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HEROIC MEN AND FLYING MACHINES

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ABSTRACT

Hollywood has shown an unending affection for the airplane for nearly one hundred years. From fantasy, to war, to salvation, to heroism, to romance, to adventure, airplanes have been and continue to be a powerful symbol in American film. Two intertwined themes based on flight are menace and hope, and the tension between them has successfully driven many flying films. This may explain why film has featured the airplane as the archetypal machine of the twentieth century, just as, according to Leo Marx in *The Machine in the Garden*, the locomotive served as the archetypal machine in American literature of the nineteenth century. Specifically, this dissertation will focus on how cargo planes, bomber aircraft, commercial airliners, and all those aboard have been portrayed in film from 1950-2004. The current essay is chapter 4 of the dissertation.

HEROIC MEN AND FLYING MACHINES

The thesis of this dissertation is that the act of flying is portrayed in a menacing light in most American flying films. While the thesis still holds in each of the following films to be examined, in these cases the menace is ultimately overcome, in part due to the heroic efforts of the pilots or others, in part due to the favorable mechanical qualities of

the airplane itself, or a combination of both. Since Hollywood loves a hero, it is only natural that countless films have placed him (until the 1980s, this was overwhelmingly the case) in a setting as fraught with peril as the airplane in flight. The combination of speed, extreme temperatures, roaring engines, and the constant pull of gravity combines with the closed confines of cockpit and cabin to offer a dizzying array of dangerous possibilities. In the face of all this, pilots, crew, passengers, and aircraft come through safely in many films. Even in those instances where the plane crashes, heroic efforts by man and machine are still respected, and we the viewers honor them as fallen heroes.

In the film discussions that follow, a wide range of human heroes will appear, characters both factual and fictional, often acted by the leading stars of the day. On the inanimate side, Hollywood has feted a staggering number of heroic airplanes, and the aircraft themselves consistently play a starring role, from the nimble cloth and wire fighters of the First World War to the squads of fighters and bombers of the Second World War, to the diverse kinds of aircraft produced and flown in the post-war era. In this procession of celluloid flying machines, certain names and models have stood out, with some becoming icons of their age. The Sopwith Camel biplane fighter of World War I, the ubiquitous transport, the DC-3 and its military version, the C-47, the agile P-51 Mustang fighter or B-17 heavy bomber of World War II, the F-86 Sabre Jet fighter of the Korean War, the swept-winged B-52 bomber and America's first jet airliner, the 707 of the late 1950s, or the stealthy SR-71 spy plane of the Cold War are some of the more prominent examples. My focus, however, remains on the three types of aircraft mentioned before: bombers, cargo aircraft, and particularly large passenger airliners.

If It Doesn't Say Boeing, I'm Not Going

Of these planes, a surprising proportion of them have been products of the Boeing Aircraft Company, as mentioned in the opening chapter. A short list of commonly recognized Boeing planes would include the B-17, the B-29, the B-52, the KC-135 tanker and its close kin the commercial 707. The question as to why these particular aircraft became so recognizable is an interesting one: Did the performance of each model draw our attention? Was it the appearance of the plane alone that made us remember it? Was most of the impact a result of the sheer numbers of each model built? Or were there more deliberate elements involved, such as marketing efforts, or a desire of the United States government to parade these planes as symbols of the might of American democracy and industry?

Also, we might consider the symbiotic roles played by Hollywood and Boeing: Why did Boeing products seem to outnumber — and outshine — their combined competitors when it came to appearance in film? Take the Douglas Company DC-8, for example, a perfectly sound aircraft and a commercial success. Can the viewer think of even one film in which this jetliner appeared? Unfortunately, I cannot. To varying degrees, the same can be said of any number of non-Boeing airplanes. Of course the purpose of this dissertation is not to determine why Boeing products have been so commonly used in film, but it is an observation worth noting.

The Boeing 747: Queen of the Skies[1]

If the Boeing products mentioned above were the only airplanes in films featuring Boeing machines, that alone would establish Boeing as

the leading manufacturer of filmed airplanes in the last six decades. There is, however, one additional example that stands out so prominently that it comprises literally its own category. That airplane is the Boeing 747, the world's first "jumbo jet," a behemoth that took to the air at 11:34 a.m. on the morning of February 9, 1969, lifting off from Everett's Paine Field near Seattle. Such has been the achievement of the 747 that it won the prestigious Francois-Xavier Bagnoud Aerospace Prize in 1997, with the chair of the board stating that the 747 "had brought striking reductions in air travel costs through its still unsurpassed combination of speed, range, and capacity. . . Truly, the world knows itself better now because of the reliable, capable Boeing 747 and its visionary developers." Such accolades are well deserved, considering that

> the 747 — the largest commercial airplane in the world with 6 million parts — has changed the face of aviation, relying on 1,101 domestic and international suppliers, with 79 percent of its sales outside the United States — nearly $98.3 billion in today's dollars. But perhaps its most poignant legacy is that the Boeing 747 has brought great quantities of people together for commerce, peace and relief, carrying enough passengers to equal one-fourth of the world's population.[2]

The era of mass transportation had begun and an icon was born.

The 747 is a clear descendant of other swept-winged Boeing jets, from the B-47, through the B-52 and the KC-135/707, all of which had four pylons below the wings with jet engines mounted to them.[3] What made this aircraft stand out, however, was more than just size. Its 211-foot wingspan was not appreciably more than that of the B-52 at 185 feet. Lengthwise, the 747 was much longer at 213 feet versus 156

feet for the B-52, but it was still smaller in some respects than the 1950's-era Convair B-36, whose ten engines hung on wings measuring 230 feet. True, the size of the fuselage dwarfed other Boeing products, but it was still a shape of conventional design. What really allowed the 747 to stand out, however, was the raised upper deck containing the cockpit that gave the airplane its so familiar "hump" appearance. Ironically, this initially had nothing to do with Boeing's desire to build and sell a passenger aircraft. From the beginning, the 747 was intended as a cargo plane for the United States Air Force, but it lost that competition to Lockheed's C-5A, so it was Boeing's bad luck that gave the world the passenger 747.[4]

The 747's design resulted from a push-pull situation. As mentioned, Boeing had designed a large cargo plane for the Air Force. Though they lost that competition, the momentum of the project was still very much with Boeing engineers. Added to this was the fact that Boeing's previous long-range jetliner, the 707, though popular with airlines and passengers alike, had by the 1960s become too small, as airlines were clamoring for something larger. To their dismay, Boeing engineers found that its plane could not be "stretched" appreciably, meaning greatly increased capacity was not possible. The rival Douglas DC-8, however, was ideally suited for stretching, resulting in the 250-passenger Super 60 series. Boeing was at a loss.

On the "pull" side was the conventional wisdom in the 1960s that the so-called supersonic transport, or SST, was the wave of the future. Boeing shared this belief and began development of an American version using government funds. On the other side of the Atlantic, the Anglo-French Concorde program had begun, and a leading aviation group predicted a market for 1,250 SST during the mid-1970s, so any new large airliner Boeing built would obviously be a stopgap measure.

This view was so common that people working on the Boeing SST would approach the director of engineering for the 747 and say things like "Keep working on the 747, and when you get done, there might be a place for you on the SST." As it turned out, the joke was on the SST teams.

Given the unexamined assumption that the 747 would be a short-term program with respect to passenger flying, the decision was made to configure it from the start as a cargo carrier, which dictated a hinged nose section for unhampered loading of freight containers. Once SSTs became dominant on long-range passenger routes, the passenger 747 would be discontinued and only cargo versions built. "Thus was born the distinctive 'hump,' a classic hallmark of the 747 design."[5] The loss of the Air Force cargo contract and the belief that SSTs were just around the corner gave airlines a radically new product. These factors also provided Hollywood with a platform that was almost too good to be true.

To its credit, Hollywood took full advantage of this distinctively shaped, spacious passenger plane and turned it into what is undoubtedly the most recognizable airplane not only in film but perhaps in the world. In fact, it may be fair to say that the Boeing 747 is the most recognizable *machine* in all of American history, though lovers of the Ford Model T might beg to differ. Therefore it will come as no surprise that the movie discussions below often revolve around Boeing's Queen of the Skies, the 747.

