying for power within the CPLA could lead to challenges to the central government.

Rikhye, Ravi. "Reacting to China's Military Modernization." Journal of the United Service Institution of India (New Delhi), vol. cix, no. 457, July-September 1979, pp. 241-246. U1.U5

Says the Sino-Vietnamese War shows China is prepared to use its Armed Forces to further national objectives, and asks where that leaves India. Examines India's defenses vis-a-vis China, analyzes China's military limits--using the example of the Sino-Vietnamese War--and compares the Chinese Army and Air Force to India's. The conclusion is that China is not a superpower, and that India has more advanced military technology and better troops.

Ross, Edward W. "Chinese Conflict Management." Military Review (Fort Leavenworth), vol. lx, no. 1, January 1980, pp. 13-25. AS36.R3

The author says Chinese conflict management follows a predictable five-phase pattern: probe, warn, demonstrate, attack, and detente--each intending to determine and test the behavioral reactions of the enemy. He analyzes the February 1979 Sino-Vietnamese conflict in terms of his thesis.

"Russian, Chinese Observers Invited to NATO Maneuvers." Aviation Week and Space Technology (New York), vol. 109, no. 13, 25 September 1978, pp. 53-54. TL501.A8

NATO invited observers from the Soviet Union and China to attend maneuvers being staged in Western Europe in fall 1978. For the second consecutive year Chinese military attaches were invited to observe two exercises in West Germany.

Saint-Vincent, Rene. "La Defense Chinoise Apres Mao (Chinese Defense After Mao)." Defense Nationale (Paris), July 1977, pp. 89-102. D410.R45

National defense problems were not unknown at the fall and subsequent rehabilitation of Deng Xiaoping. His reappearance, brought about with the aid of the military, shows that the moderates prevailed over the radical ideologues. This implies the return of modernization of the military, its increased professionalism, and its relative retreat from the political scene.

Senese, Donald J. "Western Aid to Mainland China: The Crucial Factors." Journal of Social and Political Studies (Washington, D.C.), vol. 5, spring-summer 1980, pp. 119-131. H1.J563

The author says that though the potential of the China market is large, the US and Western nations should proceed with caution in dealing with China's modernization "thrust." "China, which views trade and other actions of traditional diplomacy as political weapons, may seek only to build its strength in order to later challenge the very nations which are supplying China's new needs."

Shi Hua. "Deng Xiaoping on Sino-Vietnam War." China Report (Delhi), vol. xv, no. 3, May-June 1979, pp. 53-56. DS777.55C.4484

Reproduces a second-hand account of Deng Xiaoping's report on the Sino-Vietnamese border war that appeared in Qishi Niandai [The Seventies] (Hong Kong), no. 4, 1979. Deng stated that China should not show weakness in the face of Vietnam's provocations and Soviet hegemonism. China would launch a self-defensive counterattack--a limited war--to teach Vietnam a lesson, and as a good military exercise. Deng said he expected no Soviet involvement, and predicted that world opinion would slightly favor China. After the war, China would work on those areas of the military requiring modernization.

Singh, B. "Sino-U.S. Defence Collaboration." Vikrant: The Defence Journal (New Delhi), vol. x, no. 11, August 1980, pp. 26-28. UA840.V45

Sino-US cooperation has grown out of anti-Sovietism, with the "so-called Soviet 'interference' in Afganistan" providing a convenient excuse for the expansion of military ties between Washington and Beijing. To avoid alarming its Asian allies, the US will supply China with dual civil-military use technology, and permit the sale of nonoffensive military equipment. Despite US attempts to strengthen military ties with China, some Western military analysts are getting disillusioned with the Chinese role and intentions.

Speed, F. W. "China Today." Army Quarterly and Defence Journal (Tavistock, United Kingdom), vol. 108, no. 1, January 1978, pp. 79-87. U1.A85

Briefly describes China's geography, people, historical, and cultural traditions, and military. Traces CPLA's origins in the Red Army. Discusses the continuing adverse influence of "warlord patterns," "guerrilla philosophy," and the struggle for supremacy between party and Army. Asserts that after the death of Mao and the resolution of the struggle for succession, the way seems clear for the reorganization of the CPLA.

Speed, F. W. "China Today: Part III." Army Quarterly and Defence Journal (Tavistock, United Kingdom), vol. 108, no. 2, April 1978, pp. 188-196. U1.A85

Completes the survey of China, briefly describing the CPLA, militia, paramilitary, party and government, top leadership, foreign policy, and prospects for the future. The section on the military lists in tabular form the organization and equipment of the ground, naval, and air forces. Describes command structure, nuclear weapons program, and prospects for military modernization.

Spurr, Russell. "Building up More Border Muscle." Far Eastern Economic Review (Hong Kong), vol. 101, no. 37, 15 September 1978, pp. 38, 41. HC411.F18

Links reforms in CPLA training and the call for a revival of the militia with the buildup of Soviet forces along the Sino-Soviet border. The basic concepts of people's war remain, but training has been redirected to large-scale combined operations.

Spurr, Russell. "China Cautiously Delays Military Upgrading." Strategy Week (Washington, D.C.), vol. vi, no. 27, 7-13 July 1980, pp. 7, 13.

Reports China is delaying its military modernization program while continuing to develop its nuclear deterrent against a Soviet attack. Notes that Geng Biao's tour of the US and the United States' subsequent announcement of military sales to China was not greeted happily--indeed it was met with cries of discrimination vis-a-vis US arms sales to Taiwan.

Spurr, Russell. "China Delays Military Upgrading." Defense & Foreign Affairs (Washington, D.C.), vol. viii, no. 7, July 1980, p. 48. UA10.D428

After his visit to the Third Division's Headquarters 43 kilometers northeast of Beijing, Spurr notes that the division, mainly a defensive force, has not changed much in 15 years save a greater stress on military training. He says that though China is "making plenty of political capital out of the Soviet invasion of Afghanistan," the Chinese are "gambling on the chance that there will be no serious clash with the Soviets . . . [and] are deliberately delaying their entire military modernization program."

Spurr, Russell. "PRC: Analysis of Defense Base." Strategy Week (Washington, D.C.), vol. vi, no. 36, 8-14 September 1980, pp. 7, 14.

Reports that the dispersal of China's defense industries from vulnerable points along coastal areas has slowed noticeably in recent years. Shanghai is now the headquarters of China's electronics-based defense production and there are ordnance factories in Zhengdu, Nanjing, and Wuhan. Missile construction has lessened dependency on sites in Shenyang and dispersed to Zhengdu and Lanzhou. Further details on defense production and defense raw material needs are provided.

Spurr, Russell. "PRC: Defense Spending Trimmed." Strategy Week (Washington, D.C.), vol. vi, no. 38, 22-28 September 1980, pp. 7, 14.

Reports the reaction of China's military leaders to announced defense budget cuts. Military expenditures will be reduced 13.2 percent in 1980--a cut of \$1.7 billion, reducing the defense budget to \$5.6 billion. However, much of China's defense spending, particularly the research and development expenditures, capital cost of ordnance plant construction, airfields, naval dockyards and other military facilities, and the military-related space program, are concealed in other parts of the national budget.

Spurr, Russell. "A Quick Bout . . . Or A Slugging Match." Far Eastern Economic Review (Hong Kong), vol. 103, no. 9, 2 March 1979, pp. 10-11. HC411.F18

Up to 60,000 CPLA troops invaded 18 miles into Vietnam, capturing four provincial capitals, but suffering heavy manpower and armor losses. Vietnamese reinforcements, not main force units, were said to be streaming to the front. Without reliable information, it is difficult to ascertain whether or not China has sufficiently "punished" Vietnam. Fears abound that if the CPLA lingers too long in Vietnam, the Soviet Union would be forced to come to the aid of Vietnam.

Spurr, Russell. "Rumblings along the Frontier." Far Eastern Economic Review (Hong Kong), vol. 103, no. 8, 23 February 1979, pp. 32-33. HC411.F18

Both China and the Soviet Union have beefed up their mutual borders as Sino-Vietnamese border tension increases. Two newly formed military districts, in western Yunnan and eastern Xinjiang, may presage a reorganization of the Kunming and Guangzhou Military Regions. The CPLA is now debating whether the Soviet Union or Vietnam poses a greater danger--the answer would affect which area would be given priority in strengthening defenses.

"Strategic Review: China--Defence Expenditure." Navy International (Haslemere, United Kingdom), vol. 85, no. 11, November 1980, p. 704. VI.N77

Yang Dezhi, Chief of CPLA General Staff, announced defense spending cuts of more than \$2.45 billion. The cut will seriously jeopardize China's defense modernization and could severely affect plans for the Navy's ability to counter the Soviet Pacific Fleet. The need for an electronics expertise was demonstrated during the visit of a British Navy squadron to

Shanghai. China has shown interest in the Lynx helicopter, acquisition of expertise in electronic warfare equipment and techniques, and details and knowledge of Western missile systems--particularly surface-air defense and point-defense systems.

Swanson, Bruce. "An Introduction to Chinese Command, Control, and Communications." Signal (Falls Church, Virginia), vol. 32, no. 8, May-June 1978, pp. 46-50, 52-53, 108. UG1.M65

Author briefly notes China's military doctrine. His main discussion on China's command, control, and communications systems is divided into two sections: people's war--which covers China's basic organization into main and regional force divisions and forward defense war--where main force units either fight from relatively fixed positions or prepare to fight a positional enemy; and a section on Chinese electronics--communications points out the lack of official Chinese statements to measure development while highlighting the progress shown in some of the newer systems China has developed. Swanson concludes that China's leadership is intent on modernizing its command-control-communications system resulting in a far-reaching impact on strategic thought and attitudes toward the general conduct of war.

"System of Military Service." Peking Review, vol. 21, no. 11, 17 March 1978, p. 4. DS701.P42

The Standing Committee of the 5th NPC held its first session on 7 March 1978 and discussed and approved the "Decision on System of Military Service" submitted by the State Council. The decision said the continuous development of the Army's technical equipment has placed higher demands on the fighters' military, political, and technical standards. The system of combining compulsory service and volunteer service will be put into force in 1978, and the existing terms of service for compulsory servicemen will be extended appropriately.

Tan Eng Bok, Georges. "Systeme Militaires Et Systeme Politique En Chine Communiste (Military and Political Systems in China)." Strategique (Paris), no. 2, 1979, pp. 15-59. In French. U162.S8

In China, the military is a pillar of the political system. The CPLA grew out of five field armies each and has engendered tight connections which go beyond the military sphere and influence equally the control of the party and the government. This system cannot be reduced to the model of "the struggle between the two lines," because personnel affinities (i.e. connections) are added on to the usual dichotomy between radicals and moderates. However, an old controversy animates civil and political actors: the anxieties of modernization versus the rigor or doctrinal narrowness of Mao Zedong. Since struggles for power and political choices are connected, whoever controls the gun has the greatest chance of success.

Tao, L. S. "Lin Piao, Military Reforms, and Power Struggle in Mainland China." Issues & Studies (Taipei), vol. xiv, no. 4, April 1978, pp. 15-52. D839.I732

Reviews the role of Lin Biao in military reform from his appointment as Defense Minister in 1959 until 1965. Tao discusses Lin's stress on Maoist military objectives and "putting politics in command."

Ting, William Pang-Yu. "Coalitional Behavior Among the Chinese Military Elite: A Nonrecursive, Simultaneous Equations, and Multiplicative Casual Model." American Political Science Review (Menasha, Wisconsin), vol. 73, June 1979, pp. 478-493. JA1.A6

Data on 423 members of China's military elite disputes the findings of Whitson, Nelsen, and Parrish on factionalism in the CPLA. The author argues that members of the Chinese military elite form coalitions according to a set of affective ties and shared professional interests. He defines key concepts of CPLA factionalism, and reformulates the three theories and integrates them into his own.

"Top Brass Military Changes in China." Vikrant: The Defence Journal (New Delhi), vol. x, no. 8, May 1980, pp. 15-17. UA840.V45

Article by a Vikrant correspondent links a reshuffle of top CPLA commanders to a strain in civilian-military affairs. Furthermore, the Soviet invasion of Afghanistan, and the invasion of Vietnam, have forced the CPLA to reconsider the ideas of military self-sufficiency and people's war as a response to the Soviet threat. Deng Xiaoping believes that China must defend its existing borders or go under. The CPLA is now emphasizing making better use of its own research and development facilities, and later will buy advanced weapons systems from the West, as Beijing does not see a Soviet attack as imminent.

"US Finds Chinese Military Outdated." Vikrant: The Defence Journal (New Delhi), vol. x, no. 6, March 1980, pp. 20-21. UA840.V45

Article by a Vikrant correspondent reports American impressions of the Chinese military during US Secretary of Defense Harold Brown's visit to China. Though CPLA weapons are 12 to 20 years out of date, China has improved on the original Soviet designs of their equipment.

"Vice-Chairman Yeh Chien-ying's Speech." Peking Review, vol. 21, no. 25, 23 June 1978, pp. 6-13. DS701.P42

Ye's 29 May 1978 speech at the All-Army Political Work Conference reviews the history of the CPLA in the last 50 years and stresses political work as the lifeblood of the Army. Ye calls for restoring and carrying forward the Army's traditions in political work and enhancing the combat effectiveness of the CPLA. He also emphasizes the importance of studying Maoist theory and applying and developing it in accordance with the new historical conditions.

Whiting, Allen S. "China and the Superpowers: Toward the Year 2000." Daedalus (Boston), vol. 109, no. 4, fall 1980, pp. 97-113. Q11.B7

Assesses the implications of China's growing military power in the remaining years of the 20th century--particularly the aspects most germane to US policy. Whiting says the CPLA will eventually develop a modern fighting capability.

Xu Jiasheng, Guo Daoyi, Fan Xisheng, and Liu Zhibin. "Developing National Defense Industries." Jiefangjun Huabao (Beijing), no. 386, August 1979, pp. 22-25. In Chinese.

China's defense industries have grown from a few simple ordnance factories and repair facilities to large-scale aviation, electrical, ordnance, ship-building, and missile industries. The defense industries have developed under the direct leadership of the Party Central Committee, the State Council, and the Party Central Military Committee--especially under the personal attention of Chairman Mao and Premier Zhou. Since the smashing of the Gang of Four and the third plenum of the 11th Party Congress, defense industries have undergone readjustment and have continued to develop.

Xu Xiangqian. "Heighten Our Vigilance and Get Prepared to Fight a War." Peking Review, no. 32, 11 August 1978, pp. 5-11. DS701.P42

Xu, Politburo member, Vice Premier of the State Council, and Minister of National Defense, wrote this article to mark the 51st anniversary of the founding of the CPLA. He discusses the inevitability of a third world war and the need to be prepared against a war of aggression. "Our aim in speeding up the development of national defense science and technology and national defense industries and improving the arms and equipment of our army is to build up the material basis for increasing the might of people's war under modern conditions." Photographs of a naval air force unit in training, an armed unit on maneuvers, and a missile test accompany the text.

Ye Jianying. "Developing Advanced Military Science of Chinese Proletariat." Peking Review, vol. 21, no. 12, 24 March 1978, pp. 6-9. DS701.P42

Ye's speech marked the 20th anniversary of the Academy of Military Science. He said: "Military science deals with the study of war and of the laws for directing wars, with the theory of war and strategy being the basic framework from military practice" Ye stressed the need to develop advanced military technology, improve arms and equipment, and to continue to study military science and theory while bearing in mind Mao's thinking and reflecting on the characteristics of modern warfare. The 10 major principles of a military operation are listed.

Yee, Herbert S. "The Sino-Vietnamese Border War: China's Motives, Calculations and Strategies." China Report (Delhi), vol. xvi, no. 1, January-February 1980, pp. 15-32. DS777.55.C4484

Discusses the February 1979 Sino-Vietnamese border war. Yee says the Chinese believe the war was a serious threat to national security and that

China's main concern was a possible Soviet intervention. Yee concludes that the inability of the CPLA ". . . to fight a modern war with decisive victory, despite their superior numerical strength, has probably worried and alarmed the hard-line military leadership faction to press and demand for top priority to modernizing China's defense."

Young, Peter L. "China's Military Capabilities." Asian Defence Journal (Kuala Lumpur), February 1979, pp. 18-19, 22-23, 26, 30-31. UA830.A8

States that Beijing is now portraying itself as a country critically deficient in modern armaments and is seeking Western aid in its modernization program--the supply of arms and technological skills. Discusses China's Army, a force 3.5 million strong, backed by a militia, border guard and police force. Young says the Army is impressive in numbers, but has obsolete equipment--which he details.

Zhou Naning and Luo Fu. "Visiting a PLA Division: Armed Workers and Peasants." Peking Review, no. 49, 2 December 1977, pp. 17-20. Part I. DS701.P42

Zhou and Luo, Beijing Review correspondents, provide basic information about the CPLA, culled from their visit to an infantry division stationed near Guangdong. The division, outstanding in combat, was founded 40 years ago, and defends the south gate of the motherland. A black and white photograph of a military exercise accompanies the text.

Zhou Naning and Luo Fu. "Visiting a PLA Division: The Party Commands the Gun." Peking Review, no. 50, 9 December 1977, pp. 18-22. Part II. DS701.P42

In an interview, Zhang Qiang, political commissar of a CPLA division, and Xu Zongzhang, director of the division political department, are asked why the party must exercise absolute leadership over the Army and how the principle works in practice. Zhang and Xu replied that in order to prepare for the inevitability of a world war breaking out, it is important to conduct exercises to prepare against a war of aggression. They pointed out that political work plays an important role in the success of these exercises.

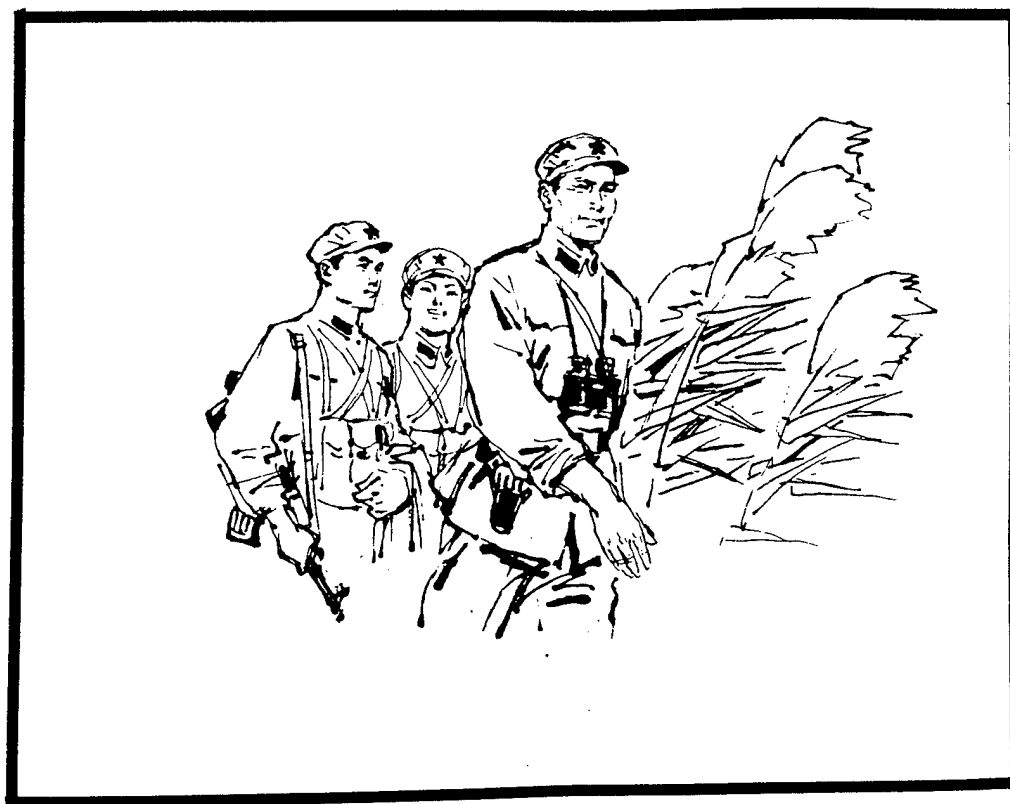
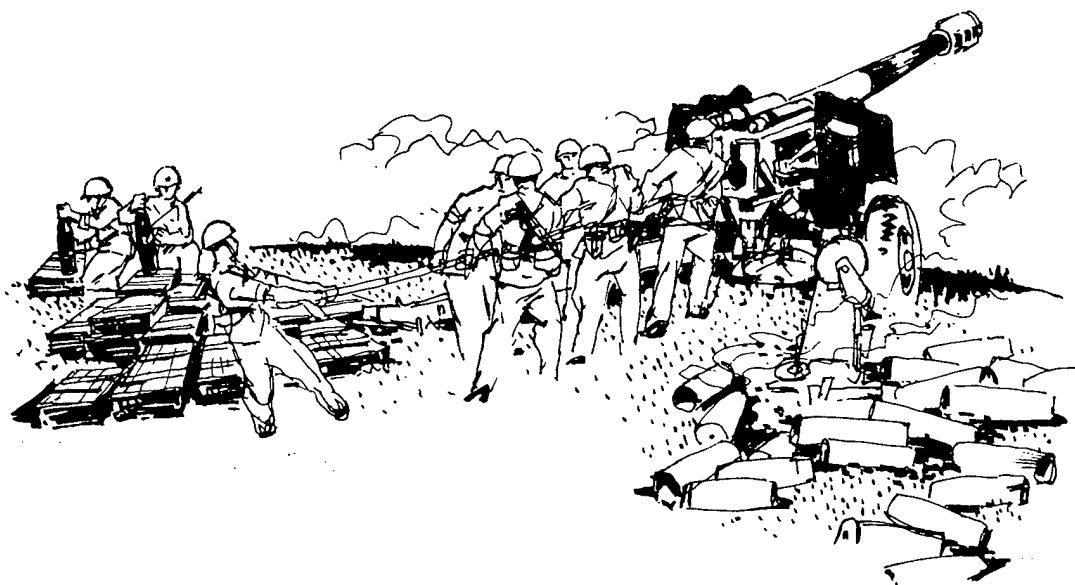
Zhou Naning and Luo Fu. "Visiting a PLA Division: The Tradition of Democracy." Peking Review, no. 51, 16 December 1977, pp. 13-16. Part III. DS701.P42

The correspondents discuss the unity between officers and men, and political, economic, and military democracy. The CPLA's practice of military democracy enabled the Red Army to quickly train a large number of outstanding commanders from both peasant soldiers and cadres who lacked the training of a military academy. The CPLA enforced democratic methods in drills and fighting during the war years--a tradition kept in peacetime.

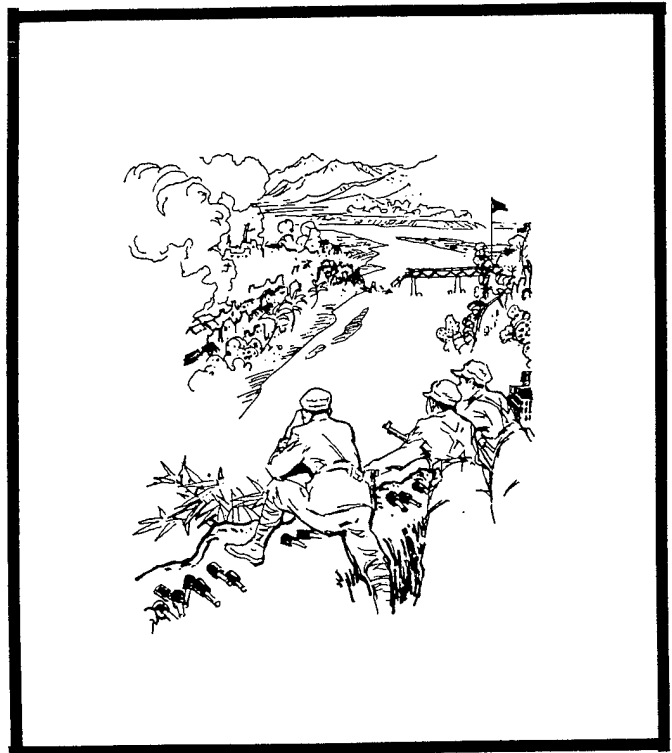
Zhou Naning and Luo Fu. "Relations Like Fish to Water: Visiting a PLA Division." Peking Review, no. 52, 26 December 1977, pp. 15-22. Parts IV and V. DS701.P42

Article gives examples of the CPLA's close ties with the masses--the basic reason why the people's army is able to overcome the enemy. The CPLA is a fighting force and a force for production.

2. HISTORICAL/BIOGRAPHICAL



Sketches of Border Defense Efforts in the Sino-Vietnamese Border War



Sketches of Border Defense Efforts in the Sino-Vietnamese Border War

a. Monographs

Adelman, Jonathan R. The Revolutionary Armies: the Historical Development of the Soviet and Chinese People's Liberation Armies. Westport, Connecticut: Greenwood Press, 1980. xi. 230 pp. Index. Bibliography. Appendices. Tables. UA837.A62

In "Part I: The Civil Wars," Adelman discusses the natures of the CPLA and the Red Army, and their effectiveness; in "Part II: Two Decades After the Civil War," he examines Russian and Chinese army relations with the party and society. He concludes that the CPLA has played a greater role in party affairs than the Russian Army in the 2 decades following the civil war, and in the 1950-54 and 1967-71 periods, even exercised considerable governmental power. The CPLA also performed more extensive societal functions outside the barracks than its Soviet counterpart.

Chi Pengfeng. "The Chinese Red Army and the Kiangsi Soviet." Ph.D. dissertation, The George Washington University, 1977. 246 pp. DAI 78,01089

Analyzes the founding and development of the Chinese Red Army in terms of its military organization and political indoctrination. Asks how the rapid emergence and development of the Red Army resulted in the disciplined and powerful force in the Jiangxi Soviet that held the Central Soviet Area for more than 5 years. Chi says the emergence of the Army in a strategic border region, close adherence to disciplinary rules, successful use of guerrilla warfare, and the adoption of a strict political control system modeled on the Soviet Red Army, allowed the Chinese Red Army to become a party-dominated fighting machine and political vehicle that helped establish the Jiangxi Soviet and guard it against Nationalist attacks in that period.

Kau, Michael Y. M. "The Role of the People's Liberation Army in China's Development: The Maoist Model of Army-Building." In China's Road to Development. Edited by Neville Maxwell. 2d Edition. Oxford: Pergamon Press, 1979. xii. 365 pp. Illustrations. Index. HC427.9.C56544

Analyzes the Chinese/Maoist model of army-building and its contributions to political development and socioeconomic modernization in China. Discusses the historical roots and organizational characteristics of the model and the scope and function of the Army's extramilitary activities. Examines the operational dynamics of the model within the context of China's changing political and social systems and the growing challenges to Mao's military thinking based on changes and developments within the CPLA in the past 50 years. Concludes that the continued successful operation of the Maoist model has much to offer--both to China's quest for modernization and transformation--and to the Third World as a model for emulation.

Peev, Ivan. Vetrove Nad Kitai (Winds over China). Sofia: Voenno izdatelstvo, 1979. 183 pp. Bibliography. In Bulgarian. UA835.P35

The author traces the history of the Chinese armed forces and its evolution from 1927 to the present. He says the Army has played a decisive role in Chinese domestic politics from its inception and shows the role of the CPLA in China's domestic policy cycles since 1949. He maintains that ever since the death of Mao Zedong, nothing is decided without or against the will of

the military commanders. Predictably, Peev scores the anti-Sovietism of the general strategic line of Chinese foreign policy and the paradoxical situation that the Soviets helped the CPLA develop; yet CPLA weaponry is directed against the USSR.

Perlmutter, Amos. The Military and Politics in Modern Times. New Haven: Yale University Press, 1977. xix. 335 pp. Illustrations. U21.5.P36

Chapter 8, "China: Professionalism versus Guerrillaism," discusses the Chinese Communist "national liberation movement" and the CPLA. Perlmutter says: "The Chinese military accepts the political supremacy of a civilian and ideological group. It has directed its revolutionary orientation toward modernizing and mobilizing China and toward reasserting China's position as an international actor."

b. Serials

Anderton, David A. "Reunion in China." Air Force Magazine (Washington, D.C.), vol. 62, no. 10, October 1979, pp. 90-94. UG633.A65

Describes a 1979 tour of China by the crew of a US B-29 that crashed in China in 1944. The crew was rescued by troops of the 3d Division of the new Fourth Army. Anderton relates the events of the crash, rescue, and escort to safety, and provides an update on the present activities of the Chinese guides.

Chen Yi. "A Change in the Resistance War." China Reconstructs (Beijing), vol. xxvii, no. 2, February 1978, pp. 22-25. DS701.C643

Excerpts from Chen's April 1939 account of life in the War of Resistance Against Japan. Chen was commander of the New Fourth Army's first detachment, and later commander of the army. He recounts the campaign to take his troops behind enemy lines in southern Tiangsu and the establishment of a base area centered around the Maoshan Mountains.

