

Negotiating Aviation Heritage: The Politics of Display at the Smithsonian National Air and Space Museum, 1972–1976*

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Introduction

The formative planning for the Smithsonian National Air and Space Museum (NASM) between 1946 and 1976 reflected changing notions about aviation, technology, and national heritage in Cold War America. As a national museum located in the U. S. capital, the NASM became a place where technology and politics intersected, revealing a complex matrix of government agencies, military organizations, aerospace industries, and public interests. On August 12, 1946, President Harry S. Truman signed legislation establishing the National Air Museum (NAM), which was intended to “memorialize the development of aviation; collect, preserve, and display aeronautical equipment; and provide educational material for the study of aviation.”¹ Although Congress authorized the museum in 1946, the institution required nearly three decades of political negotiation, institutional planning, and public advocacy before opening its doors as the NASM on July 1, 1976, as part of the American Bicentennial celebration. The final phase of exhibition planning proved especially significant because decisions about which artifacts and historical narratives to collect, display, and interpret became subjects of negotiation among multiple constituencies.

Scholars in museum studies have emphasized that museums are places where historical knowledge is actively produced through the practices of collecting, interpreting, and exhibiting objects.² This perspective has encouraged historians to

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¹ *To Establish a National Air Museum, and for Other Purposes*, Public Law 722, U.S. Statutes at Large 60 (1946), 997–998. With the advent of the Space Age, the NAM broadened its scope from aviation to spaceflight and was officially renamed the NASM in 1966, reflecting a new educational mission shaped by Cold War concerns and public interest in space exploration.

² Foundational works in museum studies include Ivan Karp and Steven D. Lavine, eds., *Exhibiting Cultures: The Poetics and Politics of Museum Display* (Washington, DC: Smithsonian Institution Press, 1991); Eilean Hooper-Greenhill, *Museums and the Shaping of Knowledge* (London:

examine the curatorial practices through which historical narratives are constructed within museums. The focus has gradually expanded to exhibition-making as an institutional process shaped by negotiations among curators, museum administrators, and a range of external actors.³ Together, these developments have established museum-making as an important subject of historical inquiry, providing a useful framework for examining exhibitions as historical processes.⁴

These developments have been particularly influential in the study of museums displaying the history of science and technology, where scholars have examined how museums shape scientific knowledge, technological heritage, and public understanding of scientific authority.⁵ Rather than treating technological artifacts as self-evident evidence of scientific progress, this scholarship has emphasized that their historical significance is shaped by how they are selected, interpreted, and exhibited.⁶ This perspective has also encouraged historians to examine exhibition-making as the institutional setting in which the historical significance of technological artifacts is defined.

Within this broader context, the NASM provides a particularly revealing case for examining exhibition planning because its 1976 opening coincided with a broader transformation in the purpose and authority of American museums. The earlier NAM had largely presented aviation history through celebrated “famous firsts,”

Routledge, 1992); Tony Bennett, *The Birth of the Museum: History, Theory, Politics* (London: Routledge, 1995); Ivan Karp, Christine Mullen Kreamer, and Steven D. Lavine, eds., *Museums and Communities: The Politics and Public Culture* (Washington, DC: Smithsonian Institution Press, 1992); Rhiannon Mason, “Cultural Theory and Museum Studies,” in *A Companion to Museum Studies*, ed. Sharon Macdonald (Oxford: Blackwell, 2006), 17–32.

³ Sharon Macdonald, *Behind the Scenes at the Science Museum* (London: Routledge, 2002); Mathieu Viau-Courville, “Museums Without (Scholar-)Curators: Exhibition-Making in Times of Managerial Curatorship,” *Museum International* 68:271–272 (2017), 11–32; Ólöf Gerður Sigfúsdóttir, “Curatorial Research as Boundary Work,” *Curator: The Museum Journal* 64:3 (2021), 421–438.

⁴ Martha Fleming, “Embodied Ephemerality: Methodologies and Historiographies for Investigating the Display and Spatialization of Science and Technology in the Twentieth Century,” *History of Science* 59:2 (2021), 197–219; Andrée Bergeron and Charlotte Bigg, “The Spatial Inscription of Science in the Twentieth Century,” *History of Science* 59:2 (2021), 121–132.

⁵ Sharon Macdonald, ed., *The Politics of Display: Museums, Science, Culture* (London: Routledge, 1998); “Focus: Museums and the History of Science,” *Isis* 96:4 (2005); Samuel J. M. M. Alberti, “Objects and the Museum,” *Isis* 96:4 (2005), 559–571; Karen A. Rader and Victoria E. M. Cain, *Life on Display: Revolutionizing U.S. Museums of Science and Natural History in the Twentieth Century* (Chicago: University of Chicago Press, 2014).

⁶ Jaime Sastre-Juan, “Science in Action: The Politics of Hands-on Display at the New York Museum of Science and Industry,” *History of Science* 59:2 (2021), 155–178; Robert Bud, “Taking the Public Sphere Seriously: A Plea for Appropriate History,” *Cultures of Science* 8:4 (2025), 341–353; Harry Parker, “The Politics of ‘The Politics of Display’: A Nuclear-Energy Gallery, A Science Museum in the 1980s and a Debate About Patronage,” *The British Journal for the History of Science* 59:2 (2026), 195–209.

emphasizing individual artifacts and technological achievement.⁷ In preparing the new museum, however, museum staff sought to replace this commemorative approach with thematic exhibitions that situated technological achievements within broader historical narratives. The museum was expected to educate visitors about both the history and the achievements of flight, presenting a more coherent and “balanced” historical interpretation of American aviation and space history.⁸ This transformation acquired additional significance because the NASM opened during the United States Bicentennial, when national commemorative institutions assumed an increasingly important role in shaping how Americans understood and experienced the nation’s past.⁹ As the nation’s principal museum of aviation and spaceflight, it assumed unusual authority in determining which objects, institutions, and historical experiences would represent the American aerospace past.¹⁰ Planning its opening galleries thus revealed how professional museum standards were shaped through negotiations with competing institutional interests and historical memories.