Her first movie appearance was actually in *Airport*, though the 747 appeared only as a model on the desk of airport manager Mel Bakersfeld (Burt Lancaster). The 747 appeared in its own right in the disaster thriller *Airport '75*, again in Airport '77, in the hijack drama, *Executive Decision* (1996), and as the President's plane Air Force One in both *In*

the Line of Fire (Clint Eastwood, 1993) and *Air Force One* (Harrison Ford, 1997). In *Independence Day* (1996), a 747 outruns a fireball shot by aliens, escaping the inferno that engulfs Washington, D.C. It serves as platform for the action in three *Turbulence* films (1997–2001) and appears in countless made-for-TV movies, many of which are discussed below. Thus, it is safe to say that the 747 has starred as the definitive passenger aircraft in Hollywood's imagination.[6]

The 747 as Stage

What gives the 747 its appeal as a setting for drama is the sheer size of its interior and the variety of locations that makes available. Seating nearly 400 passengers on two decks, the 747 is a veritable cavern stretching far out of voice range from front to back. With fanciful employment of cockpits, upper decks, lower decks, cargo holds, and avionics bays — and any number of secret connections among them — the 747 becomes a versatile stage indeed. How, then, is this stage employed in actual movies?

Since the advent of the "glass cockpit" 747-400 model, only two flight crew have been needed, a fact Hollywood has been happy to use. Unfortunately, many movies use this new cockpit layout while showing external shots from older 100 or 200 series models, identifiable by their normal upper deck and lack of winglets, whereas each of these older models must have a three-man cockpit consisting of captain, first officer, and second officer (flight engineer).[7] Prior to the introduction of the stretched upper deck 300 model (which contained limited modifications), films such as *Airport '75* and *Airport '77* were faithful in rendering the interior layout consistent with the exterior. But given the age of many of these planes by the 1990s and their availability on

the used aircraft market, it is understandable that production companies would secure their services, rather than an in-service 400 model.

To understand why recent filmmakers so consistently misrepresent the 747s in their films, I posit four main advantages to the conceit of using the newer 400 model, beginning with the interior. In the greatly modified 400 series, the upper deck has been extended back twenty-three feet, four inches, allowing many more seats and much more room for filming dramatic action. The upper deck, in essence, becomes a second stage. Second, the staircase has been moved to the back of the upper deck and now has a flight of straight stairs, as opposed to the tricky though majestic spiral staircase of the 100 and early 200 models.[8] Third, by portraying their plane as a 400, filmmakers are better able to capture the contemporary feel with which so many fliers are familiar, as all major airlines have switched heavily to the more economical and efficient 400 model.

The primary advantage of using the newer 400 model, however, comes with the cockpit layout. The original cockpit, because of its vast array of "steam gauges," needed a third crewmember to monitor the complex systems of the four-engined 747. This crewmember, typically a male, sat behind the co-pilot facing the starboard fuselage, an awkward position for filmmakers. By assuming the two-man crew of the advanced 400 model, filmmakers are able to employ direct front-rear action, a useful device when so many plot lines call for the sudden intrusion of an unwanted or unexpected guest. A third member in the cockpit facing an entirely different direction upsets the symmetry of the action, and makes more stringent demands on any scriptwriter who would like to have his pilots incapacitated for purposes of furthering the plot. For these reasons, it has been common in recent years to see this interior/exterior mismatch.

747SP and Combi

Given Hollywood's need for maximum drama, it is surprising that two 747 models have rarely been used in the movies, despite the fact that each model offers intriguing variations on interior layout and flight characteristics. The first is the so-called 747SP (Special Performance), a shortened model of the normal 747 that gained tremendous range in exchange for decreased seating and cargo capacity. Back in 1971, the DC-10 and L-1011 trijets still did not have extended range, so Boeing saw an opportunity to manufacture a derivative that could serve the "long and thin" markets for roughly 280 passengers. In the end, only 45 of these rare planes were built, but their characteristics could have been used to good effect in the movies.

The 747SP was shortened by forty-eight feet, four inches, and the empty operating weight was 45,000 pounds lighter than the equivalent 747-200, resulting in some amazing performance figures for such a large airliner. In-service operating altitude was 45,500 feet, much higher than ordinary airliners, and the range was well over 7,000 miles, as Boeing demonstrated in late 1975 when they flew non-stop from New York to Tokyo, deleting the time-consuming fuel stop that other planes, including the regular 747, had to make in Anchorage, Alaska.[9] Later, two around-the-world flights set records for any aircraft, culminating in the flight of Clipper Liberty Bell's flight over both poles, which set six aviation records. In addition, with special fuel tanks in the belly, the 747SP completed a delivery flight from Seattle to Cape Town, South Africa in seventeen hours, twenty-two minutes, covering 10,290 miles non-stop in the process.[10]

The possibilities for film here seem obvious, making it hard to understand why it rarely happened. If, for example, explosive decom-

pression could be such a dramatic event at the normal 31,000 feet, what might it be like at 14,000 feet higher? Or, given the SP's much shorter landing requirements, films with this jumbo jet landing at smaller airports could be dramatic. Other options might involve stories with tremendous distances involved, say flights of over 10,000 miles, a rather dramatic prospect for a commercial airliner carrying nearly 300 passengers. Finally, the sheer visual appeal of the SP should have resulted in its use in the movies. As it retains the same "hump," nose section, and massive wings of the regular 747, the SP appears as a stubby, but muscular, speedster. Its distinctive appearance could have been used to foster audience identification in much the same way the 747 in general did. To date, I know of only one movie that portrays the SP model (the 2003 *Code 11-14*), but that fact is more incidental and none of the aircraft's special features are employed. Since many 747SPs remain flying, though, the day may yet come when we see its potential realized in film.

The second 747 variant that would seem to be a natural candidate for film is the 747 Combi, a 747 combining both passenger seating and cargo capacity on the main deck. As Boeing had always conceived of the 747 as a freighter, it was no surprise that from the beginning it offered freighter options, including the Combi. Due to underpowered engines, however, no 100 series freighter was ever sold, though later many passenger versions were returned to Boeing for conversion. Combis allowed carriers to insert a movable bulkhead between the forward passenger section and rear cargo section, allowing for varying mixes of seats and cargo. Sabena, for example, was known to put all seats in the rear area on a Friday night to service weekend tourists, then remove them for cargo capacity during the week. The Combi brought airlines the best of both worlds all in one plane: the passenger

capacity of an L-1011 or DC-10 and the cargo capacity of a 707 or DC-8. It is no wonder that Boeing sold so many variants of this model.[11]

What the Combi offers film is the opportunity to heighten the action by using the cargo section as the staging area for terrorist attacks, hijacker incursions, dangerous cargo threats (wild animals, burning boxes, etc.), and even mid-air flight transfers of personnel or equipment, possibly by using the main deck cargo door found in the fuselage just behind the port wing. As so many flying films use the lower deck for these purposes, it would seem access from the same deck would be even more flexible — and plausible. As it is, extant flying films use access points such as hatches or service elevators to move people and things, but with the Combi, a simple door would suffice.

Finally, we might consider some of the more outstanding 747 variants used by various governments as either executive aircraft or military/science platforms, beginning with the plane commonly known as Air Force One. This presidential 747, given the number VC-25A by the Air Force, is one of two 747-200s delivered by Boeing in 1990. As was seen in the film *Air Force One*, these two planes are unusual in that they have refueling capabilities, as well as other sophisticated gear.[12] As impressive as this aircraft may be, it is still an older model than that used by the government of Japan. For such VIP services, the Japanese government acquired two 747-400s in September of 1991, and keeps them parked at Chitose Airport on the northern island of Hokkaido because of the high parking fees at Japan's other major airports. These planes are flown and maintained by the Japan Air Self-Defense Force, specifically its newly formed Special Transport Squadron, the 701st Tokubetsu Yuso Kokutai.[13]

In the Middle East, the 747 has been a preferred aircraft for heads of state and other high-ranking dignitaries, with the 747SP being

particularly popular. For example, the last SP built went to the United Arab Emirates, creating something of a trend for that part of the world. Other owners include the Governments of Saudi Arabia, Dubai, Brunei, Qatar, and Oman. The Iraqi government's 747SP has been in storage since the start of the first Gulf War.[14] Given the continued fighting and intrigue in that part of the world, it seems a plausible story could be spun using one of their SPs.

