



Learning From Legends: Analysis of Gen. Henry H. “Hap” Arnold and the Impact to Current Strategic Thinking

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*Figure 1 :National Museum of the United States Air Force, “Gen. Henry H. “Hap” Arnold”,
<https://www.nationalmuseum.af.mil/Visit/Museum-Exhibits/Fact-Sheets/Display/Article/196848/gen-henry-h-hap-arnold/>*

“We must never forget how terrible – how horrible and devastating modern wars are and how great were the efforts made to win it, for to know how a war was won is to know one of the great lessons for maintaining peace.” General Henry “Hap” Arnold, USAF, February 14, 1949

World War II remains one of the most critical pieces in history when attempting to learn how to execute warfare in the Pacific Ocean. Although the technology is from another world, the military leaders who planned wartime operations, orchestrated military logistics, and led United States military forces across the seas faced similar challenges to what the leaders of today must consider. During World War II, the Air Service, under the name the Army Air Force (AAF) in 1941, eventually became the independent military service in 1947, the United States Air Force (USAF). Even though the organization was different and the use of aircraft in warfare was still a point of consternation, the issues facing the AAF were similar to what senior USAF leaders identify today. The Airmen of today’s Air Force “must be able to prevail in these six key fights as they apply airpower [...]”, these fights include “the fight to compete with or deter, the fight to get into theater, the fight to get airborne, the fight for air superiority, the fight to deny adversary objectives and the fight to sustain ourselves, our allies and

partners in competition and conflict.”¹ Each of these fights directly connect to efforts that historic U.S. joint force leaders had to scale in order to combat the Imperial Japanese forces, in the same theater of operation almost 80 years ago.

Before diving into the analysis, we must answer the question why does this discussion even need to take place? Agnostic to any branch of U.S. military service, or even to any nation at all, looking at the history of conflict is one of the most critical aspects of war planning and execution. By studying the problems that have already been solved previously, we can ensure that these problems do not resurface. Or, within this research, we may find ideas that were purely imaginative at the time but can be used for strategic development as new technology comes online every day. Therefore, take this research and discussion about one of the key U.S. military leaders as a plea to junior officers, enlisted military members, or any person who advises military operations regardless of country affiliation to analyze history and let it inform future strategy. It is irresponsible to disregard historical happenings, especially in the Indo-Pacific theater, since there are decades of recent history that impact today and thousands of years that are rooted in the area.

For these reasons, this analysis will look at one of the most influential legends in the Air Force’s history, General Henry H. Arnold. His insight began after World War I in 1926 when General Arnold was instead Maj Arnold while

¹ Secretary of the Air Force Public Affairs, “Air Force announces Future Operating Concept”, *Secretary of the Air Force Public Affairs*, (March 7, 2023), <https://www.af.mil/News/Article-Display/Article/3321276/air-force-announces-future-operating-concept/>.

he commanded Air Corps troops at Marshall Field.² The analysis of a field grade officer, Maj Arnold, and how he saw the future of the Air Corp, juxtaposed to the analysis of his opinions during and after World War II, will present a deep field of thought, imploring the company grade, field grade, and general officers to think about this historical perspective when planning for any future conflict in the Indo-Pacific region. To better understand the connection between these two time periods, the 1940s and today, a basic understanding of the battlefield is necessary.



Christian Brose, the former Staff Director of the Senate Armed Services Committee and Senior Policy Advisor to Senator John McCain, paints a grim but complex battlespace in his book *The Kill Chain*. The Indo-Pacific region is the largest theater for combat by geographic area on Earth, keying into one of Mr. Brose's points. At the start of a conflict in the Indo-Pacific the United States cannot sustain an ever-present readiness for a conflict that may never

² Col. (ret) Flint O. DuPre, *U.S. Air Force Biographical Dictionary*, F. Watts Publishing (January 1, 1965).

occur. Meaning many of the naval vessels, submarines, fighter and bomber aircraft, munitions and other systems that are necessary for warfare will very likely be thousands of miles away from the conflict area.³ In this instance, we see one key fight, “the fight to get into theater”.⁴ In addition to this fight, the U.S. military would have to combat Chinese cyber-attacks that seek to destroy communications, interrupt logistics and compromise security. While on the defensive, “satellites on which U.S. forces depend for intelligence, communications and global positioning would be blinded by lasers, and shut down by high-energy jammers”, potentially crippling intelligence collection and the ability to pass orders across the vast ocean.⁵ Additionally, the combined force would be swarmed by Chinese hypersonic cruise missiles, U.S. Navy (USN) aircraft carriers would defend against DF-21 and DF-26 anti-ship ballistic missiles and USAF aircraft would be targeted with advanced Surface to Air Missiles (SAM).⁶ All of this creeps the thought, is it possible the U.S. military may not win a future conflict in the Indo-Pacific? How can we change the potential outcome before having to act in this theater? These questions should drive innovation within the Department of Defense, while historic lessons are taken into account, to provide context for the requirement for such innovation.

