

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

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## **1. The Birth of Aircraft and Air Power**

If I were to cite the technological breakthroughs that have had the great impact on the history of mankind throughout the 20th century, my major candidates would be:

- Use of atomic power,
- Invention of high molecular compounds (so-called plastics),
- Discovery of antibiotics,
- Evolution of information technology.

However, we cannot afford to omit the technology of flying in the air from these breakthroughs.

As you know, humans have always cherished the hope of flying in the air like birds since a long time ago. After efforts to realize this dream culminated in flying with giant kites or producing ornithopters, in 1903 the Wright brothers successfully completed the first human flight in a biplane powered by a 12-hp engine. This flight covered a distance of 260 meters at an altitude of 3 meters, and lasted only 59 seconds.

Once the possibility of human flight was demonstrated, the study of airplanes suddenly accelerated to a point where only six years later in 1909, an airplane crossed the English Channel. Later as airplanes were put to practical use for collecting and delivering mail throughout the vast American continent, we could say that aviation technologies played a significant role in advancing human civilization.

Of course, the armed forces, which have a propensity toward exploiting anything that helps them, never failed to set their eyes on these technologies. Although I have no records for individual countries there is almost no doubt that the armed forces of many countries were interested in using aviation technologies for military purposes.

In Japan, our records reveal that a Provisional Committee for the Study of the Military Application of Balloons began developing airplanes in 1909, and that Capt. Hino flew 700 meters in a Grade monoplane and Capt. Tokugawa 3000 meters in a Farman biplane in 1910. However, even back then, I think that there must have been few people who expected the airplane to become a major weapon in dictating the outcome of war in the future.

When the World War I broke out in 1914, the military naturally accelerated their efforts to utilize aircraft. In the beginning, aircraft was mainly used for reconnaissance and observation. However, soon aircraft mounted with machine guns were engaged in air battles, attacking enemy ground troops, and even bombing cities. Records show that Japanese army aircraft conducted the first-ever night-time bombing of a city, which was Qingdao in an area of China then under German rule. In such ways, the usefulness of aircraft for military purposes had been gradually established.

Upon having witnessed the achievements of aircraft in war, in 1915 the Japanese Army began creating air squadrons and by 1925 had completed a formidable line-up of army aviation by forming six air squadrons equipped with Farman aircraft.

The Japanese Navy, which also made efforts to turn aircraft into an arm of air power in step with the Army, and at the time of the World War I, had transformed the cargo ship, Wakamiya into a mother ship for four Farman planes equipped with floats that participated in the attacks on Qingdao. This marked the first battle of the Japanese naval aviation, and records show that these planes flew 49 sorties in two months for reconnaissance, artillery observation, mine searching, and bombing. Therefore, I could safely say such operations have effectively demonstrated the strength of the Japan's air power.

At the same time, there was a growing awareness of the importance of air power, thus providing more momentum for strengthening Japan's air power by acquiring advanced technologies from Britain and France. As a symbolic event, an aeronautical engineering department got off the ground at the University of Tokyo in 1918. This department, filled with resolve following Japan's defeat in the World War II, made a comeback in 1954 in line with Japan's postwar regeneration, making it one of the symbols marking the trends in Japan's aviation technology.

## 2. Characteristics of Air Power

When tracing the history of modern armed forces of the world powers, we realize that there was a common trend whereby first they created an army followed by a navy, and spawning in due course separate air wings that eventually became an independent air force. I believe this stands to reason much like the natural order, in which we first looked for a habitat on the ground and then gradually expanded it by crossing oceans and much later, along with the evolution of civilization, we began exploiting the sky.

However, the times when an air force became an independent branch of the armed forces vary from country to country. Britain was the first country to establish an independent air force in 1918, followed by other major powers whose air forces became separate military organizations around 1935. Meanwhile in Japan where serious debate raged from early on, the separate air wings of the army and navy were never integrated and Japanese air power ceased to exist with Japan's defeat in 1945. Then, after a lull of nine years, interest in air power resurfaced as the Ground, Maritime and Air Self-Defense Forces were being established under the strong influence of the U.S. Army, Navy and Air Force.

Although, we now have an air force called the Air Self-Defense Force, I would like to review how its force is exercised.

In Japan we sometimes describe an aerial battle by dividing it into "defense air combat" and "support air combat" for the sake of convenience. Defense air combat refers to defensive efforts to drive off and shoot down hostile aircraft that violate our air space with the intention of attacking the U.S. Support air combat refers to aerial fighting to support allied forces engaged in combat on the ground or at sea. Generally speaking, fighter airplanes whose mission is to intercept must excel in climbing power, and while being guided from the ground, must close on the enemy to deliver successful, first strike missile attacks.