Two other film options could be the use of China Airline's breath-stopping incident where their SP fell out of control on a flight from Taipei to Los Angeles. Preoccupied with restarting one of the four engines, the pilots failed to properly monitor the aircraft's flight instruments and lost control of the plane, entering "an uncontrolled descent of nearly six miles. The crew was unable to restore the airplane to normal flight until it had descended to 9,500 feet." Severe damage was done to the plane, but miraculously none of the passengers or crew died.[15] Given the taste TV movies have for reality-based airline emergencies, this one seems ripe for a review.

A completely unconnected theme could be based on NASA's purchase of an SP for use as an airborne observatory. Called the Stratospheric Observatory For Infrared Astronomy, or SOFIA for short, this high-flying plane will carry a 98-inch telescope almost anywhere in the world. A former United Airlines 747SP was acquired on February 17, 1997, for this purpose.[16] A clever film writer could turn this platform into a very interesting story. Similarly, NASA employs two converted 747-100s as ferry platforms for the Space Shuttle orbiters. This visually dramatic configuration should allow for a number of worthy storylines.

The United States Government operates four other 747s with aerial refueling similar to the VC-25As. These are impressive aircraft with

an impressive mission. This 200 series was acquired as an airborne command post for use in time of nuclear war, where they would provide a critical link between the National Command Authority and nuclear forces in the field such as bombers, missile silos, and submarines. Their thirteen external communications systems operate through an array of 46 different antennas, including dual very-low frequency systems attached to a five-mile-long wire trailed from the rear of the plane.[17]

Boeing's official website describes the mission:

The E-4B Advanced Airborne Command Post is designed to be used by the National Command Authority as a survivable command post for control of U.S. forces in all levels of conflict including nuclear war. In addition to its primary mission, secondary missions assigned to the E-4B include VIP travel support and Federal Emergency Management Agency support, which provides communications to relief efforts following natural disasters such as hurricanes and earthquakes."[18]

An Air Force description of some of the special properties of these four planes states:

The E-4B has electromagnetic pulse protection, an electrical system designed to support advanced electronics and a wide variety of new communications equipment. Other improvements include nuclear and thermal effects shielding, acoustic control, an improved technical control facility and an upgraded air-conditioning system for cooling electrical components. An advanced satellite communications system improves worldwide communications among strategic and tactical satellite systems and the airborne operations center.

To staff each of these complex planes, total crew may number as many as 114 on any given mission.[19]

Another unorthodox government use of the 747 is the Air Force's ambitious — and expensive — program to acquire a fleet of seven 400 series jumbos to use as an airborne anti-missile system. Dubbed the YAL-1A, this will be a laser attack plane capable of shooting down ballistic missiles during their early boost phase. A chemical oxygen-iodine laser (COIL) will emit a 5-second burst aimed through an articulating turret in the custom nose of the plane. Enough oxygen and iodine should be aboard to fire 30 such bursts, each costing an estimated $1,000. There are suggestions that the YAL-1A will have other uses, including defense of critical flying assets such as AWAC planes, attacks on both surface-to-air and air-to-air missiles, and possibly attacks on low-flying cruise missiles as well.[20] Finally, should it acquire the capability to disable or down manned aircraft, the filmic possibilities will be legion.

The 747, as we have seen, has been a popular platform for flying films, and we can expect to see its continuing appearance well into the new millennium, including in some of the newer formulations I have mentioned. And now that even some of the latest 747-400s are being stored because of drastic decreases in passenger travel following 9/11 and the SARS outbreak, film companies may be able to use them in creating new aviation movies, and this time exterior and interior consistencies will be honored.

Heroes in Flying Films

As seen in the introduction, Hollywood film and American aviation were born together and have remained close ever since. The tremen-

dous boost given to flying technology by World War I resulted in large numbers of aircraft being built, many of which were available after the war for filming purposes. These films are discussed at length in books such as Skogsberg's *Wings on the Screen*, Pendo's *Aviation in the Cinema*, and Paris's *From the Wright Brothers to Top Gun*. Demand for new aircraft, technology, and tactics during World War II produced a quantum leap in the field of aviation, with end products such as the jet fighter and long-range nuclear bomber. Given the near unanimous support for American involvement in World War II once America had declared war, it was only natural that Hollywood worked closely with the U.S. government and armed forces and produced a plethora of films that patriotically supported the war effort. These films are discussed in the books already mentioned, as well as in others such as *When Hollywood Ruled the Skies: The Aviation Film Classics of World War II* by Bruce W. Orriss, and *Hollywood at War: The American Motion Picture and World War II* by Ken D. Jones and Arthur F. McClure.[21]

While it would be undesirable to simply reproduce what many of these works have to say about flying films, I will still discuss some of the same films when necessary. In general, however, I will maintain a focus on flying films from approximately 1950 onward and will emphasize those made after 1970 because that is where the books begin to thin out. In addition, I will include newer important flying films that have yet to be discussed in flying books, such as *Air Force One* and *Cast Away*.

Where this dissertation will diverge most from previous books on flying films, however, will be in its "myth-symbol-image" interpretation of the film texts involved. Though this once venerable approach in American Studies has been severely criticized over the last quarter century, the fact is that it still functions in important works, such as

those by Alan Trachtenberg (*Brooklyn Bridge: Fact and Symbol*) and Richard Slotkin (*Gunfighter Nation: The Myth of the Frontier in Twentieth-Century America*). If anything, the trend to study other than elites (political, diplomatic, economic, etc.) has increased the focus on popular culture, and obviously this would include flying films.

The first three films I discuss take place during WWII, but their production ranges from 1949-1990. Two of the films are based in England and portray American crews' involvement with the B-17 Flying Fortress, while the third movie is set in the Pacific as the United States drops its first atomic bomb on its foe.

Twelve O'Clock High

Darryl Zanuck's 1949 *Twelve O'Clock High* must rank as one of the most realistic Hollywood aviation films of all time, thanks in part to its liberal use of actual combat footage. Starring Gregory Peck as no-nonsense Brigadier General Savage, a pilot in the Army Air Force based in England during World War II, the film dramatizes the act of carrying out risky daylight bombing runs over Germany before Allied troops had reconquered any of the continent. Realism is established early in the film. A squadron of B-17s is shown returning over the English Channel from a painful mission. Five planes and their crews have been lost, and another has been shot up so badly that it has barely made it back to the English base. It approaches wheels up, then sets down on the grass beside the runway, taking out a canvas tent in the process.[22] The first airman out is clearly shaken up, and he immediate turns away from the camera to throw up. We next learn that what remains inside the plane is the cause. Though this black and white film does not show the actual damage to the human body in the way

that a later color film such as *Saving Private Ryan* does, the dialogue is explicit enough to evoke similar reactions.

First, the men bring out the pilot and as they do, one crewman yells at the ambulance litter carriers to watch the man's leg, as it has been broken. Then, as they load the pilot into the ambulance, one man notes that he can see the brains sticking out through the back of the pilot's head. We learn later that a shell had taken the back of the pilot's head off, mentally incapacitating him but leaving him physically strong. In his disoriented state, he tries to fly the plane, but in fact he manages only to put the crew in grave danger. With his right leg locked against one of the rudder pedals, the plane is sent out of control, forcing the young co-pilot to counteract this pressure for two long hours. When fellow crewmembers finally come to relieve him, they have to break the captain's leg in order to remove him from his position. That is why the pilot's leg was broken, not directly because of enemy attack.

