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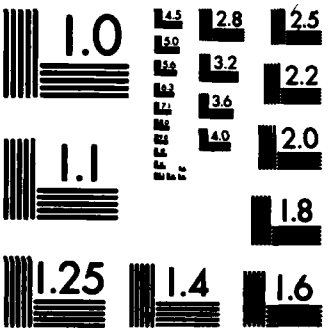

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FOREIGN TECHNOLOGY DIVISION

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CHINA'S NATIONAL DEFENSE

by

Duogen Jilei

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CHINA'S NATIONAL DEFENSE

last name?

Duogen Jilei [transliteration of German name] (translated by Cao Kexiang)

[Editor's Note] MILITARY TECHNOLOGY AND ECONOMY is an influential journal published by Military Technology Association of West Germany. An article, China's National Defense, was included in Volume 4, Issue No. 17 of the journal. The author Duogen Jilei visited China some time ago. This article was written after his visit; the translation is for reader's reference. Publishing of the translation does not mean that the journal agrees with the author's viewpoint, neither do we confirm his report. This only serves to provide readers some evaluation of our country's (China's) defense from abroad.

The strategists of both the United States and the Soviet Union should consider that the People's Republic of China (PRC) has an important role in a global or local conflict. This country (PRC) plays an increasingly important role, causing more and more puzzlement in Moscow and Washington.

In order to resist a possible threat from the Soviet Union, China continuously strengthens its military capability with the most modern weapons. However, while China assumes an aggressive posture in politics, economy and psychology, its military strategy will still be defensive at least within the next 15 years. China's first target is to prevent Soviet attacks with force

while simultaneously maintaining some friendly buffer states; it also restudies its relationship with the United States.

STRATEGIC ARMED STRENGTH

China's guided missiles deployed around its borders have developed into a limited power but reliable nuclear attack strength. The production capacity of fissionable materials required by China's nuclear weapons is increasing. At present, China still does not have the capability of attacking the American continent with guided missiles, and at least within the next five years, this guided missile system will not be deployed.

In 1978, China expanded the ground-to-ground, ground-to-air and air-to-ground guided missile project. In the past three years, China conducted nuclear tests. These activities demonstrate that China is continuously stressing the development of strategic guided missiles and space systems.

China invested considerable funds in testing liquid- and solid-fuel propulsion systems of guided missiles. Although China still hasn't launched a guided missile using a solid-fuel propulsion system, it still continuously expands the solid-fuel rocket engine facilities. Within the next two years, China may develop a guided missile system using solid fuel propulsion.

LAND-BASED STRATEGIC BALLISTIC MISSILES

The CSS-1 Guided Missile: it is an intermediate range guided missile, capable of attacking targets in the eastern USSR, its adjacent countries, and some Far East bases of the United States. Approximately 90 such missiles have been deployed; the number has not been increased since 1972.

The CSS-2 Guided Missile: this is an intermediate range guided missile recently deployed in China. It is believed that the number of CSS-2 missiles will not be increased in the near future. The attack targets of CSS-2 missiles are in central and eastern Asia.

The CSS-3 Guided Missile: this is a limited range intercontinental ballistic missile. Test launches were conducted in 1976. China did not give up this project but it is believed that only limited number of these missiles can be deployed. The CSS-3 missiles can attack all targets in Asia, the European territory of the USSR, Mariana Islands in the West Pacific, Alaska, and some Mideast areas. However, the CSS-3 missiles cannot reach the lower 48 states of the United States.

The CSS-X-4 Guided Missile: this is the only Chinese intercontinental missile capable of reaching the lower 48 states of the United States; the CSS-X-4 missiles are like the Atlas II ballistic missiles of the United States and the SS-9 ballistic missiles of the USSR. The launch test of the CSS-X-4 missiles requires an open ocean, possibly the Pacific. Analysis of the launch of CSS-X-4 missiles will lead to more detailed performance data of this guided missile system.