Existing scholarship on the NASM has largely developed along two broad directions. Institutional histories have traced the museum’s development from the NAM to the opening of the NASM, emphasizing its organizational development, collections, and changing educational mission.¹¹ A second body of scholarship has examined the museum’s exhibitions as sites where technological achievements and public memory have been represented, interpreted, and contested, particularly

⁷ Michael J. Neufeld, “The Smithsonian’s National Air and Space Museum and ‘The Romance of Technological Progress’,” *Journal of Educational Media, Memory, and Society* 14:1 (2022), 76–97.

⁸ For an early critical assessment of the museum’s narrative of technological development, see Michael McMahon, “The Romance of Technological Progress: A Critical Review of the National Air and Space Museum,” *Technology and Culture* 22:2 (1981), 281–296.

⁹ M. J. Rymasz-Pawlowska, *History Comes Alive: Public History and Popular Culture in the 1970s* (Chapel Hill: University of North Carolina Press, 2017), chap. 2, “The Commemoration Revolution,” and chap. 4, “The Spaces of History”; Robert C. Post, *Who Owns America’s Past? The Smithsonian and the Problem of History* (Baltimore, MD: Johns Hopkins University Press, 2013).

¹⁰ Scholarship on national museums emphasizes their authority to define national identity through the selective representation of objects and historical narratives. See Flora Edouwaye S. Kaplan, “Making and Remaking National Identities,” Sharon Macdonald ed., *A Companion to Museum Studies* (Oxford: Blackwell, 2006), 152–169; Gabriella Elgenius, “National Museums as National Symbols: A Survey of Strategic Nation-building and Identity Politics,” Peter Aronsson and Gabriella Elgenius, eds., *National Museums and Nation-building in Europe 1750–2010: Mobilization and Legitimacy, Continuity and Change* (London: Routledge, 2014), 145–166.

¹¹ Alex Roland, “Celebration or Education? The Goals of the U.S. National Air and Space Museum,” *History and Technology* 10 (1993), 77–89; Michael J. Neufeld and Alex M. Spencer, eds., *Smithsonian National Air and Space Museum: An Autobiography* (Washington, DC: National Geographic, 2010); Post, *Who Owns America’s Past?*

through studies of the *Enola Gay* controversy.¹² Together, these studies have significantly advanced the understanding of the NASM as a national museum and as a cultural institution situated at the intersection of science, technology, and politics. Yet they have focused primarily on the museum after its exhibitions had been planned and opened to the public. Comparatively little attention has been paid to the formative planning process through which exhibition concepts were formulated, and particular artifacts were ultimately selected or excluded. This gap is especially significant because decisions made during exhibition planning shaped the historical narratives ultimately presented to the public.

To address this gap, this article examines the formative planning of the NASM through two controversies surrounding the selection of the Navy NC-4 and the DH-4 *Old 249*. Although both disputes concerned the display of historic aircraft, they represented different forms of negotiation over aviation heritage. The NC-4 controversy centered on negotiations among government agencies and military institutions over the representation of naval aviation within the new museum. By contrast, the debate over the DH-4 *Old 249* reflected tensions between professional curatorial standards and the historical claims advanced by veterans, aviation organizations, and political supporters. Examining these cases together demonstrates that the making of aviation heritage involved more than the application of professional selection criteria. It required continuous negotiation among institutions, professional expertise, and competing historical memories before exhibitions reached the public. By shifting attention from completed exhibitions to the contested process of exhibition planning, this study contributes to a broader understanding of how technological heritage was negotiated through institutional interactions and how a national museum shaped authoritative narratives of American aviation during the Cold War and the Bicentennial.

Creating “Balanced” History for the Bicentennial

The planning process for the 1976 opening necessitated a radical departure from the museum’s earlier operational traditions. Previously, the institution had functioned largely as a commemorative “shrine,” where curatorial practice—under the long-

¹² T. Linenthal and Tom Engelhardt, eds., *History Wars: The Enola Gay and Other Battles for the American Past* (New York: Henry Holt and Company, 1996); Martin Harwit, *An Exhibit Denied: Lobbying the History of Enola Gay* (New York: Copernicus, 1996); Thomas F. Gieryn, “Balancing Acts: Science, *Enola Gay* and History Wars at the Smithsonian,” Sharon Macdonald, ed., *The Politics of Display: Museums, Science, Culture* (London: Routledge, 1998), 197–228; Steven C. Dubin, *Displays of Power: Controversy in the American Museum from Enola Gay to Sensation* (New York: New York University Press, 1999); Matthew Hersch, “The Boeing Milestones of Flight Hall, National Air and Space Museum, Smithsonian Institution,” *Technology and Culture* 57:4 (2016), 998–1004.

standing influence of Paul Garber¹³—was defined by a nostalgic commitment to displaying as many “famous firsts” as possible.¹⁴ Artifact selection was driven largely by individual enthusiasm rather than by a coherent historical framework, leaving the museum vulnerable to criticism from the aviation community as a mere “collection of junk” with little educational value.¹⁵ Moreover, the museum’s early staff, composed primarily of military retirees rather than professionally trained historians, often lacked the institutional structure and historical framework necessary to construct the broader narratives increasingly expected of a national museum.¹⁶ By the early 1970s, this artifact-centered tradition had become increasingly difficult to sustain as preparations began for the construction of the new museum.

The congressional appropriation of 1972 and the approaching Bicentennial accelerated efforts to transform the museum into a modern educational institution.¹⁷ Under the leadership of Director Michael Collins, a former *Apollo 11* astronaut, the museum faced the formidable task of preparing a new national museum in time for the United States Bicentennial on July 4, 1976.¹⁸ This challenge required not only

¹³ Paul E. Garber was the dominant figure in the NAM from the 1920s through the early 1970s. Although not formally trained as a historian, he played a central role in building the museum’s collections and established a commemorative, artifact-centered collecting philosophy that emphasized aviation “famous firsts.” This tradition profoundly shaped the museum’s exhibitions until the institutional reforms of the early 1970s.