Cheng Tzu-ming. "Evolution of the People's Liberation Army." Issues & Studies (Taipei), vol. xv, no. 12, December 1979, pp. 72-98. D839.I732

Article traces the evolution of the CPLA from the formation of the Chinese worker-peasant Red Army in 1927, through the integration of the Red Army into the National Revolutionary Army in 1937, to the CPLA's formal development in 1949. Cheng briefly covers the current status of China's ground, naval, and air forces. Tables on the evolution of the Chinese Communist Armed Forces from their founding to the Long March, on the evolution of CPLA factions (1937-49), and on the CPLA Regional Command System (the military regions, provincial military districts, and military sub-districts) accompany the article.

"Cheng Wei-shan--Commander of the Lanchow Military Region." Issues & Studies (Taipei), vol. xix, no. 4, April 1983, pp. 75-80. D839.I732

A biography of Zheng Weishan, Commander of the Lanzhou Military Region as of September 1982. Zheng, a cadre who "drifted along" with the "gang of four" during the Cultural Revolution, was nonetheless promoted to a higher leadership position. Zheng was commander of military units in Beijing in 1970, disappeared from public view shortly thereafter, and was "liberated" in 1980.

Huang Kecheng. "Memories of General Peng Dehuai." China Reconstructs (Beijing), vol. xxvii, no. 6, June 1979, pp. 24-27. Part I. DS701.C643

Huang, member of the CCP Central Committee, recounts his memories of General Peng Dehuai, for whom he worked 40 years beginning in May 1930. Peng participated in the Northern Expedition, Pingjiang Uprising, War of Resistance Against Japan, and War of Liberation, and was commander of the Chinese People's Volunteers in Korea.

Huang Kecheng. "Memories of General Peng Dehuai." China Reconstructs (Beijing), vol. xxviii, no. 7, July 1979, pp. 44-46. Part II. DS701.C643

The second part of Huang's hagiography of Peng Dehuai reports that Peng's courage to uphold the truth and speak out made him a target for persecution by Lin Biao and the "gang of four" and that their treatment of him hastened his death in 1974. Peng, who became Minister of National Defense after China's liberation, continued to lead a simple life.

Khanduri, C. B. "Sun Tzu - The Military Analyst and Strategist." Vikrant: The Defence Journal (New Delhi), vol. x, no. 10, July 1980, pp. 61-70. UA840.V45

Expounds on Sunzi's military principles and compares them to the ideas of other military thinkers such as Clausewitz. Discusses Sunzi's influence on Mao Zedong's military thinking and its application in the Chinese Civil War and the Korean War.

Liu Baiyu. "Morning Breeze, Stirring the Highlands." Jiefangjun Huabao (Beijing), no. 400, October 1980, pp. 34-35. In Chinese.

Describes in detail the battle for Song Yu Village North Mountain during the Korean War.

"Outstanding P. L. A. Leader Lo Jui-ching Dies." Peking Review, vol. 21, no. 33, 18 August 1978, pp. 3-4. DS701.P42

Luo Ruiqing, an outstanding CPLA leader, died on 3 August 1978. Comrade Luo, a veteran fighter, joined the revolution in the 1920s. After the founding of the People's Republic, he was appointed Minister of Public Security, Vice Premier, and Chief of the General Staff. Luo was "cruelly persecuted" by Lin Biao and the "gang of four." He rendered outstanding service in internal security and national defense.

"The Power of Guerrilla Warfare." China Reconstructs (Beijing), vol. xxvii, no. 7, July 1978, pp. 46-47. DS701.C643

Article includes six black and white photographs with symbols of guerrilla warfare and accompanying text. A boat, pick, mattock, shovel, landmines, and broadsword are among the implements of guerrilla warfare.

"Revolutionary Photo--First Aeroplane of Chinese Red Army." Beijing Review, vol. 22, no. 9, 2 March 1979, p. 30. DS701.P42

A black and white photograph of the fuselage of the Lenin, the Chinese Red Army's first airplane, is shown. The Lenin, a Guomindang Junker trainer was captured in 1931 by the peasant Red Guards in Henan Province. The Lenin was dismantled and buried in July 1932 after the main force of the Red Army was transferred out of the Dabie Mountain base area in Henan, having completed its mission. The photograph is currently on exhibition in the Military Museum of the Chinese People's Revolution in Beijing.

"Some Who Were Consulted--Huang Wei: The Old General Didn't Die." China Reconstructs (Beijing), vol. xxvii, no. 8, August 1978, pp. 11-12. DS701.C643

Huang Wei, a former "war criminal" and one of Chiang Kai-shek's most trusted generals, was captured by the CPLA in December 1948. A prisoner until his release in March 1975, Huang became a member of the Standing Committee of the Chinese People's Political Consultative Conference, and is now supportive of the CCP's work.

Su Yu. "Memories of Zhu De and Chen Yi." China Reconstructs (Beijing), vol. xxviii, no. 8, August 1979, pp. 33-36. Part I. DS701.C643

Su recounts his memories of Zhu De and Chen Yi and their roles in the Nanchang Uprising of 1927.

Su Yu. "Memories of Zhu De and Chen Yi." China Reconstructs (Beijing), vol. xxviii, no. 9, September 1979, pp. 46-48. Part II. DS701.C643

Su Yu traces the movements of the troops led by Zhu De and Chen Yi from October 1927 to April 1928.

Tai Hang. "The People's Commander-in-Chief--Memorial Exhibition for Zhu De." China Reconstructs (Beijing), vol. xxix, no. 7, July 1980, pp. 18-22. DS701.C643

An exhibition devoted to the life and exploits of the late Zhu De, successively commander of the Chinese Red Army, the 8th Route Army in the Anti-Japanese War, and the CPLA, opened in December 1979. The exhibition contains approximately a thousand objects and pictures illustrating decades of struggle for China's independence, liberation, and prosperity. Tai Hang provides a brief biography of Zhu De, accompanied by black and white photographs.

Wu Hawen. "He Long's Days with the Red Army." China Reconstructs (Beijing), vol. xxvi, no. 11, November 1977, pp. 12-15. DS701.C643

Biography of He Long details his role in the Nanchang Uprising through the Long March.

Xu Huilin. "Gunpowder and Ancient Rockets." China Reconstructs (Beijing), vol. xxix, no. 10, October 1980, pp. 58-60. DS701.C643

Xu, a researcher for the CPLA, traces the development of Chinese rocketry from the first use of "true rockets" at least as early as the Southern Song dynasty (1127-1279) to the launching of China's first carrier rocket to a designated area in the South Pacific in May 1980. Xu discusses improvements in rocket propulsion, beginning in the 12th century, and also discusses the Chinese use of gunpowder. Illustrations include drawings of incendiary arrows, a Song-dynasty 'fire gun,' a Ming-dynasty mine, photographs of China's recent rocket launch, and the control room used for the launch.

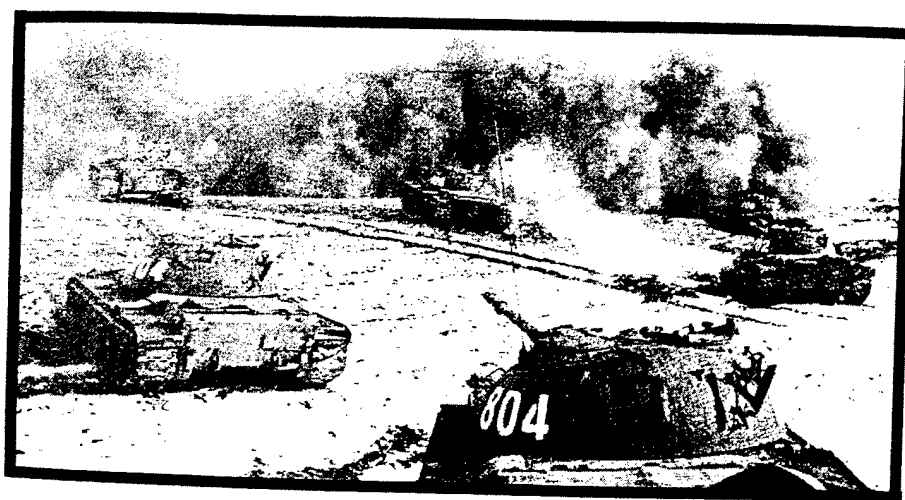
"Yeh Fei--First Political Commissary of the Navy." Issues & Studies (Taipei), vol. xv, no. 11, November 1979, pp. 78-85. D839.I732

Traces Ye Fei's career in the CCP and CPLA beginning in 1929. Ye, who was relieved of his post as Minister of Communications in February 1979, became first political commissar and concurrently first secretary of the CPLAN no later than August 1979.

3. GROUND FORCES



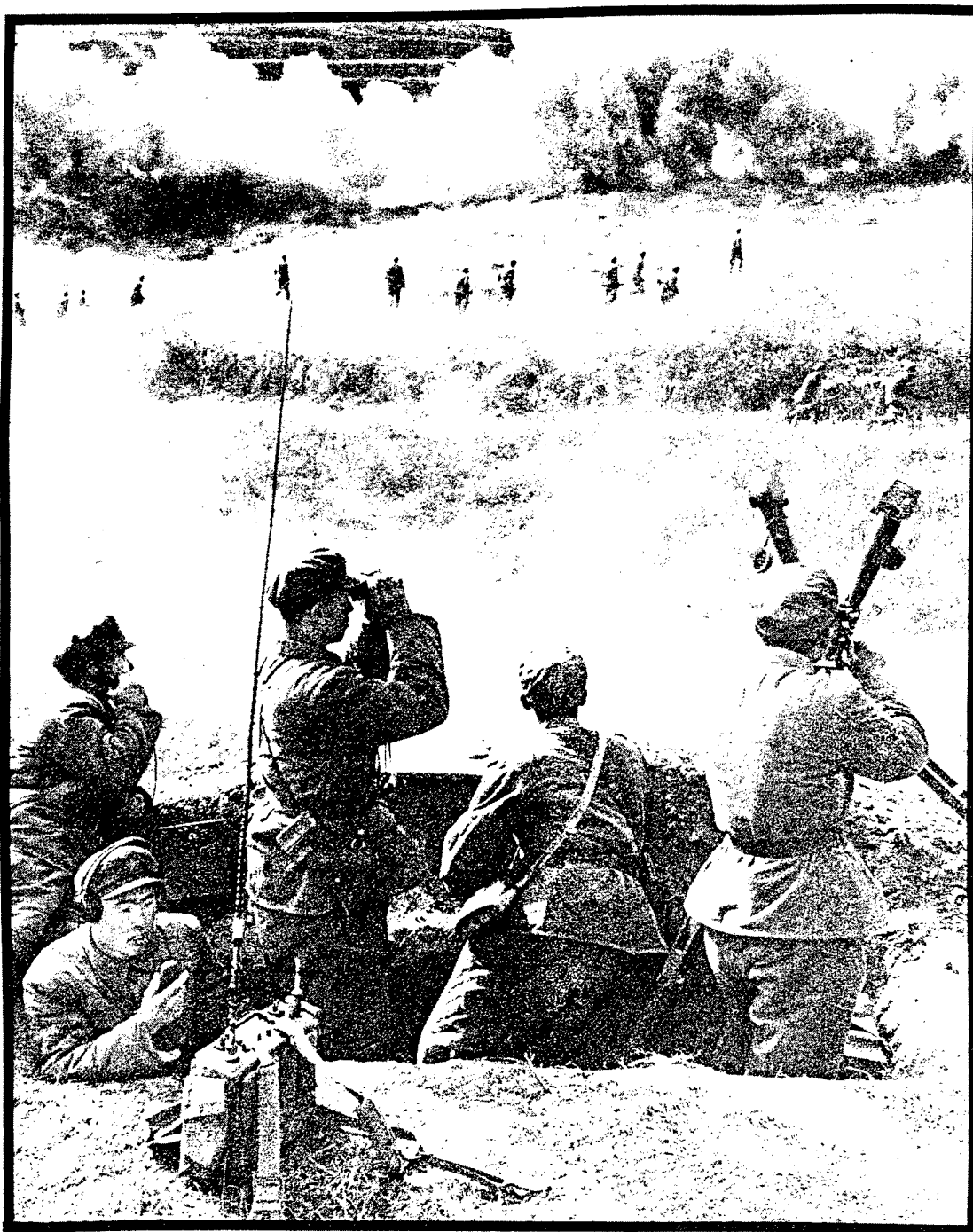
Defending the Front Lines



Tanks in Action



Decorated Infantryman Li Guanghui on the Battlefield



Coordinating Infantry and Artillery

a. Monographs

Archer, Denis, ed. Jane's Infantry Weapons, 1978-79. New York: Franklin Watts, Incorporated, 1978. 782 pp. Index. Illustrations. UD390.J33

An annual volume, this book does not have a separate section on China. The user is directed to the index to locate China under the various types of infantry weapons. It is noted that China's 7.62-mm Type 64 silenced submachine gun is of indigenous Chinese design and production. Data is included on the cartridge, operation, feed, muzzle energy, barrel, and length--stock open and stock closed.

Foss, Christopher F. and Gander, T. J. Infantry Weapons of the World. New York: Charles Scribner's Sons, 1979. 136 pp. Index. Photographs. UD380.F64

The authors cover all the main infantry weapons in service around the world and include a section on weapons in development. China's Armed Forces employ many indigenous copies of weapons in service with Soviet bloc armies--various types of pistols, submachineguns, rifles, light, medium, and heavy machineguns, light mortars, and antitank weapons are so noted. The weapons covered in greater detail are the 7.65-mm Type 64 Silenced Pistol, 7.62-mm Type 64 Silenced Submachinegun, 7.62-mm Type 68 Rifle, and the 7.62-mm Type Light Machinegun. There are photographs of three types of infantry weapons.

Weeks, John., ed. Jane's Infantry Weapons, 1979-80. New York: Franklin Watts, Incorporated, 1979. 692 pp. Index. Illustrations. UD390.J33

An annual volume, this book does not have a separate section on China. The user is directed to the index to locate China under the various types of infantry weapons. For China's 7.62-mm Types 56 and 56-1 Assault Rifles, information provided includes specifics on the cartridge, method of locking, feed, weight, length, barrel, manufacture, and muzzle velocity.

Weeks, John, ed. Jane's Infantry Weapons, 1980-81. New York: Jane's Publishing Incorporated, 1980. 698 pp. Index. Illustrations. UD390.J33

An annual volume, this book does not have a separate section on China. The user is directed to the index to locate China under the various types of infantry weapons--for example--grenades, mortars, antiaircraft weapons, ammunition, machineguns, and rifles. For China's Type 69 40-mm antitank grenade, data is provided on the calibers of launcher and projectile, weights of grenade and launcher, and ranges for static and moving targets.

b. Serials

"The Battle to Defend Banlan." Jiefangjun Huabao (Beijing), no. 390, December 1979, pp. 14-15. In Chinese.

Describes the exploits of a Guangxi Province border defense company which fought off 15 Vietnamese attacks in 55 hours in February 1979.

Cai Ping, Lian Bo, and Bo Ning. "Practicing Medical Relief After a 'Surprise Nuclear Attack.'" Jiefangjun Huabao (Beijing), no. 401, November 1980, p. 12. In Chinese.

Briefly describes the training exercise of field medical and antichemical warfare units under conditions of a simulated nuclear attack. Stresses rapid set-up of facilities to treat nuclear bomb victims.

A Certain Dog Training Unit. "Training Military Dogs." Jiefangjun Huabao (Beijing), no. 401, November 1980, pp. 6-7. In Chinese.

Since 1951 the CPLA has trained dogs for service in internal defense and border defense units. Dogs are used to detect and catch the enemy in patrol, pursuit, and repulse operations. Includes black and white photographs of dogs in training.

Chanda, Nayan. "Peking Loses Ground in Laos." Far Eastern Economic Review (Hong Kong), vol. 103, no. 8, 23 February 1979, pp. 8-10. HC411.F18

Discusses Beijing's waning influence in Laos after Pol Pot's defeat. China and Laos have stepped up criticism of each other, and Chinese work teams will likely be withdrawn. Article mentions the withdrawal of 180,000 CPLA engineering troops and military equipment that were brought in to build and defend a major section of the road network.

Chen Qingfa. "How to Deal With the Three Gorges." Jiefangjun Huabao (Beijing), no. 402, December 1980, pp. 34-35. In Chinese.

Outlines a water transportation exercise on the Three Gorges area of the Changjiang River conducted by a certain unit of the Chengdu Military Region. Emphasis was placed on logistical work and on anti-aircraft defense under flood conditions.

"China's Type 59 MBT." Xiandai Junshi: CONMILIT The Defense Monthly (Hong Kong), vol. 4, no. 6, issue 45, 1 August 1980, pp. 13-17.

Black and white photographs and line drawings accompany the text describing China's Type 59 main battle tank. The tank has been the mainstay of China's motorized infantry units and features a distinctive horseshoe crab-shaped turret with a rear-mounted transmission and engine. Further details on the tank and its operations are provided.

"China Successfully Manufactures Antitank Rifle Grenades." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 3, no. 8, issue 35, 25 September 1979, p. 23. In Chinese.

Cites a Renmin Ribao report that the CPLA has successfully manufactured a new infantry antitank rifle grenade which is lighter, easier to use, and more powerful than previous models.

"Chinese Display Mobile Rocket Launcher." Aviation Week and Space Technology (New York), vol. III, no. 17, 22 October 1979, p. 56. TL501.A8

Black and white photographs with captions of a 19-tube 140-mm truck-mounted rocket launcher and an An-12 light-haul turboprop transport.

Duan Qiusheng, Liu Shuangling, and Pang Yongxiang. "Heavy Artillery Shows Its Power." Jiefangjun Huabao (Beijing), no. 384, June 1979, pp. 10-11. In Chinese.

Describes the exploits of an artillery regiment of the Guangxi border defense units in the Sino-Vietnamese Border War of 1979. Includes black and white photographs of troops in action.

"Fighting Tanks in Mountainous Terrain." Jiefangjun Huabao (Beijing), no. 393, March 1980, pp. 2-5. In Chinese.

Describes four methods of attacking tanks for infantry troops defending mountainous areas: select, block, net, and fire. Select entails selecting an advantageous position from which to launch a surprise attack. Block involves blocking up a mountain pass and attacking. Net means building a large network of criss-crossing trenchwork from which to attack. Fire entails creating crossfire from small antitank weapons and large artillery pieces to bombard and block off enemy tanks.

"First Major UK Defense Contract from China." Armada International (Zurich), vol. 4, no. 2, March-April 1980, p. 143. HD9743.A1a75

Reports China's award of a \$2.75-million contract to Marconi Space and Defense Systems of the United Kingdom for the supply of computerized gun control equipment systems--FACE (Field Artillery Control Equipment). Each system, mounted in a Land Rover type vehicle, is capable of controlling up to 24 guns. The initial order is for five FACE systems.

"Hand-Held Antitank Rocket." Jiefangjun Huabao (Beijing), no. 389, November 1979, pp. 18-19. In Chinese.

Describes a new hand-held antitank rocket developed by CPLA engineering troops and nonmilitary research groups. The new weapon is lightweight, easy to use, has good armor-smashing capability, and has guaranteed firing from -40° C to 50° C. Includes color photographs of the weapon in action.

Hao Zaisheng, Wang Xiao, and Lin Tingsong. "Combine Drilling and Educating Talent." Jiefangjun Huabao (Beijing), no. 397, July 1980, pp. 10-11. In Chinese.

Discusses training commanders capable of conducting combined-arms exercises. A Beijing Military Region unit took an infantry company, and added tank, artillery, signals, engineering, and antichemical units. After training, the commanders were familiar with weapons, fighting techniques, and leadership methods for all types of units involved in combined-arms fighting.

"Innovation and Creation." Jiefangjun Huabao (Beijing), no. 395, May 1980, pp. 8-11. In Chinese.

Briefly describes four technical innovations made by CPLA troops: armored vehicle repair tools; infantry gun grenade; antitank grenade; and heavy artillery equipment. Includes black and white and color photographs of innovations and innovators.

Jin Hongwei and Wu Shouqing. "Motorized Reconnaissance Troops." Jiefangjun Huabao (Beijing), no. 402, December 1980, pp. 40-41. In Chinese.

Reports that a certain motorized reconnaissance company performed well in the 1979 Sino-Vietnamese Border War, and received a second-class commendation for its exploits. After the war, the company summed up its experiences and continued training to improve on its weak points. Includes black and white photographs of motorcycles and troops in action.

"Let Steel Armor Speed On." Jiefangjun Huabao (Beijing), no. 393, March 1980, pp. 15-17. In Chinese.

Outlines the development of China's tank and armored vehicle industry since Liberation. Stresses the adaptation of tanks to indigenous requirements, and progress made since the third plenum of the 11th Party Congress. Includes black and white photographs of tank production.

Li Jianmin, Zhang Yixue, Zhong Wencai, and Zheng Tuhua. "Arduously Practice the Techniques of Artillery Control." Jiefangjun Huabao (Beijing), no. 382, April 1979, pp. 12-13. In Chinese.

Briefly describes a training exercise for a motorized artillery battalion. The training emphasized driving, firing, and communications ability and accuracy. Includes color photographs of the exercise.

Li Youcheng, Zhan Dafang, Hong Heping, and Jia Mingzu. "In the Dense Jungle." Jiefangjun Huabao (Beijing), no. 400, October 1980, pp. 14-17. In Chinese.

Describes a battalion's 5 months of jungle training in Yunnan. The exercises stressed marching, survival, communications, and fighting in jungle conditions.

Ling Yu. "The Chinese Ground Forces Equipped with the First Batch of Antitank Guided Missiles." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 4, no. 8, issue 47, 1 October 1980, pp. 18-19. In Chinese.

Chinese antitank weapons remained unsophisticated until the late 1970s, when the infantry began deploying the AT-3 Sagger antitank guided missile, thought to be based on Soviet PUR-64 ATGM's supplied by Egypt. Production problems have prevented full deployment, so China has been looking at MILAN and HOT ATGMs. Includes black and white photographs of the AT-3 Sagger antitank missile and infantrymen moving into combat positions.

Ma Qunyu and Jia Chaozheng. "Dagger Heroic Company." Jiefangjun Huabao (Beijing), no. 385, July 1979, pp. 12-13. In Chinese.

Describes the heroic battle feats of a company of the Guangxi border defense units in the Sino-Vietnamese Border War of 1979. Includes color photographs of the company in action.

"Minelaying Rocket Launcher." Jiefangjun Huabao (Beijing), no. 395, May 1980, pp. 12-13. In Chinese.

Briefly describes the uses and advantages of a new minelaying rocket launcher. The launcher, to be used in antitank warfare, was developed by CPLA engineering troops. Includes black and white photographs of the new truck-mounted weapon in action.

Ness, Leland, S. "Chinese Army: The Chinese People's Liberation Army." Armies and Weapons (Farnborough, United Kingdom), vol. vi, no. 44, June 1978, pp. 45-52. U1.A59

Surveys CPLA ground force history, chain of command, organizational trends, current strengths and dispositions, tactical organization, weapons and equipment, the militia, and the production and construction corps. Discusses the evolution of the dual chain of command and tensions between officers and political commissars. Analyzes the three types of field armies, and their evolution to meet perceived threats. Discussions of weapons and equipment, combined with charts, tables, and color photographs, provide a concise picture of the CPLA ground forces.

"Opening the Road to Victory." Jiefangjun Huabao (Beijing), no. 383, May 1979, pp. 20-21. In Chinese.

Describes the contributions made by engineer and railway engineer troops in bridge building and railroad line repairs during the Sino-Vietnamese Border War of 1979. Includes black and white photographs of troops engaged in repair work.

"PRC: New Laser Reported." Defense & Foreign Affairs (Washington, D.C.), vol. vi, no. 4, April 1978, p. 44. UA10.D428

Reports that China has succeeded in producing a laser ranging and sighting device apparently slated for use on tanks or antitank guns. The laser

ranger was developed as a result of cooperation between 11 CPLA and civilian units--particularly the Artillery Department of the Chengdu Military region. The laser has been tested under various adverse conditions. It is possible that the CPLAAF may use the equipment for weapons delivery and that China "is poised on the edge of a large-scale move towards PGMs (precision-guided munitions) for field use."

"Rapid and Fierce Artillery." Jiefangjun Huabao (Beijing), no. 399, September 1980, pp. 18-19. In Chinese.

Self-propelled artillery is a highly mobile weapon with fierce firepower and destructive capabilities. Operation of this weapon requires driving, firing, and communications abilities. Describes an exercise of a self-propelled artillery battalion of a certain CPLA unit.

Ren Tianyou. "Attack on Cao Bang." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 3, no. 10, issue 37, 25 November 1979, pp. 13-17. In Chinese.

Describes how a certain CPLA tank company vanquished the enemy in five skirmishes. The company advanced 30 kilometers to aid in capturing Cao Bang during the opening days of the Sino-Vietnamese Border War. Includes black and white photographs of tanks and battle scenes.

Scrimali, Carlo. "K-63 Chinese in Australia." Armies and Weapons (Farnborough, United Kingdom), vol. vi, no. 44, June 1978, pp. 37-38. U1.A59

Analyzes the depth of the K-63 armored personnel carrier. Concludes that the K-63 represents a significant step forward in the mechanization of the Chinese Army, but is nevertheless outdated. Includes color, black and white photographs, and line drawings of the K-63.

Smith, DeWitt C., Jr. "Land Forces in Modern Strategy." Parameters (Carlisle Barracks, Pennsylvania), vol. 7, no. 3, 1977, pp. 2-7. U1.P32

Examines the CPLA--the largest land force on the globe--and how it serves the objectives of China's modern strategy. He also considers the Soviet Army and Soviet political objectives.

"Surprise Attack on Gao Ping." Jiefangjun Huabao (Beijing), no. 383, May 1979, pp. 8-11. In Chinese.

Briefly describes the military importance of Gao Ping (Cao Bang in Vietnamese) and the CPLA's successful surprise attack on the town during the Sino-Vietnamese Border War of 1979. Includes black and white photographs of battle scenes.

"Target-Enemy Tanks." Jiefangjun Huabao (Beijing), no. 387, September 1979, pp. 6-9. In Chinese.

Briefly describes firing antitank guided missiles against tanks in a training exercise. Includes color and black and white photographs.

"Type 63 Artillery Rocket Launcher." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 4, no. 7, issue 46, 1 September 1980, inside front cover, p. 3.

Presents six black and white photographs of various parts of the Chinese Type-63 artillery rocket launcher, based on a Soviet design, which has been in production since the early 1960s. The launcher features a 19-barrel assembly of 130-mm tubes and has advanced electrical detonators which can set off the entire rocket load within 10 seconds. The maximum range of the rocket is 10,000 meters. Further details on the rocket launcher are provided.

Wang Guan. "The Massive Array of the Ground Forces of the Liberation Army." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 3, no. 8, issue 35, 25 September 1979, pp. 14-22. In Chinese.

Details the organization of the CPLA and its dual party-military lines of authority. Describes the bureaucratic divisions of the General Staff, General Logistics, and General Political Departments, and the Ministry of National Defense. Enumerates troop deployments in the military regions, and the weapons and equipment employed by infantry, artillery, transport, and engineer divisions. Concludes that Chinese weapons are 20 years behind Western standards, and presents a long list of modern weapons and equipment that the CPLA could use. Includes black and white photographs of CPLA troops in action in Vietnam in 1979.

Wang Qiupeng. "The Assault on Mimai Mountain." Jiefangjun Huabao (Beijing), no. 389, November 1979, pp. 28-29. In Chinese.

Describes the assault on Mimai Mountain made by a CPLA infantry company during the 1979 Sino-Vietnamese Border War. The company collectively received a second-class commendation for their successful assault. Includes a map of the battle area and black and white photographs of the assault.

Wang Ren, Tao Shibin, Hu Baoyu, and Jia Mingzu. "Building a Field Operations Oil Pipeline." Jiefangjun Huabao (Beijing), no. 382, April 1979, pp. 10-11. In Chinese.

In order to meet the petroleum needs of vehicles in modern warfare, a certain logistics unit practiced laying a field operations oil pipeline. The pipeline covered 52 kilometers over all kinds of terrain and successfully pumped oil at a rate of 32 cubic meters per hour. Includes color photographs of oil pipeline being laid.

Wang Wenhua. "Practicing Coordination, Practicing Command." Jiefangjun Huabao (Beijing), no. 391, January 1980, pp. 4-7. In Chinese.

Describes a combined-forces exercise with live ammunition. Under air and artillery cover, the main force assaulted the enemy's left flank; the secondary forces tied down enemy fire on the right flank; and the deep thrust forces, riding on tanks, completely surrounded the enemy. The exercise is part of an effort to improve combined-forces training, which

received little emphasis under the influence of Lin Biao and the Gang of Four. Includes color and black and white photographs of the exercise.

Wu Yanshi. "Let The Artillery Thunder." Jiefangjun Huabao (Beijing), no. 400, October 1980, pp. 6-7. In Chinese.

