

War and Air Power in Japanese History: Implication of Today Thought about from a Historical Observing Point

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"Technology to fly the air" is one of major technical breakthroughs that the human accomplished in the 20th century. From in particular the use being effective as military means, each country built military strength namely the air power that utilized this technology (aviation war potential).

As a result, it will be clear at first that the aviation war potential that I appeared as supporting means of local battle begins to display influence as a trend of war is decided in now if it watches an aspect of modern times war that had been done in world each place. For example, in World War I (1914 or more), the aircrafts were principally used for tactical duties such as reconnaissance or impacted bomb observation. In the World War II, the aircrafts attacked the people of the other country and the economic activities, and it was had much work by a strategic use to let the fighting spirit and war accomplishment ability deteriorate.

If I step on such results and see into war in the future or the restraint, it is thought that importance of air power traces the future, a course of right up. However, there are weak points to the aircrafts which are the core of air power. When the aircrafts turn up in the air and fly, they are discovered, and they are easy to be attacked, and the defensive ability against the attack is poor. As for the aircraft, flight hours were limited crucially by embarkation fuel and the fault to need a long runway for a takeoff and a landing were still as study subjects. About these subjects, they are not easy for us to improve them from scientific technology and operative technology and we cannot solve these problem overnight. Accordingly I let you show a good point of air power fully, and it is a key of strategy use in future, and wisdom and an effort to cover a fault will hold it.

There is not that defense of a country includes a major purpose of Japanese air power till I say either. And, the construction and maintenance of air power cannot miss one side too to contribute to the reinforcement of strength of a nation secondary.

The one is security of security in the sky of an own country. A lot of private defenselessness aircrafts turn around in the Japanese sky. Those most do not have self-defense measures for unreasonable attack. It may be said that the reason why

it is forgiven is that existence of Japanese air power contributes to maintenance of public peace and order. It seems to become the collaborating evidence that the U.S.A. which learned lesson from self-destruction terrorism lets interception go with an armed fighter whenever the air force discovers a suspicious aircraft.

Another one is a merit of Japan that maintains aircraft manufacturing industry independently. The aircraft are the products of the best industrial technology. I can say such a thing in both scientific level and a spot level. Therefore advanced production engineering learned by development of the aircraft in the spot of know-how and production is utilized in production of other products, and it will be the fact that we will not overlook that it contributed Japanese high industrial standard.

In recent years, it is not rare to receive new technical supply from industry other than the technology guidance type, and more efforts in the aircraft industrial world are expected.

Technology, Culture and Military Effectiveness in the First Century of Air Power

Philip Sabin

Air power writing has increasingly tended to concentrate on the experience of the English speaking nations. This is understandable given the growing dominance of US aerospace power in the modern world, but it can give a distorted impression of the global development of air power over the past century. In this address, I will try to adopt a more balanced approach, giving equal weight to the experience of other nations such as France, Germany, Italy, the USSR, Japan, China, and the various states of the Middle East and South Asia. I will examine the links between technology, culture and military effectiveness across the entire century of air power, and try to develop some broad conclusions of relevance for the coming century.

First, I will identify a range of factors which bear upon how effectively different states have been able to employ or counter enemy employment of air power in the past. I will discuss each factor in turn, and assess how and why the relative

importance of the different factors has changed over time. The factors are as follows:

- technological capability
- tactical proficiency
- planning & intelligence
- willingness & ability to take losses
- combined arms integration
- industrial back-up
- societal determination.

Then, I will assess the implications of my findings for the broader relationship between air power and strategic culture. In particular, I will ask whether the triumph of the democracies in the World Wars and the Cold War, and the dominance of US and Israeli air power today, indicate that air power is a particular strength of democratic states and is intrinsically more difficult for authoritarian regimes to employ effectively. I will conclude by discussing how past trends are being affected by the increasing shift away from 'conventional' campaigns and towards asymmetric warfare.

