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Flags as Flair: The Iconography of Space Shuttle Mission Patches

By ANNE M. PLATOFF

Part 1: The origin of mission patches, and patches of the pre-shuttle era

Introduction

In the 1999 movie *Office Space*, a waitress is required to wear “15 pieces of flair” (colorful buttons) on her uniform. She is instructed that they should show her personality and that this was an opportunity to express herself. We live in a culture where we are surrounded by such symbols and where this type of visual communication is commonplace. Not surprisingly, the “flair” style of symbolic expression not only permeates our daily lives, but also has become commonplace in the formal system of symbolism used within the U.S. government. The flags, seals, logos, and other graphical emblems used throughout the government are awash with a plethora of symbols which are frequently combined with the intent of communicating something about the agency or program they represent. This paper will examine one small subset of these symbols—the crew patches designed for Space Shuttle missions by their crews. It will examine the variety of symbols used, with special emphasis on the use of flags as “flair.”¹

There are many symbols associated with the National Aeronautics and Space Administration (NASA) and the United States space program. Among these are the symbols that represent the agency, various flags, program insignia, and special emblems designed to represent specific space missions. The symbols of NASA and many of the specialized flags that have been designed as part of NASA’s programs have been documented in my earlier work, “Flags in Space: NASA Symbols and Flags in the U.S. Manned Space Program,” published as a special double issue of *The Flag Bulletin* in 2010.² In a follow-up paper focusing on the use of flags in the Space Shuttle Program, “A Shuttle Full of Flags: Use of Flags in the Space Shuttle Program,” I added more detail on the use of flags in this program and reported on new flag designs that had been discovered over the past several years. I also touched briefly on the use of flags on Space Shuttle mission patches.³

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Editor's Note / Note de la rédaction

THIS ISSUE CONCLUDES THE INAUGURAL VOLUME OF THE QUARTERLY AND PROVIDES a welcome opportunity to reflect on the state of vexillology. Conceived as a contribution to the discipline by providing a needed forum for innovative short-form articles, essays, and book reviews that engage the history, culture, and meaning of flags from any perspective, the *Quarterly* seeks to advance the interdisciplinary study of flags. Any measurement of our success depends on how we meet this goal. After four issues, I am confident that we have met the challenge of starting a new publication that makes a meaningful contribution to vexillology.

The *Quarterly* has provided readers with a rich mix of articles, essays, and reports that cover vexillological topics from a number of viewpoints, including history, political science, conservation, and institutional development and security. You will recall that our inaugural issue began with a cogent essay by Tony Burton that suggested that perhaps much current vexillological activity is misdirected and provided a wonderful introduction to the work we seek to feature on these pages.

Quite simply, then, we are unafraid of any topic that seeks to make a serious contribution to the field. That, of course, does not mean that submissions have to be dry, dull, or tedious; we thankfully have avoided that so far, and I intend to keep that record intact!

Although people often identify a publication with its editor, each issue is fundamentally a collective effort. The Association's Executive Board provides the needed funding and support for this endeavor. The individual officers provide encouragement and advice for both logistical and substantive issues, as does the Publications Committee and the *Quarterly's* editorial board. Ultimately, though, it is our contributors to whom I owe the greatest thanks. Their thoughtful writing, varied approaches, and cheerfulness in all of our dealings makes editing this journal a joy.

The *Quarterly* was founded to provide a lively space for the discussion of flags, why we study them, and how they help us understand society, its institutions, and its cultures. At the risk of repeating myself, I wish to recall my words from the last issue in discussing Whitney Smith's mind and his heart. "He was drawn to flags because he wanted to explore how they participate in the human experience, because studying flags was, and is, an underappreciated way of studying what it means to be human," I said. "Let us all follow this example when exploring flags in all of their dimensions, to learn all that these mysterious objects have to teach us about ourselves." I can think of no better way to end this note of thanks to him and others who have led the way for all of us.

KENNETH HARTVIGSEN

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Platoff: Patches illustrate the importance of flag symbolism in society

continued from page 1

For space enthusiasts, the mission patches are perhaps the most popular symbols to come out of the space program. Why are so many people interested in these emblems? Mission patches are typically very colorful and visually interesting. The symbolism used on the patches is usually easily understood and helps convey a message about what astronauts on that mission did while they were in orbit. Souvenir patches are relatively cheap, giving the average space enthusiast an affordable way to collect a tangible item connecting them to the mission and the adventures of the astronauts on each flight. High-end collectors scan auction websites, seizing opportunities to obtain actual patches that had been flown on those missions as souvenirs and were later presented to NASA employees and contractors in appreciation of their work on the missions. In all, mission patches are a publically-accessible and visually-interesting tangible connection to individual space missions and the continuing human exploration of space.⁴

Within NASA, the patches are an important aspect of the human spaceflight program. Creation of a distinctive crew emblem (insignia or patch) is one of the first tasks that a new crew undertakes in preparation for their flight. Once approved, the insignia is used on documentation for the mission, is worn by the crew on their flight suits while training, and becomes a distinctive visual identifier for the mission across the agency. These emblems are not only of interest to the space enthusiast, but can also be an interesting topic of study for vexillologists. Not surprisingly, flags and flag symbolism have worked their way into a large number of space mission patch designs. This was especially evident during the Space Shuttle Program. As will be demonstrated in this paper, observation of flag usage on the mission insignia can tell us a lot about the nature of space exploration throughout its history, and can also serve as an illustration of the importance of flag symbolism in our society.⁵

