Reconsidering the Possibilities and Limits of Air Power

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On the establishment of the Air Power Studies Center of Excellence (APSC) in the Air Staff College, I would like to reconsider the possibilities and limitations of air power.

Nearly a century has passed since the Wright Brothers successfully took to the air in powered flight for the first time. Since then air power has developed into an indispensable element of military power and proved its capabilities during the Gulf War in 1991 and the Iraq War in 2003. Colin S Gray, a British scholar of international politics who created an overview on the history of air power development, actually stated that

> "The air force, which was only an experimental and subsidiary force to the army from the 1900's to the 1920's, successfully developed into an important and useful force from the 1920's to the 1940's. Then it became a subsidiary kind of force, which is extremely indispensable, from the 1940's to the 1990's, and since the 1990's it seems the air force has developed into a force which can independently defeat an enemy.[1]"

Air power is considered to have the following seven advantages in today's strategic environment. Ubiquity, the overhead flank, range and reach, speed of passage, geographically unrestricted routing, superior observation, and flexibility in concentration[2].

As you know, the first example of air power's utility as a tool of national strategy was clearly proven in World War II (1939 to 1945). Air power developed into an indispensable element in all theaters, from the German "blitzkrieg" to the Allied Forces' strategic bombing campaign,

and from the Japanese sneak attack on Pearl Harbor to the United States use of the atomic bomb[3] .Throughout its development, airpower has faced several legal and ethical dilemmas, as symbolized by the problem of strategic bombing and atomic bombing. However, after World War II, there was no denying the fact that air power would play a more important role in the next war. With the advent of better technology, the potential of air power had come to full bloom. It became clear that the previous technological constraints were being extinguished.

However, as Bernard Brodie, an American scholar of international politics, sharply pointed out,

> "The effect of air power was firmly proven in World War II. However, it was not the air power that Douhet advocated for, but was closer to the air power concepts of Billy Mitchell, wherein all flying objects can become weapons.[4]"

After that, air power has steadily developed through much trial and error. However, the Gulf War was another big turning point. It was during this campaign that air power's capability was demonstrated to its fullest potential. As you know, under the framework of the U.S.-Soviet Cold War in the 1970's and 1980's, the word "strategic" was generally reserved for discussions surrounding nuclear weapons. On the other hand, the fact that conventional arms, especially weapons previously considered to be tactical weapons, were effectively employed to achieve a strategic goal was in a very real sense the significant feature of this war. This was John A. Worden III's greatest achievement, utilizing developments in information technology, symbolized by the word "Revolution in Military Affairs (RMA)," he revived within the U.S. Air Force the concept of achieving strategic effects through the use of conventional weapons. Therefore it could be said that large role which air power played in the Gulf War had more than one result[5].

While air power in the Gulf War did not produce as definitive of a result as some critics expected, as far as we can tell it would have been impossible for the United States and its allies to destroy the Iraqi military power with as little sacrifice as was made without air power's contribution. Until that point, the primary duty of conventional air power was to

support the army (Land Power). In the Gulf War, however, conventional air power was not limited to a specific battle space (combat area) and within an extremely short period of time seemed as if it could settle the war by itself.

Furthermore, an important point is the fact that the air power that changed the "dominant force" concept was backed by technological development. As a matter of fact it is becoming possible to occupy a certain area even if you don't rely on conventional army power. For example, by establishing the "no-fly zone" in Iraq after the Gulf War and constantly monitoring the area, it was clearly shown that an air power equipped with modern weapons could possess a certain degree of "occupying power." Indeed, today we no longer need an army to "occupy" territory but rather to manage the "mopping up" and security operations that occur at the end of a war.

From the Gulf War until now, the term air power has become almost synonymous with the western way of war, especially the United States. Although there are disputes over the rationale for an enormous army and navy, there is no discussion or questioning of the necessity for air power. The center of the present dispute regarding air power is about which force should possess the capability, nobody questions its existence or its utility.

In fact, air power's capabilities, as represented by the United States, were well matched to the "spirit of the age" in the second half of the 20th century, symbolized by the word "post-heroic warfare" by Edward Luttwak. However, it might be possible, as the American scholar of international politics Eliot A. Cohen stated, for nations to "micromanage" their military power and adjust its use incrementally, a concept considered dangerous when discussing ground forces[6]. This is due to one of the defining characteristics of modern air power, its ability to selectively attack targets when military force is decided upon. Of course, considering today's situation is called "post-heroic" it is still safer for any nation than using either land (including amphibious operations) or naval power.