The Rise of Air Power in the 20th Century

Williamson Murray

This paper traces the development of military air power from its earliest beginnings on the sands of Kitty Hawk, North Carolina through to the end of the Second World War. In the relatively short amount of space available to a topic of such great span, it will address three distinct time periods: first, the development of air power through to the end of the First World War with special emphasis on the driving factors of technology and military necessity that played such an important role in its birth; second, the technological and theoretical influences of the interwar period that set the stage for the coming wars in Asia and in Europe; and third, the influence of air power on the global conflict that swept across the world and

fundamentally altered the strategic landscape.

There are several major themes that occur throughout this paper. Perhaps, the most important is the tension between what airmen believed they could accomplish and their actual contribution to military capabilities. Almost as important is the theme of the difficulties that invariably accompanied air power employment: the enemy air force will always have a say in the outcome; and the considerable difficulties involved in actually hitting and damaging targets.

Finally, the paper attempts to examine the actual contributions that air power made in both direct and indirect terms to the victory of the Allied Powers in the Second World War in both the European theater of Operations and in the Pacific. Air power alone was not capable of defeating an enemy by itself as so many of its theorists had claimed during the interwar period. Moreover, its greatest contribution in both world wars came in its ability to support and enhance the operations of both armies and navies – again very much in opposition to the theories of the interwar period. And perhaps the greatest irony of all was the fact that air power turned out to impose a terrible attrition on those who practiced it. In that sense it played to the great strengths of Britain and particularly the United States. If the air forces of the Anglo-American powers were not decisive by themselves, their contribution represented a crucial precondition to Allied victory in the war.

Birth and Evolution of Japanese Air Power 1900-1945

YANAGISAWA Jun

In this paper I describe Japanese airpower from its birth in the early twentieth century to its evolution until the end of World War II. Above all I describe how Japanese evaluated this foreign origin military instrument and how they introduced and developed it in their organizations, operational ways and technologies. Next I describe Japanese used the airpower to gain brilliant successes in Pacific theater of operations in World War II and finally Japanese airpower was defeated completely at the end of the war.

This period can be divided in four terms. The first term begins with the Japan's first flight of aircraft and ends around the armistice of World War I. Japan

made her first manned flight using foreign aircraft in 1910 and executed the first air operation at Tsingtao campaign in 1914. But after that Japan did not get enough new European aircraft until the end of W.W.I. So Japan got behind Westerns in operational and technological capabilities in air power.

The second term is a former part of the interwar period and ends around 1930. Japan wanted to establish operational ways of air power and aeronautical engineering, thus they actively invited foreign missions and engineers. In this term Japanese Army and Navy made a special committee in order to investigate how airpower should be deployed for exercising its maximum capabilities. The committee recommended that army and navy each had their own air forces as in the past. And Japanese Army and Navy regarded the airpower as an auxiliary force.

The third term is a latter part of the interwar period. Strategic environments changed drastically and those changes made Army and Navy decide their airpower usage after that. The Army Air Corps interests regarded Air Corps as an independent air force and wanted to wage counter air operations to annihilate Far Eastern Soviet Air Force in Manchurian theater. Navy's air power usage was to diminish gradually U.S. fleet advancing to western Pacific and keeping air superiority where a fleet decisive battle would occur. Japanese aircraft's performance caught up western aircraft's in latter half of this term. From 1937 Japanese air power was thrown into the Sino-Japanese conflict. It performed well in close air support and counter air operations but got no decisive results in strategic bombing missions.

The fourth period is the Asia-Pacific War. Early in the war Japanese airpower gained brilliant successes. But in the next phase Japan lost air superiority in the South-East Pacific, suffered serious damage and retreated westward. In the last phase of the war Japan could not catch up with U.S. airpower entirely, so Japan executed aerial suicide attacks. Nevertheless Japan could not win air battles against U.S. and Japan's homeland was burnt out by bombings of B-29. Japanese air power was terminated completely.

Air power should be thought in a context of national strategy. But as aforementioned Japanese leaders could not adapt air power to rapid changing national strategy. And Japan executed her strategy beyond abilities of her air power. Those are valuable implications for thinking modern relations of strategy and air power.