³ Christian Brose, *The Kill Chain: Defending America in the Future of High-tech Warfare*, Hachette Books, (2020).

⁴ Secretary of the Air Force Public Affairs, 2023.

⁵ Brose, 2020.

⁶ Ibid.

Jeffery Lewis, “DF-21 DELTA AKA CSS-5 MOD 4”, *Arms Control Wonk*, (October 14, 2008), <https://www.armscontrolwonk.com/archive/202049/df-21-delta-aka-css-5-mod-4/> .

View from 1926

Speaking from the experience of World War I, Maj Hap Arnold discussed the Air Corps in his book *Airmen and Aircraft: An Introduction to Aeronautics* during 1926, 13 years before the start of World War II. After World War I it was clear that “no nation will dare to be without a large air force to serve as its first line of defense”, a key notion when thinking about how the USAF may operate in the current Indo-Pacific theater.⁷ As the aircraft in 1926 began to become more complex, breaking duration, altitude, distance and speed records for flight, these capabilities were ultimately presenting new features to add on military aircraft for World War II. While observing the new developments in aircraft technology, Maj Arnold mentioned that “they [aircraft] are the most essential elements in modern warfare [...]” due to their ability to deliver destructive blows beyond the capabilities of surface armies or the navy.⁸ Even so, Maj Arnold laid out that aircraft in future wars must be used to support two separate capabilities. These mission sets included acting as the aerial observation support and protection of surface allies and second, acting as an independent striking force against the adversary.⁹ Just as it was in 1926, so it

⁷ Henry H. Arnold, *Airmen and Aircraft: An Introduction to Aeronautics*, The Ronald Press Company, (1926).

⁸ Ibid.

⁹ Ibid.

is in the 21st Century, the Air Force today still needs to obtain air superiority, but first needs to fight to get airborne.

Not knowing at the time that these missions were exactly what would happen, one example of Maj Arnolds prediction and theory is seen in the Philippines 1941. December 1941, after the attack on Pearl Harbor, the Far East Air Forces (FEAF), the largest concentration of U.S. aircraft outside of the continental United States, is attacked by Imperial Japanese aircraft. While on the ground the FEAF's 277 aircraft are decimated after continuous air attacks from the Japanese forces.¹⁰ The continuous fight to get aircraft off the ground was lost by the U.S. forces at the time due to conflicting intelligence, false indications and warnings, and lack of operational readiness. Therefore, General MacArthur and his forces continued to fight a losing battle as they were forced back to Bataan and Corregidor until the United States forces had to surrender. Without supporting air forces, operating in one of the two key missions identified by Maj Arnold, the FEAF and U.S. forces in the Philippines were captured and put through horrific conditions waiting for General MacArthur's triumphant return years later.

Maj Arnold also discussed an interesting point about airships being used during World War I, and mentioned "the long-range airships will travel across oceans to make strategic reconnaissance and to launch their protecting airplanes".¹¹ The airships that Maj Arnold was discussing include the Zeppelin-1

¹⁰ Chun, C. *The Fall of the Philippines 1941-1942*. Oxford, (UK: Osprey Publishing, 2012)

¹¹ Arnold, 1926.

and Z-2, as well as the German “Luftshiff” LZ-1 and LZ-2. These airships were designed to travel long distances, carrying cameras among other things such as bombs, machine guns and airplanes. Maj Arnold was accurate that airships played their role in the oncoming war, but there is a much more recent example of his claims as well. Not so long ago did the United States witness a different type of airship in the form of a Chinese “spy” balloon. At the start of 2023, a Chinese spy balloon, capable of taking imagery and collecting signals intelligence was drifting over the continental United States.¹² Unknowingly, Maj Arnold discussed a real threat and capability that will very likely be seen again in a conflict in the Indo-Pacific theater. As Maj Arnold mentioned, strategic reconnaissance that can travel across the oceans is a key aspect to warfare, therefore the U.S. needs to be capable of countering this capability or potentially using it instead for the same purposes.

One of the final comments by Maj Arnold plays on the idea that aircraft development will forever continue, “[...] man has always been progressive. He accepts all new inventions [...]”.¹³ This idea is paired with one of his closing ideas that “the one and only effective means to stopping an aircraft is by using more and better aircraft”, the idea Maj Arnold describes as a principle to air warfare.¹⁴ For today, the Air Force must sustain a force of advanced aircraft, that is capable of combatting the Chinese threat. Mr. Brose in his discussion

¹² Natasha, Bertrand, “Chinese spy balloon was able to transmit information back to Beijing”, *CNN*, (April 3, 2023), <https://www.cnn.com/2023/04/03/politics/chinese-spy-balloon/index.html>.