¹⁴ “National Air Museum Bill Memorandum,” February 28, 1946, Smithsonian Institution Archives (SIA), Acc. 06-225, Smithsonian Institution. Office of Architectural History and Historic Preservation Building Files, circa 1850-2006, Box 52, Folder Founding of Museum, 1946; Oral history interview with Paul E. Garber, May 7, 1974, SIA, transcript, Record Unit (RU) 9512 Frank A. Taylor Oral History Interviews.

¹⁵ Howard A. Benzel to Henry H. Arnold, December 6, 1945, National Air and Space Museum (NASM) Archives, Acc. XXXX-0379, National Air Museum Establishment Correspondence, Folder 1; B. G. Reed to Henry H. Arnold, December 26, 1945, NASM Archives, Acc. XXXX-0379, Folder 3.

¹⁶ S. Paul Johnston, who became Director of the NAM in 1964, outlined in his first memorandum to the Secretary of the Smithsonian, S. Dillon Ripley his vision for reorganizing the museum into a modern research and educational institution. S. Paul Johnston, “Some Preliminary Observations Re the National Air and Space Museum,” August 12, 1964, SIA, Acc. 06-225, Box 54, Folder Report – “Some Preliminary Observations,” 1964.

¹⁷ U.S. Congress, Senate, Subcommittee of the Committee on Appropriations, the Department of the Interior and Related Agencies Appropriations for Fiscal Year 1973, 92nd Cong., 2nd sess., 1972: 2188.

¹⁸ In his interview in November 1978, Collins recalled:

All the while keeping a wary eye on the approaching Bicentennial because that was our target. Our deadline was to have a museum on the Mall by the Bicentennial. It was, in a very small way, similar to the program I’d just come out of. You know, Man on the Moon by the end of the decade—museum on the Mall by the Bicentennial. So, it was a program that had a very clear focus and one which had a definite schedule, exactly as *Apollo* had. And I like working with projects like that. Oral history interview with Michael Collins, interviewed by Joe Wyson, November 3, 1978, Michael Collins Papers, 1907–2004, Special Collections, Virginia Tech Libraries, transcript, Box 35, Folder 29.

the construction of a major facility on the National Mall but also the creation of a professional administrative structure capable of planning and completing exhibitions within an exceptionally compressed schedule.

To meet these demands, Collins and Deputy Director Melvin Zisfein replaced the museum's informal curatorial traditions with a more centralized system of exhibit planning and administration. Following the recommendations of the 1971 *Management Task Force* report, the NASM established an independent Exhibits Division in 1973, organized into four functional units—Illustration, Design, Production, and Audiovisual—and subsequently adopted formal exhibit and acquisition policies in 1974.¹⁹ These reforms introduced standardized procedures for artifact selection and exhibition development, transferring final authority from individual curators to the director's office.²⁰ As a result, the opening galleries were expected to present a coherent, thematic interpretation of American aviation and space history rather than the "hodge-podge of hardware" that had characterized the museum's earlier displays.²¹

At the heart of this organizational reorientation was a new exhibit philosophy. Rather than presenting aviation history as a succession of celebrated "famous firsts," the NASM organized its opening exhibitions into twenty-one thematic units that placed technological artifacts within broader processes of innovation and historical narrative. Representative examples included *Milestones of Flight*, *Benefits from Flight*, *World War II Aviation*, and *Air Transportation*, each designed to interpret aviation history through thematic narratives rather than individual achievements. Under this approach, artifacts were evaluated not only for their historical significance but also for how effectively they supported the interpretive goals of a particular gallery. Museum staff therefore adopted standardized selection criteria that considered historical importance, technological significance, social influence, and practical availability for display. Yet applying these principles required curators to make choices that not every constituency would accept.

Museum staff therefore adopted standardized criteria that considered historical importance, technological significance, social influence, and practical availability for display.²² These criteria were intended to make artifact selection more systematic

¹⁹ "Management Task Force," December 21, 1971, SIA, RU 306 National Air and Space Museum. Office of the Director, NASM Files, Box 9, Folder 2, *Exhibits: Office of Exhibits, 1971–1973*; "Establishment and Function of the Office of Exhibits Central," October 3, 1973, SIA, RU 306, Box 9, Folder 2.

²⁰ "National Air and Space Museum Exhibits Policy," SIA, January 16, 1974, RU 352 National Air and Space Museum. Assistant Director for Exhibits, Exhibition Records, Box 7, Folder NASM Exhibit Policy.

²¹ Ripley to Johnston, July 28, 1969, SIA, RU 330 National Air and Space Museum. Department of Aeronautics, Correspondence, Box 1, Folder "Exhibits Program." The letter describes the museum's existing exhibits as a "hodge-podge of hardware with little rational relationship."

²² "National Air and Space Museum Exhibits Policy," 1974, 2.

and to connect individual objects to coherent exhibition narratives. The new galleries would thus explain how aviation and space technologies were developed, used, and transformed over time rather than simply celebrate their final achievements. Yet applying these principles required curators to make choices that not every constituency would accept.

The pursuit of a “balanced” history proved to be far more contested than museum planners had anticipated. Although the new exhibit philosophy sought to establish professional standards for artifact selection, curatorial decisions inevitably affected the interests of numerous external constituencies. Because the NASM occupied a unique position as the nation’s official museum of aviation and spaceflight, decisions about exhibition content attracted competing claims from organizations and communities seeking recognition within the national historical narrative. Military services, veterans’ organizations, aviation associations, former pilots, and members of Congress all regarded the NASM not simply as an educational institution but as the nation’s principal site for commemorating American aviation history.²³ Consequently, decisions about whether particular aircraft would be displayed carried significance far beyond questions of historical interpretation. They also shaped institutional prestige, organizational identity, and public recognition. Curators therefore found themselves balancing professional exhibit principles against persistent demands from outside groups seeking to secure a visible place for their own histories within the new national museum. The following case studies illustrate how these competing expectations repeatedly challenged the museum’s efforts to construct a balanced interpretation of American aviation history.