Presents a brief history of China's artillery industry which grew out of the needs of revolution and war. In the Sino-Japanese War (1937-45) the artillery industry manufactured mortars, mortar shells, and mines. After Liberation, China began to establish a more complete artillery manufacturing industry, with planning and research departments. By the 1960s the industry had reached certain production and technical levels, but lost time in the Cultural Revolution. After the smashing of the "Gang of Four," the artillery industry resumed its efforts to reach world artillery standards and to contribute to the modernization of national defense. Includes black and white photographs of artillery factories.

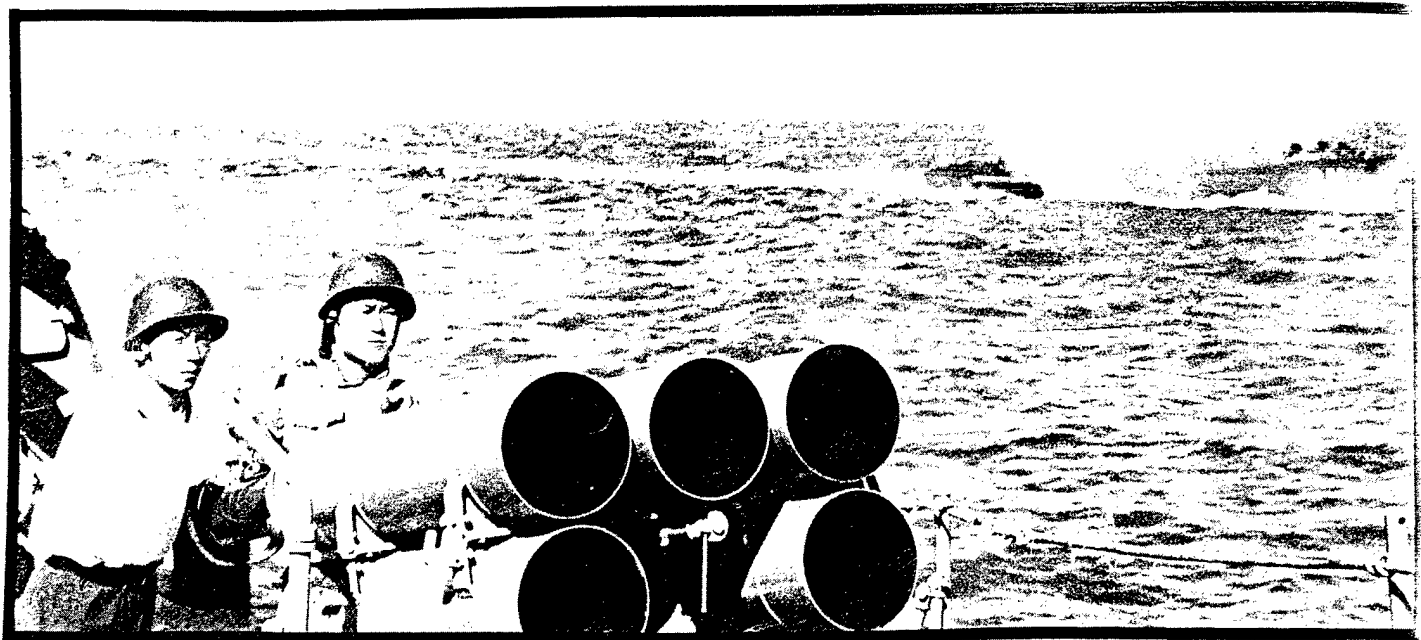
Xu Renbao, Chen Qixuan, and Li Shuliang. "Defense of a Breach." Jiefangjun Huabao (Beijing), no. 401, November 1980, p. 13. In Chinese.

Describes an exercise closing up a breach in defense after a surprise nuclear attack. The exercise involved bombardment of the enemy with artillery, minelaying, and a tank counterattack.

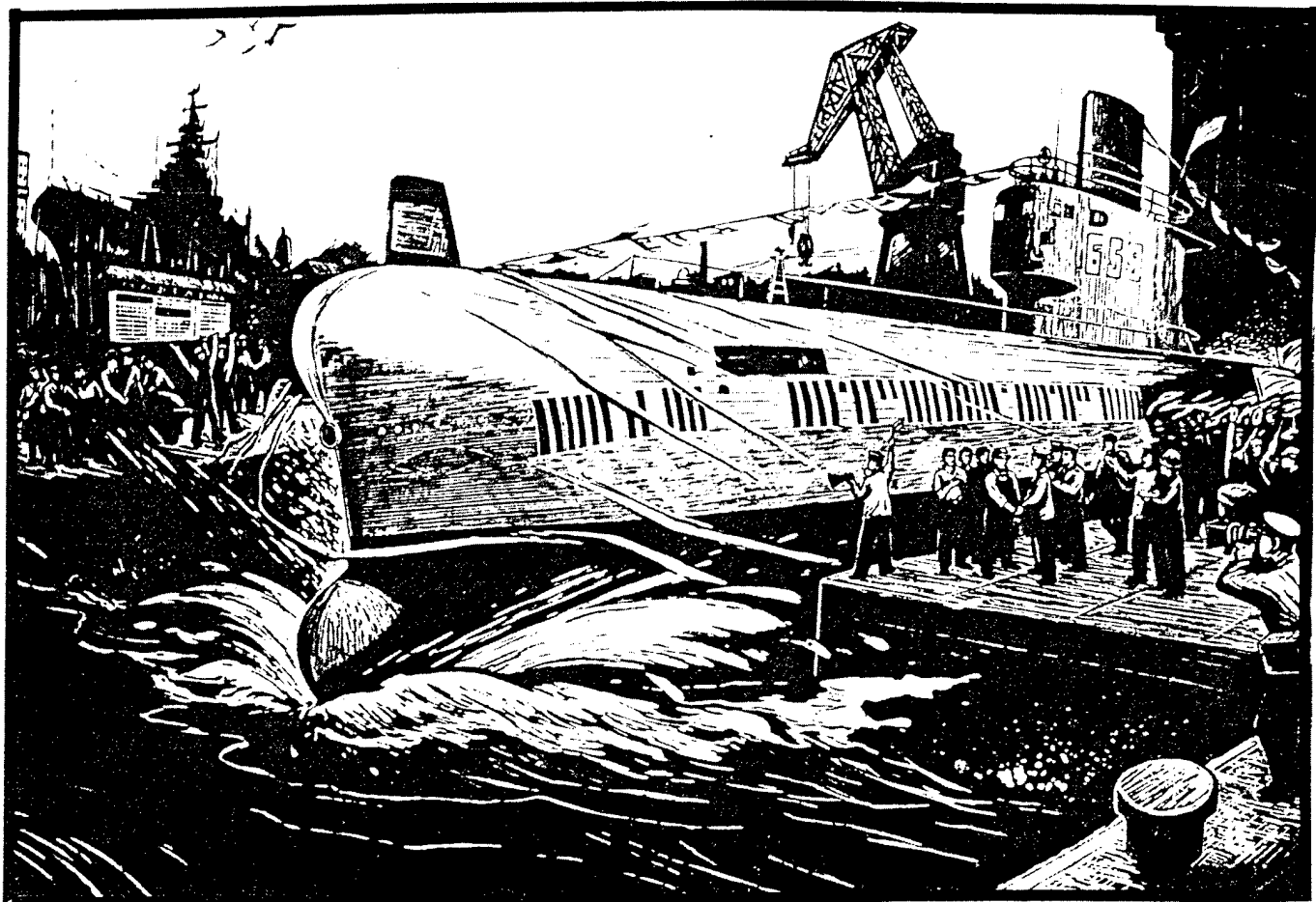
Zhao Fasheng and Zhou Yi. "Radio Communications Confrontation." Jiefangjun Huabao (Beijing), no. 401, November 1980, pp. 4-5. In Chinese.

Describes CPLA radio communications training, with emphasis on jamming and antijamming techniques. Includes black and white photographs of troops and equipment in action.

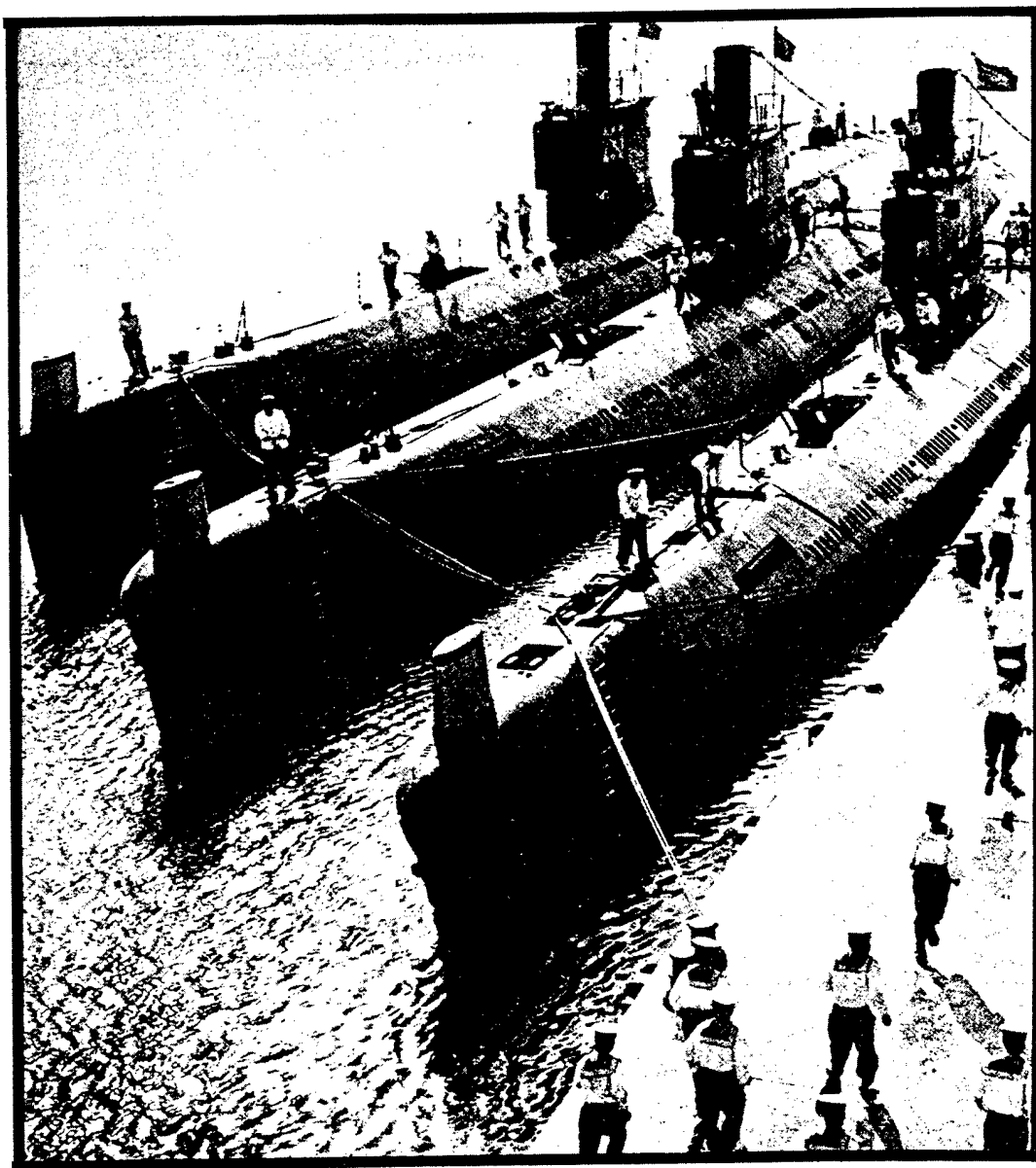
4. NAVAL FORCES



Submarine Chasers



"The Sea Dragon Hits the Water": Launching a Romeo-Class Submarine



Sailors in Exercise with 3 Romeo-Class Submarines

a. Monographs

Hewish, Mark; Sweetman, Bill; Wheeler, Barry C.; and Gunston, Bill. Air Forces of the World: An Illustrated Directory of all the World's Military Air Powers. New York: Simon and Schuster, 1979. 264 pp. Illustrations. Index. UG630.A382

Directory on the world's air forces also mentions aviation and missile boats in the CPLA Navy.

Ireland, Bernard. Warships of the World: Submarines & Fast Attack Craft. London: Ian Allan Ltd., 1980. 160 pp. Illustrations. Index. V857.173

Provides "ship details" on the world's warships. Section on China discusses the KRONSTADT, HAIDAO, OSA, KOMAR, SHANGHAI and HAINAN, and HUCHUAN Class ships, and the Chinese submarine force.

Labayle Couhat, Jean, ed. Combat Fleets of the World 1978/79. Annapolis: The United States Naval Institute Press, 1978. xi. 651 pp. Index. Illustrations. Photographs. VA40.C65

Section on China provides information on the number of warships in service or under construction as of 1 October 1977, number of personnel in the CPLAN, and data on the naval air arm. There is no comprehensive information on the logistic support available to the Chinese fleet. The data provided on China's naval inventory includes figures for displacement, armament, machinery, and speed for the different types of ships and craft.

Labayle Couhat, Jean, ed. Combat Fleets of the World 1980/81. Translated by A. D. Baker III. Annapolis: The United States Naval Institute Press, 1980. xiii, 794 pp. Index. Photographs. Illustrations.

Although China has the world's second largest navy, "little of technical interest is occurring in Chinese shipyards and little major new construction is being undertaken." The Chinese Navy is well maintained and its huge number of ships and craft could provide formidable resistance to an invader, but it poses no threat on the high seas. The China section provides information on the number of personnel in the CPLA Navy, warships in service or under construction as of 1 January 1980, and naval aviation. Data provided on each class of ship includes displacement, armament, speed, machinery, and dimensions.

Larkin, Bruce D. "China: Law and Naval Strategy." In China: Development and Challenge Proceedings of the 5th Leverhulme Conference. Edited by Lee Ngok and Leung Chi-Keung. Hong Kong: Centre of Asian Studies, University of Hong Kong, 1979. vol. III. xi. 344 pp. DS702.L48

Originally presented as a paper at a 1977 conference in Hong Kong, the essay says that a more restrictive international law on naval mobility would enhance Chinese security. Larkin discusses China's sea law policy and naval options, the principal characteristics of navies in the 1970s and 1980s, and briefly notes Chinese naval strategy. Lincoln Li, in comments on Larkin's paper, says Larkin's thesis is "self-persuasive" since China is but a potential seapower and "effective norms are cheaper than standards imposed by the threat of force."

Lyon, Hugh. An Illustrated Guide to Modern Warships. London: Salamander Books Limited, 1980. 159 pp. Illustrations. Photographs. V750.L96

In the section on China, the HAINAN, LUDA, and SHANGHAI Class ships are described. The displacement, dimensions, armament, propulsion, and approximate number of ships for each class are given. It is noted that the SHANGHAI Class fast attack craft are mainly intended for coastal patrol work, have a powerful armament of light weapons, and have been supplied to many other countries. The CPLA Navy has the largest force of light craft in the world.

Moore, John, ed. Jane's Fighting Ships, 1978-79. New York: Franklin Watts Incorporated, 1978. 813 pp. Index. Illustrations. VA40.J33 1978

An annual volume, China's naval fleet--active and building--is detailed in the ship reference section. For each class of ship, information such as displacement, dimensions, complement, main engines, and range are provided. Photographs and drawings illustrate the different types of fighting ships. It is noted that China has a Naval Air Force and a maritime militia. Tables with comparative data provide information on China's naval strengths and naval aircraft equipment. Data on China's naval radars is also included.

Swanson, Bruce L. "The Navy of the People's Republic of China." In Guide to Far Eastern Navies. Edited by Barry M. Blechman and Robert P. Berman. Annapolis: The United States Naval Institute Press, 1978. xiv. 586 pp. Index. Photographs. Illustrations. VA620.G84

In this helpful research aid, Swanson gives an overview of China's naval tradition, discusses the Chinese Navy in terms of its warship and aircraft characteristics, missile capability, conventional weapons, electronic systems and aggregate combat capabilities. He also covers the Chinese Navy's manpower, training and shore establishment, politics and shipbuilding program. Swanson examines the Navy's role in decisionmaking, the role of seapower in Chinese foreign policy, as well as naval organization and the future of the Navy. An appendix gives brief biographies of the leading personalities of the Chinese Navy. Another section of the book presents photographs or line drawings, and descriptive data for each class of ship and type of aircraft found in East Asian fleets.

Taylor, John W. R., ed. Jane's All the World's Aircraft, 1979-80. New York: Franklin Watts Incorporated, 1979. 820 pp. Indices. Illustrations. TL501.A41

This annual volume is arranged according to types of aircraft. Twelve different types of aircraft are listed for China. An estimated 300 to 350 Harbin (Mil) H5, a Chinese-built military version of the Mil M-4 general purpose helicopter, are in service with the CPLAAF and 50 with the CPLAN air arm.

b. Serials

Breeze, Richard. "China Defence Notes." Asian Defence Journal (Kuala Lumpur), July-August 1980, pp. 46-47. UA830.A8

In May 1980 China test-fired two ICBMs--CSS-X-4 liquid fuelled type rockets. China's ICBMs probably will not be hardened until 1990. The Chinese Navy also had a role in the May 1980 missile launches. A flotilla of 18 vessels traveled for a month to the central Pacific from Shanghai to monitor the test and police the target area. The flotilla included destroyers, submarines, tankers, and space support ships.

"China Manufactures the Largest Tonnage Hovercraft." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 3, no. 8, issue 35, 25 September 1979, p. 23. In Chinese.

Reports that China's largest tonnage hovercraft was successfully tested in September 1979 in Tianjin. Includes black and white photographs of hovercraft developed in Shanghai.

"China Unveils the Home Made KIANGTUNG Class Missile Frigate." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 4, no. 2, issue 41, 1 April 1980, pp. 54-55. In Chinese.

The JIANGDONG Class frigate is China's first naval combatant armed with an air defense missile system. A black and white photograph of a moored JIANGDONG shows a loaded surface-to-air missile twin launcher on the 01 deck--with the missiles placed on top of the launching racks instead of below--as is common with US and Soviet designs. The fore deck shows a twin 100-mm gun; and the port deck shows a MBU-1800 five-barrel 250-mm antisubmarine rocket launcher forward of the gun mount.

"Chinese Display Variety of Weapons." Aviation Week and Space Technology (New York), vol. III, no. 16, 15 October 1979, cover, pp. 20-21. TL501.A8

Color photographs, with captions, of Il-28 bombers, CSA-1 surface-to-air missiles, Romeo-class submarines, HAINAN Class submarine chasers, and SS-N-2 Styx surface-to-air missiles.

"Chinese Patrol Boat Fires Styx Missile." Aviation Week and Space Technology (New York), vol. 112, no. 6, 11 February 1980, p. 46. TL501.A8

Two black and white photographs, plus explanatory caption, of Styx surface-to-air missiles on CPLAN fast patrol boats.

Datta, Rakesh Kumar. "Extension of Chinese Influence in Indian Ocean: A Threat to Indian Security." Vikrant: The Defence Journal (New Delhi), vol. ix, no. 10, July 1979, pp. 27-29. UA840.V45

China's expansionist aims have turned toward the Indian Ocean, although the CPLA Navy has yet to become a major power there. China favors a strong US military presence in the Indian Ocean, and in return the US backs China in the Sino-Soviet cold war. As China modernizes its Navy, and Sino-Pakistan relations develop, the CPLA naval threat to India will increase.

Hong Lun. "Let the Ships Speed Towards the Sea." Jiefangjun Huabao (Beijing), no. 395, May 1980, pp. 4-7. In Chinese.

Since 1949, China's shipbuilding industry has developed from making repairs to production, from copying small ships to designing and building large oceangoing craft and naval combatants. Traces the industry's development by listing which types of ships were built at which stage of development. Praises progress in shipbuilding since the fall of the "Gang of Four" and especially since the third plenum of the 11th Party Congress.

Lauriat, George. "Asian Shipping '80: The Eighth Inevitable Voyage to Modernization." Far Eastern Economic Review (Hong Kong), vol. 107, no. 6, 8 February 1980, pp. 36-42, 44-48, 53-64.

Surveys Asian shipping. Topics include China's push to develop a new merchant fleet, tanker fleet developments, China's Navy and ports, and India's developing shipping industry.

Li Dan and Zhou Yi. "Emergency Rescue at Sea." Jiefangjun Huabao (Beijing), no. 393, March 1980, pp. 6-7. In Chinese.

Briefly describes an exercise for the helicopter rescue of airmen downed at sea. Includes color photographs of a sea rescue.

Muller, David G. "The Missions of the PRC Navy." United States Naval Institute Proceedings (Annapolis), vol. 103, no. 11, November 1977, pp. 46-52. V1.U8

Analyzes some of the peacetime and wartime missions of the Chinese Navy. The Chinese Navy, responsible for coastal defense, coast guard and domestic duties, interdiction of enemy sealines of communication, and projection of power against hostile shores, may also be responsible for strategic deterrence and maintaining a presence in distant waters in the future. Muller discusses the capabilities and duties of the Chinese Navy, and provides information on the types and numbers of Chinese ships and their operations. Black and white photographs accompany the text.

"Naval Round-up--China." Navy International (Haslemere, United Kingdom), vol. 85, no. 5, May 1980, p. 322. V1.N77

Reports that China is constructing a new class of submarines at Wuhan. The design, of indigenous Chinese origin, is "not considered to be anywhere near the standard of Western designs."

Niu Sien-chong. "The Maritime Posture of Communist China." NATO's Fifteen Nations (Amsterdam), vol. 23, no. 1, February-March 1978, pp. 110-111, 114-115. UA646.F5

China's maritime interests are mainly preventive and directed against perceived Soviet encirclement. China's seapower development is part of its national strategy and naval expansion centers on building fast missile-, torpedo-, and gunboats to form an inner line of coastal defense. The

outer line of coastal defense consists of torpedo, antiship missile, and minelaying diesel attack submarines. China has the world's largest submarine force and the CPLAN would be formidable close to shore. The Soviet naval presence in Asian waters has prompted Beijing to work toward projecting its naval power further seaward in the future.

Pariseau, Richard R. "The Role of the Submarine in Chinese Naval Strategy." United States Naval Institute Proceedings (Annapolis), vol. 105, no. 10, October 1979, pp. 66-69. VI.08

The deployment of nuclear-powered submarines by China--the progression from a guerrilla-type naval force to a strategic, nuclear deterrent force--is in keeping with Chinese national objectives and economic capabilities. It is representative of a change in China's naval strategy from defensive to offensive and is part of Beijing's goal of seeking nuclear security.

"PRC Naval Air at Sea." Strategy Week (Washington, D.C.), vol. vi, no. 17, 28 April - 4 May 1980, p. 3.

China's 30,000-man, 600-aircraft naval air arm may get to sea at last. The CPLAN, currently land-based, is looking into putting Westland Lynx helicopters on some of its ships.

"PRC: Satellite Navigation Receivers." Strategy Week (Washington, D.C.), vol. vi, no. 44, 3-9 November 1980, p. 11.

China has begun to manufacture shipborne receivers for receiving navigational signals from Chinese satellites. This development will have military applications--notably in naval command and control. Chinese sources report the receivers were successfully used by Chinese ships participating in the South Pacific salvage and survey operation connected with China's May 1980 ICBM test.

"PRC's Navy's Missiles Ships." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 4, no. 1, issue 40, 1 March 1980, pp. 30-35. In Chinese.

Since the late 1960s China has put missile-armed ships in service intended for open seas operations. Armament of the LUDA, ANSHAN, CHENGDU, JIANGHU, and JIANGDONG Class ships and craft are discussed. Black and white photographs and line drawings accompany the text--"courtesy of Aviation & Marine International."

Qing Shi and Che Fu. "Transferring Position." Jiefangjun Huabao (Beijing), no. 391, January 1980, pp. 10-11. In Chinese.

Describes how a naval missile unit practiced rapid shifting in order to improve combat mobility. Includes color and black and white photographs of soldiers shifting missiles.

"RN Visitors Toured the PLA Wu Song Naval Base." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 4, no. 9, issue 48, 1 November 1980, pp. 14-17. In Chinese.

Reports on the September 1980 visit of Royal Navy officers and men to the Wusong Naval Base of the CPLAN East China Sea Fleet. Six CPLAN ships and craft were open to the British visitors, including a LUDA Class missile destroyer, a JIANGHU Class missile frigate, a HAINAN Class submarine chaser, and two OSA Class missile patrol craft. The combat equipment of the vessels is noted. The LUDA has two triple Styx missile launchers, but as the ships have no spare missiles, the launchers are redundant once their missiles are fired. Though they have no antiaircraft missile mounts, a CPLA weapons engineer "privately confirmed" Chinese-designed and -produced antiaircraft missiles have recently been fitted to a new class of naval ship.

"Roles of the PLA Submarine Force." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 3, no. 11, issue 38, 1 January 1980, pp. 17-22. In Chinese.

Discusses the role of the submarine in Chinese naval strategy and says that building a strong navy is a sacred historical task of the Chinese people. China is expanding its submarine force, though it is still a defensive one. However, the deployment of nuclear-powered submarines will shift China's naval strategy to the offense. Details are provided on China's nuclear-powered ballistic missile submarines, the nuclear submarine and deterrence, and the HAN Class submarine. Black and white photographs, line drawings, and a woodcraft print accompany the text.

Sidhu, K. S. "China and the Indian Ocean." Vikrant: The Defence Journal (New Delhi), vol. viii, no. 2, November 1977, pp. 13-14. UA840.V45

Chinese interest in the Indian Ocean is neither direct nor immediate because of the weakness of the CPLA Navy. China sees the Indian Ocean as an area where it can win friends and outflank both the Soviet Union and Western capitalism. Economic and military aid, commercial relations, and an occasional submarine cruise will continue as China tries to build the infrastructure for an eventual naval presence in the Indian Ocean.

Spurr, Russell. "China Builds Up its Southern Fleet." Strategy Week (Washington, D.C.) vol. vi, no. 46, 17-23 November 1980, p. 7.

Reports that China is reinforcing its South Sea Fleet. Hainan Island is being fortified, the airfield at Qiongsan enlarged, and new strips added to Dongfang and Huangliu airfields. Increased Chinese aerial reconnaissance is being mounted for submarines and surface ships passing from Siberia to the Vietnamese coast. The South Sea Fleet is believed to be the strongest of the three fleets deployed along China's coastline.

"Strategic Review: China--Nuclear Submarine Exercise." Navy International (Haslemere, United Kingdom), vol. 86, no. 10, October 1980, p. 634. V1.N77

Notes reports in Renmin Ribao (Beijing) that a submarine participating in a recent naval exercise was nuclear-powered.

"Strategic Review: China--RN Task Group Sails for Far East." Navy International (Haslemere, United Kingdom), vol. 85, no. 8, August 1980, p. 509. VI.N77

The first British warships to visit China in 30 years will be part of a Royal Navy Task Group. Three ships from the group are scheduled to visit Shanghai in September 1980 as part of a 7-month deployment to the Asia-Pacific region.

Subramanian, R. R. "China's Navy: Role of Nuclear Powered Submarine." Vikrant: The Defence Monthly (New Delhi), vol. ix, no. 6, March 1979, pp. 17-18. UA840.V45

Says China will likely devote more attention to the development of nuclear-powered submarines and sea-launched ballistic missiles. The CPLAN has 65 attack submarines, of which only one is nuclear-powered. The future of China's nuclear submarines depends largely on the strategy needed to meet the threat from the Soviet Navy and on the Sino-Soviet border.

Swanson, L. Bruce, Jr. "China's Navy and Foreign Policy." Survival (London), vol. xxi, no. 4, July-August 1979, pp. 146-154. U162.59

The debate between Chinese maritimists and continentalists is much older than the takeover of China by the Communists. The debate continues, and the Chinese Navy has not generally fared well in budgetary competition with the other services. As China turns outward and looks to the West for technology, naval development will expand, though in the near term the Chinese Navy will remain a force constrained by technology and preoccupied with coastal defense. A chart lists China's naval and merchant ships.

Wheeler, Barry C. "World's Air Forces 1979." Flight International (London), vol. 116, no. 3672, 4 August 1979, pp. 333-338, 343-367, 373-386. TL501.F5

Section on China outlines CPLAAF strengths in interceptor/fighters, strategic bombers, and helicopters. Also mentions CPLA naval aviation.