Origins of Mission Patches

While Part II of this paper will provide a detailed analysis of mission patches during the Space Shuttle era, this first installment will seek to describe the origin of these insignia within the context of the United States manned space program. During Project Mercury and the first flights of Project Gemini, there were no individual emblems created to represent each flight. Those commonly sold by space souvenir vendors were actually created later. The first unique mission patch was designed by the Gemini V (GT-5) crew for their 1965 flight. Most likely, the crew was influenced by the tradition in the American military of designing unique insignias



Figure 1: Gemini 5 mission patch as flown. Careful examination of the image reveals the stitch marks where parachute fabric has been sewn over the slogan in order to obtain approval from NASA. NASA image S66-59530.

for distinctive units and teams. As the story goes, the design of the patch was the idea of astronaut Gordon Cooper. He chose a Conestoga wagon as the central emblem on the patch to represent the pioneering nature of space travel at the time. Playing on an old slogan used by pioneers heading west—"California or Bust"—he added a slogan "8 Days or Bust" to the side of the wagon's cover. This emphasized the objective of the mission to extend the duration of American space flights. Of course, as participants in an important government program which would generate lots of publicity, the choice of a mission emblem did not lie just in the hands of the crew. The design required approval at the top levels of NASA. It is not surprising that the administrators objected to the slogan on the wagon. Spaceflight was still in its infancy, and NASA was concerned that use of the slogan would only emphasize that the American space program was "busted" if the mission duration was changed due to technical issues. The crew agreed to a compromise wherein the slogan on the patches would be covered up and they were allowed to proceed with the first NASA mission patch affixed to their spacesuits.⁶

In approving the Gemini V mission patch, NASA Administrator James Webb also formalized what has become a long-standing tradition among the crews of space missions administered by NASA and its international partners. In a memo to Donald "Deke" Slayton, Chief of the Astronaut Office at the Manned Spacecraft Center (MSC; now the Johnson Space Center or JSC) in Houston, he specified the initial



Figure 2. Apollo 1 crew emblem featuring an implied-flag as the border. *NASA image S66-36742.*

NASA policy regarding crew emblems:

As I promised at Houston, the question of the identification patch or emblem that Cooper and Conrad wish to wear on Gemini flight 5 has been thoroughly discussed and it is now agreed by Gilruth, Mueller, Dryden, Seamans, and myself as follows:

1. On GT-5 and future Gemini flights, such an identification may be worn on the right breast beneath the name plate of the astronaut; said "patch" to be no larger than the NASA emblem worn on the left breast. This patch will be referred to by the generic name of the "Cooper patch." If such "Cooper patch" is not to be worn, the designation of the flight "Gemini 6" or "Gemini 7" may be suitably put beneath the nameplate.

2. For GT-5, the "Cooper patch" will be the one submitted, except that the size must be in accordance with paragraph 1 above, unless it is impossible to get it remade in time, and it must be worn on the suit at the location specified.

3. For Gemini flights after GT-5, the crew commander or senior pilot will be permitted to designate or design or recommend a "Cooper patch" for his flight, subject to approval by both the Director of the Manned Spacecraft Center and the Associate Administrator for Manned Space Flight at NASA headquarters. Until further notice, the Associate Administrator for Manned Space Flight will, prior

to approval, submit the design to the Administrator for his concurrence.

4. A policy for flights after the present Gemini series will be recommended by the Director of the Manned Spacecraft Center.

Webb also announced his decision to the public by issuing a short press release about the new practice of using mission patches.⁷

Of the eight mission patches used during the Gemini program, five follow the tradition of including the crewmember's names while three omit them. All of the patches include the flight numbers, either in the Roman numerals used in the official flight designations or in more commonly used Arabic-based numerals. Most imagery on the patches is directly related to the Gemini spacecraft, docking modules, or other space-related themes. The emblem of Gemini XII hints at the true purpose of Project Gemini as a precursor to the Apollo Program by showing a crescent moon in the lower left-hand portion of the patch. None of the patch designs incorporate flags or flag symbolism.⁸

By the time the Apollo Program crews went about the process of designing their patches, the procedures within NASA were established and the designs became more complex. The first Apollo crew was unofficially called "Apollo 1," although the official designation given to their flight was Apollo 204 (at the time it was undecided if there would be unmanned Apollo launches prior to their mission). Following the tradition established during Gemini, the patch for the flight was designed by the crew with assistance from a graphic artist. The design was the first to incorporate American flag imagery, as it uses an "implied" flag—in which elements of a flag are used to imply the presence of a full flag—as the border of the patch. On a gold ring within the flag border, the astronaut's names and the flight designation "Apollo 1" is shown in black lettering. The background of the patch depicts the Earth with the Apollo command and service modules in orbit and the full moon in the distance. Unfortunately, the crew of Apollo 204 was killed in a flash fire during a training exercise at the launch pad in Florida on 27 January 1967. The patch was never flown in space and the crew designation "Apollo 1" was retired and never used in flight. This patch stands as a visual tribute to these astronauts who lost their lives in pursuit of the the efforts of the United States to place a man on the Moon.⁹