The Navy NC-4 and Institutional Politics

The Navy NC-4 occupied a special place in the history of American aviation as the first aircraft to complete a transatlantic flight in 1919. Originally developed by the Navy and the Curtiss Aeroplane and Motor Company during World War I, the flying boat demonstrated the long-range potential of naval aviation and quickly became a symbol of American technological achievement.²⁴ Recognizing its historical significance, the Smithsonian sought to acquire the aircraft shortly after its

²³ For example, NASM’s pursuit of a “balanced” history was most clearly embodied in the Norden Bombsight display, where curators reoriented the narrative from its destructive role in the Hiroshima mission to its technical merit in enabling “precision bombing.” To mitigate public discomfort and avoid “glorifying a form of slaughter,” Secretary S. Dillon Ripley explicitly ordered the exclusion of graphic imagery such as mushroom clouds “World War II Aviation- Unit script ‘Fight for The Sky’,” SIA, RU 352, Box 15, Folder WT 28 - Fight for the Sky.

²⁴ Roger E. Bilstein, *Flight in America: From the Wrights to the Astronauts* (Baltimore, MD: Johns Hopkins University Press, 2001), 45; Tom D. Crouch, *Wings: A History of Aviation from Kites to the Space Age* (New York: W. W. Norton, 2003), 191-200.

transatlantic flight. Although the Navy delayed the transfer for several years in order to use the aircraft for publicity and recruitment purposes, the NC-4 eventually entered the Smithsonian's collection in 1927.²⁵ Because of its enormous size with a 126-foot wingspan, however, the aircraft remained difficult to display and spent much of its history in storage.²⁶

Despite these practical difficulties, the NC-4 occupied a prominent place in successive plans for the future NAM. Architectural renderings produced during the 1950s and 1960s frequently positioned the aircraft near the *Wright Flyer*, reflecting its status as one of the most important artifacts in the national collection (Figure 1).²⁷ As exhibit planning accelerated following congressional appropriation in 1972, however, curators were forced to reconsider earlier assumptions about display priorities. The new NASM building was designed around thematic exhibitions rather than the comprehensive display of every historically significant aircraft. Under the museum's new exhibit philosophy, historical importance alone no longer guaranteed exhibition. Instead, artifacts were evaluated according to how effectively they contributed to the interpretive goals of individual galleries. Faced with limited space and a commitment to presenting a broader interpretation of aviation history, museum staff concluded that the NC-4 would not be included in the opening exhibitions. This decision did not reflect a judgment that the aircraft lacked historical significance. Rather, it resulted from the museum's effort to balance limited exhibition space with the interpretive priorities of its new thematic galleries.

²⁵ Shortly after the transatlantic flight, Smithsonian Secretary Charles D. Walcott requested the NC-4 for display at the Arts and Industries Building. The Navy retained the aircraft for public exhibitions and recruitment activities before transferring it to the Smithsonian in April 1927. W. de C. Ravenel to Josephus Daniels, July 3, 1919, NASM Archives, Curatorial Files, TMS, NC-4, A19270032000, Aeronautics Department; Paul Garber to Carl Mitman, May 28, 1923, Curatorial Files, TMS, NC-4, A19270032000, Aeronautics Department, NASM.

²⁶ For decades, NC-4 remained in storage, known as a "Tin Shed" and later at the Silver Hill facility. The seaplane was displayed on the National Mall only once, in 1969, for its fiftieth anniversary of historic flight.

²⁷ The Smithsonian Institution, "For the Air Age: A National Museum," *Architectural Record* (September 1955), 165; S. Paul Johnston, "Education and Inspiration: The National Air and Space Museum," *Aerospace* 3 (Spring 1965), 16-18.

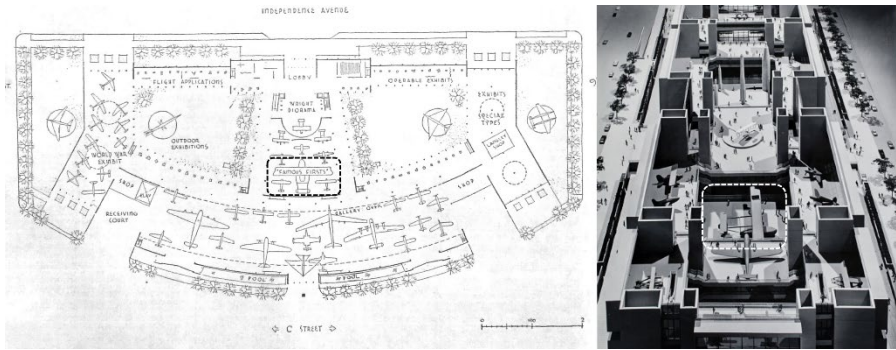


Figure 1. The location of the NC-4 (outlined) in the building plans of 1955 (left) and 1964 (right). In both plans, the NC-4 occupied a central position within the museum, underscoring its importance in early exhibition planning. (Source) Left: The Smithsonian Institution, “For the Air Age: A National Museum,” *Architectural Record* (September 1955), 165. Right: S. Paul Johnston, “Education and Inspiration: The National Air and Space Museum,” *Aerospace* 3 (Spring 1965), 16-18.