The United States as an Air Power

Benjamin S. Lambeth

More than any other country in the world today by far, the United States has truly become an air-power nation. By tradition, strategic culture, and national preference and style, the United States now relies first and foremost on the air weapon in times of national crisis. In any such situation, the first question always asked by national leaders is: “What can air power do?” There is a clear difference between the military air instruments of the United States and those of all other countries in terms of overall size, technical capability, extent of reach and sustainability, and breadth of operational and support services provided. Among all the world’s air forces, only the United States currently maintains a full spectrum of land- and sea-based strike assets, intercontinental-range bombers, and a supporting panoply of tanker, airlift, and space surveillance and targeting adjuncts offering the ability to engage in global power projection and all-weather precision attack. This is in no way meant to denigrate the many strengths in both equipment and personnel that distinguish the air arms of the United States’ principal allies around the world. It is merely to acknowledge the central truth of the uniqueness of American air power and its range of offerings to a theater commander.

This distinctive aspect of American military power is deeply rooted in the nation’s combat experience in World War II, Korea, and Vietnam. But it was locked up once and for all by air power’s consistently effective contribution to the succession of American combat involvements that coincided with the end of the cold war, starting with Operation Desert Storm in 1991 and continuing through Operations Deliberate Force, Allied Force, Enduring Freedom, and Iraqi Freedom. As attested by its consistently successful performance in those five conflicts, American air power since the end of the cold war has experienced a nonlinear growth in its ability to contribute to the outcome of joint operations thanks to the convergence of stealth, the ability to attack both fixed and moving targets consistently with high accuracy from relatively safe standoff ranges, and the expanded battlespace awareness that has been made possible by recent developments in command, control, communications, computers, information, surveillance, and reconnaissance. These capability improvements have yielded high lethality on the first mission,

near-complete freedom of operations from the outset of combat, round-the clock operations enabling a constant high pace while giving the enemy no sanctuary, and the dominance of combat operations by information. As a result of these developments, American air power has finally acquired the wherewithal needed to set the conditions of victory in joint warfare, something that cannot be said about any other force elements.

Assessing Japan's Airpower from the Military Point of Views

SHIKATA Toshiyuki

1. Japan's airpower, Air Self Defense Force created from zero after the war

On August 15th 1945, Japan had lost all her airpower by defeat of the Pacific War. Japan was prohibited to possess any kind of aircraft and aircraft industry. However, one of the turning points came several years after. It is the outbreak of the Korean War on June 25th 1950.

Most of the U.S. occupation forces in Japan rushed out to the Korean Peninsula and Japan itself became militarily vacant. On August 8th 1950, the Supreme Commander General Douglas MacArthur allowed Japanese government to create the National Police Reserve (78,000 personnel) and to increase 8,000 personnel for strengthening the Coast Guard.

The Coastal Safety Force (CSF) was organized as a part in the Coast Guard strengthened, and the Security Agency, an independent national agency, was inaugurated on October 1st 1952. Then, the National Police Reserve (NPR) was reorganized into the National Security Force (NSF) on October 15th 1952.

The NPR was reorganized into the Ground Self Defense Force (GSDF) again, the CSF was reorganized into the Maritime Self Defense Force (MSDF) and the Air Self Defense Force (ASDF, 6,838 personnel) was independently created under the Defense Agency on July 1st 1954. Thus the framework of Japan's air power was newly born.

However, it took more than four years until the ASDF could be called Japan's airpower by organizing Air Defense Command (August 1st 1958) through training of personnel, acquisition of aircraft, organizing various units, establishing of

maintenance and logistics support systems, setting up of air bases and systemizing warning, command and control.

2. Establishment of the Concepts of Basic Defense Capability

Disarmed Japan possessed her own armed forces in manner of hop, step and jump phases. The first phase was start of units as the additional reserve force for the police and the coast guard. The second phase was reorganization of units into national security forces. The third phase was strengthening of complete three service forces to defend Japan's territory.