¹³ Arnold, 1926.

¹⁴ Arnold, 1926.

with Senator McCain identified a fear, that 4th generation aircraft, such as the F-15, F-16, and even F-18 would be unable to take on 5th generation Chinese aircraft.¹⁵ Learning from the principle of air warfare, Maj Arnold would champion the idea, that the Air Force must develop more advanced aircraft that can compete in future conflict against China.

General Arnold from 1941-1946

Fast-forward to the start and duration of World War II, General Arnold and another legend to the U.S. Air Force, General Ira C. Eaker discuss the air war in *Winged Warfare* and *This Flying Game*. Both generals in their comments identify the significance of intelligence collection, the characteristics of the aircrew and air strategy throughout the war. Regarding intelligence collection, then called “observation aviation” was an absolutely critical piece to warfighting. USAF officers of any discipline in warfighting must integrate this idea into their thinking, General Arnold described a factor prior to the invention of the aircraft, “Introduce one lone airplane into the fifteen decisive battles of the world, and the course of history would have been changed”.¹⁶ This comment discusses that if either side of the conflict, whether it be the Union versus the Confederacy in the American Civil War, Romans versus the Carthaginians or the Persian against the Greeks, the concept of knowing where the adversary is, and where they are moving to, is one of the most critical

¹⁵ Brose, 2020.

¹⁶ Maj. General Henry H. Arnold and Col Ira C. Eaker, *Winged Warfare*, Harper and Brothers Publishers, (1941).

aspects to warfare. Additionally, intelligence collection using airpower can also provide locations of logistics, enemy movements, and locations of munitions, ultimately, the greater the fidelity one side has, the greater the advantage they have. The idea of maintaining the knowledge of where the adversary is, and where they are moving to, is the concept of maintaining “custody”. In other words, fighting to deny the adversary objectives while sustaining the ability to attain our own must be supported by this idea of custody, which stems directly from the critical warfighting need of using aircraft to provide said intelligence.

Beyond just the idea of aircraft, General Arnold and General Ira’s concept of understanding the battlefield through observation, or in other words collection, expands into the space domain. One of General Arnold’s predictions about the future of warfare was that of “A new air vessel which may be commonplace soon is the stratosphere plane.”¹⁷ The stratosphere, which extends 4-12 miles above the Earth’s surface (21,120-63,360 feet) is a common altitude for not only military aircraft, but commercial flight as well.¹⁸ Extending even beyond the atmosphere of Earth, we can take this historic perspective about maintaining custody and knowledge of the enemy location, to how the Department of Defense must use satellites. The space domain beyond Earth’s atmosphere is a contested domain by multiple actors, as of 2024 there are 80

¹⁷ General Henry H. Arnold and Lt. General Ira C. Eaker, *This Flying Game*, Funk & Wagnalls Company, (1943).

¹⁸ NOAA, “Layers of the Atmosphere”, *National Oceanic and Atmospheric Administration*, (January 2, 2024), <https://www.noaa.gov/jetstream/atmosphere/layers-of-atmosphere>.

countries that have satellites in space, totaling over 4,500 in orbit.¹⁹ As the space battlespace become increasingly busy area, the Department of Defense, the U.S. Air Force and U.S. Space Force must be concerned and plan for the future of how they can protect one of the most valuable capabilities. Without satellites the USAF will struggle to operate, communicate and move across the vast theater of operation in the Indo-Pacific region. Therefore, extending General Arnolds historic claim for aircraft to spacecraft, the concept is parallel, to alter is quote, no nation will dare to be without a robust space capability to serve as warfighting support in contemporary conflict.



²⁰Beyond the views on military capability, General Arnold and General Ira also comment on the requirements for the character of the aircrew during wartime, based on their observations during the Battle of Britain. Their recollections of

¹⁹ Primoz Rome, "Every Satellite Orbiting Earth and Who Owns Them", *DEWESoft*, (February 8, 2023), <https://dewesoft.com/blog/every-satellite-orbiting-earth-and-who-owns-them>.