The decision immediately generated opposition from the Navy and its supporters. Public criticism first emerged in 1972 when *Armed Forces Journal* published an article entitled “NC-4 Rots as Overrun Plagues Air Museum.”²⁸ The article argued that the Smithsonian had neglected the aircraft and criticized plans to omit what it described as one of the most significant aircraft in American aviation history. The controversy soon attracted the attention of senior naval officials. Vice Admiral Maurice A. Weisner, a member of the NASM Advisory Board, contacted the Secretary of the Smithsonian, S. Dillon Ripley, to express concern about the aircraft’s exclusion from the new museum.²⁹ Ripley forwarded the inquiry to Collins with a brief note, suggesting that Collins prepare a diplomatic response.³⁰

For NASM administrators, the controversy emerged at a particularly delicate moment. Museum staff was finalizing thematic units for the Bicentennial opening while simultaneously seeking support from a variety of government agencies.³¹ As the nation’s official museum of aviation and spaceflight, the NASM could not simply disregard the concerns of one of its principal institutional stakeholders. Rather than

²⁸ “NC-4 Rots as Overrun Plagues Air Museum,” *Armed Forces Journal* 109 (April 1972), 17. The article claimed that the NC-4 was “the only significant aircraft” in the museum’s collection between the *Wright Flyer* and the Fokker T-2.

²⁹ Maurice Weisner to Dillon Ripley, April 4, 1972, SIA, RU 306, Box 1, Folder 8 Aircraft: NC-4.

³⁰ Dillon Ripley to Michael Collins, n.d., SIA, RU 306, Box 1, Folder 8 Aircraft: NC-4.

³¹ “National Air and Space Museum Background Material and Questions for Consideration by the Council,” April 5, 1977, SIA, RU 338 National Air and Space Museum. Office of the Director, NASM Files, Box 6, Folder Smithsonian Council- May 14, 1977.

treating the NC-4 dispute solely as a problem of artifact selection, Collins and Zisfein sought to strengthen the museum's relationship with the Navy through its resolution.³² The issue was not simply whether the aircraft would be displayed. More fundamentally, it concerned how naval aviation would be represented within the museum's larger narrative of American aerospace development.

By the final stages of exhibit planning, Collins and Zisfein came to view the controversy as an opportunity rather than simply a problem to be resolved. They concluded that the Navy's dissatisfaction with the NC-4 could be addressed more effectively through the broader representation of naval aviation than through the display of a single aircraft. Instead of allocating a substantial portion of the museum's limited exhibition space to a single aircraft, they advanced plans for a gallery devoted to flight over water and the history of naval aviation. As Zisfein later recalled, the key question was whether the Navy's concern lay with the display of the NC-4 itself or with securing recognition for naval aviation more generally.³³ This reframing shifted the debate from the fate of a single artifact to the broader question of how naval aviation would be incorporated into the museum's interpretive framework. What had begun as a dispute over the exclusion of the NC-4 thus became an opportunity to build a new partnership between the museum and the Navy.

One important outcome of these negotiations was the development of the *Sea-Air Operations* Hall, a gallery devoted to flight over water and naval aviation. As Zisfein later recalled, the Navy's willingness to provide financial support, or "funds-availability," made the project feasible. To spearhead its development, Zisfein assembled an ad hoc working group in his office, and Navy personnel participated directly in conceptualizing the gallery while providing expertise, labor, and materials.³⁴

Meanwhile, Collins and Navy officials sought an alternative institutional solution for the aircraft itself. As the Navy prepared to expand the Naval Aviation Museum in Pensacola, Florida, Collins and Navy officials agreed that the NC-4 would be more appropriately displayed there.³⁵ In January 1973, discussions formally began regarding a long-term transfer, and on September 1, 1974, the NC-4 was placed on indefinite loan to the Naval Aviation Museum.³⁶ Within the NASM, however, the

³² Melvin Zisfein to Michael Collins, June 24, 1974, SIA, RU 306, Box 9, Folder 9 Exhibits: Sea Air Operations Hall, 1974.

³³ Ibid.

³⁴ The working group consisted of Dr. Lee Pearson (historian for the Naval Air Systems Command), Captain Ted Wilbur, and Admiral William Schoech, all of whom had been instrumental in developing the museum's initial planning since 1972. Zisfein to Collins, June 24, 1974.

³⁵ Grover Walker to Michael Collins, January 24, 1973, NASM Archives, Curatorial Files, TMS, NC-4, A19270032000, Aeronautics Department.

³⁶ Michael Collins to Grover Walker, February 9, 1973, NASM Archives, Curatorial Files, TMS, NC-4, A19270032000, Aeronautics Department.

aircraft's historical significance continued to be recognized through plans to represent its transatlantic flight in the museum's exhibition program.

Yet the controversy did not entirely disappear. Norman Polmar, a prominent historian of naval affairs, criticized the decision and argued that a "national first" deserved a place in the nation's premier aerospace museum.³⁷ Copies of his correspondence circulated widely among naval officials and Smithsonian personnel, generating renewed pressure on NASM administrators. The controversy therefore persisted even after the institutional compromise had been reached, suggesting that negotiations over representation extended beyond administrative agreement.

Collins' response demonstrates how seriously museum officials regarded the political dimensions of this institutional friction. Following a high-level meeting with several Admirals—including an NASM Advisory Board member—Collins decided to expedite the planning of the *Sea-Air Operations Hall* rather than reopening the contentious question of displaying the actual NC-4. Collins recognized that accommodating the Navy's desire for greater visibility offered an opportunity to secure essential resources for the museum's tight Bicentennial deadline. In a memorandum to his staff, Collins underscored the strategic priority of this hall:

[W]e need to make sure that there really is a Sea-Air Hall in July 1976, and that it is one which the NAVY feels they have been fully consulted on. Also it may be a good opportunity to get some free labor and materials. Right now the scheduling for this hall would seem to take priority over some of the other FY [Fiscal Year] 75 halls.³⁸

Consequently, Zisfein reassembled the *Sea-Air Operations Hall* ad hoc committee with Navy personnel to develop a preliminary plan. During these negotiations, Zisfein proposed that a large-scale Navy-built model of the NC-4 would be displayed prominently in the museum's prestigious *Milestones of Flight* Gallery, allowing the aircraft's historic transatlantic flight to remain part of the NASM's central narrative while the original aircraft was transferred to Pensacola.³⁹ Within a month of this meeting, the curators of the Aeronautics Department successfully completed the final concept script for the *Sea-Air Operations Hall*.