Wheeler, Barry C. "World's Air Forces 1980." Flight International (London), vol. 118, no. 3762, 4 October 1980, pp. 1323-1332, 1337-1352, 1357-1362, 1365-1370, 1373-1378. TL501.F5

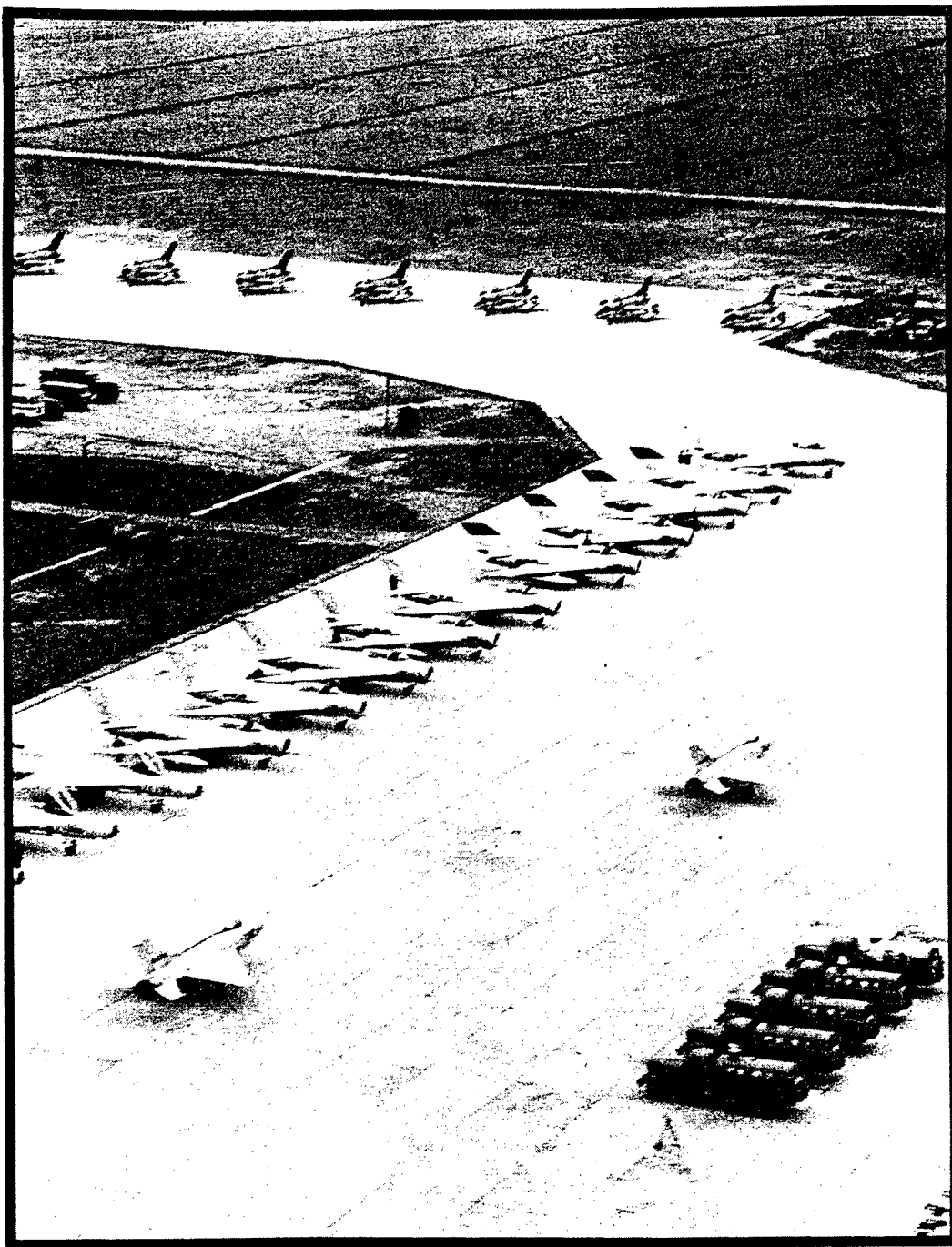
Section on China outlines Air Force organization, explains aircraft designations, surveys aircraft type, numbers, usage, and capabilities. Briefly mentions naval aviation.

Young, Peter L. "China's Military Capabilities." Asian Defence Journal (Kuala Lumpur), February 1979, pp. 18-19, 22-23, 26, 30-31. UA830.A8

Young says that Beijing is now portraying itself as a country critically deficient in modern armaments and is seeking Western aid for the supply of arms and technological skills in its modernization program. He discusses

the Chinese Navy--the area in which the Chinese are not making a major effort to gain foreign technology. China is able to use its own shipyards, particularly in the construction of fast attack craft, of which it has the largest fleet in the world. Young attributes China's deficiency in major combatant types to the disagreements between Lin Biao and Deng Xiaoping. China's naval aviation also suffers from equipment problems.

5. AIR FORCE



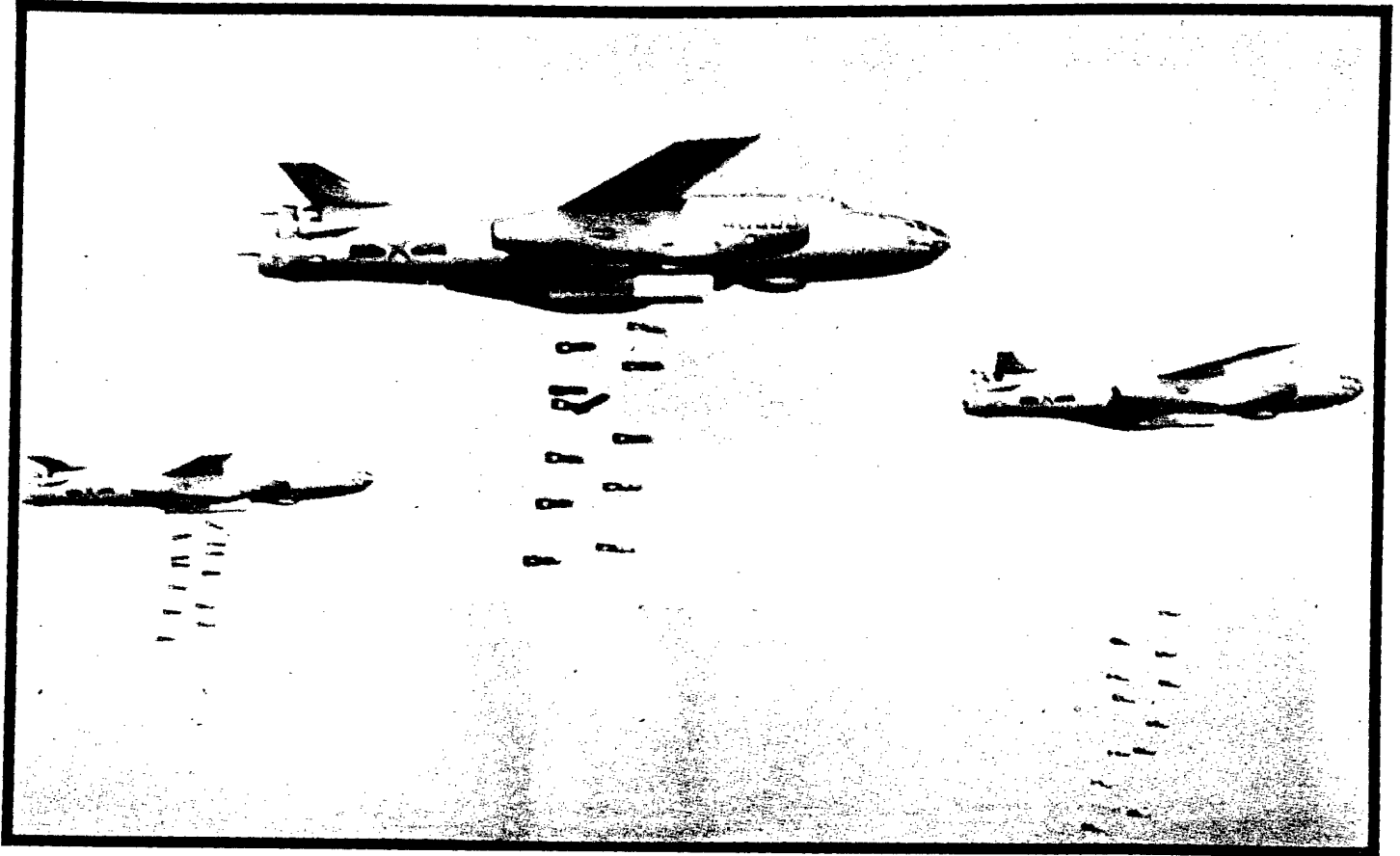
F-7 Fishbeds (MiG-21) Lined Up on the Runway



B-6 Badger (Tu-16) Assembly Hanger



F-6 Farmer (MiG-19) Landing



B-5 Beagles (Il-28) in Bombing Exercise

a. Monographs

Hewish, Mark; Sweetman, Bill; Wheeler, Barry C.; and Gunston, Bill. Air Forces of the World: an Illustrated Directory of all the World's Military Air Powers. New York: Simon and Schuster, 1979. 264 pp. Illustrations. Index. UG630.A382

Though China's Air Force is among the world's largest, it is among the "least modern air arms." Briefly describes the history of the Chinese air arm, developments in the Air Force, and some of the CPLAAF inventory. Also mentions the Chinese strategic missile force, and aviation and missile boats in the CPLA Navy. An inventory of aircraft provides data on such factors as the dimensions, maximum speed, and combat radius of various aircraft in the CPLAAF.

Taylor, John W. R., ed. Jane's All the World's Aircraft, 1978-79. New York: Franklin Watts Incorporated, 1978. 804 pp. Indices. Illustrations. TL501.A41

Annual volume is arranged according to types of aircraft. China is noted in sections on state aircraft factories--detailing the types of aircraft manufactured. For example, the F-12 SHENYANG, believed to be a new fighter under development, is thought to use MiG-23 FLOGGER variable-geometry--a fighter-bomber type supplied to China by Egypt in 1976. The plane is intended to have a maximum speed of up to Mach 2.4 and be able to operate from 600-meter airstrips. More specific data is provided on aircraft already operational.

Taylor, John, W. R., ed. Jane's All the World's Aircraft, 1979-80. New York: Franklin Watts Incorporated, 1979. 820 pp. Indices. Illustrations. TL501.A41

This annual volume is arranged according to types of aircraft, of which 12 are listed under China. An estimated 300 to 500 HARBIN (Mil) H5, a Chinese-built military version of the Mil M-4 general purpose helicopter, are in service with the CPLAAF and 50 with the CPLAN air arm.

Taylor, John W. R., ed. Jane's All the World's Aircraft, 1980-81. New York: Jane's Publishing Incorporated, 1980. 829 pp. Indices. Illustrations. TL501.A41

This annual volume is arranged according to types of aircraft, of which 15 are listed under China. New in this edition are China's Aerospatiale SA 365N Dauphin 2, a twin-turboshaft helicopter to be manufactured in China under a 1980 licensing agreement between Aerospatiale of France and the Chinese Government, and the PRC (Bell) Models 212 and 412--helicopters which were purchased in 1979. In 1980 negotiations were conducted with Bell to allow the Harbin factory to begin a 4-year program to assemble and eventually manufacture 50 helicopters.

b. Serials

"Air Forces Go into Action as China Strikes Across Vietnamese Border." Flight International (London), vol. 115, no. 3649, 24 February 1979, p. 514. TL501.F5

The CPLA invaded Vietnam's northern provinces at 5:30 AM on 17 February 1979, and the air forces of both sides went into action. China's intent to resort to war was signaled openly. Two problems created by the Chinese invasion are: (1) possible Soviet intervention, and (2) increased political ammunition for Western opposition to Sino-European arms sales. The article lists the balance between China and Vietnam in combat aircraft, helicopters, and missiles.

"Airscene: Military Affairs: China." Air International (Scarborough, United Kingdom), vol. 13, no. 3, September 1977, p. 108. UA630.A1A35

Notes that CPLAAF squadron commander Fan Yuanyan defected to Taiwan with a Shenyang F-6 (MiG-19) on 7 July 1977.

"Airscene: Military Affairs: China." Air International (Scarborough, United Kingdom), vol. 17, no. 5, November 1979, p. 208. UA630.A1A35

In 1982, the CPLAAF will receive a new fighter "as fast as any in Western Europe and entirely of national design and construction" according to official Chinese sources. The new aircraft, believed to be powered by the Rolls-Royce RB.168-25E augmented turbofan, "has already achieved higher speeds than any aircraft in service with the CPLA."

"An Air Show by PLA Air Force Units." China Pictorial (Beijing), no. 1, January 1978, pp. 40-41. DS777.55.C447

On 12 October 1978, an air show was held at a military airport to review the results of a training program. The show consisted of 15 items, including bombing, target shooting, reconnaissance flying, parachuting, and stunt flying. Division and regimental commanders, airmen, and paratroopers were among the participants in the exercises. Black and white photographs show parachuting, diving, bombing, and four interceptors in a stunt formation.

"A-10's for China?" Flight International (London), vol. 115, no. 3661, 19 May 1979, p. 1642. TL501.F5

Fairchild Republic has held informal discussions with China about the possible sale of A-10 Thunderbolt II's.

Also see "A-10 for China." Vikrant: The Defence Journal (New Delhi), vol. x, no. 3, December 1979, p. 38. UA840.V45

"Aviation Summer Camp." China Pictorial (Beijing), no. 11, November 1978, pp. 28-29. DS777.55.C447

In August 1978 more than 300 middle school students attended the 1978 National Aviation Summer Camp. They attended lectures on aviation and space science and participated in aviation sports. Black and white photographs

show a visit to a CPLAAF airport unit, a parachuting demonstration, and a radio-controlled glider made by students.

"Britain Committed to Chinese Deals." Flight International (London), vol. 114, no. 3641, 30 December 1978, p. 2298. TL501.F5

After the visit of a Chinese delegation to Britain's aviation industry companies, Trade Secretary John Smith said the UK is committed to major Sino-British cooperation in aviation and minerals technology. No official word has surfaced yet, but China still appears enthusiastic about the Harrier jet.

Also see: "Chinese Interest in the Harrier Grows." Flight International (London), vol. 114, no. 3632, 28 October 1978, p. 1543. TL501.F5; "Chinese Pilot Has Flown Harrier." Flight International (London), vol. 114, no. 3635, 18 November 1978, p. 1840. TL501.F5

"Callahan Approves Chinese Harriers." Flight International (London), vol. 115, no. 3643, 13 January 1979, p. 66. TL501.F5

British Prime Minister James Callahan announced that Britain will sell Harrier jets to China provided that the deal is part of a larger nonmilitary trade package.

"China Aims for Spey-powered Mach 2.4." Flight International (London), vol. 113, no. 3596, 18 February 1978, p. 410. TL501.F5

The maximum speed on China's planned new fighter will be Mach 2.4. This speed seems high for a Spey-powered fighter, but the Chinese may be willing to incur higher construction costs in order to get better performance. Article disputes press reports that the new fighter will be based on the MiG-23.

"China--Britain to Begin Aircraft Technical Talks." Aviation Week and Space Technology (New York), vol. 109, no. 23, 4 December 1978, p. 21. TL501.A8

A Chinese aerospace delegation will arrive in Britain for talks on civil and military aircraft, including the Harrier. The mission is technical in nature and no purchases are expected from it. NATO announced that it would have no objections to the sale of Harriers to China, while both Labor and Conservative Party Members of Parliament urged the British Government to proceed with the sale.

"China-Pak Air Force Connection." Vikrant: The Defence Journal (New Delhi), vol. x, no. 11, August 1980, pp. 21-22. UA840.V45

Article by a special Vikrant correspondent discusses Chinese-Pakistani Air Force cooperation. Beijing has provided Pakistan with SHENYANG F-6 fighters, and in return Pakistan has provided China with a window on Western technology and equipment.

"China's Air and Missile Forces." Vikrant: The Defence Journal (New Delhi), vol. x, no. 5, February 1980, pp. 43-50. UA840.V45

Reproduces report written by Doug Richardson and Graham Warwick in an unidentified publication on the development of the Chinese aircraft industry and its products--the A-5 FANTAN fighter in particular. Also discusses Chinese missiles, Chinese military aircraft, aid to foreign countries, and the future development and needs of the CPLAAF.

"Chinese Air Power . . . an Obsolescing Goliath." Air International (Scarborough, United Kingdom), vol. 16, no. 6, June 1979, pp. 273-277, 306-308. UG630.A1 A35

Discusses the development of China's airpower and China's aircraft industry. Though China's aircraft industry is large and has made progress in the last decade, it lacks a broad research and development base and its production methods are "medieval." Though numerically China has the "world's third largest air army," its isolation from modern technology and minimal degree of independent development has led the CPLAAF to slide into obsolescence. China's 1979 incursion into Vietnam highlighted the Air Force's shortcomings. Though China has sought to acquire Western aerospace technology, only one contract, for the Rolls-Royce Spey, has been signed and there are few other prospects. Black and white photographs accompany the text.

"Chinese Display F-9, F-8, Badger Bomber." Aviation Week and Space Technology (New York), vol. 111, no. 14, 1 October 1979, p. 20. TL501.A8

Three black and white photographs of the F-9, F-8, and Tu-16 BADGER bomber, with brief explanatory notes.

"Chinese Display Variety of Weapons." Aviation Week and Space Technology (New York), vol. 111, no. 16, 15 October 1979, cover, pp. 20-21. TL501.A8

Color photographs, with captions, of Il-28 bombers, CSA-1 surface-to-air missiles, ROMEO Class submarines, HAINAN Class submarine chasers, and SS-N-2 Styx surface-to-air missiles.

"Chinese Fighters Shown in Assembly." Aviation Week and Space Technology (New York), vol. 113, no. 7, 18 August 1980, p. 91. TL501.A8

Captioned black and white photograph of SHENYANG F-7 fighters shown in various stages of assembly.

"Chinese Pushing Aerospace Technology." Aviation Week and Space Technology (New York), vol. 110, no. 24, 11 June 1979, pp. 133-135, 137. TL501.A8

Briefly describes Chinese aircraft construction facilities and their principal products, including military aircraft. Mentions the CHUJIAO-6 primary trainer and the YUN-11 as two aircraft that the Chinese would like to export. Also lists satellite launching facilities and other aerospace technology establishments. Includes a table of the Chinese civil aviation fleet, and color and black and white photographs of the CHUJIAO-6 and the YUN-11.

"... and Chinese Scrutiny." Flight International (London), vol. 116, no. 3685, 3 November 1979, p. 1463. TL501.F5

Chairman Hua Guofeng will tour the Rolls-Royce aeroengine factory at Derby during his 6-day visit to England.

"Chinese Test Pilots." China Pictorial (Beijing), no. 8, August 1980, pp. 40-41. DS777.55.C447

Hua Jun and Wang Ang, deputy commanders of the research flight regiment of a CPLAAF unit, have been awarded the title "Test Flight Heroes" by the CCP Central Committee Military Commission. Hua safely landed a high-speed interceptor though the plane was shaking, the engine stopped, and the plane began to glide at a speed of 80 to 100 meters per second. Wang saved flight data and safely landed a Chinese-made supersonic interceptor when a big noise, which came from a part of the plane, caused air intake grating and engine vibrations. Color photographs of Wang and Hua as well as of research personnel observing a test flight accompany the text.

"Chinese Visit UK." Aviation Week and Space Technology (New York), vol. 107, no. 23, 5 December 1977, p. 22. TL501.A8

A Chinese trade delegation in Britain visited Rolls-Royce and British Aerospace facilities, and saw a flight demonstration of the Hawker Siddeley Harrier.

Also see: "Chinese Delegation Looks at Harrier." Flight International (London), vol. 112, no. 3585, 3 December 1977, p. 1645. TL501.F5

"Egypt-PRC: Peking Studies Modern Soviet Techniques via MiG-21 Deal?" Defense & Foreign Affairs (Washington, D.C.), no. 10, October 1977, p. 44. U10.D428

According to reports from Cairo, China may be offering to refurbish Egyptian Air Force MiG-21s in order to be able to study Soviet aircraft production techniques. China is interested in buying technology connected with the MiG-23 and has asked if part of the Egyptian deal could include fire control systems and other electronics attached to the Soviet missiles in Egypt's inventory. China will reportedly refurbish the MiG-21 engine spares to keep the aircraft operational since the Soviets are reluctant to supply needed parts. Other reports suggest Egypt has already transferred two MiG-23 FLOGGER Bs to China.

"Egypt Turns to China for Arms." Flight International (London), vol. 115, no. 3665, 16 June 1979, p. 2115. TL501.F5

President Sadat announced an arms deal with China. The Western press speculated that the deal involves 60 SHENYANG MiG-19 copies.

"Fantans for Pakistan." Flight International (London), vol. 118, no. 3732, 15 November 1980, p. 1842. TL501.F5

According to an Indian news agency, China is giving Pakistan 65 A-5 FANTAN fighter-bombers and SA-2 surface-to-air missiles.

Ghosh, S. K. "China's Aircraft Industry." Vikrant: The Defence Journal (New Delhi), vol. viii, no. 1, October 1977, pp. 29-32. UA840.V45

Traces the development of China's military aircraft industry. Discusses the "loss of momentum" in aircraft production and its relation to deficiencies in research and development, and the legacy of Soviet assistance. Inadequacies in the CPLAAF will continue to reflect this state of affairs until the mid-1980s, when the new all-weather fighter-interceptor, powered by Spey engines, is likely to fly.

Hun Ren. "China Develops a New General of Fighters." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 4, no. 1, issue 40, 1 March 1980, p. 37. In Chinese.

China has developed a new generation of fighter-bombers, the SHENYANG F-12, based on MiG-23 technology (supplied by Egypt) and the Rolls-Royce Spey engine. The F-12A is a fighter-bomber similar to the MiG-23, and the F-12B is a delta-winged ground attack fighter outwardly similar to the French Mirage. Includes two line drawings and a black and white photograph of the Rolls-Royce Spey engine.

Jiang Benxiang; Gan Yuming; Zhou Shuiqing; and Li Baoguo. "An Aviation School's New Leaf." Jiefangjun Huabao (Beijing), no. 390, December 1979, pp. 12-13. In Chinese.

Contrasts a contemporary aviation school with its predecessor 30 years ago. Describes efforts to improve teaching methods and facilities, and to improvise in teaching and in maintenance.

Lee, Dinah. "China Harries the Opposition." Far Eastern Economic Review (Hong Kong), vol. 102, no. 47, 24 November 1978, pp. 19-20. HC411.F18

A British Aerospace team will soon go to China to discuss the sale of 50 to 100 Harrier jump-jets and the construction of a Chinese facility to manufacture them. Vice Premier Wang Zhen has pressured the Labor Government to approve the sale.

Lee, Dinah. "The Harrier Men Jump In." Far Eastern Economic Review (Hong Kong), vol. 103, no. 7, 16 February 1979, p. 28. HC411.F18

A British Aerospace group journeyed to Beijing in preparation for British Secretary of State for Industry Eric Varley's visit to sign a \$10 billion Sino-British economic cooperation agreement. Varley will insist that the Chinese grant additional unrelated contracts in order to clinch the Harrier deal. Under the terms of the \$2.75 billion Harrier package, an initial sale of 70 jets at a price of \$1.45 billion will be followed by technical training and factory building in anticipation of Chinese production of up to 250 Harriers under British guidance.

Li Baoguo, Li Zhen, and Zhou Bin. "Heroic Eagles Fly Together." Jiefangjun Huabao (Beijing), no. 387, September 1979, pp. 14-15. In Chinese.

Describes the spirit of cooperation and interracial harmony in the "United Nationalities Company" of a certain paratrooper unit. Includes black and white photographs of minority paratroopers.

Lu Wenjun; Ren Mingfu; Xiao Yu; and Wu Shouqing. "Sky-Awing Flight Group." Jiefangjun Huabao (Beijing), no. 390, December 1979, pp. 8-9. In Chinese.

Describes a flight group of the CPLAAF with combat experience in the Korean and Sino-Vietnamese Border Wars. Stresses group combat and experimental flying experiences.

"\$10m Chinese Order." Vikrant: The Defence Journal (New Delhi), vol. viii, no. 5, February 1978, pp. 36-37. UA840.V45

Reports that China has bought \$20 million worth of equipment from Vickers for testing the Spey aircraft engine.

"More Pilots for Chinese Air Force." Flight International (London), vol. 115, no. 3645, 27 January 1979, p. 243. TL501.F5

China is stepping up the training of military pilots, and a number of new training establishments have been set up to prepare officers for air force and antiaircraft artillery units.

"New Chinese Fighter Emerging." Flight International (London), vol. 112, no. 3585, 26 November 1977, p. 1564. TL501.F5

China will build a sophisticated interceptor-fighter, the F-12, modeled on the MiG-23. The fighter will have Mach 2 capability and will likely use the Rolls-Royce Spey engine. Chinese ability to provide advanced electronics may limit the fighter to F-4, rather than F-15 or F-16 technology.

Also see: "Aircene: Aircraft and Industry: China." Air International (Scarborough, United Kingdom), vol. 14, no. 1, January 1978, pp. 3-4. UA630.A1A35; "Chinese Fighter." Aviation Week and Space Technology (New York), vol. 107, no. 21, 21 November 1977, p. 16. TL501.A8

"People's Air Defence." Peking Review, vol. 21, no. 46, 17 November 1978, pp. 3-4. DS701.P42

On 1 November 1978, Vice Chairman Ye Jianying spoke before the Third National People's Air Defense Conference and stressed the strategic importance of people's air defense. "It should be noted that economic construction and people's air defense promote and complement each other" He added that special attention should be paid to digging tunnels--the building of an up-to-date underground fortress.

"PRC Harrier Delays." Strategy Week (Washington, D.C.), vol. vi, no. 15, 14-20 April 1980, p. 5.

The CPLAAF decision to buy British Aerospace's Harrier Mk.3 V/STOL fighter has once more run into problems, as the Chinese delegation has cancelled its visit to the United Kingdom. It has been reported that China is interested in purchasing 12 more Harriers for testing and evaluation prior to purchasing any substantial number.

"PRC: New Fighter in Production." Defense & Foreign Affairs (Washington, D.C.), vol. viii, no. 6, June 1980, p. iii. UA10.D428

China has begun production of its new supersonic fighter, the F-12. Analysts believe the F-12 is the Chinese equivalent of the Soviet MiG-23 FLOGGER fighter which is capable of attaining a speed of Mach 2.3.

"The Qiang-5 (F-9) Ground Attack Aircraft." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 3, no. 7, issue 34, 25 August 1979, p. 19. In Chinese.

In July 1979 China released a color photograph of the QIANG-5 (previously erroneously referred to as the F-9). The photograph shows features of the plane which were unknown. A bomb bay is visible behind the front wheel and should be capable of carrying four 250-kg conventional bombs and tactical nuclear weapons. A pair of underwing pylons hold air-to-ground rockets. The wing root guns are generally speculated to be NR-23 23-mm cannons. The QIANG-5 does not seem to have a search and back radar and may only have a rudimentary fire control radar. A photograph of QIANG-5 aircrafts deployed at a CPLAAF base near the Sino-Vietnamese border accompanies the text.

"Renewed Chinese Interest in Harrier." Flight International (London), vol. 112, no. 3583, 12 November 1977, p. 1404. TL501.F5

Vice Premier Wang Zhen told a visiting British trade delegation that China was considering buying 100 or more Harrier jets. The sale would require both COCOM and British Government approval.

"Revolutionary Photo--First Aeroplane of Chinese Red Army." Beijing Review, vol. 22, no. 9, 2 March 1979, p. 30. DS701.P42

A black and white photograph of the fuselage of the Lenin, the Chinese Red Army's first aeroplane, is shown. The Lenin, a Guomindang Junker trainer, was captured in 1931 by the peasant Red Guards in Henan Province. The Lenin was dismantled and buried in July 1932 after the main force of the Red Army was transferred out of the Dabie Mountain base area in Henan. The photograph is currently on exhibition in the Military Museum of the Chinese People's Revolution in Beijing.

Richardson, Doug. "Fire Power." Flight International (London), vol. 113, no. 3602, 1 April 1978, pp. 921-926. TL501.F5

Surveys airborne radar systems in service in the Soviet and Chinese Air Forces. China has two airborne radars in the unclassified literature, the

I-band Scan Can and the Scan Odd. Speculates that the SHENYANG F-9 comes equipped with a copy of the Soviet Spin Scan.

Richardson, Doug. "Military Airborne Radars." Flight International (London), vol. 115, no. 3655, 7 April 1979, pp. 1068-1072, 1079-1086, 1092-1094. TL501.F5

Chinese airborne radars, copies of the Soviet I-band Scan Can and Scan Odd, are listed in the section on air interception and fire control.

Richardson, Doug, and Warwick, Graham. "China's Air and Missile Forces." Flight International (London), vol. 116, no. 3679, 22 September 1979, pp. 949-952, 957-960. TL501.F5

Cover story discusses CPLAAF aircraft and missiles, including production history and capabilities. Analyzes in detail the new A-5 FANTAN fighter and compares it with the MiG-19. Discusses Chinese arms shipments to Third World countries, and interest in Western advanced technology to supplement gaps in the domestic aviation industry. Asserts that China's greatest weakness is the lack of medium- and long-range transport aircraft, and that the shortage of tactical airlift capability could be a stumbling block to effective deployment of the Harrier. Includes black and white and color photographs.

Robinson, Clarence A., Jr. "China's Technology Impresses Visitors." Aviation Week and Space Technology (New York), vol. 113, no. 14, 6 October 1980, pp. 25-26. TL501.A8

Describes the visit to China of a Defense Department delegation led by William J. Perry, Undersecretary of Defense for Research and Engineering. US officials were impressed by the growth in aviation technology during their tour of aircraft and engine factories and research and development institutes. Facilities visited included the Shenyang production facility--which is now working on the F-8 prototype aircraft--a Harbin missile factory, the engine factory at Xian producing the Rolls-Royce Spey engine, and Beijing University.