BALLISTIC MISSILES LAUNCHED BY SUBMARINES

China is developing submarine-launched ballistic missiles, as well as nuclear powered submarines for launching these ballistic missiles. The ballistic missiles launched by China's first generation submarines will have two-stage solid-fuel propulsion system with size and capability corresponding to the early Polaris guided missiles of the United States.

BOMBER FORCE

China's bomber force has nuclear attack power; however, it still lags behind the United States and Soviet Union. The Chinese bombers are only suitable to be used in military actions in Southeast Asia, Japan and West Pacific areas.

China began to build B-6 intermediate range jet bombers (corresponding to Tu-16 Badger bombers of the USSR); at present, approximately 100 such Chinese bombers are in deployment. There are not major differences between the B-6 and the Badger. It is believed that China can begin to build electronic counter measures aircraft, reconnaissance aircraft, and air tankers at any

time. China also has the capability of building aircraft with air-to-ground guided missiles.

The B-5 (corresponding to the I1-28 Terrier model of the Soviet Union) bomber is an old type double jet engine bomber. However, apparently China still considers the bomber an important weapon, with deployment of approximately 450 such bombers. It is unclear how many of the 450 bombers have the capability of carrying nuclear bombs. These bombers can take strategic actions against the European USSR, all of India, South Korea, Vietnam and some parts of Iran. The limited range of B-5 means that the bomber can be assigned to theater support within the range of China.

STRATEGIC DEFENSE

There are no indications that China is developing and building an anti-missile system.

China's air defense system still has major weak points: lack of all-weather interceptors, limited number of ground-to-air guided missiles, and out-of-date air defense command and control systems. Approximately 4500 interceptors form the defense fighter plane force for China proper, including the Shenyang-built F-2 (MiG-15), F-4 and F-5 (MiG-17), F-6 (MiG-19), and Fantan (developed version of MiG-19). Besides, there is at least another new model of interceptors designed in China with a monthly production of five planes.

The CSS-1 is a copy of SA-2 Gaidelin [transliteration] guided missiles of the Soviet Union; the missile is still the most basic ground-to-air guided missile deployed in China. There are approximately 130 such launch facilities. China's ground-to-air guided missile system is well organized but the deployment is still quite sparse, way behind the vast defense system in the Soviet Union.

In important military, industrial and densely populated areas, China skillfully deployed many air defense antiaircraft guns with calibers from 37 to 100 millimeters; the total number of such antiaircraft guns is more than 16,000.

SPACE SYSTEMS

China's space system is still undergoing development. However, in the past seven years, some artificial satellites were put into orbit. There are two targets in China's space project: enhancing the defense level and winning applause from abroad.

SURFACE WARSHIP FLEET

At present, China has 29 large surface warships, including destroyers and escort warships designed in the USSR and China. The CSS-N-1 ship-to-ship guided missiles have been installed on most of these warships. All Chinese warships have good anti-ship power, but only obsolete air defense and anti-submarine weapons; the lack of such capabilities limits the activity range of Chinese fleets, which are unable to conduct high seas combat. The surface warships are deployed at major navy bases to protect the strategic areas.

The coastal defense mainly relies on missile speedboats; there are approximately 183 Wasp class and River Valley class missile speedboats, installed with the CSS-N-1 model guided missiles.

The entire Chinese navy is divided into three fleets:
The North Sea Fleet has approximately 300 warships with headquarters at Qingdao.
The East Sea Fleet has approximately 450 warships with headquarters at Shanghai.
The South Sea Fleet has approximately 300 warships with headquarters at Zhanjiang.

SUBMARINE FLEET

There are 117 diesel engine attack submarines in the Chinese submarine fleets in addition to one nuclear powered attack submarine. One of the 17 submarines is used to launch test ballistic missiles. Strategically and technically, the submarine fleets are still in the primitive stage. Most submarines were originally designed in the Soviet Union, mainly of the R class, W class and M class; these classes are built in China at present. Each year, China can build at least 12 submarines.