³⁷ Norman Polmar to Michael Collins, May 31, 1974, SIA, RU 306, Box 1, Folder 8 Aircraft: NC-4.

³⁸ Michael Collins, "Memorandum for the Record," June 17, 1974, SIA, RU 306, Box 9, Folder 9 Exhibits: Sea Air Operations Hall, 1974.

³⁹ *The Milestones of Flight Gallery* serves as the central, high-prestige entrance hall of the NASM, designed to showcase the most historically and technologically significant "famous firsts" of the aerospace age. As the first gallery visitors encounter, it functions as the museum's "must-see," housing iconic artifacts such as the *Spirit of St. Louis* and the *Apollo 11* Command Module.

The NC-4 affair demonstrates that technological artifacts were not passive historical objects within the NASM planning process. For Navy officials, the aircraft represented a material embodiment of institutional achievement and identity. Its exclusion from the National Mall threatened to diminish the visibility of naval aviation within the national narrative of technological progress. For NASM curators, by contrast, the central issue was not the historical importance of the aircraft—which was never in doubt—but how to incorporate that significance into a coherent exhibition program. The resulting compromise—the transfer of the original aircraft to Pensacola, the development of the *Sea-Air Operations* Hall, and the continued representation of the NC-4 in the NASM’s exhibition narrative—demonstrates that the significance of the NC-4 itself was never seriously disputed. What remained contested was how, where, and by whom that significance would be represented. The controversy thus reveals how technological artifacts functioned as political resources through which institutions sought visibility, legitimacy, and recognition within the national narrative of aviation history. The case therefore illustrates that balancing competing historical claims depended not simply on selecting or excluding artifacts, but on negotiating alternative forms of representation within a national museum.

DH-4 *Old 249* and Collective Nostalgia

The DeHavilland DH-4 played a pivotal role in the early history of American aviation as a bridge between the military demands of World War I and the emergence of modern civil aviation. Originally a British-designed light combat aircraft, the DH-4 was the only American-built plane to reach the front lines in Europe, earning the nickname “the Liberty Plane” for its role in wartime production.⁴⁰ In the post-war era, however, the DH-4 acquired a new significance as a symbol of the pioneering years of American airmail service. When the United States Post Office Department took over airmail service from the Army in 1918, it requested a fleet of DH-4s, which were subsequently modified into DH-4B mail carriers. These aircraft became the workhorses of the treacherous transcontinental mail routes, establishing a “pioneer culture” characterized by the romantic bravery of pilots who flew in open cockpits across the Wasatch Mountains and the Alleghenies.⁴¹ By the time of its retirement in 1926, the DH-4 was no longer viewed merely as a technical specimen of the Great War, but as the material embodiment of the nation’s first successful foray into long-range commercial flight.

⁴⁰ Roger E. Bilstein, *Flight in America*, 37.

⁴¹ Joseph J. Corn, *The Winged Gospel: America’s Romance with Aviation* (Baltimore, MD: Johns Hopkins University Press, 2002), 30.

The Smithsonian's aeronautical collection had long reflected this dual significance, housing various models of the DH-4 including the first American-built "battle plane" donated in 1918 (Figure 2).⁴² However, the rapid advancement of aviation technology during the Cold War—marked by the arrival of the supersonic *Bell X-1* (1947) and the pioneering *Mercury* capsules (1959-63)—forced NASM curators to become increasingly selective in their exhibition choices. In September 1950, for instance, a DH-4 model was dismantled and sent into storage to make room for the record-breaking *Bell X-1*, a move that foreshadowed the "politics of selection" that would dominate the 1976 Bicentennial planning.⁴³



Figure 2. The DH-4 *Old No. 249* mail plane on display at the Arts and Industries Building before it was dismantled. (Source) NASM Archives, Curatorial Files, The Museum System (TMS), DH-4, A19190051000, Aeronautics Department.

Unlike the NC-4 controversy, the central issue in the *Old 249* affair was not institutional representation but the relationship between professional standards and commemorative memory. The *Old 249* was a reproduction aircraft whose significance derived less from its status as a historic "first" than from the story of its reconstruction and the memories it embodied. The original aircraft had crashed near Coalville, Utah, in 1922 and remained abandoned for more than four decades. In the

⁴² Sidney D. Waldon to Charles D. Walcott, December 9, 1918, NASM Archives, Curatorial Files, The Museum System (TMS), DH-4, A19190051000, Aeronautics Department.

⁴³ Paul Garber to Mr. Wilding, August 5, 1950, NASM Archives, Curatorial Files, TMS, DH-4, A19190051000, Aeronautics Department.

mid-1960s, however, J. W. “Bill” Hackbarth, a former U.S. postal mechanic who had worked on early airmail aircraft, undertook the ambitious task of rebuilding the plane to commemorate the fiftieth anniversary of the U.S. Air Mail Service in 1968.

The project quickly became a labor of personal devotion. Drawing upon surviving fragments of the original wreckage, archival photographs, and the recollections of former airmail personnel, Hackbarth spent years reconstructing the aircraft. His efforts nearly ended in disaster when a 1967 grass fire destroyed much of the completed work. Undeterred, he began again and successfully completed a second reproduction in time for the anniversary celebration.⁴⁴ In 1968, Hackbarth flew the aircraft along portions of the historic transcontinental airmail route before presenting it to the Smithsonian Institution.⁴⁵ For Hackbarth and members of the Air Mail Pioneers, the *Old 249* represented more than a reconstructed aircraft. It served as a tribute to the generation that established transcontinental airmail service and as a tangible link to a formative period in American aviation history.