²⁰ Royal Air Force Museum, "Introduction to the Phases of the Battle of Britain", *Royal Air Force Museum*, (2020), <https://www.rafmuseum.org.uk/research/online-exhibitions/history-of-the-battle-of-britain/introduction-to-the-phases-of-the-battle-of-britain/>.

the men flying in the Royal Air Force during 1940 against the German Luftwaffe, was that these men were “very sober young men, tremendously impressed with the seriousness of their task [...]”.²¹ As airmen themselves, these legends identify that the characteristics beyond physical for war capable pilots as being “the master of the art of control and pilotage, but he must be somewhat of an engineer, and ordinance specialist, a navigator and a radio technician as well”, in current terms, the pilots in the Air Force today must have the knowledge beyond their airframe, but to have other capabilities that can assist their expertise in executing warfare.²² Furthermore, the psychological piece to pilots must include a respect for the battlespace, celebrating their return upon each flight, while working with the combat support to ensure their return from the war. When discussing this psychological aspect, aircrew that were the experts in warfare, were described as those that understood air strategy, and the importance of each puzzle piece. This is where the lessons and expectations from General Arnold and General Eaker should resonate with the current Air Force members. During warfare and conflict, the support should be provided to ensure the pilots survival, and vice versa, the pilots must respect the importance of the support they receive so that they can return from the flight and celebrate their victories.

Specifically for the leaders within today's military, General Arnold and General Eaker mention that the crews, officers and leadership must “be highly

²¹ General Arnold and Lt General Eaker, 1941.

²² Ibid.

trained, but air leadership must be schooled in the ways of air fighting [...]”.²³ By this they mean, that in order to lead military forces to effectively execute war, the leadership must be trained in tactics, and strategy to understand the entire range of military operations. The historic idea of “inherent Oriental inferiority in the air” which originated during World War II and the Korean War in 1950-1953, has continuously been exploded and identified as a myth.²⁴ Mr. Brose and his description of the grim situation and monstrous adversary facing off against the United States in the Indo-Pacific is the situation, and taking the ideas and lessons from General Arnold and how they can inform the severe need for innovation and development today, will better prepare the U.S. Air Force for a potential future conflict.

Key Points for Today’s Air Force

Looking at the comments, and ideas from General Henry Arnold, 80 to almost 100 years ago, the key aspects to executing air strategy during war have not changed. Like previously mentioned, the technology has changed the battlespace, and the advanced capabilities such as space and cyber warfare have expanded any conflict beyond the bounds of Earth, but the concepts remain. Taking the analysis of General Arnolds ideas from World War I and World War II, the key points that should be taken forth in the development and sustainment for the United States Air Force and Department of Defense include, the importance of aircraft and the execution of air strategy, how

²³ Ibid.

²⁴ Richard M. Bueschell, *Communist Chinese Air Power*, Frederick A. Praeger Publishers, (1968).

intelligence collection impacts the battlespace, and the character of the airmen that make up the Air Force. Applying these key points to how the Air Force is organized, trained, and equipped will better develop the airmen, both enlisted and officers, the capabilities and innovation in the future.

Air Force leadership, to include all levels of leadership, must understand the concepts that guided General Arnold during his time as a junior level officer to a general officer. The six fights as described by the Secretary of the Air Force, are the same fights that have been fought in the Indo-Pacific previously. During World War II, the United States did not take on Imperial Japan alone. Nay, the United States had assistance from the Australians, British, and Philippines, all of which will be part of the coalition to fend off and deter a Chinese threat in the Indo-Pacific. Using an advanced Air Force that is at the forward edge of battle, capable of defending itself will allow for the Air Force to fight to the air, compete for air superiority, deny the adversary objectives while enabling our own surface-based forces and coalition partners to achieve their own.

An increased emphasis on the interoperability between the “operators” and the “support” is absolutely critical. As General Arnold mentions, a mutual respect between the aircrew, intelligence, and all of the combat support is necessary so that all airmen work towards the same goal, effectively executing warfare. To continue this idea, placing importance of improving both intelligence collection capabilities, and advanced aircraft will enable the Air

Force to take on their role as the air superiority and support to the Navy and Army counterparts. Ensuring the development of intelligence collection capabilities that will support the idea of continuous custody of the enemy will provide the advantage to the joint force. All while using this custody to then provide to the advanced aircraft, allows for lethal engagement and success over the adversary.

Finally, the last lesson from General Arnold, is that all airmen, pilots, combat support, joint service military members, must be prepared, trained in the expertise of warfighting, and have the intense appreciation for the tasks at hand. General Arnold mentions that war is a horrible event, modern war, with advanced capabilities may end with the loss of thousands of people on both sides, and a historic understanding of what war was, and what it could look like now, must be ingrained in the minds of military members to keep the peace, while maintaining a significant force to deter the adversary in the same manner. As President Theodore Roosevelt said, “speak softly and carry a big stick”, this quote along with the analysis of General Arnolds experience will drive what the Air Force must be to meet the demand of a 21st Century conflict in the Indo-Pacific theater.

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