In addition to the captain's injuries, a crewman in the fuselage has been hit by German fighter shells and his arm so badly damaged that others on the plane amputate it and leave it in the plane. To save the man's life, they bundle him out of the plane over France, gambling that this will increase his chances of survival. Back at the airbase, the commander who greets the damaged plane enters it with a blanket to retrieve the severed arm. When he exits the plane gingerly carrying his wrapped package, we in the audience cannot help but shrink from the suggestion. This opening scene succeeds in portraying the pressures of real combat put on these men and makes it painfully obvious why the mental demands on the aircrew become the central theme of the movie.

The first man to crack is the commander of the 918th Bomber

Group, Col. Davenport. Because he identifies too closely with his men, he becomes less and less capable of sending them on the deadly missions they must undertake to defeat the Germans. Gen. Savage, whose personality fits his name, relieves Davenport of command and takes it himself. His firm, aloof manner alienates the men under him, but mission successes increase as aircraft losses decrease. Despite this improvement, Gen. Savage begins to slide down the same slope as his predecessor, finally experiencing a psychosomatic reaction that causes his arms to freeze. Having experienced repeated combat himself, Savage seems even more traumatized by the losses experienced by his men — men who die because of his direct, though necessary, orders.

One cinematographic device used in this film is the repeated pairing of two similar structures: the round shape of the fuselage of a B-17 and the round shape of the Quonset huts that house the men at the airbase. Both are made of thin metal wrapped around a prefabricated lattice structure, and both become the principal dwellings of these men at war. In fact, more of the action in *Twelve O'Clock High* takes place in the Quonset huts than it does inside the airplanes themselves. Still, most such scenes clearly feature the ribbed arches of the huts, reinforcing our sense that the men are somehow caged. Certainly when they are in the narrow confines of the B-17, be it cockpit, navigator/bomber's compartment, or especially gun turrets, the men have little room for maneuver. As will be explored in depth in the *Cast Away* chapter, this caged setting reminds one of the stories of Moby-Dick and Jonah and the Whale, as the metal ribs and sheet metal of both the Quonset hut and the B-17 resemble the skeletal structure of a large whale.

Planes with Atomic Bombs

There seems to be a certain formula for portrayals of warfare in the nuclear age that says the positive imagery of an airplane and its weapons must increase in direct proportion to the increased destructive capability of each weapon. Thus, the entire weapons system is sanitized, including the airplane designed to deliver the weapons and the lives of the men who fly the planes. This tendency is particularly pronounced in the three "Strategic Air Command" films examined below.

The SAC Trilogy

The military and Hollywood have been on decidedly mixed terms for much of the post-Vietnam era. On the whole, the media has been considered to be more against the war in Vietnam than for it and has been implicated in the American defeat. This could explain why U.S. military characters in Vietnam-related films have not always fared well.[23] This is in contrast to the close way Hollywood and the armed services had worked together in previous eras, particularly during World War II and the early and middle stages of the Cold War, when the United States Air Force in particular seemed to embrace the blockbuster movie as a national educational tool. From 1955 to 1963 a trilogy of highly pro-Air Force films was produced and widely distributed, and they all share the honor of promoting the American cause during the Cold War through the policies of the former Strategic Air Command (SAC), the military's primary holder of atomic retaliatory power.

First, one must note the rhetorical stance adopted by all three of

these films with respect to military aircraft and how this mirrored attitudes toward the machine in America over one hundred years ago. As one writer in 1840 claimed, for example, the new machines of the time in America were "the triumphs of our own age, the laurels of mechanical philosophy, of untrammeled mind, and a liberal commerce!" Referring explicitly to the burgeoning railroads, he confidently noted that "all patriotic and right-minded men have concurred in the propriety of their construction."[24] This is the same rhetorical device adopted by the American Air Force, speaking through a compliant Hollywood, just over one hundred years hence.

Second is the degree of Air Force participation evident in all three films. During the early and middle years of the Cold War (ca. 1950-1965), Hollywood and the Armed Forces continued the relationship forged during WWII. Just as it had in the effort to defeat the Axis powers in World War II, the U.S. government actively used Hollywood to spread its Cold War message, and Hollywood complied. Keeping in mind that television was just gaining a foothold during the 1950s, it is not surprising that the military enlisted the aid of Hollywood and the feature film. Since "popular cinema was the most effective means of mass communication" before television became almost universal in the United States, the SAC trilogy's scripted and consistent messages are understandable. Of course, the government was determined to continuously point out the dangers of Communism, but a further role played by these films was "to calm public fears about the danger of aerial attack by demonstrating SAC's massive retaliatory capabilities."[25] In watching this trilogy, the consistency of the message *and* the image of airplane and flying men is obvious, beginning with the first of the series, *Strategic Air Command.*

Strategic Air Command (1955)

As mentioned in chapter two, James Stewart starred as ballplayer "Dutch" Holland in this drama about the responsibilities of the Strategic Air Command to protect the free world. Stewart was eminently fit to star as a bomber pilot, having flown twenty-five missions over Germany as captain of a B-24 Liberator. This, in addition to his fine acting skills, resulted in his appearance in a number of aviation films. One of his best performances comes in *Strategic Air Command*, a story about the Air Force's transition from traditional propeller-powered bombers to a new fleet of all-jet B-47s. Much is made of the "heroic" efforts made by numberless crews to keep their bombers ready for any eventuality. This message about the sacrifices needed during the Cold War is boldly displayed right after the credits have stopped rolling. In suitable heroic prose, the following appears upon the screen, pasted above us in the sky as if an edict from on high, accompanied by appropriate music:

> America today is watching her skies with grave concern. For in these skies of peace, the nation is building its defense. To the officers and men of The United States Air Force, to the Strategic Air Command, whose cooperation is gratifyingly acknowledged, and to the young men of America who will one day take their places besides them, this motion picture is dedicated.

This sacrifice is made personal primarily through the character of Dutch Holland, who has already "done his share" as a commander of a B-29 flying over Tokyo (Stewart was, in fact, a commander of a B-24 Liberator and flew 25 missions over Germany during the Second World War).[26] Despite having done his share, Cold War exigencies demand

that he (and others) do more; he is called back to duty to complete a further twenty-one months. Gradually, however, his appreciation for his mission grows and he decides to serve out his career in the Air Force, in spite of the effect that decision has on his hopes for a professional baseball career and on his domestic tranquility with a spunky little wife (a literal description — the lanky Stewart towers over his wife, played by June Allyson, and the shots of them together even exaggerate this contrast).

It was a busy year for actress June Allyson, who also starred over at Warner Bros. in *The McConnell Story*, a parallel Air Force saga about the jet fighter corps, including its missions in Korea. Once again she plays the understanding but worried wife of a military flier, reinforcing the cult of domesticity that was so much a part of 1950s America. It is interesting to note how both *The McConnell Story and* Paramount's *Strategic Air Command* tell essentially the same tale, adjustments having been made for the character of a fighter pilot vs. that of a long-range bomber pilot. Alan Ladd hands in a fine performance as the high-strung Mitch McConnell, as opposed to James Stewart's calm and rational character in *Strategic Air Command*. In any case, both films strive to calm public fears about domestic safety and to justify the personal sacrifices made by military men and their families (McConnell is killed in a crash of an experimental F-86). As a long-suffering wife, June Allyson's characters nicely tie these two Air Force films together.