However, as the NASM staff finalized the exhibits for the new museum on the National Mall, they made the difficult decision to exclude the *Old 249* from the opening galleries. This decision was rooted in the institution’s newly standardized professional criteria: historical authenticity. Curators, led by Collins and Aeronautics Head Walter Boyne, maintained that in a national museum of the first rank, every major aircraft on display must be an original, authentic specimen. Despite its compelling backstory, the *Old 249* was a reproduction—and a technically flawed one at that, featuring inaccuracies in the contours of its vertical surfaces and landing gear struts.⁴⁶ The staff argued that displaying a replica alongside authentic “famous firsts” like the *Wright Flyer* or the *Spirit of St. Louis* would diminish the museum’s curatorial authority and mislead the public about the true nature of technological heritage.

This insistence on technical authenticity provoked a sharp and emotional backlash from the Air Mail Pioneers, an organization of veteran pilots and mechanics who viewed the airplane as a sacred relic of their lived experience. For these veterans, the *Old 249* was not a “fake” but a “reincarnation” of their romantic and valorous past.⁴⁷ The conflict soon escalated into a political lobbying effort. In April 1976, Senator Barry Goldwater, the 1964 Republican presidential nominee and a former World War II pilot, joined ten members of the House Aviation Subcommittee in criticizing the NASM’s decision. In a strongly worded letter, they described NASM’s decision

⁴⁴ “DH-4 Mail Plane Problem,” March 15, 1976, NASM Archives, Curatorial Files, TMS, DH-4, A19190051000, Aeronautics Department.

⁴⁵ Charles Hillinger, “Rebuild 1918 Mail Plane Will Fly to Smithsonian,” *Los Angeles Times*, March 27, 1968; Willard Clopton Jr., “50-Year-Old Mail Plane Chugs In,” *Washington Post*, May 10, 1968. Hackbarth survived a fire in October 1967 that nearly destroyed his initial efforts.

⁴⁶ Walter Boyne, “DH-4 Mail Plane Problem,” March 15, 1976, NASM Archives, Curatorial Files, TMS, DH-4, A19190051000, Aeronautics Department.

⁴⁷ Michael Collins to Fred Boughner, July 13, 1976, SIA, RU 306, Box 1, Folder 6.

as a “sad and tragic commentary” on the museum’s failure to recognize aviation pioneers.⁴⁸ The veterans and their political allies argued that symbolic memory and emotional resonance should take precedence over the narrow technical standards of museum professionals.

Rather than simply rejecting the demands of the Air Mail Pioneers, NASM officials pursued a strategy of accommodation without concession. Museum staff repeatedly emphasized that the exclusion of the *Old 249* did not signify the exclusion of air mail history itself. When representatives associated with the Postmaster General’s office questioned the decision, Head Curator Boyne personally guided them through the plans for the Gallery of *Air Transportation*, highlighting the Air Mail mural, theater presentation, commemorative stamp displays, and other interpretive elements that incorporated the history of the Air Mail Service into the museum’s broader narrative.⁴⁹ The issue, Boyne explained, was not the significance of air mail but the status of the *Old 249* as a reproduction rather than an authentic historical artifact. The museum did not substantially revise the Gallery of *Air Transportation* in response to the controversy; instead, officials used the existing gallery plan to demonstrate that excluding the aircraft did not mean excluding the history it represented.

At the same time, the NASM sought to defuse tensions between professional curators and commemorative communities by finding an alternative institutional home for the aircraft. Rather than returning the *Old 249* to storage, the museum arranged a long-term loan to the Connecticut Aviation Historical Society for exhibition at the Bradley Air Museum.⁵⁰ This solution allowed the aircraft to continue serving as a commemorative symbol for former air mail personnel while preserving the Smithsonian’s curatorial standards for the National Mall. In effect, the NASM separated the recognition of air mail history from the display of the *Old 249* itself. Air mail remained part of the museum’s historical narrative, but the reproduction aircraft was relocated to a setting where its commemorative value could be appreciated without compromising the museum’s commitment to authenticity.

The resolution of the DH-4 *Old 249* affair demonstrates that at the NASM, technological artifacts were not merely objective specimens but contested political resources. For the Air Mail Pioneers, the airplane was a material vessel for collective memory and group identity, comparable in importance to the *Wright Flyer*. For the curators, the controversy concerned the authority to define what constituted legitimate technological heritage within a national museum. The making of aviation

⁴⁸ Barry Goldwater et al. to Walter Boyne, April 5, 1976, SIA, Acc. 06-225, Box 52, Folder Exhibits - Development, 1972-1975.

⁴⁹ Walter Boyne, “Memorandum for the Record: Subject “Old 249”,” March 25, 1976, NASM Archives, Curatorial Files, DH-4, A19190051000, Aeronautics Department.

⁵⁰ “DH-4 Mail Plane Problem,” March 15, 1976, NASM Archives, Curatorial Files, DH-4, A19190051000, Aeronautics Department.

heritage for the Bicentennial thus revealed that artifacts acquired historical significance not solely through their technological merit, but through ongoing negotiation between professional museum standards and the communities with strong commemorative claims.

Constructing Aviation Heritage

The controversies surrounding the Navy NC-4 and the DH-4 *Old 249* demonstrate that the planning of the NASM's opening exhibitions involved far more than the technical selection of historically significant aircraft. As the preceding case studies have shown, exhibition planning became a process through which competing institutions, professional standards, and commemorative communities negotiated how aviation heritage would be represented in the nation's official museum of aviation and spaceflight. Rather than simply illustrating the "politics of display," these cases reveal how technological artifacts functioned as political resources through which different constituencies sought visibility, legitimacy, and historical recognition. Together, they show that exhibition planning itself constituted an important arena in which aviation heritage was actively constructed before the museum opened to the public.