On July 2nd 1956, the National Defense Council was set up in the Cabinet and it enacted "Basic Guidelines for National Defense" which came after the substantial build up of defense forces. Proclaimed major policies in the Basic Guidelines were gradual development of efficient defense capability while keeping it to the minimum only necessary for self-defense, coping with the aggression from outside and adherence to the Japan-U.S. Security Arrangements. In fact, gradual building up of defense forces and sharing role between the Japanese Self Defense Forces (JSDF) and the U.S. forces as the former "the Shield" and the later as "the Pike" were two major bases of Japan's defense policy clearly recognized and these policies have been kept until today.

Nature of the SDF is exclusively defense-oriented in strategy, moderate and limited in size, active only in own territory and surrounding water. In major roles of the SDF to repel invasion from outside, the GSDF is for defense of Japan's territory, the MSDF is for defense of surrounding sea and for securing the safety of maritime traffic and the ASDF is only for air defense.

On August 31st 1954, Defense Minister issued an instruction which legislated that the ASDF operates major aircraft, the MSDF keeps patrol aircraft and helicopters for patrol and minesweeping and the GSDF has various helicopters and liaison aircraft, depending on the classified roles of each service. Thus, Japan's airpower was formulated.

First Defense Build-up Plan approved on June 14th 1957 was based on those concepts and was followed by Second (on July 18th 1961), Third (on March 14th 1967) and Forth plan (on February 7th 1972). Thus, the build up of the SDF, particularly Japan's airpower was realized systematically through F-86F, F-86D, F-104J to F-4EJ as far as the interceptors are concerned.

Thereafter, entire defense planning system was systemized and the “National Defense Program Outlines (NDPO)” was adopted on October 29th 1976 by the Security Council and the Cabinet. “The Concepts of Basic Defense Capability” stated in this outline is that Japan in principle will possess the minimum defense capability necessary for repelling limited small scale invasion. In the annexed table of this NDPO, the objective level to build up the Japan’s airpower was clarified in detail.

3. Current Japan’s Airpower formulated by the new NDPO

The NDPO adopted in 1976 was reviewed twice in 1995 and in 2004. The Outline reviewed on November 28th 1995, responding to new international strategic environment signified by the end of the cold war period, aimed at making the size and function of defense capability more compact, high-tech and prompt under the adherence to “the Concepts of Basic Defense Capability.”

The new Outline reviewed on December 10th 2004 aims at responding not only operations to counter landing of invading forces but also dramatic changes of threat such as attacks by ballistic missiles, attacks by guerrilla and special operation forces, invasions to isolated islands, violations of territorial airspace, infiltration by covert-operation boat, large scale natural disasters and at coping with multiple efforts to improve international security environment proactively. Key words toward achieving new defense capability are dealing with diverse contingencies, keeping appropriate flexibility and operating effectively.

“The Mid-Term Defense Program (FY2005-FY2009) (new MTDP)” which realizes a new force structure stipulated by the new NDGP (requested budget is 24 trillions 2400 hundred millions yen) was approved on December 10th 2004 at the Security Council and the Cabinet Meeting.

It is natural that the core portion of the Japan's airpower is the ASDF for overall air defense, and it consists of aircraft, surface-to-air missile, ammunition, air base, warning and control system, maintenance, supply and training system and industrial base to support airpower.

The air fleet consists of fighter-interceptors (203*F15-DJ, 92*F-4EJ), fighter-support (18*F-1, 61*F-2A/B), air reconnaissance (27*RF-4E/EJ), early warning aircraft (13*E-2C), early warning and control aircraft (4*E-767), transportation aircraft (26*C-1, 16*C-130H, planned C-X), air refuel aircraft

(KC-767), helicopters (15*CH-47JA, planned CH-60J) and other utility aircraft. The Defense Agency plans to streamline the number of combat aircraft from 300 to 260 by the new NPDO.

The ASDF plans to introduce a precision missile guidance system that can receive signal from the GPS satellites. And it decided to add air refuel capability between C-130H and UH-60J. Now, it is considered to introduce Unmanned Aerial Vehicle (UAV).