In addition, while it remains invariably true that the ultimate goal of war is to force your will on the enemy, it cannot be denied that, at least

for the western democratic nations, military measures have shifted from "brute force" to "coercion." Therefore, the value of air power and its ability to selectively attack targets will increase further, since "enforcement" can now be conducted specifically against the enemy's decision makers[7] . It is a well-known fact that a cruise missile (i.e. air power) can now be used as a means of enforcement, as witnessed by the appearance of so-called "Tomahawk diplomacy." Furthermore, air power is the optimum means to conduct pre-emptive attacks, as seen through the recent military actions of the United States and Russia, though the concept remains controversial.

A feature of the masterpiece "Strategy: The Logic of War and Peace" written by Edward Luttwak, an American scholar of international politics (Translated to Japanese by Yasuhiro Takeda and Katsuya Tsukamoto, and published by the Mainichi Newspapers in 2014) was the high level of esteem he held for the use of air power. Luttwak recognized the arrival of the "post-heroic warfare" age, largely based on his own experiences when he was directly engaged with establishing the U.S. Air Force's operational plan in the Gulf War.

As I stated before, the Gulf War was a big historical turning point for air power. For example, Eliot A. Cohen (mentioned above) has drawn the conclusion that "American leaders have inherited an air power that provides more military power than has ever been witnessed throughout history." Cohen also claims that air power will provoke a huge change in the concept of war itself, not just to command and control, or strategy. In addition, Luttwak stated "The characteristics of air power, which were considered as a given by the air power theorists Giulio Douhet, Billy Mitchell and Hugh Trenchard in the 1920's, but were thought to have been sleeping until today, were finally awoken by the Gulf War…the promise of victory in war, achieved by air power, has finally been realized during this war."

Edward Luttwak also points out that the value of air power, and the ability to utilize it as a tool of national strategy, has increased greatly in what can now be called the age of "routine precision." Throughout history it was always rare for a soldier to be able to aim and hit his enemy on

the battlefield. But in our day precision has become routine. This means people will become very reliant on the precision air power provides.

As mentioned above, air power was wonderfully matched to the "spirit of the age" in the 20th century. It also seems that it has strengthened even further in the 21st century. I assume that air power, or aerospace power as we include the space domain, will become as much a symbol of the age in the 21st century as it was in the last century. The change in terminology from the traditional "battlefield" to the current "battlespace" perfectly describes the three-dimensionality of modern war. In fact, in the United States, the term "Aerospace Power" had already been created by 1959, combining the broad definition of air power with a new perspective on space.

However, we must never forget that air power is not an "all-purpose cure" and actually brings with it many problems and limitations. More importantly, the core problem concerning the utility of air power is the ability to effectively tie it to national strategy. This is because air power can, for the first time, become a viable tool under a national strategic framework.

For example, the reason the United States can now freely wield its air power, like the "Imperial Policing" of the British Empire, is because the current strategic environment permits it. That is, the United States holds hegemony on the international political stage and can assume a dominating presence. Hypothetically speaking, if today's strategic environment changed, and a nation or a non-state actor equipped with air power that could oppose the United States appeared, the air battle might revert back to the "Dog Fight" and its corresponding lack of determinacy. In addition, we also need to consider the paradoxical side of war carefully. That is, can the United States cope with "asymmetric warfare" by employing their air power effectively or in the case that a nation or a non-state actor appeared who could challenge the United States using means other than airpower, could they avoid an air power war?

It is dangerous to place too much hope on air power. For example, one critic, who overestimates the capability of today's air power, believes that

air power can herald a return to the restrictive form of warfare practiced in Europe around the mid-18th century. However, war without bloodshed and victory without sacrifice are only fantasies.

Next, although so-called air force supremacists have a strong tendency to over-emphasize the utility of air power from the beginning to end of an operation, as a matter of fact history teaches us that airpower is only one part of the "synergistic effect" and each force and unit contributes to victory. For example, during the Kosovo Conflict in the late 1990's, the U.S. national strategy did not permit the inclusion of ground forces in the campaign, and airpower could only achieve a limited effect on its own.

Furthermore, air power cannot completely overcome a specific weak point, it is dependent upon bases and that its "occupying power" is both temporally and spatially limited despite the continuing development of technology. The expression "Boots on the Ground" became the center of attention during the Iraq War. In turn, this indicates that the importance of an army is not only limited to military campaigns, but in today's world it also weighs on political considerations. The growing importance of the air power in war is only a relative matter.