In the case of the NC-4, the struggle was defined by inter-agency diplomacy and bureaucratic power. For the United States Navy, the massive flying boat was not merely a record-breaking machine but a material embodiment of its institutional identity and a symbol of its early dominance in the air.⁵¹ Its potential exclusion from the new building, necessitated by spatial constraints and a shift toward thematic narratives, threatened to diminish the visibility of naval aviation within the national narrative of progress. This was particularly sensitive in light of the burgeoning status of the Air Force in the post-war era.⁵² NASM administrators Collins and Zisfein adroitly utilized this institutional friction as a strategic opportunity. By proposing the *Sea-Air Operations Hall*, the museum transformed a logistical dispute into a productive channel for cooperation. They successfully negotiated a trade: prestigious

⁵¹ W. de C. Ravenel to Josephus Daniels, July 3, 1919, NASM Archives, Curatorial Files, The Museum System (TMS), NC-4, A19270032000, Aeronautics Department.

⁵² This strategic navigation of inter-service rivalry had a notable precedent in the late 1950s. At a time when the Space Race intensified inter-service competition for public visibility, Secretary Leonard Carmichael and Director Philip S. Hopkins carefully balanced the acquisition of the Navy's *Vanguard* with the Army's (and subsequently the Air Force's) *Jupiter C*. Carmichael explicitly justified the simultaneous display of these rockets as "companion pieces," a move intended to neutralize potential charges of service bias and to present a unified narrative of national technological progress. By 1961, the addition of the Navy's *Polaris* and the Air Force's *Atlas* completed this high-visibility display, establishing the National Mall as a site where "institutional friction" was managed through equal representational space. Shin, "Displaying Cold War Technology," 100–106.

exhibition space in exchange for the Navy's commitment of funds-availability and technical expertise, ensuring the museum met its rigid Bicentennial deadline.⁵³

Conversely, the controversy surrounding the DH-4 *Old 249* was rooted in memory politics and social nostalgia. For the Air Mail Pioneers, the reproduction aircraft was a "reincarnation" of their nostalgic past, possessing a symbolic significance that far transcended its lack of technical authenticity. This case revealed a sharp tension between the professional standards of curators—who prioritized "historical authenticity" to maintain the institution's scholarly credibility—and the collective memories of a veteran community, supported by influential political figures such as Senator Goldwater. Curators neither fully accepted nor rejected these demands. Instead, they sought a compromise that acknowledged the symbolic significance of the *Old 249* while preserving the museum's professional standards. By distinguishing the recognition of air mail history from the display of the reproduction aircraft, the museum acknowledged the commemorative claims of the Air Mail Pioneers while maintaining its professional commitment to historical authenticity.

Taken together, these two cases demonstrate that aviation heritage at the NASM was not simply discovered but actively shaped through the planning of the museum's opening exhibitions. Rather than merely selecting historically significant artifacts, museum staff negotiated competing institutional interests, professional standards, and commemorative claims to produce a coherent interpretation of American aviation history. The significance of technological artifacts therefore emerged not from their intrinsic qualities alone but from the institutional processes through which they were interpreted, represented, and incorporated into the museum's historical narrative.

Conclusion

The formative planning of the NASM for the 1976 Bicentennial demonstrates that the making of aviation heritage was fundamentally a process of negotiation rather than simple preservation. Although museum professionals developed formal criteria based on historical significance, technological achievement, social impact, and practical considerations, the selection of artifacts remained subject to competing pressures from government agencies, veterans' organizations, politicians, and other interested constituencies. The histories ultimately represented on the National Mall were therefore shaped not only by curatorial judgment but also by broader negotiations over visibility, legitimacy, and historical recognition.

When the National Air and Space Museum opened its doors on July 1, 1976, visitors encountered what appeared to be a coherent and authoritative narrative of American aviation and spaceflight. Yet the cases examined in this study reveal that the

⁵³ Zisfein to Collins, June 24, 1974; Collins, "Memorandum for the Record."

museum's opening exhibitions were the product of years of negotiation, compromise, and institutional mediation. *The Sea-Air Operations* Hall reflected the Smithsonian's accommodation of Navy interests and its effort to secure inter-agency cooperation, while the exclusion of the DH-4 *Old 249* demonstrated the museum's determination to uphold professional standards of authenticity despite substantial political pressure. What appeared as a unified narrative of technological progress was, in reality, the outcome of numerous decisions about which histories, communities, and institutions would be granted representation within the nation's official museum of aviation and spaceflight.

The NASM case suggests that the politics of display begins long before visitors enter a gallery. Decisions concerning acquisition, selection, interpretation, and exhibition planning are themselves acts of historical construction through which museums produce authoritative narratives about science and technology. By shifting attention from completed exhibitions to the process of exhibition-making, this study demonstrates how technological heritage was actively negotiated among curators, government agencies, and commemorative communities before the museum opened to the public. The making of aviation heritage for the Bicentennial thus reveals that exhibition planning was itself a form of historical practice through which national museums determined what would become part of the American past.

Abstract

This article examines the institutional and commemorative politics of artifact selection during the development of the Smithsonian National Air and Space Museum (NASM) for the United States Bicentennial. Although museum staff introduced formal criteria for artifact selection, decisions about exhibition objects remained the subject of negotiation among curators, government agencies, veterans' organizations, and political actors. Through two controversies surrounding the Navy NC-4 and the DH-4 *Old 249*, the article explores two contrasting forms of negotiation over aviation heritage. The NC-4 case examines how the Smithsonian and the U.S. Navy negotiated the institutional representation of naval aviation within the nation's official aerospace museum. By contrast, the DH-4 *Old 249* controversy reveals tensions between professional standards of historical authenticity and the commemorative claims advanced by former air mail personnel and their political supporters. By shifting attention from completed exhibitions to the contested process of exhibition planning, this study demonstrates that aviation heritage was shaped not simply through curatorial judgment but through negotiations over historical authority, institutional representation, and collective memory during the making of a national museum.

Keywords: National Air and Space Museum, Aviation Heritage, Politics of Display, Collective Memory, Science and Technology Museum