By adding those capabilities, Japan's airpower will be strengthened significantly in the near future.

The Japan's airpower belongs to the MSDF are 97*P-3C fixed wing patrol aircraft (planned to streamline from 80, 8 units to 70, 4 units and development of P-X) and 98*SH-60 patrol helicopters (planned to streamline from 90, 9 units to 70, 5 units). Total strength of the MSDF air craft is 170, 17 units including other 10*MH-53E minesweeping helicopters when the new NPDO is achieved.

The Security Council and the Cabinet decided to pursue BMD system and also to introduce new radar (FPS-XX) system for surveillance and tracking. Four AEDIS vessels will be improved by adding upper-tier interceptor missile system and three PATRIOT surface-to-air missile units will be improved by adding lower-tier interception capability.

The Japan's airpower belongs to the GSDF consists of helicopter fleet such as combat helicopters (88*AH-1S and 7*AH-64D authorized), transportation helicopters (50*CH-47J), utility helicopters (161*UH-1H and 23* UH-60JA), observation helicopters (155*OH-6D and 18*O-1) and 16 fixed-wing liaison aircraft.

Organizing of an air-mobile "Central Rapid Response Group" and new low altitude middle surface-to-air missile unit could be parts of airpower.

4. Issues needed more discussion

It is assessed that Japan's airpower programmed by the new NDPO, if it is completed, could cope with various threats currently estimated. However, also following several issues should be discussed.

Will the BMD system be introduced and fielded to Japan on schedule?

When the Joint (tri-services) C4I net work of the SDF will be constructed effective battle field surveillance and management?

Can the ASDF introduce UAV system earlier than it wishes?

Will Japan increase information-gathering satellites more than four in near future? Can Japan develop technology to obtain higher resolution of imagery data?

Should Japan keep preemptive denial operation capability for example, long-range cruising missiles like Tomahawk?

When the military balance over Taiwan Strait become imbalance by rapid expansion of Chinese airpower?

Role of Air Power in the Age of Terrorism

Matitiahu Mayzel

In this paper I seek to present some thoughts on the role and importance of a particular tool of warfare in a particular type of warfare. This tool is air power, probably the dominant major tool of warfare since its inception and until today. It is, one has to emphasize, among the newest technologies of warfare, one that changed radically the ways wars are fought. The particular type of warfare in this discussion is one of the oldest in world history: guerrilla and terrorism. This old type of warfare took a very challenging new form in the last half a century, the combined result of new technologies and, more important, social changes. Moreover, while there is an agreement among practitioners and scholars on the essence and characteristics of air warfare and air power, no agreement exist on the definitions or even general overall concepts of guerrilla and terrorism. Here in this paper I will discuss the problem of conceptualization of these forms of warfare in historical context, and hence, the difficulties in applying concepts of air warfare in guerrilla cum terrorism war. [Or, to use President George W. Bush words, to question the very validity of a phrase like “war on terrorism.”]

Then I shall advance to discuss the history of the use of air power in the fight against various forms of insurgency. Various cases of usage of air power in COIN operations will be discussed. From suppression of revolts in backward rural areas [e.g. Russia 1920-21, Central America in the 1920s and 1930s], through colonial policing practices [e.g. India’s North-West Frontier, Mesopotamia 1920, Palestine

1936-39]. The discussion will continue to modern days problems, as the theoretical and practical distinction between guerrilla and terrorism is completely eliminated. The discussion will focus on problems of COIN operations against combined rural-urban guerrilla-terrorism in densely populated areas [e.g. Algeria 1954-62, Northern Sri-Lanka in the last two and a half decades, South Lebanon, Gaza], to the problems of globalization of insurgency and the limitations of power, whether military or political, of sovereign states.

Future Strategic Environment in East Asia and Role of Air Power

Ihn-Yohl Kim

Obviously, the dramatic changes in Eastern Europe must be a positive sign of new directions in international relations. However, they do not necessarily signify the opening of a peaceful world. The proliferation of mass-destruction weapons, missiles, advanced aircrafts, NBC warheads, PGMs, armored vehicles, ideological/ethnic conflict, among others, are major sources of international instability.