Some historians have argued that during the 1950s there was an artificial, if not surrealistic, divide between the domestic bliss allegedly enjoyed by (white middle-class) Americans and the dangerous world beyond American borders. For example, Elaine Tyler May writes:

> The context of the cold war points to previously unrecognized connections between political and familial values. Diplomatic historians paint one portrait of a world torn by strife and a standoff between two superpowers who seemed to hold the fate of the globe in their hands. Sociologists and demographers provide a different picture of a private world of affluence, suburban sprawl, and the baby boom. These visions rarely connect, and one is left with a peculiar notion of domestic tranquility in the midst of the cold war that has been neither fully explained nor challenged.[27]

Cognitive dissonance or not, many critics considered *Strategic Air Command* to be "one of the most visually exciting aviation features ever made." There is much to be said for this opinion. After all, the visual ranges of both ground and aerial shots is breathtaking. For example, when Dutch takes his first ride aboard the B-36, the camera lavishes many long minutes on capturing its overwhelming silver form, and director Anthony Mann certainly emphasizes the sheer dimensions of this latest SAC weapon. This long "cigar," as the flight engineer affectionately refers to it, is graced with massive straight wings running perpendicular out the top of the forward fuselage. Attached to each wing is a trio of rear-facing pusher propeller radial engines, augmented by twin pods of jets mounted outboard on either wing, making for an impressive total of six radial and four jet engines (which led to the popular phrase used by aircrew, "six turning and four burning.")[28]

Again, the size of this bomber is worth stressing. The largest ever built, its wingspan measured 230 feet, dwarfing even that of the B-52. It could carry the Mark 17 atomic bomb, which weighed in at twenty-one tons. Further, the range of the plane, originally designed to bomb

targets in Europe from bases in the United States, was nearly nine thousand miles. The wing tanks could hold so much high-octane aviation fuel that unrefuelled missions of over twenty-four hours were common. The longest such mission on record was fifty-one hours and twenty minutes.

Mann's directing creates an almost lyrical display of this flying military machine, a display that is a direct descendent of descriptions used by commentators on early nineteenth-century America. If John Stuart Mill thought the locomotive was the perfect symbol because no poet was necessary to attach meaning to it, then this opening scene and those that quickly follow fit the bill all the more for the airplane, in this instance the B-36. To begin to understand why, note that Marx agrees with Mill's insights with respect to the locomotive: "To see a powerful, efficient machine in the landscape is to know the superiority of the present to the past."[29] Indeed, not a word is said about the B-36's initial overflight; it speaks for itself in this scene. No wonder *Strategic Air Command* opens with the unannounced arrival of the B-36 over Al Lang Field in St. Louis.

Marx's use of Tocqueville could not be more appropriate here than when he writes, "To understand the American consciousness in this period the key image, as Tocqueville noted, is the 'march' of the nation across the wilds, 'draining swamps, turning the course of rivers, peopling solitudes, and subduing nature.'" The SAC trilogy adopts the same mission. When *Strategic Air Command* and its two successors portray the flight of their respective SAC bombers, it is precisely a "march" across the wilds, domestic and foreign, far beneath. Rivers have turned to oceans, and still the American spirit is translated into machinery to subdue the untamed land. Thus, Dutch's first flight is portrayed as a leisurely afternoon drive, a domestication of nature ——

despite being a non-refueled, round-trip flight from Texas to Alaska.

Again, the text quoted by Marx in this respect could not be more perfect:

> The wide air and deep waters, the tall mountains, the outstretched plains and the earth's deep caverns, are become parcel of his [man's] domain and yield freely of their treasures to his researches and toils. The terrible ocean. . . conveys. . . [him] submissively. . . . He has almost annihilated space and time. He yokes to his car fire and water, those unappeasable foes, and flying from place to place with the speed of thought carries with him, in one mass, commodities for supplying a province.[30]

What is this excerpt taken from an American writing in 1847 but an apt literal description of what was to come in America just over one hundred years in the future? It is breathtaking to think how prescient many of these early American writers were!

In noting the beauty of the VistaVision process used for this film, Paris believes that "In propagandistic terms, *Strategic Air Command* must rank as among the most effective films extolling the virtues of the USAF and a revealing example of the corporate-liberal style of 1950s film-making."[31] SAC and the film's creators have used this technique to great effect. In fact, some of the flying scenes seem to embody the prose of Whitman in praise of America's burgeoning industrial society. Recall Whitman's "Passage to India" and its calls for America to expand across the globe. Marx cites many such passages and juxtaposes them against what other great American writers — Emerson et al. (along with the more prosaic "writers for popular magazines") — have celebrated as evidence of America's spiritual power as exemplified by its machines:

I see over my own continent the Pacific railroad
surmounting every barrier,
I see continual trains of cars winding along the
Platte carrying freight and passengers,
I hear the locomotives rushing and roaring, and the
shrill steam-whistle,
I hear the echoes reverberate through the grandest
scenery in the world. . . .[32]

In *Strategic Air Command* the flying scenes of the B-36 evoke these very images. Flying the twilight skies on its return from Alaska, the B-36's six radial engines trail plumes of white mist that gently script themselves across a pink and purple horizon. Whitman would be proud:

After the seas are all cross'd, (as they seem already
cross'd,)
After the great captains and engineers have accomplish'd
their work,
After the noble inventors, after the scientists,
the chemist, the geologist, ethnologist,
Finally shall come the poet worthy that name,
The true son of God shall come singing his songs.[33]

Whitman himself, of course, was that poet, but he would no doubt be proud to see such imagery in cinematic form, VistaVision and all.

If Marx is right to believe that in "Passage to India" "the machine is a precursor of a higher, spiritual power"[34] (and I think he is), then these flying scenes in *Strategic Air Command* capture perfectly that sense of America as an expanding power that has been part of the

Republic since its founding days. That SAC and the filmmakers here (and in *Bombers B-52* and *A Gathering of Eagles*) have so successfully tapped into this *weltanshauung* must have had incalculable effects on Americans of the time, from men in the service, to boys contemplating their futures, to wives and daughters who endured the absence of their fighting men, and perhaps even to the older generation who remembered a childhood in which the West of the American continent was still not fully tamed.

Bombers B-52 (1957)

The second in the SAC trilogy, *Bombers B-52,* is of a piece with its predecessor, *Strategic Air Command*. After a short opening set in Korea during the Korean War, the film quickly moves to its primary setting, Castle AFB near Merced, California. (Ironically, in *Strategic Air Command*, Dutch's friend who coaxed him back to the Air Force was Gen. Rusty Castle). While in *Strategic Air Command* Dutch Holland and his wife filled the starring roles and an enlisted man served as supporting actor, in *Bombers B-52* Chuck Brennan (Carl Malden), an enlisted man and crack mechanic for the fleet of high-speed Boeing B-47 Stratojets, is the protagonist. Brennan's dedication is legion and his love for his fleet of Stratojets obvious. From this individual respect for this particular machine, the film builds to a more generalized respect for the Air Force and its mission, as, for example, in the scene in which a formation of B-47s overflies the base, showing their grace and veiled power.

Even this heroic image of the B-47 is overshadowed by the arrival of the new B-52 Stratofortress.[35] The device used in this movie to show the B-52's power to awe is a personal one: Sgt. Brennan, who has

made up his mind to leave the Air Force, elects to re-enlist because of the respect he has for the B-52. The first shot of the B-52 is on the ground, a slow deliberate lead-up to where the craft is parked on the apron. From the right of the screen we first see the beginning of a long pan of the shadow cast by the massive wing of the bomber, dwarfing personnel and vehicles parked nearby. The camera continues its pan from the tip of the right wing toward the fuselage, clearly emphasizing the two pods of two engines each on that wing. Finally, a slow expanding zoom centers the entire B-52 on the screen for our first view of the subject of this film.

The next shot is from the runway in front of and below the Superfortress. This shot highlights the four gear-trucks under the fuselage, each of which has two beefy wheels. The wheels' ability to articulate shows the agility of this great plane even while still on the ground.

Takeoff produces four plumes of black smoke, but the B-52 itself is graceful and fast, a sleek eagle heading skyward. This is where the message of America's manifest destiny begins, just as it did in *Strategic Air Command* when Dutch took his first flight in the B-36. Again, what Marx notes about railroads and their effects upon the American mind in the antebellum period when so many of these commentators were using flying metaphors to describe man's conquest of nature, now has become literal:

> Objects of exalted power and grandeur elevate the mind that seriously dwells on them, and impart to it greater compass and strength. alpine scenery and an embattled ocean deepen contem plation, and give their own sublimity to the conceptions of beholders. The same will be true of our system of Rail-roads. *Its vastness and magnificence will prove communicable. . .* (my emphasis).[36]

Indeed it is communicable, particularly in this SAC film released in 1957, where one of the most beautiful scenes of the bomber comes in a shot of the B-52 slowly flying over the Golden Gate Bridge, the ocean having been twice tamed — once by the marvel of the bridge itself, then by the marvel of the jet plane flying above it.[37] This shot is followed by lingering shots of the bomber in flight at high altitude. Nature has been conquered.