Fighter planes with a support air combat mission must precisely, or repeatedly if necessary, attack the enemy on the ground or at sea without hitting allied forces by maintaining close contact during ground or sea warfare. For this reason, since fighter airplanes with a support air combat mission are expected to have excellent low-altitude capabilities and be able to carry a large quantity of bombs and missiles, such aircraft quite naturally assume the characteristics of light bombers. Note that

this is not necessarily the situation in Japan due to various circumstances, and in view of the development of fighter airplanes in advanced countries, I do not think this type of fighter airplane classification is absolute.

Anyway, it seems necessary to focus on the fact that air power, which surfaced as an auxiliary means of combat, now has the capacity to influence on the outcome of war. When examining the circumstances of Japan's surrender in the World War II, we can acknowledge the fact that conventional strategic bombings demoralized the general public and seriously curtailed economic activities. However, what really prompted Japan's immediate surrender were the two atomic bombs that devastated Hiroshima and Nagasaki and which were delivered by just two B-29 bombers.

We, however, must remember the airplane has a number of weak points and shortcomings. While its basic purpose is to remain airborne, that exposes the airplane to full view and makes it an easy target. Even an intruding aircraft flying at low altitudes is easily detected by radar since many aircraft parts are made of metal, and if struck by a missile, an aircraft usually goes down. Moreover, a fuel shortage threatens aircraft survival, coupled by the need for a long runway to take off and land. So the airplane has many shortcomings. Although research to resolve these issues has been pushed through, I do not think we can resolve these issues overnight. I believe that in addition to bringing out the full strength of air power, our ingenuity and efforts to complement its shortcomings will remain requirements for operational art in the future.

With regard to ground and sea combat, men have made international rules of war, for example, banning the use of toxic gases and dum-dum bullets, and requiring that surviving crew members of sinking enemy warships be saved, even though some of them seem to be no longer observed.

Conversely, there are no common or statutory laws covering air combat. Given the relatively short history of air warfare and its rapid development, perhaps we have not yet reached the stage of creating international rules for air combat. But if you ask me, we have no choice but to comply with the 1923 draft of air warfare.

The draft prohibits attack on targets other than troops and military objectives. Now that war technologies have drastically transformed, such as nuclear weapons since the World War II, war is no longer limited to the military alone. We, therefore, cannot help but object to the fact that the draft is no longer being enforced.

### 3. Air Power and National Power

Although there is no question that the primary purpose of air power is to defend the home land, developing and maintaining air power makes no small contribution toward the growth of national power.

One contribution is securing safety in the air. Although it was a year after the end of the World War I (1919) that Japan's first full-legged, scheduled passenger airline service (private aviation) got off the ground, today a large number of aircraft, including scheduled flights, are flying in the sky. Most private aircraft have no self-defense protection against lawless attacks. In other words, they fly without guns. The reason that these aircraft are allowed to fly safely may be due to the fact that Japan's air power is capable of deterring unlawful attacks. This is to say that the very existence of air power contributes to maintaining law and order in the air.

Although it may be difficult for people living under peaceful conditions in Japan to understand, we may have to draw upon the situation in the U.S. where, after learning a bitter lesson in the suicide plane attacks on 9/11, fighter jets are now dispatched every time an unidentified aircraft is reported.

Next, I want to talk about the advantages of having Japan's homegrown aircraft manufacturing industry. Designing and manufacturing airplanes requires much a higher level of ingenuity and contrivance than making conventional vehicles. I will give you a few examples.

The appearance in 1952 of the de Havilland Comet with much fanfare heralded the beginning of the mass transport era by jet liners. However, in the following year, a Comet suddenly disintegrated in midair, killing its all crewmembers. Furthermore, a year after this incident, two similar incidents of midair disintegration occurred, surprising the world as the "Comet tragedy." Despite the extreme difficulties in determining the cause of these accidents, fuselage fatigue due to repeated pressurization and depressurization was finally deemed the cause. The fruits of this bitter lesson have been reflected in aircraft design ever since.

As is well known, aviation technologies in Japan have been made available to many manufacturers and users, including the auto industry, through the aircraft manufacturing industry, thus enhancing Japan's technological standards.

There are too many examples of aircraft manufacturing and management technologies playing a pace-setting role for other industries to mention here, though

they include expertise in the brake systems developed for jet fighters that are utilized for bullet trains, and the manufacturing technology for aircraft windshields that is being applied to car windows.

This being the situation, when we consider and mull over air power, we should keep in mind that its ripple effects are in our back yard through industrial and scientific technologies.

In conclusion, I would like to add that there are not only a few people who think “being able to develop a fighter airplane on our own terms is a sign of an advanced country.”