After precision-guided munitions appeared as a result of modern technological developments, the necessity of performing "area bombing" or "carpet-bombing" as witnessed during World War II decreased remarkably. However, a new paradox has arisen even though precision bombing is seemingly more humanitarian. The use of precision guided munitions has led to people having an excessive expectation on limiting the victims of war, a phenomenon that has caused leaders to hesitate against bombing altogether. So while air power has become more precise, its precision has limited its utility.

There is active argument over the "Revolution in Military Affairs (RMA)" that continues even today. However, the real "revolutionary" event, in the true meaning of the word, is the remarkable rise of people's expectations of being able to "Receive greater results with fewer sacrifices." As Philip Sabin, a British military historian deftly pointed out, people's expectations of air power's accuracy have increased to the point that we can call them "revolutionary," and management of that very same

airpower is now becoming much more difficult, as if it was inversely proportional to technical capabilities of the weapons. As a result of people's increased expectations of air power accuracy, they will no longer tolerate a single mistake or ancillary sacrifice in war. It is the paradox of modern air power's utility.

What will become a bigger problem is if the United States is tempted to use its military power independently in the future, though from a political point of view this is extremely hard to believe. Therefore, a construction of cooperative relations with allies and friends will be required. But as an example, it was not easy to carry out a joint strategy even under the close alliance of Britain and the United States in World War II. Will the United States have the will to carry out a joint strategy and cooperate with allies and friends who do not seem to be militarily useful or necessary? Conversely, will their allies and friends be able to secure the same technical level or at least a degree of interoperability in order to conduct a joint operation with the United States? Moreover, if people persist in using a narrow definition of air power, i.e. an "air power = air force" then allies of the U.S. will need to respond to the question "Why do we need to bear the burden of an independent air force?" This is especially true at a time when the whole of military power is being funneled into joint operations. Needless to say, the utility of air power and maintaining an independent air force are two completely different matters.

People often misunderstand that "an air power is an air force." In fact the modern concept of air power includes the aircraft, ammunition, sensors etc. of the air force, as well the air power of the maritime forces and the attack helicopters and tactical missiles of the army. That is, we need to understand that today's air force (aviation) strategy must also encompass the military strength beyond the normal conventional framework of our forces. The original concept of air power, in the a broad sense of the term, included the private airline industry and its personnel, elements of a nation's aviation policies and the public understanding. Thus, air power is not just the military power of an independent air force. However, since the dawn of air power, the meaning of the term has been trivialized and has become extremely restrictive in the process. In that sense, now is the

time to redefine the concept of air power.

Furthermore, in fact, there is a concern that networked military power based on information technology, as represented by the Global Positioning System (GPS) which has demonstrated its utility, will supplant the inherent capability of air power itself, leaving it behind. This is to say, the question is whether the utility of a future air power depends upon its level of integration with its nation's overarching military power. In fact, in Afghanistan in 2001 and Iraq in 2003, U.S. air power only functioned effectively due to the guidance and direction received from "Special-Forces" on the ground or from ground forces in advance of the front lines. The role naval vessels, i.e. Sea Power, played in these wars was as a platform for launching cruise missiles, to launch and recover aircraft, and to transport large volumes of material, but should not be evaluated in the same way. Additionally, the unity of leadership may also have been a factor in the military successes of recent years. This is only possible by viewing the entirety of air power across the military. More specifically, the heart of the issue might be the state of leadership, or the state of the organization.

Next, let's think about the mutual interaction between war, or the use of military power, and the "spirit of the age." Let's say air power continues to develop as technology progresses and provides additional capabilities. Is it still possible for air power to demonstrate its true warfighting potential while facing increasingly severe political, social and ethical restrictions? Even if so, air power's capability will probably be proscribed in inverse proportion to the technological development that occurs. Therefore I predict restrictions will increase.

Lastly, even if we can say that the military utility of air power can be considered proven, can we say that it is also an effective tool for achieving a national political purpose? As above-mentioned Eliot A. Cohen sharply pointed out, air power recently finds itself surrounded by a severe reality that is complicating its utility. He states "The technology itself is today's main air power theorist, and invention is the mother of adaptation for the time being." Is it even possible to build air power on the basis of deep insight into the purpose and measure of war, on its military strategy

and future doctrine? I assume the role of the Air Power Studies Center of Excellence will be to examine the future course or different possibilities for air power in Japan, while fully recognizing these problems and limitations. Also, can Japan build its own defensive military power, military strategy and doctrine on the basis of an air power which has a strong offensive capability?