NAVY AIR CORPS

The navy air corps has approximately 38,000 personnel, operating about 800 combat aircraft with coastal bases; these aircraft are organized into four bomber divisions and five fighter divisions. There are about 150 bombers, including B-5 (I1-28) type torpedo bombers, B-6 (Tu-16) medium bombers, and Tu-2 light bombers. The 575 fighter planes include the F-4, F-6 and some Fantan A model craft. There is a small number of Be-6 model sea reconnaissance aircraft in addition to 50 H-5 (Mi-4) helicopters and some light transport planes. All combat aircraft of the Chinese navy form one part of the air defense system.

TRENDS

The total number of Chinese tactical aircraft is more than 1200, including the Fantan type, the F-2 fighter-bombers, the B-5, and Tu-2 bombers. The Chinese aviation industry is building the Fantan and B-5 aircraft.

In August 1977, the Chinese troops held a joint military maneuver against Taiwan. According to reports, for support parachuting, the attack planes conducted bombing and machine gunning; the entire military force was covered by interceptors. The maneuver is of a lower level when viewed from the standard of the United States; this maneuver, however, indicates Chinese progress in operating tactical air power.

LAND-BASED NUCLEAR (THREATENING) FORCE

At present, there is still no direct evidence to determine the number of China's stockpiled nuclear weapons.

China has skillfully deployed 127 intermediate and intercontinental range ballistic missiles in various strategic areas with major targets in the Soviet Union. As revealed by the deployment form and the shortest range of these guided missile systems, China has the capability of using some of the guided missiles in territorial support.

The major nuclear attack force is the approximately 96 B-6 (Tu-16) aircraft in addition to the Tu-4 Bull model and a few B-5 model (I1-28). While executing the nuclear attack missions, the B-6 aircraft can attack targets 3000 kilometers from the Chinese border. To the east of the Urals in the USSR, approximately 50 industrial cities fall within the nuclear attack range of the B-6. The B-5 aircraft can also be used in nuclear attack against the USSR. However, as limited by the combat radius, the attack range is the far region of the USSR, close to the Chinese border.

MILITARY LOGISTICS

Materials and Supplies: China has reserves of vast amounts of military materials. Large amounts of supplies, ammunition, and fuels are scattered throughout the country.

Transportation: local self-sufficiency does not remove the necessity of supply transportation and military reinforcements. The transportation capabilities have been gradually improving by newly built railroads, double tracks for some railroads, electrification for a few railroads, and expansion of key railroad stations. However, basically the Chinese railroads are of the single track system; most locomotives operate on steam power.

The transportation capability has been enhanced in asphalt paving of highway surfaces throughout the country, tripling the number of medium trucks in the past seven years, imports of automobiles and newly built plants, as well as improvement of truck quality. The carrying capacities of almost all trucks are 3 or 6 tons, or even smaller. Few trucks have cross country capability. Generally, the Chinese highway system is at the level of the early 1920s of the United States.

A large scale military conflict will test China's logistic system. Multiple air raids against railroad stations, airfields, and transportation routes will considerably hinder supplies of this vast military force of China. However, some supplies can be carried by militia or civilian transportation equipment.

If it is attempted to use China's military force in an area outside its borders, the ground force will confront supply difficulties in any large scale combat. Similarly, if the Chinese aircraft take off from occupied enemy airfields, supplies of ammunition and fuels will pose a difficult task. The Chinese navy has been accustomed to seeing action in coastal waters; therefore there is little requirement for long-distance logistical support. However, if the navy is far from its coastal bases, the Chinese will immediately face a serious problem of supplies.

Air transport: this is the major weak point in China's military forces. Only about one half of the military and civilian aircraft can cover a transportation distance of 500 nautical miles in one round trip. As the transportation capability is low, a large number of aircraft with a high number of plane flights are required for each day's operation. This actually hinders military actions.

At present, the Chinese Air Force has approximately 500 fixed wing transports, including 300 C-5 (An-2) model planes, 100 Li-2 model, 50 I1-14 and I1-18 models, a small number of An-12, An-24 and An-26, and 18 British-made Trident jets. In addition, there are 350 helicopters, including the H-5 (Mi-4), Mi-8, and 13 Super Wasp model craft. During war, the Air Force can use 500 additional transport planes from the Civil Aviation General Administration, which has approximately 150 large aircraft, including the Boeing 707.