Better shots are to come. On a non-stop mission from America to Africa, the bomber flies low over the Pyramids, which we see from the vantage point of the pilot. Next is a shot of Algiers, its ancient stone buildings tan in the Mediterranean sunlight. Such imagery calls to mind the spirit of Whitman's progressive ode to travel and the American ability to move beyond its borders:

> Singing my days,
> Singing the great achievements of the present,
> Singing the strong light works of engineers,
> Our modern wonders, (the antique ponderous Seven
> outvied,)
> In the Old World the east the Suez Canal,
> The New by its mighty railroad spann'd,
> The seas inlaid with eloquent gentle wires. . .[38]

Yes, this lone bomber flies from the heartland of America to Egypt and back without landing. Thanks to aerial refueling, the range of the B-52 is almost limitless; Whitman's dreams of a "passage to India" are realized (never mind that when this eagle of war eventually flies over the East, it is not the "gardens of Asia" below but the "jungles of Vietnam" — a fact Francis Ford Coppola captures perfectly in his less-than-elegiac *Apocalypse Now*). The "antique ponderous Seven"

are indeed "outvied" as they remain stationary and impotent below, while the B-52 flies freely over them.

This flying machine, this "modern wonder," may have outvied the artifacts of old, but it is not flawless. On the return home, a malfunction in new communications gear results in an intense fire inside the plane. Brennan fights the fire but fails, so Captain H commands the crew to bail out, giving the viewer the opportunity to see the downward ejection seats for two of the crew and the pilots' upward ejection seats.[39] In the event, Captain H. remains aboard and lands the burning plane successfully, demonstrating its safety even in the face of disaster.

If it is not belaboring the comparison to the structure of Marx's *The Machine in the Garden*, it might be worth noting that after discussing Emerson's view of the pastoral at length, he finally gets to Emerson's disciple, Henry Thoreau, and his classic *Walden*. This book, Marx writes, "begins with the hero's withdrawal from society in the direction of nature."[40] This is true and well known. If we take some license and stretch "nature" to also include "domesticity," we could find this desire-to-withdraw theme in both *Strategic Air Command* and *Bombers B-52*. In both films, the main characters had been intimately involved in the world of the machine, one having flown B-29s over Japan, the other having been a mechanic for Air Force planes. Having "done their share," both men now want to leave the service and spend uninterrupted time with their wives. The complexity of bombers and the regimented organization of the military can be compared to life in the city, so the desire of these two servicemen to return to domesticity roughly parallels Thoreau's desire to return to the pastoral. Though Thoreau's stay in the wild may have been a success, Cold War demands simply do not afford such luxury, so the higher calling of service to country prevails in these two films.

A Gathering of Eagles (1963)

Rock Hudson here stars as Jim Cadwell, a no-nonsense SAC Wing Commander of B-52s based at Carmody Air Force Base in California. Because the wing had previously failed an Operational Readiness Inspection, Cadwell proceeds to clean house, including the forced resignations of two close friends. In contrast to the previous two SAC films, this one focuses more on the personal costs of maintaining constant readiness for nuclear war, rather than extolling the virtues of America's Cold War flying machines. There are a handful of good shots of B-52s taking off, but much of the drama takes place on the ground, both on and off base, as Caldwell, his wife, and his close friends try to reconcile a hard way of life with dreams of domesticity.

This film is also notable for its pro-Air Force bearing, which it shares with its two predecessors. In fact, General Curtis LeMay, chief of staff for the Air Force, supported the making of this film.[41] At a time of nuclear tension between the Soviets and Americans, tension that grew to fever pitch during the Cuban missile crisis, American audiences were no doubt happy for the reassurances this film gave them.

Airport

The heroism in *Airport* (1970) is the dominant theme of the movie, though it is paired with its antagonist, menace. Both men and machine are strong and reliable here, from the pilots to the mechanics to the majestic Boeing 707. What weaknesses they may have are not fatal; in fact, they provide the opportunity for transcendence. For example, the first Trans Global 707 to appear in the movie lands routinely but then

taxis off the runway into deep snow and gets stuck. In the human sphere, Captain Demerest has a fondness for female company that extends beyond his wife, but he is able to make that a moral challenge to be surmounted.

The scene that establishes the heroic qualities of pilots and machine comes early. After most characters have been introduced, our two pilots are highlighted under the bright lights of a cavernous hangar. Their uniforms are immaculate, and the camera angle is to the front and below them, giving them both an air of power. Behind them is their 707, its silver skin glistening in the artificial light. Trust and competence are projected, and we are never disappointed in this respect, no matter how bad the danger may get.

As mentioned, an unstable passenger detonates a bomb in the rear of the plane, yet the 707 barely shudders at the affront. The passengers may suffer from the effects of this hole in the fuselage at 30,000 feet, but the plane can keep on flying in a straight line. Its control cables are safely positioned under the cabin floor, so a rupture of the fuselage skin in not fatal. To be sure, there is the risk that the damage could spread, causing catastrophic failure, but this does not happen; the Boeing soldiers on.

The same can be said of the three men in the cockpit, as well as the women enlisted to help in the cabin: all perform flawlessly, and tragedy is averted. A stewardess has drafted an elderly female stowaway (Helen Hayes) in a ruse to get the bomb away from the disturbed passenger. Toward that end, they are successful. When confronted by the mock anger of the stewardess, the old woman verges on the point of hysteria, causing the stewardess to slap her smartly across the face. This diversion allows the captain to grab the briefcase holding the bomb, but it is inadvertently returned to the bomber by another passen-

ger.

When the bomb is detonated, the stewardess is rendered unconscious, but only because she had bravely tried to open the door to the lavatory in which the bomber sought refuge. Back in the cockpit, both pilots have remained calm and professional and have set a strategy for getting their plane and passengers back safely on the ground. With the help of competent air traffic controllers — and the stubborn mechanic Patroni in the first 707 — the heroes are able to effect a landing back at Lincoln International Airport. The Boeing 707 remains intact upon touchdown, and no more lives have been lost. Men and machine are heroes to the end.

As for the sequels to *Airport*, the heroism there is simply the flip-side of the menace discussed in the previous chapter. For instance, in *Airport '75*, Charlton Heston's character dangles from a cable attached to a military helicopter and successfully boards the airborne 747 through the hole in the side of the cockpit. From there he makes a safe landing. *Airport '77*, unfortunately, has little in the way of heroism, first because the pilot who crash-lands the plane is the one who hijacked it, and second, the underwater rescue is simply much too slow. *Airport '79: The Concorde*, also fails to deliver great heroics, meaning the entire series steadily went downhill as flying films. Fortunately, made-for-TV dramas sometimes compensated for this.

Miracle Landing (1990)

Miracle Landing, the TV docudrama mentioned earlier, is a superb example of a heroic rendition of both pilots and machine. As the opening credits inform us, a long section of upper fuselage ripped away from the plane at 20,000 feet, resulting in immediate decompression and

the death of one flight attendant, the only fatality in the incident. Remarkably, the Aloha Airlines Boeing 737 remained intact and the two pilots were able to land it successfully.