In the 1870's and 1880's, while many navies of the main countries in Europe embarked on the construction of battleships, a revolutionary group of military officers, called the "young school" of the French Navy, claimed that as a result of examining France's future strategic environment, along with the future course of war, battleships was no longer necessary for the French Navy. According to them the future of the French Navy would be with high-speed battle cruisers and submarines that would conduct a disruptive strategy of attacking trade lanes on the open sea. The reason I have introduced the story of the "young school" is to emphasize the importance of embracing a new way of thinking. It is dangerous to persist in pursuing concepts of warfare we inherited from our predecessors, especially when it is clear that you are in an era of change.

A new form of military power is required for the new face of war, and that power will be networked and integrated with air power forming the core of the force. Although air power is versatile, achieving the "synergistic effect" created by the cooperation between all military branches is important. And of course, each military power needs to be integrated with and supported by its own culture.

Again, joint integration cannot be ignored when considering the future of air power. Although a joint operational system is being established in Japan today, in order to use our military power effectively, as a tool of national strategy, the contributions each force brings to joint operations are indispensable. At the same time, the necessity of building an RMA-oriented and networked military power is imminent. In fact, air power will be at the core of this effort. However, simply promoting an integrated, RMA-oriented, networked military power is not enough, we must also build a joint culture and continuously reform and rework our organizations. This is the most important task of all. Therefore, in defining our

future direction we will be required to go back to the original concept of "air power" or even "military power." We must include in our considerations a comprehensive understanding of the national industrial base, government policy, and even national awareness in Japan. Since military power, especially air power, is an indication of a nation's ability to synthesize its collective power, the will of the nation becomes an important a factor. The necessity of cooperation between the military (Ministry of Defense and Self-Defense Forces), industry and academia is an example of this synthesis.

In the preceding pages I have briefly discussed the capabilities and limitations of air power. Lastly, I would like to express my expectations of the APSC. When researching air power, "Don't be afraid to become a maverick." This means you should not be afraid of greatness, of standing out from the crowd. In fact, General Giulio Douhet, General Billy Mitchell, and Seversky, while highly regarded now, were in their own time regarded as heretics by their fellow military officers.

I don't even need to bring up John Warden or John Andrea Olsen's name to prove that nothing has changed since then. People who are so-called "Visionary thinkers" have ideas which are so advanced that they are hardly understood by the people of their times.

I hear the APSC will perform research on air power doctrine, general air power strategy, as well undertaking a mission to summarize the lessons from their research in order to support units. I sincerely hope the studies center will be developed into a "hybrid" organization which is both practical and can perform research that will contribute directly to the defense policies of Japan. As the only research institute focused on the study of air power, I hope they will be able to work with a free mind and comprehensively conduct academic and scholastic research.

In addition, while we create our own unique air power strategy and doctrine for Japan, it is in fact important to study air power strategy and doctrine from around the world. That is, while establishing a "Japanese warfare method" it is necessary to take into consideration the research trends from around the world and as appropriate include them into Ja-

pan's defense policy. However, at the same time, it is important to create a truly original, Japanese specific, indigenous strategy and doctrine, while we also plan the future shape of our air power. We must also widely disseminate our strategy and doctrine to the world, since I believe they will have a universality to them. In other words, Japanese air power strategy and doctrine need to have both a sense of "nativeness" and "universality."

I wish the best for the Air Power Studies Center of Excellence and its future development.

Notes

1 Colin S. Gray, "The United States as an Air Power," in Colin S. Gray, Explorations in Strategy (Westport, CT: Praeger, 1996), p.102.
2 Colin S. Gray, "The Advantages and Limitations of Air Power," in his Explorations in Strategy, pp. 67-71.
3 Williamson Murray, War in the Air 1914-45 (London: Cassell, 1999), pp.116-200.
4 Bernard Brodie, "The Continuing Relevance of On War," in Carl von Clausewitz, On War, ed. and trans., Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976); idem, "The Heritage of Douhet," in Bernard Brodie, Strategy in the Missile Age (Princeton, NJ: Princeton University Press, 1959).
5 Daniel T. Kuehl, "Airpower vs. Electricity: Electric Power as a Target for Strategic Air Operations," in John Gooch, ed., Air Power: Theory and Practice (London: Frank Cass, 1995), pp.250-251.
6 Eliot A. Cohen, "The Mystique of U.S. Air Power," Foreign Affairs, Vol. 73, No. 1(January/ February 1994).
7 Colin McInnes, "Fatal Attraction?: Air Power and the West," Contemporary Security Policy, Vol. 22, No. 3 (December 2001), pp.41-44.