Sea navigation: China's high seas fleets can provide a large amount of transportation capability for logistics and military support. Up to 1 Junuary 1980, China's high seas fleets totaled 842 vessels of more than 1000 tons of cargo capacity each.

China has a large number of boats for coastal and inland river navigation; approximately 300,000 to 400,000 civilian boats can be used for cargo transport.

PRODUCTION

In China's national economy, the industrial production facilities are on a large scale with very fast expansion. In scale, the present facilities apparently exceed the requirements of production rate.

In 1979, the output of modern weapons in three services of the Chinese military force was considerably increased. However, output of some weapons still lags behind the highest output in 1971. This indicates that possibly China has siphoned its strength toward the development of the most advanced weapon system built in China. The fastest increase in output was in the aviation-space field and army equipment.

The vast majority of China's military equipment was built on the technical foundation of the Soviet levels in the 1940s and 1950s. However, in the past three years, China expressed great interest in the most modern technology in the West. Possibly in the near future, it can build more modern equipment for its troops, such as Milan and Hood model anti-tank guided missiles, Sidewinder ground-to-air missiles, and Harrier model VTOL (vertical takeoff and landing) /STOL (short distance takeoff and landing) fighter planes.

The aircraft production has been decreased. The Chinese may draw the conclusion that it is practically worthless to build a large number of obsolete combat planes. They are engaging in development of modern aircraft--for example, the use of Spey engines in the development of new interceptor planes.

China is building various types of tactical and strategic guided missiles--from ground-to-air guided missiles to intercontinental ballistic missiles.

RESEARCH AND DEVELOPMENT

Although China has lagged behind the United States for a good many years, major progress (by Chinese) is underway. The appropriate migration of technology may result in certain fields of catching up and surpassing (other countries') technology. It is impossible in the near future, or even before 1998 or 2000, for China to catch up with the United States and Soviet Union. However, technological backwardness does not hinder China from building an inventory of threatening nuclear weapons.

In the 1970s, China consistently enhanced its design capability in aviation and space flight with its purpose of developing high performance ballistic missiles and an advanced aerodynamic system. The problem lies in China's insufficient number of engineers and scientists capable of engaging in independent research. In these fields, the number of technical personnel is still insufficient. However, through effective organization and management of manpower resources, progress can be obtained in fields of priority developments.

SOURCES OF FUTURE WEAPON FACILITIES

Although progress has been made in the Chinese industries, the People's Liberation Army still lacks modern equipment. In order to rectify this weak point, at least China should partially take advantage of defense technology in the West. Within the next decade or more, China's sources of military equipment may come from the following routes: exploitation of the existing weapon systems to the limit, development of modern, made-in-China weapons and improvement of existing weapons, and importation of production licenses of weapons from abroad. The major military equipment intended by the Chinese for development includes the following:

Aircraft: although most of the Chinese aviation industry was built on the obsolete Russian technical foundation of the 1950s, the modernized industrial divisions can handle complex engineering problems, such as large four-engine Boeing 707 airliners. The purchase of production license for the Spey engine from Rolls-Royce Corporation gave China a useful propulsion technique. This kind of engine can be used in at least one modern aircraft. There is a report that Spey engines can be used in variable delta wing fighter planes developed from the Russian MiG-23.

Tactical guided missile: besides the CSS series ballistic missiles, China has deployments of the following types of guided missiles: CSA-1 type ground-to-air guided missiles (originally SA-2 guided missiles of USSR), CSS-N-1 ship-to-ship guided missiles (originally SS-N-2 Minghe [transliteration] missiles of USSR), Chinese copies of USSR AA-2 air-to-air guided missiles and AT-3 anti-tank guided missiles. A stream of reports said that China already possessed

SA-3 Hawk ship-to-air guided missiles, modern ship-to-ship missiles (possibly the development model of Minghe missiles), and Honest John/Frog guided missiles.