The crisis begins when a little boy spots an expanding crack in the ceiling above him. As soon as the crack has spread, the slipstream peels back a portion of the roof, taking with it sections on both sides of the fuselage down to the floor of the cabin. Since the controls and flying surfaces were not irreparably damaged, the 737 and the remaining ninety-four souls aboard remain flying. The scene, however, is horrific. As the upper fuselage disintegrates and the cabin depressurizes, debris and structural parts are blown over the exposed passengers, resulting in serious injuries to passengers in the forward section, including one man with a long metal strip riveted to his skull. While the passengers were strapped in, the flight attendants were not, and two more of them are nearly sucked out of the plane (or *off* the plane, since the cabin is now an exposed flat surface). One writer wrote that it was as if "they were in a convertible car."[42]

Here the heroics of the pilots kick in. Captain Bob Schornsteimer (played by Wayne Rogers of M.A.S.H fame) is a highly trained pilot, having been a fighter instructor during the Vietnam War. His first officer is a woman making her last flight in the right seat, as she has been awarded her captain's wings beginning on her next flight. Though unable to verbally communicate due to the roar of the rushing wind, together they manage to keep the plane flying, despite the loss of one of the two engines. Because of changed flight characteristics, however, they are forced to adopt a landing approach speed much higher than normal, a possibly fatal situation because a cockpit instrument indicates that the nose gear is not down and locked. Fortunately, the indication is wrong, and a successful landing is completed, testi-

mony to the integrity of the Boeing 737's design and construction and the unusual talent of the flight crew. Investigators later determined that the plane, built in 1969, had undergone too many cycles of pressurization (89,680 takeoff-landing cycles) in the corrosive air above the saltwater oceans. This close call was to be a harbinger of explosive decompressions to come.

Freefall: Flight 174 (1995)

This TV movie is closely modeled on a true story. As mentioned in the previous chapter, a brand new Boeing 767 twin-jet had absurdly run out of fuel while flying from Montreal to Edmonton. Despite the latest in advanced avionics, it appeared that the jet was going to go down with all aboard. Facing such an unusual emergency, the two pilots and a talented mechanic who happens to be aboard that day wrack their brains for a solution. The extent of the crisis becomes clear as the plane glides toward Winnipeg's main airport. Based on hand calculations, the co-pilot determines that they cannot reach the safety of the long runways there. Remembering an old military field between the airport in Winnipeg and their present position, the co-pilot suggests seeking that out as an alternative landing spot. With no other choice, the pilot takes his suggestion. As they pass over Lake Winnipeg, they search feverishly for sight of the airfield. Failing to find it, they consider a highly dangerous water landing, rather than risk coming down somewhere with the city limits of Winnipeg.

At the last moment, the co-pilot sees the abandoned airfield. Fortuitously, the captain has extensive sailplane skills, and these skills become even more crucial here as he applies a sailplane technique known as "side slipping" to bring his massive jet in line with the

runway; they obviously will have only one chance at a landing attempt. Dropping much faster than the optimum rate, the captain manages to line up with the runway but just as he is about to touch down, he sees people and cars on the abandoned runway. They in turn see (but do not hear) the powerless plane and scramble to clear the way. Touching down hard, the plane just misses two boys on bicycles. Because the front landing gear never locked properly, the nose of the plane slams heavily on the runway, throwing a massive shower of sparks from the sliding nose. At high speed, the plane rockets down the runway, no power available for reverse thrust to slow the plane. The pilots frantically apply the brakes, but now the end of the runway looms large.

With little distance to spare, the pilots manage to halt the plane, but a fire has erupted under the cockpit. While a competent cabin crew evacuates the back of the plane, the two pilots attempt to extinguish the fire. Failing to halt the flames, they too escape to the rear of the plane. In the end, there are no fatalities; the pilots have achieved a near miracle, as is evidenced by the fact that simulator crews are not able to land a plane under identical circumstances.

Air Force One (1997)

This intense action movie offers a variety of images of the 747, ranging from the dignity afforded any Air Force One to the impressive high tech equipment aboard, to the tense aerial dance with a refueling tanker, and finally, to a watery crash in the movie's finale. In this movie, film star Harrison Ford appears as the President of the United States. Having just cemented a ground-breaking agreement for peace in the former Soviet Union, he heads back home aboard the presidential

plane, Air Force One. In real life, these planes, designated VC-25As by the Air Force, are two Boeing 747-200Bs (tail numbers 28000 and 29000) and serve as Air Force One when the President is aboard. Operated by the 89th Military Airlift Wing at Andrews Air Force Base, they feature an interior modified to include an executive suite (presidential office, stateroom, and washroom), advanced electronic and communications equipment, self-contained baggage loader, fore and aft stairs, an emergency medical room, and two galleys capable of feeding 50 people, all contained in 4000 square feet of floor space.[43] In addition, it has inflight refueling capabilities, though I have come across no evidence that these aircraft have escape pods as featured in the movie.

Once airborne, the jet is hijacked by supporters of a renegade leader from one of the former countries of the Soviet Union. What makes this a premier flying film is the fact that most of the action takes place aboard the plane. The President leads the heroics, accomplishing everything from disabling armed hijackers, to allowing most of his staff to escape via parachute, to piloting the plane himself when no one is left to fly the planes (the original crew of three Air Force officers die while heroically trying to land the plane against the orders of the hijackers). Finally, in a scene that easily trumps the cable acrobatics in *Airport '75*, a C-130 comes alongside the crippled Air Force One, boards a specialist by dangling him by cable from the open cargo area of the C-130, and retrieves the President and his family.

Final Descent

In this 1997 made-for-TV movie, Robert Urich plays Captain "Lucky" Singer, a traditional hands-on pilot, an anomaly in the modern world of fly-by-wire "glass cockpits" full of computer screens and

self-regulating instruments. An abrasive misfit who has rankled co-workers throughout his career, Captain Singer finally has a chance to put his penchant for idiosyncratic thinking to good use, as we will see. This film clearly owes debts to both *Airport* and *Airport '75*. From the former it borrows the idea of a jet whose tail section has been heavily damaged — perhaps fatally. While in *Airport* it was a passenger's bomb that blew a hole in the side of the plane, in *Final Descent* a collision with a small plane brings about the structural problems that drive this movie.

The debt to *Airport '75*, however, is greater. First, the cause of the airplane's problem in *Final Descent* is the same as in *Airport '75*: a mid-air collision between a loaded jumbo jet and a twin-engine propeller plane piloted by a lone and impatient male pilot. While *Airport '75*'s collision took place high in the sky as the Boeing 747 was preparing to descend, in *Final Descent* the collision occurs on takeoff. Due to maintenance, one runway is closed, but the impatient pilot of the small plane ignores that fact and takes off from it. This fatally disorients him, so that when air traffic controllers give him commands that will prevent a collision, his response is delayed and his plane smashes into the tail of the jumbo, fatally destroying their ability to control the pitch of the passenger jet.

The second and more important debt to *Airport '75* is the device used to rescue the crew and passengers: a mid-air connection to a U.S. military aircraft (albeit one without the presence of George Kennedy). In *Airport '75,* of course, an Army Jolly Green Giant C54 helicopter races into place above and in front of the damaged 747, while in *Final Descent* an Air Force KC-135 tanker arrives for the rescue attempt. The tanker's presence has nothing to do with refueling, however, as will become apparent as the disaster unfolds.

To counter the drag and downward force on the jammed elevators, the unorthodox Singer commands a Marine helicopter to shoot 50-caliber bullets through one of the elevators. Though this causes a serious fire in the rear galley, Singer's logic proves correct and their rate of ascent is checked, thereby saving the craft from imminent doom. Long-term prospects remain bleak, however, forcing Singer to reach for a new idea. An earlier idea to move passengers and equipment forward in order to affect the plane's center of gravity is computer tested and found to be ineffective, but Singer has another idea: rather than using people to tip the center of gravity toward the front, why not use water? The source: an aerial refueling tanker. That the civilian 747 has no refueling capability, let alone the ability to accumulate water in any specific region of the plane, does not hinder Singer.

Singer's idea is to open the escape hatch in the top of the plane, insert a hose, and fill the front wheel well with water. As a fascinating use of the aerial refueling theme, I will save details for the next chapter, but suffice it to say that in the end, his plan succeeds, the nose comes down, and Singer lands the plane safely. Both Captain Singer and the rugged Boeing 747 are feted as heroes in this movie.

Notes

[1] In their book *Boeing*, (Osceola, WI: MBI Publishing Company, 1998) Guy Norris and Mark Wagner use this appellation for their chapter title on the 747, chapter 6.

[2] Quoted in Peter Gilchrist, *Boeing 747-400* (Osceola, WI: MBI Publishing Company, 1998), 15.

[3] The B-52 Bomber, though a direct descendant of the B-47, had twin engines attached to each pylon, for a total of eight engines, rather than the more common four. But the commonality to the other aircraft

mentioned is obvious. See, for example, Norris and Wagner, *Boeing*, 72-81.