"Scientific Research Experimental Flying Heroes." Jiefangjun Huabao (Beijing), no. 394, April 1980, pp. 12-15. In Chinese.

Describes the exploits of Hua Jun and Wang Ang, who have made 51 and 95 experimental research flights, respectively. Both CPLAAF deputy regimental commanders have had the honor of "scientific research experimental flying heroes" conferred on them by the Party Central Military Commission. Includes color photographs of both Hua and Wang in action.

Simmons, Henry T. "US Arms Sales and the Carter White House." International Defense Review (Geneva), vol. 12, no. 3, March 1979, pp. 339-343. U1.I48

Notes that the China market represents a major new opportunity for Western arms sales. Chinese buyers have been interested in the HOT and Milan antitank missiles, antiaircraft missile systems, the Roland SAM system, Mirage 2000, and Harrier V/STOL aircraft.

"Soviets Oppose Harriers for China." Aviation Week and Space Technology (New York), vol. 109, no. 23, 4 December 1978, p. 21. TL501.A8

Soviet Party Chief Leonid Brezhnev wrote British Prime Minister James Callahan protesting the possible sale of Harriers to China. The Soviet Union fears that China seeks aircraft suitable for long-range nuclear weapons delivery directed at the USSR.

"Soviet Union Airlifts Arms to Hanoi." Flight International (London), vol. 115, no. 3650, 3 March 1979, p. 606. TL501.F5

As the Soviet Union airlifts arms to Vietnam, China's invasion seems to have turned into a slow-moving infantry war marked by heavy artillery duels. The CPLA has captured Lao Cai, Cao Bang, and Ha Giang; Lang Son is under siege. The Chinese Air Force has been kept in check by Vietnamese antiaircraft units, which have superior antiaircraft fighting abilities. Meanwhile, Britain will press ahead with plans to sell the Harrier to China.

Sun Meng. "Let the Heroic Eagles Spread Their Wings." Jiefangjun Huabao (Beijing), no. 397, July 1980, pp. 14-17. In Chinese.

Briefly traces the development of China's aircraft industry which now produces fighters, attack planes, bombers, helicopters, transports, trainers, and civilian aircraft. Stresses progress made since the fall of the "Gang of Four." Includes black and white and color photographs of aircraft production scenes.

Tan Xiande and Wu Senhui. "Heroic Unit's Party Branch Cultivation." Jiefangjun Huabao (Beijing), no. 398, August 1980, pp. 20-21. In Chinese.

Describes the efforts of the party committee of a certain air force surface-to-air missile unit to improve training, technical standards, and combat readiness. Includes color photographs of party members with SAM equipment.

"US Approves Arms Deals with China." Flight International (London), vol. 114, no. 3635, 18 November 1978, p. 1845. TL501.F5

Shortly before the visit to England of a Chinese military delegation led by Vice Premier Wang Zhen, the US announced it no longer opposes NATO countries selling arms to China.

Warwick, Graham. "Military Aircraft of the World." Flight International (London), vol. 117, no. 3702, 1 March 1980, pp. 643-646, 651-658, 663-674, 679-684, 688-694. TL501.F5

Surveys world military aircraft and includes photographs and specifications tables. Entries for China are the B-5 (Il-28 Beagle copy), the B-6 (Tu-16 BADGER), F-6 (MiG-19 copy), and F-6bs FANTAN (improved MiG-19/F-6), but these aircraft are not listed in the tables or photographs.

Westlake, Michael. "How Do you Update Copies of a Copy of a Copy?" Far Eastern Economic Review (Hong Kong), vol. 107, no. 10, 7 March 1980, pp. 61-62, 64-65. HC411.F18

Westlake reports on China's aviation industry. Although new fighter aircraft are expected to join CPLAAF inventory in the near future, joint ventures in aerospace are in the offing, and China is interested in purchasing a wide variety of Western aircraft and related products. China's problems in upgrading its high technology industries are particularly notable in the aerospace industry. The CPLAAF inventory is largely based on copies of Soviet aircraft of Korean War vintage, and electronics, particularly radar, remain far behind modern technologies. However, China has made some technological advances, and is believed to be building the F-12, a variant of the MiG-23; the F-12A, similar to the Mirage 2000; and the F-12B and FANTAN.

Wheeler, Barry C. "Military Aircraft Census." Flight International (London), vol. 118, no. 3722, 6 September 1980, pp. 991-992, 997-998, 1007-1010. TL501.F5

Lists countries possessing aircraft produced by specific manufacturers and number of each type. China is noted, for example, as having 60 redundant Tu-16 BADGERS.

Wheeler, Barry C. "World's Air Forces 1978." Flight International (London), vol. 114, no. 3616, 8 July 1978, pp. 99-106, 111-114, 119-130, 135-140, 143-146, 149-154. TL501.F5

Section on China includes summary of numbers and types of aircraft in use, and mention of Chinese interest in purchasing Harrier jets.

Wheeler, Barry C. "World's Air Forces 1979." Flight International (London), vol. 116, no. 3672, 4 August 1979, pp. 333-338, 343-348, 353-367, 373-386. TL501.F5

Section on China lists CPLAAF numbers and types in interceptor/fighters, strategic bombers, and helicopters. Also mentions CPLA naval aviation.

Wheeler, Barry C. "World's Air Forces 1980." Flight International (London), vol. 118, no. 3762, 4 October 1980, pp. 1323-1332, 1337-1352, 1357-1362, 1365-1370, 1373-1378. TL501.F5

Section on China outlines Air Force organization, explains aircraft designations, surveys aircraft type, numbers, use, and capabilities. Briefly mentions naval aviation.

Wu Senhui; Gao Lin; Huang Songjian; and Wu Shouqing. "Low Altitude Dynamiters." Jiefangjun Huabao (Beijing), no. 386, August 1979, pp. 16-17. In Chinese.

Attack fighters are called "low altitude dynamiters." Their pilots must have superior technical and fighting skills and have trained in coordination with the ground forces to strengthen their fighting skills under modern war conditions. Includes color photographs of attack fighters on training flights.

Xiao Yu; Huang Biao; Wu Shouqing; and Hu Baoyu. "Iron Radar Company." Jiefangjun Huabao (Beijing), no. 384, June 1979, pp. 14-15. In Chinese.

Describes the exploits of a CPLAAF radar company in the Sino-Vietnamese Border War of 1979. The company manned a radar station above Friendship Pass on the Sino-Vietnamese Border under fierce enemy artillery fire, and collectively won a first-class commendation. Includes black and white photographs of the radar station and troops.

Xu Jiekang; Wang Liping; and Wu Shouqing. "Very Low-Altitude Flying." Jiefangjun Huabao (Beijing), no. 399, September 1980, pp. 20-21. In Chinese.

Briefly describes very low altitude flight training in mountainous areas with a complex terrain and frequently changing weather conditions. While training, units rigorously assess theory and weather conditions, check out aircraft, and conduct operations as required. Includes black and white photographs of airplanes and pilots in training.

Yi Guang. "A Superficial Description of the Bombing Techniques of the Attack Fighter." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 3, no. 12, issue 39, 1 February 1980, pp. 44-46. In Chinese.

Describes bombing techniques of Chinese attack fighters. Lists advantages and disadvantages, and illustrates level, steep dive, shallow dive, and pitch bombing methods. Includes black and white photographs of QIANG-5 attack fighters.

Young, Peter L. "China's Military Capabilities." Asian Defence Journal (Kuala Lumpur), February 1979, pp. 18-19, 22-23, 26, 30-31. UA830.A8

Young says that Beijing is now portraying itself as a country critically deficient in modern armaments and is seeking Western aid in the supply of arms and technological skills for its modernization program. He discusses the Chinese Air Force, which consists of mainly obsolete equipment. Young says the lack of advanced fighter types and the relatively slow rate of production of Chinese aircraft must be of major concern to Beijing. Young also provides information on China's interest in and acquisition of Western equipment, particularly the British V/STOL Harrier.

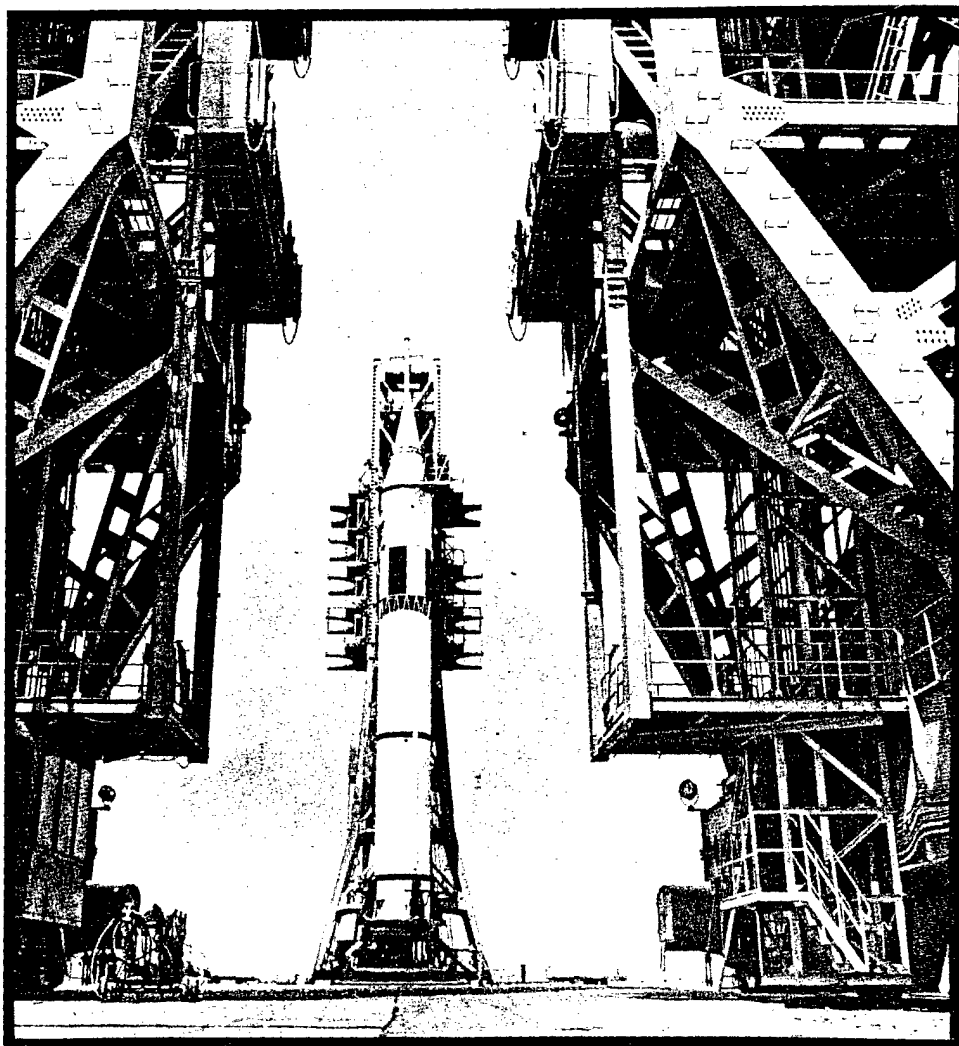
Zhou Yi and Li Dan. "Blue Sky Gardners." Jiefangjun Huabao (Beijing), no. 397, July 1980, pp. 12-13. In Chinese.

Reports that flight instructors are undergoing experimental flight training in high speed fighters in order to better teach air fighting methods. Includes color photographs of airplanes and flight instructors.

Zhu Zhongzhi, Xiao Yu, and Wu Shouqing. "Reforming Flight Training." Jiefangjun Huabao (Beijing), no. 392, February 1980, pp. 10-11. In Chinese.

Inspired by the spirit of the Third Plenum of the 11th Party Congress, a certain air force unit reformed its flight training. The unit consolidated over 200 exercises into eight general exercises: appearance, special skills, aerial targets, coordination, air fighting, intercept, attack, and mobility. Organization, maintenance, and logistics were also reformed. As a result, the unit has produced over 100 all-weather pilots. Includes color photographs of pilots.

6. SPACE



DF-5/CSS-X-4 at the Launching Site

a. Monographs

Hahn, Bradley. Strategic Implications of People's Republic of China Nuclear Weapon and Satellite Rocket Programs. Hong Kong: Asian Research Service. 1980. 86 pp. Bibliography. Illustrations.

Discusses the background and evolutionary history of China's nuclear and satellite rocket programs, their developments and probable future trends, land- and sea-based strategic missile programs and capabilities, strategic landmining capabilities, strategic aircraft delivery systems, and satellite rocket and space vehicle programs. Drawings, photographs, and charts accompany the text.

Pritchard, Wilbur L. and Harford, James J., eds. China Space Report. New York: American Institute of Aeronautics and Astronautics, 1980. iv. 208 pp. Index. Illustrations. Bibliography. TL798.8C55P74

Report on China's space activities is based on observations made during a November 1979 tour by a delegation of the American Institute of Aeronautics and Astronautics. The delegation visited various ministries, academic and research centers, production plants and operating installations, including the Chinese Academy of Space Technology, Xi'an Center for Satellite Tracking, Telemetry and Control, Purple Mountain Observatory, and the Shanghai Xinxin Machinery Factory. Information is given on China's existing space programs. A technology assessment on China's launch vehicles is provided.

Suttmeier, Richard P. Science, Technology and China's Drive for Modernization. Stanford: Hoover Institution Press, 1980. xii. 121 pp. Notes. Index. Q127.C5S87

Discusses the direction of China's science and technology since the death of Mao and briefly notes the development of China's space and nuclear programs. China seeks to develop space science, satellites, and ground facilities for remote sensing and other applications, to build modern space centers, and to develop launch vehicles and skylabs. The text of the "Understanding on Cooperation in Space Technology Between the United States of America and the People's Republic of China" is included.

b. Serials

"Astronaut Candidates Training in China for Future Missions." Aviation Week and Space Technology (New York), vol. 112, no. 5, 5 February 1980, p. 57. TL501.A8

Astronaut candidates for future Chinese-manned spaceflight programs are undergoing zeroing, centrifuge, and physiological tests at a Chinese space facility. Physical training is the major part of astronaut training. Most candidates are young CPLAAF pilots.

"Aviation Summer Camp." China Pictorial (Beijing), no. 11, November 1978, pp. 28-29. DS777.55.C447

In August 1978 more than 300 middle school students attended the 1978 National Aviation Summer Camp. They attended lectures on aviation and space science and participated in aviation sports. Black and white photographs show a visit to a CPLAAF airport unit, a parachuting demonstration, flying over Beijing, and a radio-controlled glider made by students.

"Brief Career for the Fourth Chinese Military Surveillance Satellite." Flight International (London), vol. 113, no. 3597, 25 February 1978, p. 496. TL501.F5

Reports on the 26 January-7 February 1978 flight and successful return to earth of CHINA-8. CHINA-8 probably was a military reconnaissance satellite that took pictures of the Soviet Union, including the Sino-Soviet border region.

Britton, Michael. "Is Military Cooperation only a Matter of Time?" Far Eastern Economic Review (Hong Kong), vol. 107, no. 10, 7 March 1980, pp. 69-70. HC411.F18

Reports on the changing Sino-US relationship since the establishment of diplomatic relations in December 1978. In his January 1980 trip to China, US Secretary of Defense Brown reaffirmed US willingness to provide China with sophisticated technology needed for modernization, and offered China access to the Landsat-D surveillance satellite. Landsat, primarily a civilian monitoring program, has sophisticated high resolution cameras and ground support equipment that undoubtedly will have implications in the long term for China's defense technology. Much of the state of technology the US is providing to China has "spin-off" applications.

Cheah Cheng Hye. "Bridging the Strategic Gap." Far Eastern Economic Review (Hong Kong), vol. 108, no. 18, 25 April 1980, pp. 30, 32. HC411.F18

Xu Baoxi, in an article for Jiefangjun Bao [Liberation Army Daily], said China's lack of preparation against enemy use of nuclear weapons is "frightening." Xu, whose CPLA position is unidentified, views the opinion that China is unlikely to come under Soviet attack as "very worrying" and calls for Beijing to be able to engage in a tit-for-tat nuclear battle with Moscow. Though China has made nuclear advances and has a growing influence in the global nuclear equation, China's nuclear deterrent against a Soviet attack cannot guarantee China's security. Xu argues for tactical missiles, an arsenal of tactical nuclear weapons, and the

building up of China's strategic forces. Mention is also made of China's progress in its space program--as observed by a recent US delegation touring China's space facilities.

Chen Yuchen. "Chinese Communist Policy on Science and Technology: Changes and Effects." Issues & Studies (Taipei), vol. 15, June 1979, pp. 45-64. D839.I732

Reports that China's bid for modernization means stressing science and technology. Chen says that to the Communists, self-reliance means obtaining the appropriate technology from other nations. From 1966 to 1976 the Chinese Communists made advances in developing nuclear weapons and satellites, and from 1964 to 1978 they conducted 25 nuclear tests. Eight satellites were launched between 1970 and 1978.

"China Beginning Manned Space Development." Aviation Week and Space Technology (New York), vol. 110, no. 22, 28 May 1979, pp. 26-27. TL501.A8

China is beginning to develop a manned spaceflight capability as part of its drive to advance space technology in the next 7 years. Lists space technology facilities and briefly describes spacecraft and efforts to develop a liquid oxygen/liquid hydrogen upper stage launcher. Notes development of military reconnaissance spacecraft capabilities.

"China's Launcher Closer to Completion." Flight International (London), vol. 117, no. 3697, 26 January 1980, p. 238. TL501.F5

China wants to obtain solid propellant and altitude-control technology from Japan. China is developing a three-stage launcher similar to the Ariane and applications satellites.

"China's Missile Programme." Intelligence Digest (Cheltenham, United Kingdom), 1 January 1978, pp. 6-7. D839.I4548

Western experts have concluded that China's space program, especially its potential nuclear delivery systems, have been seriously underestimated. The launching of three satellites in 1975 was a necessary byproduct of the development of medium-range and intercontinental-range delivery systems. China is working on developing a missile with a range of 12,972 km and it is thought to have a short-range missile for tactical use up to 322 km next on the agenda.

"China Spies in the Sky." Vikrant: The Defence Journal (New Delhi), vol. x, no. 1, October 1979, p. 8. UA840.V45

Quotes intelligence reports that China is preparing to launch a spy satellite similar to the American Agenda-D series. The spy targets are Soviet military installations in Siberia and missile site operations.

"Chinese Assemble FB-1 Booster from CSS-X-4 Missile." Aviation Week and Space Technology (New York), vol. 113, no. 6, 11 August 1980, pp. 18-20. TL501.A8

Presents color photographs and technical data on the FB-1 space launch version of the CSS-X-4 ICBM, and the CSS-X-4 ICBM itself.

"Chinese Develop Series of Missile, Satellite Launchers." Aviation Week and Space Technology (New York), vol. 113, no. 8, 25 August 1980, pp. 16-17. TL501.A8

Presents line drawings and technical data on the CSS-1, CSS-2, CSS-3, CSL-1 (LONG MARCH 1, CHINA 1 and 2), CSS-X-4, FB-1 (CSL-2, CHINA 3 to 8), and the CSL-X-3 (LONG MARCH 3) missiles and satellite launchers.

"Chinese Launcher." Aviation Week and Space Technology (New York), vol. 111, no. 16, 15 October 1979, p. 19. TL501.A8

China is modifying its CSS-X-4 space launch vehicle to a liquid oxygen-liquid hydrogen powered upper stage.

"Chinese Missile, Booster Photographed." Aviation Week and Space Technology (New York), vol. 110, no. 6, 5 February 1979, p. 19. TL501.A8

Black and white photographs of the CSS-1 and the CSS-X-4 are provided along with explanatory notes.

"Chinese Officials View US Aerospace Technology." Aviation Week and Space Technology (New York), vol. 110, no. 7, 12 February 1979, pp. 16-17. TL501.A8

Black and white photographs of Deng Xiaoping, Fang Yi, and other Chinese officials visiting Boeing, McDonnell Douglas, NASA, Lockheed facilities, and the Smithsonian National Air and Space Museum are shown.

"Chinese Pushing Aerospace Technology." Aviation Week and Space Technology (New York), vol. 110, no. 24, 11 June 1979, pp. 133-135, 137. TL501.A8

A description of Chinese aircraft construction facilities and their principal products. Lists satellite launching facilities and other aerospace technology establishments.

"Chinese Satcom Slated for 1980." Aviation Week and Space Technology (New York), vol. 109, no. 10, 4 September 1978, p. 26. TL501.A8

China is developing a space launch vehicle to send domestic communications spacecraft into geosynchronous orbit by 1980. The booster, similar to the General Dynamics Atlas-Centaur and the ESA Ariane, have a liquid hydrogen/liquid oxygen upper stage--a development which would require a major engineering effort and provide the capability to launch a wide range of civil and military spacecraft.

Also see: "China Re-Invents the Rocket." Flight International (London), vol. 114, no. 3628, 30 September 1978, p. 1255. TL501.F5

"Chinese Space Gains Hamper Antisatellite Limitation Treaty." Aviation Week and Space Technology (New York), vol. 111, no. 2, 9 July 1979, pp. 18-19. TL501.A8

US-Soviet negotiations on an antisatellite limitation treaty have been suspended without significant progress. One problem area is Soviet concern over the burgeoning Chinese space program, which now includes photo-reconnaissance satellites. The USSR apparently does not want limitations on Soviet ability to knock out Chinese spacecraft in any future Sino-Soviet crisis.

"Chinese Spacecraft." Aviation Week and Space Technology (New York), vol. 108, no. 6, 6 February 1978, p. 19. TL501.A8

A Chinese reconnaissance spacecraft was launched on 26 January 1978 and returned a payload to earth on 30 January 1978.

"Chinese Technology Gains Found Extensive." Aviation Week and Space Technology (New York), vol. 112, no. 3, 21 January 1980, pp. 16-18. TL501.A8

Analysis of Chinese space technology by an American Institute of Aeronautics and Astronautics delegation, which recently toured 15 Chinese facilities, indicates extensive and "surprising" high technology progress is being made across many space program fronts. The delegation did not discuss military space technology, but tours of the Xi'an satellite control facility, the Shanghai booster assembly plant, and the Shanghai Institute of Technical Physics revealed potential military applications in China's space programs.

Covault, Craig. "US Team Tours China's Space Facilities." Aviation Week and Space Technology (New York), vol. 110, no. 26, 25 June 1979, pp. 77, 79, 81-82. TL501.A8

Describes the US space technology delegation's tour of 19 Chinese space and aeronautics facilities, including the Shuangchengzi launch site. Delegation members said that China has all the basic elements to form a vigorous space program. The delegation was most impressed by the almost total lack of imported hardware.

Dai Ji. "China Trains Her First Astronauts." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 3, no. 12, issue 39, 1 February 1980, pp. 42-43. In Chinese.

Chinese press accounts report on the training of the first group of Chinese astronauts. The would-be astronauts, chosen among healthy, technologically competent Air Force pilots, underwent training in simulated spaceflight conditions such as weightlessness. The reports discuss food, space suits, and the first dog to be launched into space and safely returned to the earth. Includes black and white photographs of astronauts and dog.

Dong Gong. "China's Ballistic Missiles and Carrier Rockets." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 4, no. 9, issue 48, 1 November 1980, pp. 41-44. In Chinese.

China has acquired respectable satellite launch and medium- to long-range nuclear strike capabilities. Strategic weapons research and development have gone through three stages: the CSS-1, a 1,200-km single-stage vehicle; the CSS-2; the CSS-3 two-stage ICBM and the CSL -1 three-stage space launcher; and the CSS-X-4, a two-stage, 8,050-km range experimental ICBM. In 2 years China will test the CSL-X-3, which will have the first two stages of the CSS-X-4 plus a liquid oxygen/hydrogen third stage.

Fang Jincheng. "Guided Missiles, Nuclear Fission and Space Science in China." China Report (Delhi), vol. xvi, no. 4, July-August 1980, pp. 39-44. DS777.55.C4484

Translation of an article from the September 1979 issue of Dongxiang (Hong Kong). The article discusses China's nuclear development and capabilities, progress in space rocketry and satellites, and notes that China's use of ICBMs to launch satellites is a measure of its achievement. It is thought that if China could improve the remote control and brake techniques on the CSS-X-4 rocket, it could carry both numerous warheads and man into space.

Ghosh, S. K. "China's Space Programme." IDSA Journal (New Delhi), vol. 12, April-June 1980, pp. 360-374.

China's stepped-up space activity reflects its determination to advance toward the goal of developing and deploying a successful operational military satellite system.

Hewish, Mark. "China Makes Ground in the Space Race." New Scientist (London), 26 June 1980, p. 378. Q1.N52

The May 1980 test-firings of two ICBMs by China probably had a dual purpose: to show the world China can conduct long-range nuclear war against the Soviets; and to test equipment for China's space program. The Chinese are probably mating the two-stage CSS-X-4 with the third-stage rocket they are developing to form a launcher, the LONG MARCH 3, which would enable China to launch its own satellites into geostationary orbit around the earth. The earliest likely date for China's manned spaceflight is 1986.

"On the Home Front--China's Recoverable Satellites." Peking Review, no. 17, 28 April 1978, p. 30. DS701.P42

Since 1975 China has recovered three satellites which functioned in orbit according to plan and provided useful data about space and earth. Chinese scientists designed the satellites exploiting China's own achievements in materials and technology and using a new material which reduced the weight of a certain part by more than 70 percent.

"Intelligence: Peking's Space Spies." Far Eastern Economic Review (Hong Kong), vol. 101, no. 38, 22 September 1978, p. 5. HC411.F18

Notes that "China is preparing a new generation of spy satellites as part of its rapidly progressing space program."

"International Launch Vehicles." Aviation Week and Space Technology (New York), vol. 110, no. 11, 12 March 1979, pp. 94-95. TL501.A8

Entries for China in this table are sketchy--listing only propellants, thrust, launch weight, and orbital payload of spacecraft.

"International Launch Vehicles." Aviation Week and Space Technology (New York), vol. 112, no. 9, 3 March 1980, pp. 108-109. TL501.A8

Chinese entry in this table, the FB-1, includes information on propulsion, propellants, thrust, dimensions and weight, and payload.

"Leading US and International Spacecraft." Aviation Week and Space Technology (New York), vol. 108, no. 11, 13 March 1978, p. 93. TL501.A8

Entry for China sketchily lists weight, launch vehicle, purposes, and launch dates of CHINA 1 to 7 satellites.

"Leading US and International Spacecraft." Aviation Week and Space Technology (New York), vol. 110, no. 11, 12 March 1979, pp. 92-93. TL501.A8

This table lists the weight, launch vehicle, purpose, and launch dates of CHINA 1 to 8 and STW 1 and 2 satellites.

"Leading US and International Spacecraft." Aviation Week and Space Technology (New York), vol. 112, no. 9, 3 March 1980, pp. 106-107. TL501.A8

Entries in this table include weight, launch vehicle, launch dates, and purposes of CHINA 1 to 8 and STW 1 and 2 spacecraft.

Spurr, Russell. "Stepping up the Space Race." Far Eastern Economic Review (Hong Kong), vol. 102, no. 41, 13 October 1978, pp. 13-14. HC411.F18

Recent developments in the Chinese satellite program reveal China's progress in both the space communications and the spy satellite businesses. Spurr traces the history of the Chinese satellite program and its relation to missile development. The development of spy satellites such as CHINA 8 indicate that in the next few years sophisticated space surveillance of the Soviet Union is likely.

Sun Jiadong. "The Space Effort in Our Country Develops Rapidly and Grows in Strength." Chinese Science and Technology (White Plains, New York), vol. 1, no. 1, summer 1979, pp. 91-94. Q127.C5 C5547

At the March 1978 National Science Conference, Sun Jiadong talked about the excellent situation in the development of China's space endeavors. China is the third country in the world to master the technique of

recovering satellites and has "persisted in the principle of combining learning from others with creating on our own."

Wade, Mark. "The Chinese Ballistic Missile Program." International Defense Review (Geneva), vol. 13, no. 8, August 1980, pp. 1190-1192. U1.I48

Traces the development of Chinese ballistic missiles and space launchers. Charts depict specifications and designations of Chinese missiles, and provide data on China's satellites. Notes that China's production limitations have led to severe tradeoffs between the missile and space program.