In the near future, China will build Milan guided missiles, the production license of which has been purchased. China also signed contracts to obtain production licenses of Hood guided missiles, and Sidewinder guided missiles of the Tomson/Matra Corporation. The Hood guided missiles will be installed in armored vehicles and helicopters. China tends to use West Germany's technology in anti-tank guided missiles.

Warships: although China has the production capability of building modern escort warships, destroyers and submarines, its fleet building project is still limited within an appropriate range, with emphasis not on developing high seas fleets but on high speed patrol boats. The guided missile patrol boats will continuously have an important role; the missile speed boats are composed of Wasp and Mosquito class missile boats. Obviously, modern models are required for supplement and replacement.

NAMES OF CHINA'S AIRCRAFT AND GUIDED MISSILES

Editor's Note (journal of MILITARY TECHNOLOGY AND ECONOMY of West Germany):
[continued on following page]

(a) 名称	(b) 北约原子名称	(c) 苏联原名	备注 (d)
F-2	柴(e)捆	(o)米格-15/15UTI	服役的有单座和双座型战斗机(u)
F-4	默(f)遍	(o)米格-17F	单座型为米格-17F战斗机，双座型为中国造教练机 (v)
F-5	鹭(f)顶	(o)米格-17PF	仿米格-17PF战斗机 (w)
F-6	农(g)夫	(o)米格-19	对应于米格-19PF 战斗机，装(x)有雷达的米格-19PF 已服役
F-7	鲟(h)宾	(o)米格-21	少量生产的战斗机 (y)
F-8/9			本国设计的战斗机，可能尚未生产 (z)
F-12			使用斯贝发动机的新型战斗机(aa)
A-5	鹏(i)纳	(p)	米格-19的发展型，以前误作F-6或F-9，现予更正 (ab)
B-5	(j)小猎犬	伊尔-28	仿苏联产品的轰炸机 (ac)
B-6	(k)獾	(q)图-16	仿苏联产品的轰炸机 (ac)
C-5	(l)马 驹	(r)安-2	仿苏联产品的运输机 (ad)
H-5	(m)猎 狗	(s)米-4	仿苏联产品的直升机 (ae)
BT-5	(n)迈克斯	(t)雅克-18	仿苏联产品的教练机 (af)
BT-6			本国设计，外观类似BT-5的教练机 (ag)

[Key on following page]

Some of the Chinese active duty aircraft and guided missiles are copies from the USSR; others are improved versions of Soviet models and some few models were designed in China. The names of such equipment are quite confused in the West. The table may be helpful to readers.

* Please refer to chart appearing on page 25, April 1981 issue of HANGKONG ZHISHI [AVIATION SCIENCE]; these missile names do not appear here (Editor's (AVIATION SCIENCE) Note).

Key (of the table on the preceding page): (a) Name; (b) Name given by NATO; (c) Original Soviet name; (d) Remarks; (e) Firewood Bundle; (f) Fresco; (g) Farmer; (h) Fish Nest; (i) Fantan; (j) Terrier; (k) Badger; (l) Colt; (m) Hunting Dog; (n) MIGs; (o) MiG; (p) Il; (q) Tu; (r) An; (s) Mi; (t) Yak; (u) Single and double seat fighter planes in active service; (v) MiG-17F fighter planes (single seat model) and built-in-China trainer planes (double seat model); (w) Copies of MiG-17PF fighter planes; (x) Corresponding to MiG-19PF fighter planes; in active service for radar-installed MiG-19PF fighter planes; (y) Fighter planes in limited production; (z) Chinese-designed fighter planes, possibly not yet in production; (aa) Modern fighter planes using Spey engines; (ab) Development version of MiG-19; this is correction for prior mistakes of F-6 or F-9; (ac) Copies of USSR-built bombers; (ad) Copies of USSR-built transport planes; (ae) Copies of USSR-built helicopters; (af) Copies of USSR-built trainer planes; (ag) Chinese-designed trainer planes with exterior resembling the BT-5.

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