[4] Discussion of the development of the 747 comes largely from Guy Norris and Mark Wagner, *Boeing 747: Design and Development Since 1969* (Osceola, WI: MBI Publishing Company, 1997), 11-19.

[5] Norris and Wagner, *Boeing 747*, 17.

[6] The failure of the three main post-war aviation film books to acknowledge the place of the 747 not only in film but in aviation in general is a mystery. They came out twelve, sixteen, and twenty-six years respectively after the first flight of the 747, but the recurrent presence of the 747 in film appears not to have impressed any of the authors. Skogsberg (1981) only mentions the 747 in passing for its appearance in *Airport '75*. Pendo has three mentions in passing (one of which does not involve a filmed 747), while Paris inexplicably mentions it only once in a book published in 1995, long after the 747 had attained iconic status.

[7] Judging which model a 747 is from visual factors alone is far from an exact science. Consider, for example, the exterior issue of windows on the upper deck. The original 747-100 had only three windows on either side of the upper deck, while the 200 series had ten (though the first six 200s off the production line had only three). Later, even 100s were manufactured with ten windows on either side, "making it an unreliable series identifier." See Jenkins, *Boeing 747*, 43. Thus, the 747 scene in *Executive Decision* could even be a 100 series model. Given the various design options on the "classic" series (100-300) 747, it becomes clear why these visual clues are never absolute. As another example, midway through its production run, the 200 series switched to a stairway in the rear, a modification carried over to all of the 300 series. In addition, the stretched upper deck (SUD) of the 300 series could be ordered not only with newer 200 series, but also with 100 series, though only two of these were ever manufactured (both went to Japan Airlines in the SR — short range — version). Finally, older planes could be refitted with SUDs, as, for example, were ten KLM 200 series models during a period of slack work for Boeing. For specific details, see Jenkins, *Boeing 747*, 59-60; Norris and Wagner, *Boeing*, 137-139; and Norris and Wagner, *Boeing*

747, 61-63.

[8] The original 747 had stairs that entered the upper deck at the front, just behind the cockpit. In 1976, "L"-shaped straight stairs were offered as an option. Later, straight stairs were moved further aft so they would enter the upper deck from the rear. See, for example, Brian Baum, *Boeing 747SP* (World Transport Press, 1997), 60-63.

[9] See Jenkins, *Boeing 747*, chapter 5 for further details.

[10] Baum, *Boeing 747SP*, 42-46.

[11] Norris and Wagner, *Boeing 747*, 59-62. It is important here not to confuse the Combi with the convertible freighter, a design which offered either for passengers or freight, and can be distinguished from the dedicated freighter by its normal array of windows, which the freighter lacks.

[12] See Jenkins, *Boeing 747*, 56.

[13] See Gilchrist, *Boeing 747-400,* 99, and Robert Dorr, *Boeing 747-400* (North Branch, MN: Specialty Press Publishers, 2002), 34.

[14] Baum, *Boeing 747SP*, 118-125.

[15] Baum, *Boeing 747SP*, 114.

[16] Baum, *Boeing 747SP*, 115-117. Those interested in following the progress of this program can go to: http://sofia.arc.nasa.gov/Sofia/sofia.html.

[17] Jenkins, *Boeing 747*, 53-55, and Norris and Wagner, *Boeing 747*, 106-107.

[18] See http://www.boeing.com/defense-space/military/e4b/.

[19] See http://www.af.mil/news/factsheets/E_4B.html.

[20] Gilchrist, *Boeing 747-400*, 72, and Dorr, *Boeing 747-400*, 63-64. For updates, see the official Air Force webpage at http://www.airforce-technology.com/projects/abl/.

[21] For a view from America's ally Britain, see *Images for Battle: British Film and the Second World War*, 1939-1945, by Clive Coultass.

[22] This crash scene has been called "one of the most spectacular scenes in any aviation film." Using an authentic Air Force B-17 for the stunt, Fox Studios had to contract a stunt flier because Air Force regulations would not permit a military pilot to be involved. Legendary stunt pilot Paul Mantz was chosen and he duly made a low practice pass over the crash site. Coming in for the crash scene, he cut the engines just above the grass field and settled in for a wild ride. As planned, he ripped through

canvas tents set up by the side of the runway, and was nearly killed when a metal pole had inadvertently been set up in one of the tents in place of the intended wooden poles. The United States Air Force was cooperative in making this film, providing Eglin Field, Florida, as the setting for Archbury, England air base. Takeoffs and landings were done at Ozark Field, Alabama. See Orriss, *When Hollywood Ruled the Skies*, 147-154.

[23] See Rothman et al., *Hollywood's America*, chapter 4. Of course there are major exceptions to this trend, including hit aviation films such as *Top Gun* and *Blackhawk Down*.

[24] Marx, *The Machine in the Garden*, 207.

[25] Garth S. Jowett, "Hollywood, Propaganda and the Bomb: Nuclear Images in Post World War II Films," *Film and History*, 18: 2 (May 1988), 32, quoted in Paris, *From the Wright Brothers*, 184.

[26] Skogsberg, *Wings on the Screen*, 136. A popular account of such missions can be found in Stephen Ambrose's *The Wild Blue: The Men and Boys Who Flew the B-24s Over Germany, 1944-45* (New York: Touchstone, 2002). This covers the flying career of another famous American, George McGovern.

[27] Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (New York: Basic Books, 1988, 1999), xx-xxi.

[28] For encyclopedic discussion of the Consolidated-Vultee Aircraft Corporation (Convair) B-36, see Dennis R. Jenkins, *Magnesium Overcast: The Story of the Convair B-36* (North Branch, MN: Specialty Press Publishers, 2001-2002). Also see: http://www.elite.net/castle-air/b36htm.

[29] Marx, *The Machine in the Garden,* 192.

[30] Marx, *The Machine in the Garden*, 194. Marx is very unclear in his citations about exactly who it is he is quoting in this section. His reference to Tocqueville is clearly marked but the prior and following quotes are much harder to attribute. Even Marx is confused about authorship here. See note 30, 399.

[31] Paris, *From the Wright Brothers*, 185.

[32] Marx, *The Machine in the Garden*, 223. Smith also gives great weight to this impulse to find a way to India in chapter two of *Virgin Land*, which begins: "When Lewis and Clark reached the shores of the Pacific in 1804

they reactivated the oldest of all ideas associated with America — that of a passage to India" (19).

[33] Marx, *The Machine in the Garden*, 224.

[34] Marx, *The Machine in the Garden*, 224.

[35] The first production model of the eight-engine B-52 flew on Aug. 5, 1954. See Norris and Wagner, *Boeing*, 75.

[36] Quoted in Marx, *The Machine in the Garden,* 195.

[37] Marx in fact quotes one writer from an 1840 edition of *American Journal of Science* on his reaction to the sight of a new bridge: "What is there yet to be done upon the face of the earth, that cannot be effected by the powers of the human mind. . . ?" Had this writer been able to peer into the future, he would have been amazed at how accurate his answer to his own question had become: "[Man] is indeed, 'lord of creation'; and all nature, as though daily more sensible of the conquest, is progressively making less and less resistance to his dominion" (Marx, *The Machine in the Garden,* 196).

[38] Discussed in Marx, *The Machine in the Garden,* 222-224.

[39] A flub in this scene shows Captain Herlihy jettisoning Sgt. Brennan through the cockpit roof, but the subsequent shot from outside clearly shows a parachute opening under a small, straight-wing airplane, not the giant eight-engine, swept-wing B-52.

[40] Marx, *The Machine in the Garden*, 242.

[41] Henriksen, *Dr. Strangelove's America,* 307.

[42] The account of this incident comes from Malcolm MacPherson (ed.), *The Black Box: All-New Cockpit Voice Recorder Accounts of In-Flight Accidents* (New York: William Morrow and Company, 1998), 157-161.

[43] For details, see the official U.S. Air Force fact sheet at: http://www.af.mil/factsheets/fs_131.shtml.