Professor Kim develops his argument under a pessimistic assumption. Security environment is a Hobbesian conflictual arena against Kantian cooperative society. Anarchical environment teaches self-help is a workable insurance. Whenever other means fail, power should be the ultima ratio.

Modern airpower's capability is reliable and tremendous. Now is the moment to declare that distance between the action policy and declaratory policy is almost nil. It can deliver right amount of weapons at right place on given time. A corollary is the multifold employment of airpower.

The roles of modern airpower would be analyzed in two somewhat broad aspects. One is the prime instrument for national politics. Modern airpower, specifically, is a resolute instrument for the compellence. When other means are inadequate, air power provides a highly sophisticated capability to persuade opponents to alter their behavior. For instance, airpower could make adversaries to withdraw military forces, and/or to accept a cease-fire. Modern airpower is capable of precision weapon delivery. PGMs allow for immediate strikes against an adversary's center

of gravity. The shock effect of such strikes enhances compellence. In addition, compellent force is reinforced by the airpower's unique capability of the flexibility.

The other is instrument of the military operations. First, Airpower provides invaluable tool for the air and/or battlefield superiority. Although air superiority may not be sufficient, it is a sine qua non for success. It is not new to contend that with superiority, all other operations are possible, without it, all is at risk.

Second, airpower's flexibility can achieve surprise. Strategists view the Operation Desert Storm as the quintessential surprise attack. For the first 24 hours, coalition airpower rendered the Hussein regime confused, and ignorant what was happening. Further, reportedly, for the Operation Desert Shield, F-15s were in place on Saudi Arabia within 38 hours of the president's order, "Go !"

Third, modern airpower carries leading role in war-fighting. It is the very right power for the "Deep Battle," and "High Battle." Hence, today's airpower is the very initiator and partial terminator of modern war. All the forces employed for the first 24 hours for the Gulf War were air component powers. Kosovo War had been ended by the sole airpower employment.

Fourth, modern airpower is a cost-effective instrument for the "air policing," or substitute for surface forces. When Iraqi forces began to subdue the Shia rebellion and the Kurds, "No Fly Zones" were established. Coalition flew more than 300,000 combat sorties, and could put the Iraqis under control. These activities, of course, were more efficient than that of traditional "No Drive Zones."

Fifth, modern airpower is an alternative to nuclear weapons. Differentiation between tactical and nuclear power would be no longer meaningful and falsifiable. Modern airpower's destructibility is incredible. It is unveiled, for instance, that each B-2 carries a total of 800 submunitions. Not surprisingly, it is expected that around 300 enemy vehicles would be damaged or destroyed by a single B-2 attack.

Accordingly, professor Kim coins and adds on the lexicon, a new word, Pax Airpowerina for the modern airpower.

Air Power in Japan's Grand Strategy

ISHIZU Tomoyuki

Colin S. Gray in his *Explorations in Strategy* has argued that air power (1) has a truly global domain; (2) necessarily takes and exploits the overhead flank, the “high ground”; (3) enjoys, with some favored-basing support and aerial refueling, a practically unlimited range and reach; (4) can have a speed of passage in mission execution that is unrivaled (except by ballistic missiles or spacecraft); (5) because of geographically unrestricted routing can menace an enemy from all directions; (6) is granted the benefit over terrestrially bound elements of superior observation of objects and activities of interest; and (7) can project power with an unparalleled flexibility for the purpose of achieving what could be a decisive concentration of force. This paper will, first of all, examine the validity of this assessment by looking into the recent wars and conflicts.

This paper will then envision the future of war and that of air power, taking the *Zeitgeist* of the 21st century into full considerations. I will conclude by discussing how Japan's future grand strategy and defense policy could be affected by the effectiveness of this tool of grand strategy and defense policy, and vice versa. In so doing, I will advocate the establishment of Japan's own grand strategic thinking, “the Japanese Way in Warfare,” which reflects Japan's culture, history and value system as well as its geographical and political situations.