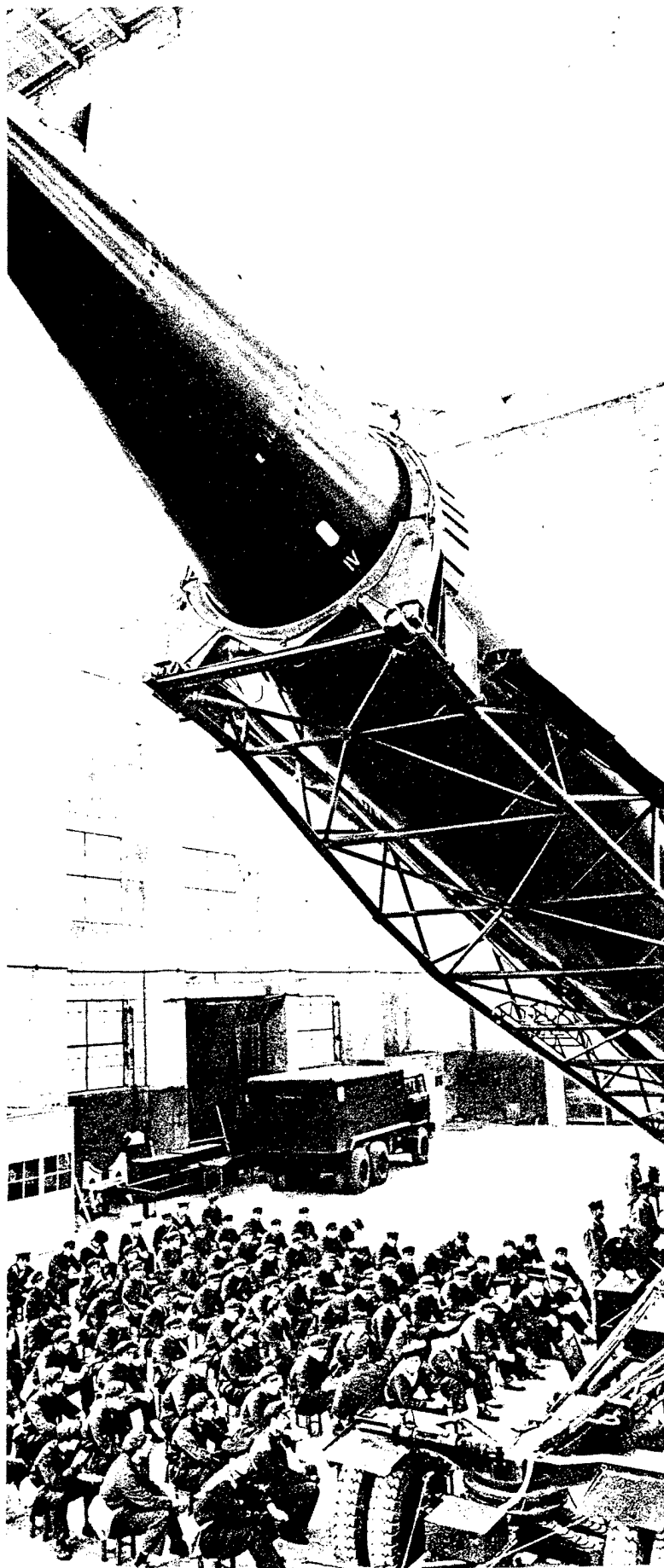
Xu Huilin. "Gunpowder and Ancient Rockets." China Reconstructs (Beijing), vol. xxix, no. 10, October 1980, pp. 58-60. DS701.C643

Xu, a researcher for the CPLA, traces the development of Chinese rocketry from the first use of "true rockets" at least as early as the Southern Song dynasty (1127-1279) to the launching of China's first carrier rocket to a designated area in the South Pacific in May 1980. Xu discusses improvements in rocket propulsion, beginning in the 12th century, and also discusses the Chinese use of gunpowder. Illustrations include drawings of incendiary arrows, a Song dynasty 'fire gun,' a Ming dynasty mine, and photographs of China's recent rocket launch and the control room used for the launch.

Young, Peter L. "China's Military Capabilities." Asian Defence Journal (Kuala Lumpur), February 1979, pp. 18-19, 22-23, 26, 30-31. UA830.A8

Says Beijing is now portraying itself as a country critically deficient in modern armaments, and is seeking Western aid in the supply of arms and technological skills for its modernization program. He notes that China's missile testing is linked with its space program--which is geared toward the production of spy satellites. It is expected that by the 1980s China will be operating its own weather, spy, and communications satellites. The sending of Chinese students abroad and pledges of US space cooperation make this seem more likely.

7. MISSILE



Hands-on Missile Training for the Three Services

a. Monographs

Campbell, R. K. The Military Potential of the People's Republic of China. Braamfontein, South Africa: The South African Institute of International Affairs, 1980. 12 pp. Occasional Paper. UA835.C28

China's defense policy "has oscillated between two extremes: nuclear deterrence . . . and 'people's war.'" Campbell discusses China's nuclear force capabilities and deterrent, China's conventional Air Forces, Navy, and Army, and the effect of the Cultural Revolution on the Armed Forces. He concludes that China's military potential is "actually very low, due to the lack of modern equipment."

Hahn, Bradley. Strategic Implications of People's Republic of China Nuclear Weapons and Satellite Rocket Program. Hong Kong: Asian Research Service, 1980. 86 pp. Bibliography. Illustrations.

Discusses the background and evolutionary history of China's nuclear and satellite rocket programs, their developments and probable future trends, land- and sea-based strategic missile programs and capabilities, strategic landmining capabilities, strategic aircraft delivery systems, and satellite rocket and space vehicle programs. Drawings, photographs, and charts accompany the text.

Hewish, Mark; Sweetman, Bill; Wheeler, Barry C.; and Gunston, Bill. Air Forces of the World: an Illustrated Directory of all the World's Military Air Powers. New York: Simon and Schuster, 1979. 264 pp. Illustrations. Index. UG630.A382

Directory on the world's air forces also mentions China's strategic missile force.

Pillsbury, Michael. Chinese Perceptions of the Soviet-American Military Balance. Final Report SPC 534. March 1980. 69 pp.

Compares Chinese, Soviet, and American approaches to nuclear deterrence and suggests the Chinese have unique perceptions of which factors are significant in assessing the military balance of power.

Pritchard, Wilbur L. and Harford, James J., eds. China Space Report. New York: American Institute of Aeronautics and Astronautics, 1980. iv. 208 pp. Index. Illustrations. Bibliography. TL798.8C55P74

Report on China's space activities is based on observations made during a November 1979 tour by a delegation of the American Institute of Aeronautics and Astronautics. The delegation visited various ministries, academic and research centers, production plants and operating installations, including the Chinese Academy of Space Technology, Xi'an Center for Satellite Tracking, Telemetry and Control, Purple Mountain Observatory, and the Shanghai Xinxin Machinery Factory. Information is given on China's existing space programs. A technology assessment on China's launch vehicles is provided.

Soborov, Boris. Peking: A Policy of Militarisation. Moscow: Novosti Press Agency Publishing House, 1979. 68 pp. UA835.S64

Discusses China's militarism and militaristic aspirations which the author predictably believes are connected with the hegemonist bent of the Chinese leaders. He says the modernization of the Army is the main emphasis of the four modernizations. Soborov details China's preparations for its "accelerated development of an up-to-date war industry"--particularly the branches connected with nuclear, missile, and space programs. He briefly traces the development of China's atomic program, which began in 1953, and says that China's nuclear research program is probably far greater than Western analysts believe.

Suttmeier, Richard P. Science, Technology and China's Drive for Modernization. Stanford: Hoover Institution Press, 1980. xii. 121 pp. Notes. Index. Q127.C5887

Discusses the direction of China's science and technology since the death of Mao and briefly notes the development of China's space and nuclear programs. China seeks to develop space science, satellites, and ground facilities for remote sensing and other applications, to build modern space centers, and to develop launch vehicles and skylabs. The text of the "Understanding on Cooperation in Space Technology Between the United States of America and the People's Republic of China" is included.

Yoder, Amos. Chinese Policies Toward Limiting Nuclear Weapons. Muscatine, Iowa: The Stanley Foundation, 1980. 32 pp. Occasional Paper 22. UA835.Y62

Provides the background for China's nuclear policies--vis-a-vis the Sino-Soviet rift, control of nuclear weapons and foreign policy--and analyzes options for US policies toward China on limiting nuclear weapons. "China's major aim, as evident from its nuclear position and statements, is to develop a deterrent to a Soviet attack."

b. Serials

"Analysis: China's Missile Strength." Data Asia (Manila), 19-25 May 1980, p. 7072. HC412.D18

China's first two tests of long-range ICBMs in May 1980 show that China has recovered from its 10-year setback in military and scientific development. However, China will likely deploy no more than a few dozen long-range missiles in the next 5 or 6 years. China has 55 missiles that are rated in the intermediate range--about 930 km. China has deployed 44 medium-range missiles, with a 372-km range, which could cover Mongolia and the Far Eastern areas of the USSR.

Breeze, Richard. "China Defence Notes." Asian Defence Journal (Kuala Lumpur), July-August 1980, pp. 46-47. UA830.A8

In May 1980 China test-fired two ICBMs--CSS-X-4 liquid fuel type rockets. China's ICBMs probably will not be hardened until 1990. The Chinese Navy also had a role in the May 1980 missile launches. A flotilla of 18 vessels traveled for a month to the central Pacific from Shanghai to monitor the test and police the target area. The flotilla included destroyers, submarines, tankers, and space support ships.

Also see: "China Tests 2 ICBMs." Data Asia (Manila), 19-25 May 1980, p. 7072. HC412.D18 Mentions that the rockets are parallel in power to the US rockets that launched Gemini-manned satellites and that the first missile traveled about 3,100 km; the second only 2,604 km--496 km short of the announced target area.

Cheah Cheng Hye. "Bridging the Strategic Gap." Far Eastern Economic Review (Hong Kong), vol. 108, no. 18, 25 April 1980, pp. 30, 32. HC411.F18

Xu Baoxi, in an article for Jiefangjun Bao [Liberation Army Daily], said China's lack of preparation [against enemy use of nuclear weapons] is "frightening." Xu, whose CPLA position is unidentified, views the opinion that China is unlikely to come under Soviet attack as "very worrying" and calls for Beijing to be able to engage in a tit-for-tat nuclear battle with Moscow. Though China has made nuclear advances and has a growing influence in the global nuclear equation, China's nuclear deterrent against a Soviet attack cannot guarantee China's security. Xu argues for tactical missiles, an arsenal of tactical nuclear weapons, and the building up of China's strategic forces. Mention is also made of China's progress in its space program--as observed by a recent US delegation touring China's space facilities.

Chen Yuchen. "Chinese Communist Policy on Science and Technology: Changes and Effects." Issues & Studies (Taipei), vol. 15, June 1979, pp. 45-64. D839.I732

Reports that China's bid for modernization means stressing science and technology. Chen says that to the Communists, self-reliance means obtaining the appropriate technology from other nations. From 1966 to 1976 the Chinese Communists made advances in developing nuclear weapons and satellites, and from 1964 to 1978 they conducted 25 nuclear tests. Eight satellites were launched between 1970 and 1978.

"China Beginning Manned Space Development." Aviation Week and Space Technology (New York), vol. 110, no. 22, 28 May 1979, pp. 26-27. TL501.A8

China is beginning to develop a manned spaceflight capability as part of its drive to advance space technology in the next 7 years. Lists space technology facilities and briefly describes spacecraft and efforts to develop a liquid oxygen/liquid hydrogen upper stage launcher. Notes development of military reconnaissance spacecraft capabilities.

"China (PRC): Further Progress in Missile Technology." NATO's Fifteen Nations (Amsterdam), vol. 24, no. 5, October-November 1979, p. 93. UA646.F5

China has an impressive array of intermediate-range missiles and has started producing the 11,000-km range CSS-X-4, which would be able to lift satellites into space orbit. Black and white photographs are included.

"China's Air and Missile Forces." Vikrant: The Defence Journal (New Delhi), vol. x, no. 5, February 1980, pp. 43-50. UA840.V45

Reproduces report by Doug Richardson and Graham Warwick in an unidentified magazine on the development of the Chinese aircraft industry and its products--the FANTAN fighter in particular. Also discusses Chinese missiles, Chinese military aircraft, aid to foreign countries, and the future development and needs of the CPLAAF.

"China's Carrier Rocket Stings Moscow." Beijing Review, vol. 23, no. 24, 16 June 1980, p. 13. DS701.P42

A Renmin Ribao commentary says that China's long-range carrier rocket tests were carried out as a major measure to strengthen national defense and speed up the four modernizations. These tests have "stung Moscow into launching a tirade of abuse against China." However, China develops nuclear weapons solely for defense and will not be the first to use nuclear weapons.

"China's Extending Strategic Army." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 4, no. 4, issue 43, 1 June 1980, pp. 13-15. In Chinese and English.

Reports that one reason for Vice Premier Li Xiannian's visit to Australia in early May 1980 was to disclose China's plan to conduct a long-range carrier rocket test. The CSS-X-4 ICBM, a three-stage long-range missile is almost 43 meters long, weight 204 tons. The first and second stages have booster engines for flight control; the third stage has built-in propellers powered by a combination of liquified oxygen and hydrogen. The rocket has an estimated range of 12,000 km and can carry an H-bomb warhead equivalent to 3 megatons TNT. Black and white photographs of naval ships supporting the operation accompany the text.

"China's Launcher Closer to Completion." Flight International (London), vol. 117, no. 3697, 26 January 1980, p. 238. TL501.F5

China wants to obtain solid propellant and altitude-control technology from Japan. China is developing a three-stage launcher similar to the Ariane and applications satellites.

"China's Missile Programme." Intelligence Digest (Cheltenham, United Kingdom), 1 January 1978, pp. 6-7. D839.I4548

Western experts have concluded that China's space program, especially its potential nuclear delivery systems, has been seriously underestimated. The launching of three satellites in 1975 was a necessary byproduct of the development of MRBM and ICBM delivery systems. China is working on developing a missile with a range of 12,872 km and it is thought to have a short-range missile for tactical use up to 322 km next on the agenda.

"China's Successful Launching of Carrier Rocket." Beijing Review, no. 21, 26 May 1980, p. 5. DS701.P42

On 18 May 1980 China achieved complete success in launching its first carrier rocket to its designated area in the Pacific Ocean, with a radius of 70 nautical miles, centered at seven degrees, zero minutes south latitude and 171 degrees, 33 minutes east longitude. Vice Premier Li Xiannian said China's Pacific rocket test is aimed at developing science and technology, accelerating the modernization of the country, and strengthening its defense capabilities against the threat of the hegemonists. A map shows the splashdown area of the carrier rocket.

"Chinese Army in Missile Training." Aviation Week and Space Technology (New York), vol. 111, no. 25, 17 December 1979, pp. 78-79, 81. TL501.A8

Presents black and white photographs with captions of CPLA troops training to launch the CSS-1 medium-range ballistic missile.

"Chinese Assemble FB-1 Booster from CSS-X-4 Missile." Aviation Week and Space Technology (New York), vol. 113, no. 5, 11 August 1980, pp. 18-20. TL501.A8

Presents color photographs and technical data on the FB-1 space launch version of the CSS-X-4 ICBM, and the CSS-X-4 ICBM itself.

"Chinese Develop Series of Missile, Satellite Launchers." Aviation Week and Space Technology (New York), vol. 113, no. 8, 25 August 1980, pp. 16-17. TL501.A8

Presents line drawings and technical data on the CSS-1, CSS-2, CSS-3, CSL-1 (LONG MARCH 1, CHINA 1 and 2), CSS-X-4, FB-1 (CSL-2, CHINA 3 to 8), and the CSL-X-3 (LONG MARCH 3) missiles and satellite launchers.

"Chinese Launcher." Aviation Week and Space Technology (New York), vol. 111, no. 16, 15 October 1979, p. 19. TL501.A8

China is modifying its CSS-X-4 space launch vehicle to a liquid oxygen-liquid hydrogen powered upper stage.

"Chinese Missile, Booster Photographed." Aviation Week and Space Technology (New York), vol. 110, no. 6, 5 February 1979, p. 19. TL501.A8

Black and white photographs of the CSS-1 and the CSS-X-4 are provided along with explanatory notes.

"Chinese Pushing Aerospace Technology." Aviation Week and Space Technology (New York), vol. 110, no. 24, 11 June 1979, pp. 133-135, 137. TL501.A8

A description of Chinese aircraft construction facilities and their principal products. Lists satellite launching facilities and other aerospace technology establishments.

"Chinese Satcom Slated for 1980." Aviation Week and Space Technology (New York), vol. 109, no. 10, 4 September 1978, p. 26. TL501.A8

China is developing a space launch vehicle to send domestic communications spacecraft into geosynchronous orbit by 1980. The booster, similar to the General Dynamics Atlas-Centaur and the ESA Ariane, have a liquid hydrogen/liquid oxygen upper stage--a development which would require a major engineering effort and provide the capability to launch a wide range of civil and military spacecraft.

Also see: "China Re-Invents the Rocket." Flight International (London), vol. 114, no. 3628, 30 September 1978, p. 1255. TL501.F5

Chopra, Maharaj K. "China's Policies and Postures After Mao." Journal of the United Service Institution of India (New Delhi), vol. cix, no. 456, April-June 1979, pp. 122-136. U1.U5

Discussion on China's direction after the death of Mao includes a section on the modernization of the Armed Forces. In a brief glance at China's nuclear strategy, Chopra says China has a high potential in the nuclear field, though progress has been slowed since 1972, probably due to technological problems. Though there will probably be some decrease in the funding for China's "atomic arsenal," China's nuclear effort will probably be influenced by international developments. Chopra reviews the composition of China's nuclear arsenal and says its ICBMs are reported to belong to the first generation and lack precision and high speed.

Dong Gong. "China's Ballistic Missiles and Carrier Rocket." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 4, no. 9, issue 48, 1 November 1980, pp. 41-44. In Chinese.

China has acquired respectable satellite launch and medium- to long-range nuclear strike capabilities. Strategic weapons research and development have gone through three stages: the CSS-1, a 1,200-km single-stage

vehicle; the CSS-2, a 2,500-km single-stage vehicle; the CSS-3 two-stage ICBM; the CSL-1 three-stage space launcher; and the CSS-X-4, a two stage, 8,050-km range experimental ICBM. In 2 years China will test the CSL-X-3, which will have the first two stages of the CSS-X-4 plus a liquid oxygen/hydrogen third stage.

Fang Jincheng. "Guided Missiles, Nuclear Fission, and Space Science in China." China Report (Delhi), vol. xvi, no. 4, July-August 1980, pp. 39-44. DS777.55.C4484

Translation of an article from the September 1979 issue of Dongxiang (Hong Kong). Discusses China's nuclear development and capabilities, progress in space rocketry and satellites, and notes that China's use of ICBMs to launch satellites is a measure of its achievement. It is thought that if China could improve the remote control and brake techniques on the CSS-X-4 rocket, it could carry both numerous warheads and men into space.

"From China With Love." Flight International (London), vol. 112, no. 3578, 8 October 1977, p. 999. TL501.F5

Reports that China has supplied Egypt with long-range surface-to-air missiles.

"Gambling on a Quick Missile Deterrent." Far Eastern Economic Review (Hong Kong), vol. 109, no. 40, 26 September 1980, pp. 55-56. HC411.F18

Reports that contrary to expectations, the CPLA is the "one substantial interest group in China which has not profited visibly from . . . the post-Mao leadership." Since Mao's death defense expenditures have dropped, only nonlethal military equipment has been purchased from abroad, and there has been a strain in army-party relations. There has been a strategic rethinking in the light of changing methods of warfare; China is discussing the relative importance of tactical nuclear weapons, antitank and antiaircraft systems, and the effectiveness of submarines, and has decided to move away from conventional armored warfare. Deng Xiaoping has said he expects a major war to break out sometime within the next decade, and is gearing his weapons systems improvements on missile systems for a strategic deterrent dependent on the planned rapid rise of China's scientific and technological level.

Ghosh, S. K. "China's Nuclear Missile Force." China Report (Delhi), vol. xvi, no. 1, January-February 1980, pp. 3-6. DS777.55.C4484.

Reports that China's progress in the strategic ballistic missile field has been slow, somewhat faulty, and largely stagnant since the early 1970s. The conducting of six missile tests in 1979 was aimed at intensifying the testing program to make the missile force viable. Ghosh provides data on China's ICBMs, IRBMs, and MRBMs. The delay in the development of ICBMs is due to technical difficulties and a lack of adequate resources. Though the Chinese nuclear force is "miniscule" it "has almost achieved its short-term goal of deterring the Soviet Union from indulging in any preemptive strike."

Ghosh, S. K. "Sino-French Nuclear Cooperation." China Report (Delhi), vol. xv, no. 3, May-June 1979, pp. 3-6. DS777.55.C4484

China's decision, in the mid-1970s, to shift the emphasis from a military to a civilian nuclear program to help supply energy for modernization, has lead China to strive hard to acquire nuclear powerplants and technology from various Western European countries and Japan. China, a nonsignatory to the Nuclear Nonproliferation Treaty, conducts atmospheric nuclear tests in defiance of the Partial Test Ban Treaty. China possesses a nuclear capability of considerable strength and is currently developing ICBMs.

Hewish, Mark. "China Makes Ground in the Space Race." New Scientist (London), 26 June 1980, p. 378. Q1.N52

The May 1980 test-firings of two ICBMs by China probably had two purposes: to show the world China could conduct long-range nuclear war against the Soviets; and to test equipment for China's space program. The two test rockets flew about 8,000 km, carried only equipment to monitor their performance, and burned conventional liquid propellants. It is believed the Chinese are now developing a third stage for the rocket, using liquid hydrogen and liquid oxygen as the propellants. The Chinese could launch their own satellites into geostationary orbit with this three-stage rocket. China is also reportedly developing solid rocket propellants.

Hewish, Mark. "World Missiles Directory." Flight International (London), vol. 113, no. 3612, 10 June 1978, pp. 1761-1768, 1773-1780, 1785-1792, 1797-1804. TL501.F5

Hewish gives brief descriptions and numbers of Chinese missiles in the following categories: ballistic strategic, ballistic tactical, antiship, and surface-to-air. Includes pictures and tables.

Huck, Arthur. "China: Prospects and Retrospect." Pacific Community (Tokyo), vol. 9, no. 3, April 1978, pp. 276-290. DS35.P22

Says "whatever the peculiarities of the PLA all that matters is whether its leaders are in key positions in the political leadership or not." The capabilities of the CPLA are a range of extremes--from strategic forces with nuclear missiles to an air force with largely obsolescent Soviet machines. The limitations of the Armed Forces reflect the limitations of the economy. Huck also discusses the progress of China's strategic forces program.

"International Launch Vehicles." Aviation Week and Space Technology (New York), vol. 110, no. 11, 12 March 1979, pp. 94-95. TL501.A8

Entries for China in this table are sketchy--listing only propellants, thrust, launch weight, and orbital payload of spacecraft.

International Launch Vehicles." Aviation Week and Space Technology (New York), vol. 112, no. 9, 3 March 1980, pp. 108-109. TL501.A8

Chinese entry in this table, the FB-1, includes information on propulsion, propellants, thrust, dimensions and weight, and payload.

"Large Carrier Rocket." Jiefangjun Huabao (Beijing), no. 391, January 1980, pp. 2-3. In Chinese.

Introduces and briefly describes a new liquid fuel carrier rocket. Includes color photographs of rocket and technicians.

"Leading US and International Spacecraft." Aviation Week and Space Technology (New York), vol. 108, no. 11, 13 March 1978, p. 93. TL501.A8

Entry for China sketchily lists weight, launch vehicle, purposes, and launch dates of CHINA 1 to 7 satellites.

"Leading US and International Spacecraft." Aviation Week and Space Technology (New York), vol. 110, no. 11, 12 March 1979, pp. 92-93. TL501.A8

This table lists the weight, launch vehicle, purpose, and launch dates of CHINA 1 to 8 and STW 1 and 2 satellites.

"Leading US and International Spacecraft." Aviation Week and Space Technology (New York), vol. 112, no. 9, 3 March 1980, pp. 106-107. TL501.A8

Entries in this table include weight, launch vehicle, launch dates, and purposes of CHINA 1 to 8 and STW 1 and 2 spacecraft.

Lee, Dinah. "Newcomer in the ICBM Club." Far Eastern Economic Review (Hong Kong), vol. 108, no. 25, 13 June 1980, pp. 41, 43. HC411.F18

Lee says China's nuclear developments since its initial atomic test in 1964 and its thermonuclear detonation in 1967 should have prepared observers for China's mid-May 1980 ICBM launchings. China's ICBMs are seen as new missiles aimed at replacing the obsolete CSS-1s and at building confidence that an effective deterrent against attack has not fallen behind. The tests indicate a capability of hitting most of the western US and Western Europe, though they clearly aim at deterring the Soviets. Though the new weaponry is powerful, China's nuclear arsenal remains small and most of the aircraft capable of delivering nuclear weapons are obsolete.

Nass, Matthias. "Das Nukleare Potential der Volksrepublik China (The Nuclear Potential of the People's Republic of China)." International Asienforum (Munich), vol. 10, nos. 1-2, May 1979, pp. 103-120. In German. DS1.I63

Discusses China's rapid progress toward the development of a diversified arsenal of nuclear warheads since its first successful nuclear explosion in 1964. Though China has a modest but effective nuclear capacity, her missile program "has not yet met the expectations of Western observers." However, China's missile program may be responsive to its political environment--efforts against the Soviet threat and medium- and intermediate-range ballistic missiles rather than toward the US with ICBMs.

"PRC: First ICBM Test Launch." Strategy Week (Washington, D.C.), vol. vi, no. 2, 19-25 May 1980, p. 5.

China has announced it will conduct its first long-range rocket test between 12 May and 10 June 1980. Speculation concerns whether the test rocket will be the CSS-X-4 ICBM or the LONG MARCH 3 variant--both three-stage rockets. Some analysts believe the LONG MARCH 3 is a modified version of the CSS-X-4, but the LONG MARCH 3 is believed to use liquid hydrogen propellant in its third stage, and the CSS-X-4 uses liquid oxygen.

"PRC: ICBM 'Speaks.'" Strategy Week (Washington, D.C.), vol. vi, no. 22, 2-8 June 1980, p. 11.

Details a Guangming Ribao report introducing Chinese readers to the principles behind China's first ICBM launch. The newspaper account confirms that there are two main propulsion systems--liquid and solid fuel--for China's present generation of missiles. The account also provides data on dimensions--height, width, liquid and solid fuel weight, warhead, and range of the recently launched ICBM.

Richardson, Doug. "Missile Forces of the World." Flight International (London), vol. 112, no. 3585, 26 November 1977, pp. 1597-1600, 1605-1610, 1615. TL501.F5

Section on China lists missiles in the strategic missile, ground, naval, and air forces.

Schemmer, Benjamin F. "US May Offer China Tac Cruise Missiles." Armed Forces Journal International (Washington, D.C.), vol. 117, no. 9, May 1980, pp. 23, 69. U1.A66

Only 4 days after he told Congress that the US will not sell weapons to China, US Secretary of Defense Harold Brown signed a secret memorandum suggesting that the US make tactical cruise missiles available to China. The US apparently believes it should give China access to US technology and equipment which will help China build up its ill-equipped forces, but which will not divert US equipment or forces from its commitments to NATO or its traditional allies in the Persian Gulf and the Asia-Pacific region.

Spurr, Russell. "Stepping up the Space Race." Far Eastern Economic Review (Hong Kong), vol. 102, no. 41, 13 October 1978, pp. 13-14. HC411.F18

Recent developments in the Chinese satellite program reveal China's progress in both the space communications and the spy satellite businesses. Spurr traces the history of the Chinese satellite program and its relation to missile development. The development of spy satellites such as CHIN' 8 indicate that in the next few years sophisticated space surveillance of the Soviet Union is likely.

"Target: Moscow (or San Francisco?)." The Economist (London), 24 May 1980, p. 49. HG11.E2

China's test firing of two ICBMs in May 1980 has made it a "full-fledged nuclear power." The missiles were fired from test sites in Xinjiang Province to target areas some 4,340 kilometers away. The CSS-X-4 missiles, believed to be two-stage liquid-fuelled rockets, are based on earlier types used to launch China's space satellites. China will likely begin manufacturing and then deploying missiles that could carry thermo-nuclear warheads to any target in the USSR or western US within a year or so.

"Ten Thousand Mile Rainbow." Jiefangjun Huabao (Beijing), no. 398, August 1980, pp. 2-9. In Chinese.

Presents color and black and white photographs, plus captions of the test firing of the CSS-X-4 ICBM from China to the South Pacific. Photographs include the launch site, the launching, control rooms, and the survey ships which picked up the payload.

Wade, Mark. "The Chinese Ballistic Missile Program." International Defense Review (Geneva), vol. 13, no. 8, August 1980, pp. 1190-1192. U1.I48

Traces the development of Chinese ballistic missiles and space launchers. Charts depict specifications and designations of Chinese missiles, and provide data on China's satellites. Notes that China's production limitations have led to severe tradeoffs between the missile and space programs.

Wang Shouren. "Growing Missile Units." Jiefangjun Huabao (Beijing), no. 388, October 1979, pp. 2-5. In Chinese.

The mission of CPLA missile units is to use nuclear weapons to oppose a strategic nuclear attack, and to strike deep at enemy strategic targets in a nuclear counterattack. The missile units have developed under the guidance of the Communist Party and such leaders as Mao Zedong, Zhou Enlai, and Hua Guofeng. The missile units have constantly striven to raise their level of technical knowledge. Not long ago, a certain unit moved its equipment 3,000 kilometers in secrecy and successfully test-fired four missiles. Includes color and black and white photographs of missile units.

"World Missile Directory." Flight International (London), vol. 115, no. 3663, 2 June 1979, pp. 1820-1826, 1831-1838, 1849-1866. TL501.F5

Lists and briefly describes Chinese missiles in the ballistic strategic, ballistic tactical, antiship, and surface-to-air categories.

"World Missile Directory." Flight International (London), vol. 118, no. 3717, 2 August 1980, pp. 425-436, 441-444, 453-456, 461-473. TL501.F5

Entries for China are listed in the strategic ballistic, tactical ballistic, antiship, and surface-to-air categories. However, Chinese missile entries do not appear in the tables or in the photographs.

Xu Huilin. "Gunpowder and Ancient Rockets." China Reconstructs (Beijing), vol. xxix, no. 10, October 1980, pp. 58-60. DS701.C643

Xu, a researcher for the CPLA, traces the development of Chinese rocketry from the first use of "true rockets" at least as early as the Southern Song dynasty (1127-1279) to the launching of China's first carrier rocket to a designated area in the South Pacific in May 1980. Xu discusses improvements in rocket propulsion, beginning in the 12th century, and also discusses the Chinese use of gunpowder. Illustrations include drawings of incendiary arrows, a Song dynasty 'fire gun,' a Ming dynasty mine, and photographs of China's recent rocket launch and the control room used for the launch.

Young, Peter L. "China's Military Capabilities." Asian Defence Journal (Kuala Lumpur), February 1979, pp. 18-19, 22-23, 26, 30-31. UA830.A8

Says that Beijing is now portraying itself as a country critically deficient in modern armaments and is seeking Western aid in the supply of arms and technological skills for its modernization program. He discusses China's nuclear force, which he says offsets to some extent the obsolescence of China's conventional military equipment. China has conducted 24 nuclear tests since 1964 and its nuclear force has great deterrent value. The Chinese nuclear force consists of MRBMs, IRBMs and perhaps a small number of 2,170-km range missiles. China's missile force is backed up by Il-28 and Tu-16 bombers.

Zhang Jucheng, Li Shuliang, and Luo Qunrong. "A Visit to a Guided Missile Technical Academy." Jiefangjun Huabao (Beijing), no. 400, October 1980, pp. 10-11. In Chinese.

Reports that a certain guided missile technical academy trains personnel in university level technical knowledge, maintenance, and managerial abilities. The leading cadres and teachers work closely to insure high quality teaching. The academy has graduated many technical experts and basic level command cadres. Includes black and white photographs of classes at the academy.

8. NUCLEAR



CSS-2 Launching Exercise

a. Monographs

Campbell, R. K. The Military Potential of the People's Republic of China. Braamfontein, South Africa: The South African Institute of International Affairs, 1980. 12 pp. Occasional Paper. UA835.C28

China's defense policy "has oscillated between two extremes: nuclear deterrence . . . and 'people's war.'" Campbell discusses China's nuclear force capabilities and deterrent, China's conventional Air Forces, Navy, and Army, and the effect of the Cultural Revolution on the Armed Forces. He concludes that China's military potential is "actually very low, due to the lack of modern equipment."

Hahn, Bradley. Strategic Implications of People's Republic of China Nuclear Weapons and Satellite Rocket Program. Hong Kong: Asian Research Service, 1980. 86 pp. Bibliography. Illustrations.

Discusses the background and evolutionary history of China's nuclear and satellite rocket programs, their developments and probable future trends, land- and sea-based strategic missile programs and capabilities, strategic landmining capabilities, strategic aircraft delivery systems, and satellite rocket and space vehicle programs. Drawings, photographs, and charts accompany the text.

Hewish, Mark; Sweetman, Bill; Wheeler, Barry C.; and Gunston, Bill. Air Forces of the World: an Illustrated Directory of all the World's Military Air Powers. New York: Simon and Schuster, 1979. 264 pp. Illustrations. Index. UG630.A382

Directory on the world's air forces also mentions China's strategic missile force.

Pillsbury, Michael. Chinese Perceptions of the Soviet-American Military Balance. Final Report SPC 534. March 1980. 69 pp.

Compares Chinese, Soviet, and American approaches to nuclear deterrence and suggests the Chinese have unique perceptions of which factors are significant in assessing the military balance of power.

Soborov, Boris. Peking: A Policy of Militarisation. Moscow: Novosti Press Agency Publishing House, 1979. 68 pp. UA835.S64

Discusses China's militarism and militaristic aspirations which the author predictably believes are connected with the hegemonist bent of the Chinese leaders. he says the modernization of the Army is the main emphasis of the four modernizations. Soborov details China's preparations for its "accelerated development of an up-to-date war industry"--particularly the branches connected with nuclear, missile, and space programs. he briefly traces the development of China's atomic program, which began in 1953, and says that China's nuclear research program is probably far greater than Western analysts believe.

Suttmeier, Richard P. Science, Technology and China's Drive for Modernization. Stanford: Hoover Institution Press, 1980. xii. 121 pp. Notes. Index. Q127.C5887

Discusses the direction of China's science and technology since the death of Mao and briefly notes the development of China's space and nuclear programs. China seeks to develop space science, satellites, and ground facilities for remote sensing and other applications, to build modern space centers, and to develop launch vehicles and skylabs. The text of the "Understanding on Cooperation in Space Technology Between the United States of America and the People's Republic of China" is included.

Yoder, Amos. Chinese Policies Toward Limiting Nuclear Weapons. Muscatine, Iowa: The Stanley Foundation, 1980. 32 pp. Occasional Paper 22. UA835.Y62

Provides the background for China's nuclear policies--vis-a-vis the Sino-Soviet rift, control of nuclear weapons and foreign policy--and analyzes options for US policies toward China on limiting nuclear weapons. "China's major aim, as evident from its nuclear position and statements, is to develop a deterrent to a Soviet attack."

b. Serials

"Analysis: China's Missile Strength." Data Asia (Manila), 19-25 May 1980, p. 7072. HC412.D18

China's first two tests of long-range ICBMs in May 1980 show that China has recovered from its 10-year setback in military and scientific development. However, China will likely deploy no more than a few dozen long-range missiles in the next 5 or 6 years. China has 55 missiles that are rated in the intermediate range--about 930 km. China has deployed 44 medium-range missiles, with a 372-km range, which could cover Mongolia and the Far Eastern areas of the USSR.

Cai Ping, Lian Bo, and Bo Ning. "Practicing Medical Relief After a 'Surprise Nuclear Attack.'" Jiefangjun Huabao (Beijing), no. 401, November 1980, p. 12. In Chinese.

Briefly describes the training exercise of field medical and antichemical warfare units under conditions of a simulated nuclear attack. Stresses rapid setup of facilities to treat nuclear bomb victims.

Chari, P. R. "China's Nuclear Posture: An Evaluation." Asian Survey (Berkeley), vol. xviii, no. 8, August 1978, pp. 817-828. DS1.A492

Examines the factors that have impelled China to exercise her nuclear option, reviews China's nuclear strength, future developments and the consequences for the international system.

Chari, P. R. "The Emerging Strategic Balance." China Report (Dehli), vol. xiv, no. 3, May-June 1978, pp. 40-50. DS777.55C4484

Discusses the strategic balance among countries possessing nuclear weapons. Section on China notes China's desire to end the nuclear hegemony of the superpowers, while emphasizing the "no first use" position. States that Chinese acquisition of a second strike capability could upset the strategic balance between the superpowers, and potentially lead to an arms race among China and other regional powers.

Cheah Cheng Hye. "Bridging the Strategic Gap." Far Eastern Economic Review (Hong Kong), vol. 108, no. 18, 25 April 1980, pp. 30, 32. HC411.F18

Xu Baoxi, in an article for Jiefangjun Bao [Liberation Army Daily], said China's lack of preparation [against enemy use of nuclear weapons] is "frightening." Xu, whose CPLA position is unidentified, views the opinion that China is unlikely to come under Soviet attack as "very worrying" and calls for Beijing to be able to engage in a tit-for-tat nuclear battle with Moscow. Though China has made nuclear advances and has a growing influence in the global nuclear equation, China's nuclear deterrent against a Soviet attack cannot guarantee China's security. Xu argues for tactical missiles, an arsenal of tactical nuclear weapons, and the building up of China's strategic forces. Mention is also made of China's progress in its space program--as observed by a recent US delegation touring China's space facilities.

Chen Yuchen. "Chinese Communist Policy on Science and Technology: Changes and Effects." Issues & Studies (Taipei), vol. 15, June 1979, pp. 45-64. D839.I732

Reports that China's bid for modernization means stressing science and technology. Chen says that to the Communists, self-reliance means obtaining the appropriate technology from other nations. From 1966 to 1976 the Chinese Communists made advances in developing nuclear weapons and satellites, and from 1964 to 1978 they conducted 25 nuclear tests. Eight satellites were launched between 1970 and 1978.

"China's Carrier Rocket Stings Moscow." Beijing Review, vol. 23, no. 24, 16 June 1980, p. 13. DS701.P42

A Renmin Ribao commentary says that China's long-range carrier rocket tests were carried out as a major measure to strengthen national defense and speed up the four modernizations. These tests have "stung Moscow into launching a tirade of abuse against China." However, China develops nuclear weapons solely for defense and will not be the first to use nuclear weapons.

"China's Defence Posture." Vikrant: The Defence Journal (New Dehli), vol. viii, no. 4, January 1978, pp. 20-21. UA840.V45

Describes China's nuclear weapons capabilities and the conventional forces which form the elements in China's two-pronged defense strategy.

"China's Extending Strategic Army." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 4, no. 4, issue 43, 1 June 1980, pp. 13-15. In Chinese and English.

Reports that one reason for Vice Premier Li Xiannian's visit to Australia in early May 1980 was to disclose China's plan to conduct a long-range carrier rocket test. The CSS-X-4 ICBM, a three-stage long-range missile is almost 43 meters long, weight 204 tons. The first and second stages have booster engines for flight control; the third stage has built-in propellers powered by a combination of liquified oxygen and hydrogen. The rocket has an estimated range of 12,000 km and can carry an H-bomb warhead equivalent to 3 megatons TNT. Black and white photographs of naval ships supporting the operation accompany the text.

"China's Missile Programme." Intelligence Digest (Cheltenham, United Kingdom), 1 January 1978, pp. 6-7. D839.I4548

Western experts have concluded that China's space program, especially its potential nuclear delivery systems, has been seriously underestimated. The launching of three satellites in 1975 was a necessary byproduct of the development of MRBM and ICBM delivery systems. China is working on developing a missile with a range of 12,872 km and it is thought to have a short-range missile for tactical use up to 322 km next on the agenda.

"Chinese Army in Missile Training." Aviation Week and Space Technology (New York), vol. 111, no. 25, 17 December 1979, pp. 78-79, 81. TL501.A8

Presents black and white photographs with captions of CPLA troops training to launch the CSS-1 medium-range ballistic missile.

Chopra, Maharaj K. "China's Policies and Postures After Mao." Journal of the United Service Institution of India (New Delhi), vol. cix, no. 456, April-June 1979, pp. 122-136. U1.U5

Discussion on China's direction after the death of Mao includes a section on the modernization of the Armed Forces. In a brief glance at China's nuclear strategy, Chopra says China has a high potential in the nuclear field, though progress has been slowed since 1972, probably due to technological problems. Though there will probably be some decrease in the funding for China's "atomic arsenal," China's nuclear effort will probably be influenced by international developments. Chopra reviews the composition of China's nuclear arsenal and says its ICBMs are reported to belong to the first generation and lack precision and high speed.

Datta, Rakesh Kumar. "India's Nuclear Posture in Relation to China." Vikrant: The Defence Journal (New Delhi), vol. viii, no. 9, June 1978, pp. 7-12. UA840.V45

Outlines the relative conventional and nuclear forces of China and India as a prelude to discussing India's options to meet the Chinese nuclear threat. Datta advocates India's development of nuclear weapons.

Dong Gong. "China's Ballistic Missiles and Carrier Rocket." Xiandai Junshi: CONMILIT The Defence Monthly (Hong Kong), vol. 4, no. 9, issue 48, 1 November 1980, pp. 41-44. In Chinese.

China has acquired respectable satellite launch and medium- to long-range nuclear strike capabilities. Strategic weapons research and development have gone through three stages: the CSS-1, a 1,200-km single-stage vehicle; the CSS2, a 2,500-km single-stage vehicle; the CSS-3 two-stage ICBM; the CSL-1 three-stage space launcher; and the CSS-X-4, a two stage, 8,050-km range experimental ICBM. In 2 years China will test the CSL-X-3, which will have the first two stages of the CSS-X-4 plus a lique oxygen/hydrogen third stage.

Fang Jincheng. "Guided Missiles, Nuclear Fission, and Space Science in China." China Report (Delhi), vol. xvi, no. 4, July-August 1980, pp. 39-44. DS777.55.C4484

Translation of an article from the September 1979 issue of Dongxiang (Hong Kong). Discusses China's nuclear development and capabilities, progress in space rocketry and satellites, and notes that China's use of ICBMs to launch satellites is a measure of its achievement. It is thought that if China could improve the remote control and brake techniques on the CSS-X-4 rocket, it could carry both numerous warheads and men into space.

"Gambling on a Quick Missile Deterrent." Far Eastern Economic Review (Hong Kong), vol. 109, no. 40, 26 September 1980, pp. 55-56. HC411.F18

Reports that contrary to expectations, the CPLA is the "one substantial interest group in China which has not profited visibly from . . . the post-Mao leadership." Since Mao's death defense expenditures have dropped, only nonlethal military equipment has been purchased from abroad, and there has been a strain in army-party relations. There has been a strategic rethinking in the light of changing methods of warfare; China is discussing the relative importance of tactical nuclear weapons, antitank and antiaircraft systems, and the effectiveness of submarines, and has decided to move away from conventional armored warfare. Deng Xiaoping has said he expects a major war to break out sometime within the next decade, and is gearing his weapons systems improvements on missile systems for a strategic deterrent dependent on the planned rapid rise of China's scientific and technological level.

Garner, William V. "SALT II: China's Advice and Dissent." Asian Survey (Berkeley), vol. xix, no. 12, December 1979, pp. 1224-1240. DS1.A492

Asks how US policymakers are going to reconcile Sino-Soviet policy with arms control and defense policies. "Beijings's military policy is based on both its small nuclear retaliatory force and large, but technologically outmoded, conventional forces." China's force improvement programs are intended to discourage the USSR from believing it can win either a nuclear or conventional war against China. Notes China's opposition to SALT II.

Ghosh, S. K. "China's Nuclear Missile Force." China Report (Delhi), vol. xvi, no. 1, January-February 1980, pp. 3-6. DS777.55.C4484

Reports that China's progress in the strategic ballistic missile field has been slow, somewhat faulty, and largely stagnant since the early 1970s. The conducting of six missile tests in 1979 was aimed at intensifying the testing program to make the missile force viable. Ghosh provides data on China's ICBMs, IRBMs, and MRBMs. The delay in the development of ICBMs is due to technical difficulties and a lack of adequate resources. Though the Chinese nuclear force is "miniscule" it "has almost achieved its short-term goal of deterring the Soviet Union from indulging in any pre-emptive strike.

Ghosh, S. K. "Sino-French Nuclear Cooperation." China Report (Delhi), vol. xv, no. 3, May-June 1979, pp. 3-6. DS777.55.C4484

China's decision, in the mid-1970s, to shift the emphasis from a military to a civilian nuclear program to help supply energy for modernization, has lead China to strive hard to acquire nuclear powerplants and technology from various Western European countries and Japan. China, a nonsignatory to the Nuclear Nonproliferation Treaty, conducts atmospheric nuclear tests in defiance of the Partial Test Ban Treaty. China possesses a nuclear capability of considerable strength and is currently developing ICBMs.

Hewish, Mark. "China Makes Ground in the Space Race." New Scientist (London), 26 June 1980, p. 378. Q1.N52

The May 1980 test-firings of two ICBMs by China probably had two purposes: to show the world China could conduct long-range nuclear war against the Soviets; and to test equipment for China's space program. The two test rockets flew about 8,000 km, carried only equipment to monitor their performance, and burned conventional liquid propellants. It is believed the Chinese are now developing a third stage for the rocket, using liquid hydrogen and liquid oxygen as the propellants. The Chinese could launch their own satellites into geostationary orbit with this three-stage rocket. China is also reportedly developing solid rocket propellants.

Hewish, Mark. "World Missiles Directory." Flight International (London), vol. 113, no. 3612, 10 June 1978, pp. 1761-1768, 1773-1780, 1785-1792, 1797-1804. TL501.F5

Hewish gives brief descriptions and numbers of Chinese missiles in the following categories: ballistic strategic, ballistic tactical, antiship, and surface-to-air. Includes pictures and tables.

Huck, Arthur. "China: Prospects and Retrospect." Pacific Community (Tokyo), vol. 9, no. 3, April 1978, pp. 276-290. DS35.P22

Says "whatever the peculiarities of the PLA all that matters is whether its leaders are in key positions in the political leadership or not." The capabilities of the CPLA are a range of extremes--from strategic forces with nuclear missiles to an air force with largely obsolescent Soviet machines. The limitations of the Armed Forces reflect the limitations of the economy. Huck also discusses the progress of China's strategic forces program.

Lamarsh, John R. "China's Nuclear Power Program." Bulletin of the Atomic Scientists (Chicago), vol. 36, no. 5, May 1980, pp. 28-31. TK9145.A84

Supports US assistance to China in the peaceful uses of nuclear energy but questions if this assistance should be given if China is unwilling to alter its present nuclear weapons policy to conform to international standards. Lamarsh says China should renounce the atmospheric testing of nuclear weapons and proclaim adherence to the Non-Proliferation Treaty.

Lee, Dinah. "Newcomer in the ICBM Club." Far Eastern Economic Review (Hong Kong), vol. 108, no. 25, 13 June 1980, pp. 41, 43. HC411.F18

Lee says China's nuclear developments since its initial atomic test in 1964 and its thermonuclear detonation in 1967 should have prepared observers for China's mid-May 1980 ICBM launchings. China's ICBMs are seen as new missiles aimed at replacing the obsolete CSS-1s and at building confidence that an effective deterrent against attack has not fallen behind. The tests indicate a capability of hitting most of the western US and Western Europe, though they clearly aim at deterring the Soviets. Though the new weaponry is powerful, China's nuclear arsenal remains small and most of the aircraft capable of delivering nuclear weapons are obsolete.

Lewis, John Wilson. "China's Military Doctrines and Force Posture." Stanford Journal of International Studies, vol. xv, fall 1979, pp. 147-197. DS777.75.C485

A wide-ranging article on China's military doctrine, Lewis examines China's views on the use of force, the operational elements in China's military politics, China's weapons and technology, and weapons acquisitions and deployment. He discusses China's nuclear development, nuclear deterrence doctrine, and the employment of nuclear weapons. The major issues facing China's military force development--developing a second-stage nuclear posture, technological considerations in military modernization, cost of the defense sector, setting national priorities, the role of people's war, military cooperation with other nations, arms control posture, and policy implications for the US are also covered. Tables on China's force levels, nuclear tests, estimates for GNP and military expenditures, 1967-76, and a military organization chart are included.

Liu, Leo Y. "Comparative Nuclear Policies: China and Other Developing Countries." Asian Profile (Hong Kong), vol. 6, February 1978, pp. 1-17. DS1.A4746

Examines the major factors fundamental to the nuclear behavior and strategy of China, and based on the findings, seeks to determine if other countries in the Third World, such as India and Pakistan, have followed the Chinese model in terms of nuclear strategy and behavior.

Liu, Leo Y. "The Nuclear Policies of China and India." International Problems (Tel Aviv), vol. 16, nos. 3-4, fall 1977, pp. 71-77. D839.B4

Both China and India appreciate the military, political, and psychological impact of nuclear weapons and have sought nuclear weapons systems, with or without a second strike capability, as a valuable deterrent to both conventional and tactical nuclear attack from their adversaries. Liu feels India has generally been following China's basic nuclear strategy and behavior.

Mirchandani, G. G. "India and China: Opposite Nuclear paths." Vikrant: The Defence Journal (New Dehli), vol. vii, no. 12, September 1977, pp. 15-25. UA840.V45

Traces the development of China's nuclear arsenal and compares India's and China's nuclear policies from an Indian viewpoint. India has stressed peaceful uses of nuclear power whereas China has created a nuclear arsenal to gain leverage in international and regional politics. China has always resisted international controls because of her own nuclear ambitions.

Nass, Matthias. "Das Nukleare Potential der Volksrepublik China (The Nuclear Potential of the People's Republic of China)." International Asienforum (Munich), vol. 10, nos. 1-2, May 1979, pp. 103-120. In German. DS1.I63

Discusses China's rapid progress toward the development of a diversified arsenal of nuclear warheads since its first successful nuclear explosion in 1964. Though China has a modest but effective nuclear capacity, her

missile program "has not yet met the expectations of Western observers." However, China's missile program may be responsive to its political environment--efforts against the Soviet threat and medium- and intermediate-range ballistic missiles rather than toward the US with ICBMs.

Richardson, Doug. "Missile Forces of the World." Flight International (London), vol. 112, no. 3585, 26 November 1977, pp. 1597-1600, 1605-1610, 1615. TL501.F5

Section on China lists missiles in the strategic missile, ground, naval, and air forces.

Schemmer, Benjamin F. "US May Offer China Tac Cruise Missiles." Armed Forces Journal International (Washington, D.C.), vol. 117, no. 9, May 1980, pp. 23, 69. U1.A66

Only 4 days after he told Congress that the US will not sell weapons to China, US Secretary of Defense Harold Brown signed a secret memorandum suggesting that the US make tactical cruise missiles available to China. The US apparently believes it should give China access to US technology and equipment which will help China build up its ill-equipped forces, but which will not divert US equipment or forces from its commitments to NATO or its traditional allies in the Persian Gulf and the Asia-Pacific region.

"Target: Moscow (or San Francisco?)." The Economist (London), 24 May 1980, p. 49. HG11.E2

China's test firing of two ICBMs in May 1980 has made it a "full-fledged nuclear power." The missiles were fired from test sites in Xinjiang Province to target areas some 4,340 kilometers away. The CSS-X-4 missiles, believed to be two-stage liquid-fuelled rockets, are based on earlier types used to launch China's space satellites. China will likely begin manufacturing and then deploying missiles that could carry thermo-nuclear warheads to any target in the USSR or western US within a year or so.

Wade, Mark. "The Chinese Ballistic Missile Program." International Defense Review (Geneva), vol. 13, no. 8, August 1980, pp. 1190-1192. U1.I48

Traces the development of Chinese ballistic missiles and space launchers. Charts depict specifications and designations of Chinese missiles, and provide data on China's satellites. Notes that China's production limitations have led to severe tradeoffs between the missile and space programs.

Wang Shouren. "Growing Missile Units." Jiefangjun Huabao (Beijing), no. 388, October 1979, pp. 2-5. In Chinese.

The mission of CPLA missile units is to use nuclear weapons to oppose a strategic nuclear attack, and to strike deep at enemy strategic targets in a nuclear counterattack. The missile units have developed under the guidance of the Communist Party and such leaders as Mao Zedong, Zhou Enlai, and Hua Guofeng. The missile units have constantly striven to raise their level of technical knowledge. Not long ago, a certain unit moved its

equipment 3,000 kilometers in secrecy and successfully test-fired four missiles. Includes color and black and white photographs of missile units.

Weng, P. S., Chu, T. C. and Hsu, C. N. "Detection of Hot Fallout on Taiwan in the Period 1971-1975." Health Physics (Elmsford, New York), vol. 33, September 1977, pp. 241-246. QH505.ALH4

Presents data on the observation of fallout in Taiwan during the 1971-75 period when relatively high activity from nuclear tests at Lop Nor were twice detected. The peaks in radioactivity are indicated with the corresponding dates and sequence number of China's tests.

"World Missile Directory." Flight International (London), vol. 115, no. 3663, 2 June 1979, pp. 1820-1826, 1831-1838, 1849-1866. TL501.F5

Lists and briefly describes Chinese missiles in the ballistic strategic, ballistic tactical, antiship, and surface-to-air categories.

"World Missile Directory." Flight International (London), vol. 118, no. 3717, 2 August 1980, pp. 425-436, 441-444, 453-456, 461-473. TL501.F5

Entries for China are listed in the strategic ballistic, tactical ballistic, antiship, and surface-to-air categories. However, Chinese missile entries do not appear in the tables nor in the photographs.

Xu Renbao, Chen Qixuan, and Li Shuliang. "Defense of a Breach." Jiefangjun Huabao (Beijing), no. 401, November 1980, p. 13. In Chinese.

Describes an exercise closing up a breach in defense after a surprise nuclear attack. The exercise involved bombardment of the enemy with artillery, minelaying, and a tank counterattack.

Young, Peter L. "China's Military Capabilities." Asian Defence Journal (Kuala Lumpur), February 1979, pp. 18-19, 22-23, 26, 30-31. UA830.A8

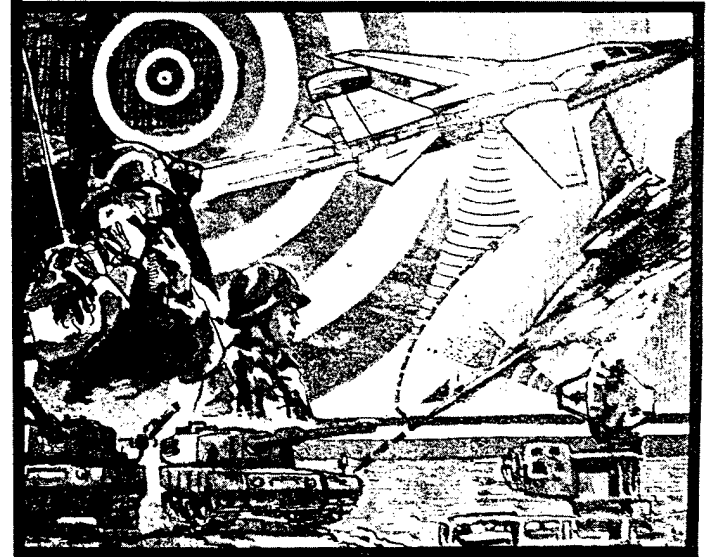
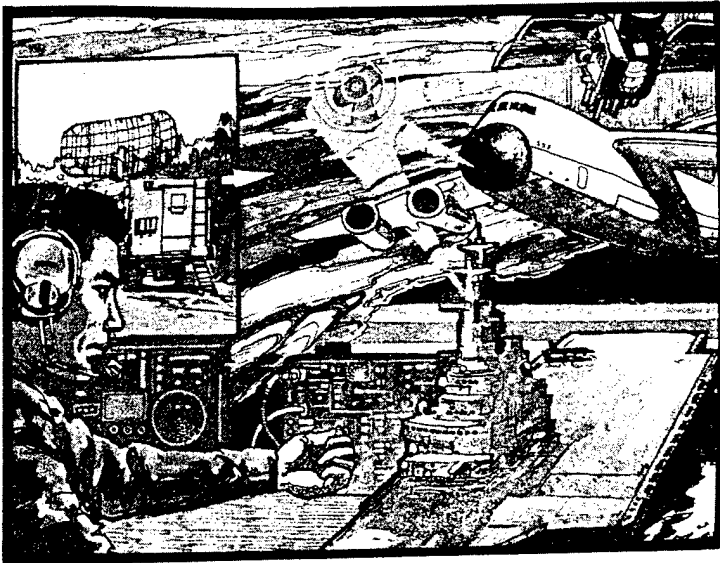
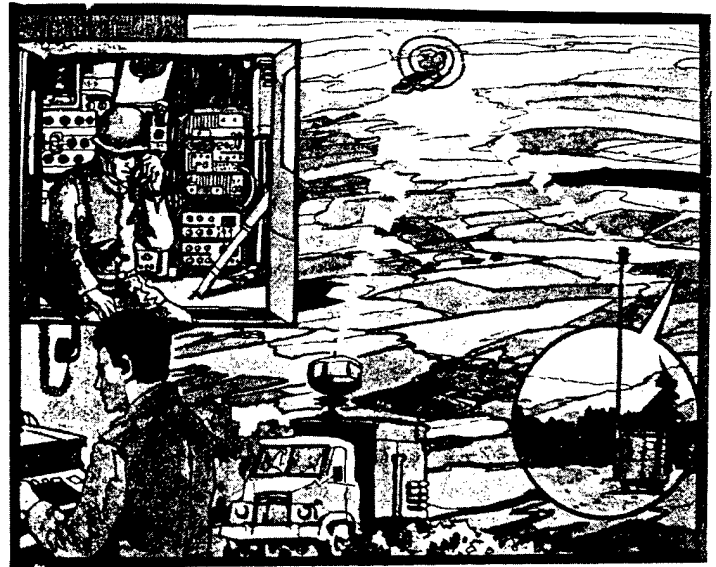
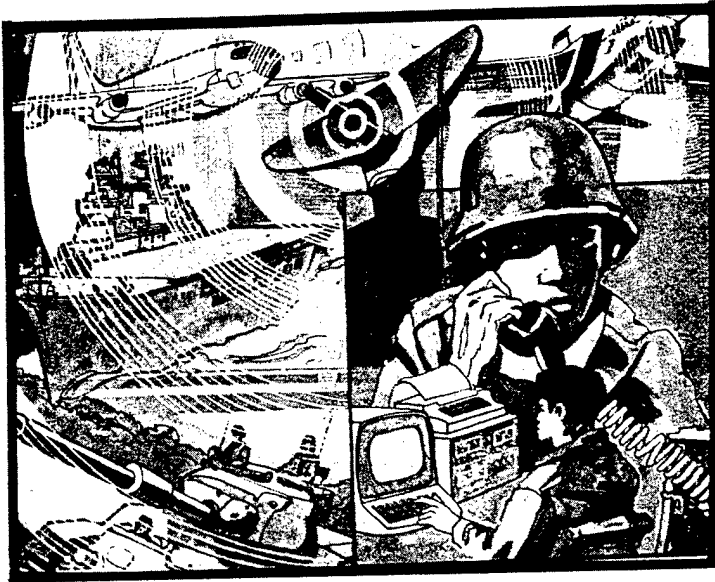
Says that Beijing is now portraying itself as a country critically deficient in modern armaments and is seeking Western aid in the supply of arms and technological skills for its modernization program. He discusses China's nuclear force, which he says offsets to some extent the obsolescence of China's conventional military equipment. China has conducted 24 nuclear tests since 1964 and its nuclear force has great deterrent value. The Chinese nuclear force consists of MRBMs, IRBMs and perhaps a small number of 2,170-km range missiles. China's missile force is backed up by Il-28 and Tu-16 bombers.

Zhang Jucheng, Li Shuliang, and Luo Qunrong. "A Visit to a Guided Missile Technical Academy." Jiefangjun Huabao (Beijing), no. 400, October 1980, pp. 10-11. In Chinese.

Reports that a certain guided missile technical academy trains personnel in university level technical knowledge, maintenance, and managerial abilities. The leading cadres and teachers work closely to insure high

quality teaching. The academy has graduated many technical experts and basic level command cadres. Includes black and white photographs of classes at the academy.

9. MILITARY MODERNIZATION



Communications in Modern Warfare

a. Monographs

Freedman, Lawrence. The West and the Modernization of China. London: The Royal Institute of International Affairs, 1979. iii. 37 pp. Tables. (Chatham House Papers, no. 1) HC427.92.F73

Discusses China as a military, nuclear, and conventional power, and China's approach to military modernization. Freedman says China's "military power is limited and barely sufficient to provide a measure of security against external threats." He examines the deficiencies in China's military capabilities and the effect on its position vis-a-vis its most likely enemies. There is consensus on the need to modernize China's Armed Forces, but debate on the pace and character of modernization. Though China may be modernizing its military organization and methods, its equipment needs are great and Freedman sees no evidence that the Chinese have embarked on a major military modernization program.

Gelber, Harry G. Technology, Defense, and External Relations in China, 1975-1978. Boulder, Colorado: Westview Press, 1979. xii. 236 pp. Index. UA835.G4

Surveys efforts by the post-Mao leadership to adopt modern technology in China's industrial and economic sectors while focusing new attention on the increasingly obsolescent defense structure. Section on defense discusses China's Armed Forces, strategies, new developments, the state of military equipment, military acquisition, and military modernization.

Pollack, Jonathan. "The Modernization of National Defense." In China's Four Modernizations: the New Technological Revolution. Edited by Richard Baum. Boulder, Colorado: Westview Press, 1980. xx. 307 pp. Illustrations. T27.C5C552

Says military modernization will progress only as far as China's available economic and technological capabilities permit. Major foreign weapons purchases will likely continue to be avoided to prevent depletion of foreign reserves available for civilian technology and dependence on foreign countries. Other limitations on military modernization are: (1) competing defense choices within the Armed Forces; (2) the ability of the Chinese economy to absorb sophisticated defense technology, and (3) the practicality of acquiring equipment and systems that may be obsolete when they come online.

Soborov, Boris. Peking: A Policy of Militarisation. Moscow: Novosti Press Agency Publishing House, 1979. 68 pp. UA835.S64

Discusses China's militarism and militarist aspirations which he predictably believes are connected with the hegemonist bent of the Chinese leaders. States the modernization of the Army is the main emphasis of the Four Modernizations. Soborov details China's preparations for its "accelerated development of an up-to-date war industry"--particularly the branches connected with nuclear, missile, and space programs. He briefly traces the development of China's atomic program, which began in 1953, and says that China's nuclear research progress is probably far greater than Western analysts believe.

US Congress. Senate. Committee on Foreign Relations. Sino-American Relations: A New Turn. 96th Congress, 1st session, 1979. Washington, D.C.: US Government Printing Office. vi. 140 pp. E183.8.C5G56

Senator John Glenn's report of his delegation's January 1979 trip to China. In the next 21 years, military modernization will aim at updating the ground forces with nonsophisticated equipment and building more credible sea and air forces. The CPLA is expected to modernize slowly with purchases from the West spread out over the next 10 to 15 years. A chapter on Chinese defense policy and the CPLA briefly notes doctrine, roles, organization, and command and control. The delegation said it is not in the United States' national interest to sell military arms and technology to China, though it recommended a continued military presence in the Western Pacific and aid in modernizing the Chinese economy.

b. Serials

Bonavia, David. "Peking Strives for Quality." Far Eastern Economic Review (Hong Kong), vol. 101, no. 32, 11 August 1978, pp. 86-87. HC411.F18

Discusses the poor quality of Chinese industrial products and recent attempts to ameliorate the situation. The article quotes the June 1978 issue of Hongqi: "The quality of some industrial products for military use declined over the past few years, directly affecting the improvement of our army's weapons."

"China Arms Sales Are Big Business." Vikrant: The Defence Journal (New Delhi), vol. ix, no. 9, June 1979, pp. 13-15. UA840.V45

China is shopping in Western Europe for technologically advanced weapons to modernize its Armed Forces. While the US proclaims neutrality vis-a-vis NATO arms sales to China, it is secretly negotiating to provide China with signal intelligence equipment. The target of the electronic surveillance, as with the advanced weapons, is the Soviet Union.

"China Arms Shopping." Vikrant: The Defence Journal (New Delhi), vol. ix, no. 10, July 1979, p. 4. UA840.V45

Editorial states that CPLA Deputy Chief of Staff Yang Yong's military delegation visit to London has caused concern in Asian capitals. The visit is an important development in Sino-Western relations, because China is an important customer of the Western armament industry. The CPLA will not have its budget cut, allowing China to purchase antitank guns and missiles and sophisticated communications equipment.

"China International Notes: Defense." The China Business Review (Washington, D.C.), vol. 5, no. 5, September-October 1978, pp. 60-62. HF3128.U58

Chronicles Chinese military delegations' visits to Western European military equipment shows. Also discusses Chinese interest in Yugoslav arms, negotiations for acquiring the Harrier jump jet, and the visit of a Japanese defense industry delegation to China. Lists military delegations to and from China in the spring and summer of 1978.

"China International Notes: Defense." The China Business Review (Washington, D.C.), vol. 5, no. 6, November-December 1978, pp. 68-69. HF3128.U58

Discusses Chinese contacts with foreign countries interested in selling arms to China and analyzes reasons for the delay in the sale of Harrier jets to China. Discusses a reputed Chinese order for French antitank and antiaircraft missiles and mentions Swedish, Australian, Japanese, and American interest in selling arms to China.

"China's Military Deficiencies." Vikrant: The Defence Journal (New Delhi), vol. ix, no. 9, June 1979, pp. 43-44. UA840.V45

Briefly surveys China's conventional and strategic forces, with emphasis on weapons modernization. States that China lacks sufficient modern equipment to project military power very far from the Chinese border.

"Chinese Go on Spending Spree." Vikrant: The Defence Journal (New Delhi), vol. viii, no. 11, August 1978, p. 33. UA840.V45

Discusses the interest in industrial complexes and advanced armaments evinced by Chinese delegations touring Western Europe.

Chopra, Maharaj K. "China's Policies and Postures After Mao." Journal of the United Service Institution of India (New Delhi), vol. cix, no. 456, April-June 1979, pp. 122-136. U1.U5

Discussion on China's direction after the death of Mao includes a section on the modernization of the Armed Forces. Chopra says that by establishing defense as one of the Four Modernizations, Mao's thesis of manpower before armament has been "flung out of the window." He notes that CPLA equipment is outdated, shopping lists for foreign hardware are modest, and that China will have "problems of defense reconstruction" over the next 20 years.

Datta, Rakesh Kumar. "Chinese Military Build-up--A Concern for Indian Security." Vikrant: The Defence Journal (New Delhi), vol. ix, no. 9, June 1979, pp. 8-10. UA840.V45

The post-Mao-Zhou leadership, an alliance of army chiefs and technocrats, has decided to develop the economy and modernize military technology. Nuclear weapons, antitank and antiaircraft guided missiles, and Spey engines are the focus of military modernization.

Eiland, Michael D. "Military Modernization and China's Economy." Asian Survey (Berkeley), vol. xvii, no. 12, December 1977, pp. 1143-1157. DSl.A492

The competition between civilian and military leaders for the allocation of economic resources is an historical source of tension in China. This competition has intensified since the death of Mao and has become the "modernization debate." It appears that the military modernizers are ascendant and are calling for increased defense expenditures on the Chinese economy.

"Equipment Sale to China Approved." Aviation Week and Space Technology (New York), vol. 112, no. 12, 24 March 1980, p. 22. TL501.A8

The US State Department announced that six categories of equipment on the Munitions Control List would be eligible for export licenses for China. The six categories include: (1) transport aircraft (including helicopters), (2) flight-training equipment, (3) trucks, trailers, and related equipment, (4) selected electronics, (5) aerial cameras and related equipment, and (6) technical data relating to these items.

Etzold, Thomas H. "Analyzing Military Modernization: The State of the Art, 1978." In Proceedings of the Seventh Sino-American Conference on Mainland China. Taipei: Institute of International Relations, 1978. CA 478 pp. Various pagings.

Says that the term military "modernization" is undefinable as far as providing "a firm basis for predicting . . . what military capability mainland China may acquire." China is departing from the Maoist strategy of people's war in response to nuclear and conventional threats from nearby states. Predicts the ability to anticipate accurately the pace and purpose of China's military evolution will not improve "early" and that it is possible a slow movement in China's military modernization will be its hallmark. Commentary by discussants follows the article.

Fraser, Angus M. "Military Modernization in China." Problems of Communism (Washington, D.C.), vol. xxviii, nos. 5 & 6, September-December 1979, pp. 34-39. HX1.P75

Beijing's commitment to upgrading the military capabilities of the CPLA is part of the four modernizations program. The Chinese leadership seeks to improve the CPLA's force structure and modify China's strategic and tactical outlook though economic constraints. Present leaders will settle for the foreseeable future on enhancement of the CPLA's capacity for close-in defense of the Chinese homeland. Fraser provides tables on the CPLA's force structure, and the types of weapons, equipment, and technology in which China has expressed interest since January 1977. He briefly discusses the capabilities of China's ground, naval, air, and nuclear forces.

Fraser, Angus M. "Military Modernization in China." Vikrant: The Defence Journal (New Delhi), vol. x, no. 7, April 1980, pp. 5-18. UA840.V45

Modernization is not a new issue for the CPLA, but has been emphasized since the mid-1970s. Given China's economic limitations, the CPLA will focus on improved fighter defense aircraft, naval patrol craft, and antitank, antiaircraft systems, and on steering its nuclear program between no deterrence and provocative growth. CPLA modernization will not threaten the West directly, but may affect its Asian neighbors adversely.

Furlong, R.D.M., and Biegel, Al. "Chinese Military Links with NATO?--An Assessment of the Kremlin's Concerns." International Defense Review (Geneva), vol. 12, no. 9, September 1979, pp. 1467-1968. U1.I48

Argues that a Sino-Soviet war, due to a second Chinese invasion of Vietnam, ". . . might dramatically accelerate Western military aid and technological assistance to China," and force NATO to place its troops in Western Europe on alert and make serious defensive preparations. Speculates on the types of hardware West European countries might provide for China. Though weapons requests would affect China's modernization programs, in the long term, China will want to produce most of its new military hardware indigenously.

"Gambling on a Quick Missile Deterrent." Far Eastern Economic Review (Hong Kong), vol. 109, no. 40, 26 September 1980, pp. 55-56. HC411.F18

Reports that contrary to expectations, the CPLA is the "one substantial interest group in China which has not profited visibly from . . . the post-Mao leadership." Since Mao's death defense expenditures have dropped, only nonlethal military equipment has been purchased from abroad, and there has been a strain in army-party relations. There has been a strategic rethinking in the light of changing methods of warfare; China is discussing the relative importance of tactical nuclear weapons, antitank and antiaircraft systems, and the effectiveness of submarines, and has decided to move away from conventional armored warfare. Deng Xiaoping has said he expects a major war to break out sometime within the next decade, and is gearing his weapons systems improvements on missile systems for a strategic deterrent dependent on the planned rapid rise of China's scientific and technological level.

Ghosh, S. K. "China Military Modernization Programme." China Report (Delhi), vol. 14, no. 4, July-August 1978, pp. 66-77. DS777.55.C4484

Though China's long-term goal is the slow but steady acceleration of its military research and development program and the strengthening of its overall economic base--particularly industrial--in the short run, it has decided to rely on selective imports of Western military equipment and technology. Limited resources have meant that defensive capabilities have been stressed.

Godwin, Paul H. B. "China and the Second World: The Search for Defense Technology." Contemporary China (New York), vol. 2, no. 3, fall 1978, pp. 3-9. DS779.15.C65

Discusses military technology and China's expanded use of Western Europe as a source of military technology. Also discusses China's need to improve its fighting capabilities and the R & D production base on which the capabilities rest. Notes China's interest in combat aircraft, the establishment of military contacts with various countries, and the purchase of defense-related technology. Reports on China's considerable progress in satellite ground stations and military applications of low-energy lasers.

Godwin, Paul H. B. "China's Defense Dilemma: the Modernization Crisis of 1976 and 1977." Contemporary China (New York), vol. 2, no. 3, fall 1978, pp. 63-85. DS779.15.C65

Reviews China's military modernization in the 1970s, force deployment, and response to the Soviet threat. Provides background material on why China looks to the international arena for defense technology. States that China will continue to increase its missile deployment and seek an "ill-defined 'sufficiency,'" and that strategic deterrence rather than people's war will become the keystone of its military doctrine.

Heinl, Robert D. "The Winds of Change Come to Mainland China." Seapower (Washington, D.C.), vol. 22, no. 1, January 1979, pp. 23-28. VA49.N28

Says: "If ICBMs and a nuclear-strike capability represent modernization, China is getting there." CPLA modernization is due to China's great respect for its Armed Forces. Heinl notes that China looks to NATO and Japan for military technology and modern weapons and that the US encourages NATO nations to make their arms available to China.

Jencks, Harlan W. "The Chinese 'Military-Industrial Complex' and Defense Modernization." Asian Survey (Berkeley), vol. xx, no. 10, October 1980, pp. 965-989. DS1.A492

Says that for the foreseeable future the CPLA will have to make do with what it has, except for a few new high-priority items needed to meet the Soviet threat. The projected cost of bringing the CPLA up to par with the Soviet Army is "awesome." Discussion of Chinese defense production is noted. A table shows China's seven military-related industries and their responsibilities.

Joffe, Ellis and Segal, Gerald. "The Chinese Army and Professionalism." Problems of Communism (Washington, D.C.), vol. xxvii, no. 6, November-December 1978, pp. 1-19. HX1.P75

Reports on the debates in the leadership concerning improvement of weaponry and equipment, modernization of military doctrine, and an across-the-board upgrading of professional standards. Concludes that as long as the four modernizations program remains, the CPLA will move slowly toward "comprehensive technical modernization." The CPLA is returning to military professionalism and disengaging from politics.

Kelly, Roger; Lawson, Colin; Lee, Dinah; and Wilson, Dick. "Shopping in the EEC: The Rush to Catch Up Slips into High Gear," Far Eastern Economic Review (Hong Kong), vol. 102, no. 40, 6 October 1978, pp. 49-50, 55-57. HC411.F18

Four-part article reviews China's military and other acquisitions in Western Europe. Kelly comments on three Chinese military missions to Italy in 1978. Lawson discusses Chinese interest in the West German weapons industry and the "under the counter" methods by which Beijing may be able to circumvent COCOM controls over military purchases. Lee dwells mainly on nonmilitary aspects of Sino-British trade. Wilson discusses the potentially adverse impact that British arms sales to China might have on Anglo-Soviet relations.

Liu, Leo Y. "The Chinese People's Liberation Army." Current History (Philadelphia), vol. 75, no. 439, September 1978, pp. 57-60, 85-88. D410.C82

Surveys CPLA ground, air, naval, and nuclear force capabilities. Discusses changes in defense strategy vis-a-vis changing relations with the Soviet Union, Vietnam, and Taiwan. Analyzes the attempts to balance military and economic modernization, and the decision to integrate limited amounts of advanced foreign technology into the weapons modernization effort.

Liu, Leo Yueh-yun. "The Modernization of the Chinese Military." Current History (Philadelphia), vol. 79, no. 459, September 1980, pp. 9-13, 38-40. D410.C82

The purpose of China's military modernization program is two-fold: to re-examine the political and military doctrines that China has employed for the last 30 to 40 years, revising them where necessary; and to modernize China's military technology and weaponry.

Luttwak, Edward N. "Military Modernization in the People's Republic of China: Problems and Prospects." Journal of Strategic Studies (London), vol. 2, no. 1, May 1979, pp. 3-16. U162.J68

Says China has obtained security from its incapacity to develop--for if the Soviets saw progress they would have to consider both diplomatic coercion and actual military action against China. He discusses China's weaponry and military capabilities and concludes that military modernization--to minimal levels of adequacy--is beyond China's ability in terms of preempting hard currency availability, and the slowness of China's production and development.

Luttwak, Edward N. "Problems of Military Modernization for Mainland China." In Proceedings of the Seventh Sino-American Conference on Mainland China. Taipei: Institute of International Relations, 1978. CA 478 pp. Various pagings.

China's urgency in matters of military modernization is often unrecognized as is its extreme military vulnerability to Soviet military action. Soviet military restraint is due to lack of incentive and China's "incapacity to develop" though progress will threaten this situation. Luttwak discusses China's modernization needs in terms of its antiarmor capabilities, battlefield air defenses, inshore naval defense, strategic air defense, and second strike capabilities. Concludes that the level needed for minimal levels of adequacy of mainland military forces would totally preempt hard currency availability for a longtime; that China's production and development is too slow to do much good; and that if the possibility of US military aid is taken seriously, it means a "Lend Lease" program comparable with total World War II deliveries to all recipients. Discus-sants' commentaries follow the article.

Marks, Thomas A. "Two Chinese Roads to Military Modernization--and a US Dilemma." Strategic Review (Cambridge, Massachusetts), vol. 7, summer 1980, pp. 18-28. U162.S76

China has begun to modify its obsession with military self-sufficiency in favor of selective technological acquisitions from Western nations. The US arms policy vis-a-vis Beijing must pay "sensitive heed to an increasingly delicate military balance between the two Chinas."

"New Arms for China." Vikrant: The Defence Journal (New Delhi), vol. ix, no. 1, October 1978, p. 5. UA840.V45

Editorial asserts that Chinese interest in Western weapons stems from a reappraisal of the Soviet threat. Estimates that Beijing will spend \$40 billion on defense--a worry to Indian defense planners.

"PRC: French Helicopters and Plant Bought." Strategy Week (Washington, D.C.), vol. vi, no. 28, 14-20 July 1980, p. 11.

Reports on the signing of an industrial cooperation agreement between China and France for the construction of 50 Aerospatiale SA-365N Dauphin-2 helicopters in China. The \$97.5 million agreement commits Aerospatiale and Turbomeca to building a helicopter assembly plant in northeast China, and for the delivery of Dauphin parts beginning in 1981. The helicopters, reportedly to be used in oil searches, also have military applications--particularly for maritime surveillance.

"PRC: UK Firm Wins Defense Contract." Strategy Week (Washington, D.C.), vol. vi, no. 29, 21-27 July 1980, p. 11.

Reports China's award of a \$90-million contract to Marconi Avionics for "electronic equipment for Chinese defense purposes." Furthermore, Agence-France Presse says China is negotiating with the Dynamics Division of British Aerospace for the supply of guided missiles--possibly the Skyflash air-to-air missile. Other possible discussions between United Kingdom defense contractors and China are noted.

"PRC: US Military Mission." Strategy Week (Washington, D.C.), vol. vi, no. 37, 15-21 September 1980, p. 11.

A delegation of US scientists and military experts arrived in Beijing to discuss how US technology could help modernize China's Armed Forces. The group is to assess China's ability to absorb and build US defense items allowed for export--specifically "dual use" equipment already approved--radar systems, electronics, and some aircraft--transports and helicopters.

Rikhye, Ravi. "Modernization of Chinese Armed Forces: Implications for India Part I." Vikrant: The Defence Journal (New Delhi), vol. ix, no. 5, February 1979, pp. 5-8. UA840.V45

Examines the strengths and capabilities of the CPLA. Modernization will concentrate on importation of computers and electronics for the strategic forces, and antitank and antiaircraft missiles for the ground forces. Navy and air force modernization will take longer because of the complexity of the technologies involved. Concludes that modernization of the CPLA does not pose an immediate threat to India.

Rikhye, Ravi. "Modernization of Chinese Armed Forces: Implications for India Part II." Vikrant: The Defence Journal (New Delhi), vol. ix, no. 6, March 1979, pp. 11-14. UA840.V45

Discusses India's options for meeting the threat of China's modernization. Concludes that modernization of the CPLA Navy need not concern India until the 1990s; modernization of the CPLAAF will begin to trouble India by 1985; and the CPLA Ground Forces threat to India--in the 1980s and 1990s--will come from improved logistics rather than weapons.

Romance, Francis J. "Modernization of China's Armed Forces." Asian Survey (Berkeley), vol. xx, no. 3, March 1980, pp. 298-310. DS1.A492

Highlights evolution of the CPLA and the major domestic and foreign determinants of its modernization. Romance posits that doctrinal modernization must precede modernization of CPLA equipment. China's ground, naval, and air inventories are copies of or improvements to the Soviet systems of the 1950s.

Shambaugh, David L. "China's Quest for Military Modernization." Asian Affairs, An American Review (New York), vol. 6, no. 5, May-June 1979, pp. 295-309. DS33.4.U6A85

Says China's military modernization is intertwined with national security and foreign policy formulation, a question of economic priorities, a bureaucratic and political issue, and a part of the debate between professionalism and modernization versus the internal role of the CPLA. Though military modernization needs a basic economic infrastructure, the military is being soothed with "quick-fix" spot purchases of weaponry and defense-related technology from the West. He gives China's weapons shopping list but notes that weapons are not enough--the command and control structure must be streamlined and unified.

Shambaugh, David L. "Military Modernization and the Politics of Technology Transfer." Contemporary China (New York), vol. 3, no. 3, fall 1979, pp. 3-13. DS779.15.C65

Discusses China's domestic political struggle and foreign weapons procurements since Mao's death. Suggests military modernization is an issue linked to many other issues on China's policy agenda and involves many institutions in China's policy process. Mentions China's S & T agreements and notes Chinese interest in broadening contacts with the West's defense establishments. Emphasizes that "weapons aren't the only problems"--China must streamline and unify its command and control structure though the CPLA must also remain close to politics and the party line.

Spurr, Russell. "Military Refit: The Biped Cavalry Regroups for Sophisticated Warfare." Far Eastern Economic Review (Hong Kong), vol. 102, no. 40, 6 October 1978, pp. 41-43. HC411.F18

The fall of Peng Dehuai, the Sino-Soviet rift, and the rise of Lin Biao and his concept of people's war severely restricted the CPLA's ability to modernize its forces. Deng Xiaoping's return to power in 1977 led to far-

reaching efforts to reorganize and modernize the CPLA. The weakness of both the economic superstructure and the technical expertise of the CPLA severely limits the potential for purchase of foreign weapons. Notes that investment in nuclear missile programs remains high.

Sreehdar. "Modernization of China's Armed Forces: the Economic Factors." IDSA Journal (New Delhi), vol. 10, January-March 1978, pp. 247-260.

Examines how much China is spending on its military forces and to what extent China will be able to divert more resources into the field, if required.

Srodes, James. "Making China Feel More Secure." Far Eastern Economic Review (Hong Kong), vol. 108, no. 24, 6 June 1980, p. 8. HC411.F18

The US has amended its list of goods which may be sold to Beijing. Weapons are not included, but transport equipment of many kinds--such as mobile repair ships and helicopters for cargo or troop transport, fixed and mobile radar systems, telephone and other communications systems, navigation equipment, underwater search gear, and the telemetry equipment used to track missiles and spacecraft--may be purchased by China. A US Department of State official said the agreement signed by US Secretary of Defense Brown and Chinese Vice Premier Geng Biao "will have an impact on the so-called dual-use high technology gear that can be used for both civilian and military purposes and which can be fitted up or fitted down to various levels of sophistication depending on its intended use."

"Strategic Review--China--Defence Expenditure." Navy International (Haslemere, United Kingdom), vol. 85, no. 11, November 1980, p. 704. V1.N77

Yang Dezhi, Chief of Staff, denounced China's defense spending cuts of more than \$2.45 billion. The cuts will seriously jeopardize China's defense modernization and could severely affect the Chinese Navy's ability to counter the Soviet Pacific fleet. The need for an electronics expertise was demonstrated during a British Navy squadron's visit to Shanghai. China has shown interest in the Lynx helicopter, acquisition of expertise in electronic warfare equipment and techniques, and details and knowledge of Western missile systems--particularly surface-to-air defense and point defense systems.

Szuprowicz, Bohdan O. "The Role of the People's Liberation Army in the Chinese Economy and Foreign Affairs." Military Review (Fort Leavenworth, Kansas), vol. lvii, no. 12, December 1977, pp. 3-19. AS36.R3

Says the CPLA is a unique military institution due to its extensive involvement in economic development and its relationship to the political apparatus. The Chinese military-industrial complex, managed by many former CPLA leaders, is responsible for technological innovation and the development of the aerospace, electronics, nuclear, and shipbuilding industries in China. The article briefly describes the Chinese defense industry and some of its developments and products.

Tan Eng Bok, Georges. "La Modernisation De La Defense Chinoise Et Ses Limites (The Modernization of China's Defense and Its Limits)." Defense Nationale (Paris), May 1978, pp. 69-84. D410.R45

Faced with the increased military potential and accentuation of Soviet expansionism, China must modernize her defenses. China will be moderate in financing a program of buying from certain Free World countries so that these countries will not displease the USSR and because recourse to the resources of the national economy appears greatly limited. Asks, if these two constraints are limited, will the internal political situation offer sufficiently long-lasting stability to realize modernization not only of national defense, but also of the economy.

Thack, Joseph E., Jr. "Modernization and Conflict: Soviet Military Assistance to the PRC, 1950-1960." Military Review (Fort Leavenworth, Kansas), vol. lviii, no. 1, January 1978, pp. 72-92. AS36.R3

The February 1950 Treaty of Friendship, Alliance and Mutual Assistance between the USSR and China cleared the path for Soviet assistance to CPLA modernization though the Soviets never intended to give China the amount of aid it needed to become an independent power. Thack details Soviet materiel aid--the large-scale rearming and reequipping of the CPLA during 1950-53. After the Korean War, the CPLA used the Soviet Army as its model of reorganization. The Sino-Soviet split in the late 1950s, was due in part to the "disharmony" over the nuclear weapon issue and cessation of aid.

"US Settled on PRC Arms." Strategy Week (Washington, D.C.), vol. vi, no. 15, 14-20 April 1980, p. 5.

The United States is now prepared to sell certain types of military items to China as part of a policy to "maintain global equilibrium," according to Assistant Secretary of State Richard Holbrooke. The United States has publicized a list of goods it is willing to sell, including: trucks, recovery vehicles, repair facilities, navigation trainers, search radar, aerial cameras, flight simulators, and helicopters. Sales approval will be on an individual basis. Geng Biao is scheduled to make a "shopping trip" to the United States.

Yinger, Nancy V. and Simmons, Angus. "Chinese Modernization and US Arms Sales." Arms Control Today (Washington, D.C.), vol. 7, September 1977, pp. 1-4.

Discusses the factors involved in deciding to what extent the United States will support Chinese efforts to update its military technology.

Young, Peter L. "China's Military Capabilities." Asian Defence Journal (Kuala Lumpur), February 1979, pp. 18-19, 22-23, 26, 30-31. UA830.A8

Young says that Beijing is now portraying itself as a country critically deficient in modern armaments and is seeking Western aid in supply of arms and technological skills for its modernization program. He discusses military expenditure and the Chinese economy, noting that industrial

modernization is intended to go hand-in-hand with military modernization. Young concludes that China's modernization depends on internal political stability and how far developed nations will go in providing China with equipment, capital, and technology.

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