After the Apollo 204 accident, NASA engineers worked to determine the cause of the fire and to mitigate the risks to crew members. It was a year and a half before a crew would fly as part of the Apollo Program. The first manned flight was Apollo 7, which launched on 11 October 1968 and spent 10 days in orbit. Early Apollo mission patch designs focus on the step-by-step progress toward the ultimate goal of a

manned moon landing. Apollo 7's patch shows the Apollo spacecraft achieving Earth orbit for the first time. The Apollo 8 patch shows a "figure 8" flight path around the Earth and the Moon, emphasizing the importance of the first circumlunar flight. On the Apollo 9 patch, the astronauts illustrated the first docking of the command module to the lunar module, as they tested this important capability in Earth orbit. And on the patch for Apollo 10, there is a depiction of the lunar module being tested in lunar orbit during the final precursor to the first moon landing. All of these patches featured imagery of the space hardware essential to the mission, the names of the crew members, and the mission designation. Three of the emblems showed the Earth, with two of them also illustrating the eventual destination of the Apollo Program—the Moon. No patches in this group incorporate patriotic or flag imagery in their designs.¹⁰

Perhaps the most memorable of the Apollo mission insignias is the crew patch for Apollo 11—the first mission in which astronauts set foot on the lunar surface. Astronaut Michael Collins documented the design process in his memoir, *Carrying the Fire*. He noted that the bald eagle was chosen both as a patriotic symbol of the United States and as a symbol of flight. The eagle was portrayed with its wings and talons poised for landing, not on a tree branch but on the surface of the Moon. In the background we see the crew's point of origin—the gibbous Earth in the distance. The crew had originally symbolized the peaceful intent of their mission by placing an olive branch in the bird's beak. However, when the design was forwarded to NASA Headquarters in Washington, the administrators expressed concern that the eagle's talons looked too threatening. The compromise design, with the eagle grasping the olive branch in its talons, became an iconic symbol of U.S. achievement in space. It is also notable that the astronauts chose to omit their names from the patch, leaving the mission designation as the only writing on the emblem.¹¹

After the success of Apollo 11, the rest of the Apollo landing missions proceeded without the same level of public interest in the program. The patch designs once again included both the flight designation and the names of the crew members. Images on the patches became more imaginative and symbolic. The patch for Apollo 12 shows a naval clipper ship entering into orbit around the Moon. Most notable for vexillologists, the ship is flying a U.S. flag from the top of its mast—the first full flag shown on a crew mission patch. Apollo 13's emblem shows the program's namesake—the Greco-Roman sun god Apollo, driving his solar chariot across the surface of the Moon. The insignia of Apollo 14 showed the emblem of the Astronaut Corps in route from the Earth to the Moon. The final three lunar-landing mission emblems are of most interest to the study of flags, because



Figure 3. The Apollo 11 mission insignia incorporates both patriotic imagery (the bald eagle) and an international symbol of peace (the olive branch) to emphasize that the astronauts "came in peace for all mankind." NASA Image S69-34875.

they incorporate colors and imagery which allude to the U.S. flag. On the insignia of Apollo 15 the red, white, and blue colors of the flag are used to form the border of the patch and for the three stylized birds shown flying over the lunar surface. The Apollo 16 emblem uses a shield in the national colors similar to that on the Great Seal of the United States behind a flight vector based upon that on the NASA insignia (except in gold). A bald eagle is landing on top of the shield and sixteen white stars on blue, similar to those on the U.S. flag, circle around the border of the patch. The flag imagery on the Apollo 17 patch is more abstract, incorporating red stripes from the flag to form the wings of a stylized eagle. At the top of the wings are three white stars on blue, representing the three crew members.¹²

There were four additional U.S. space missions that used the Apollo spacecraft—three Skylab missions and the Apollo-Soyuz Test Project (ASTP). These final flights were all Earth-orbital missions. Only the last of these missions had any flag symbolism associated with the mission emblem, and on that patch the allusion to flags is quite subtle. ASTP was the first international space mission and the objective was to dock a U.S. Apollo spacecraft to a Soviet Soyuz spacecraft in orbit. As such, the symbolism of the patch design was heavily scrutinized. Initially the crew submitted a patch proposal that relied heavily on flag imagery. The design used implied U.S. and Soviet flags in the background, with the two



Figures 4-7. Flag-related mission patches from (top row) Apollo 12, Apollo 15, (bottom row) Apollo 16, and Apollo 17. *NASA Images S69-52336, S71-30463, S71-56246, and S69-52336.*

spacecraft docked in orbit overlapping the full Earth in the foreground. There are three stars on the U.S. flag representing the American astronauts, and the Soviet flag has two stars representing the two cosmonauts involved in the mission.

According to a memo from the Assistant Administrator for Public Affairs, the crew's patch design was rejected by NASA Headquarters for the following reasons:

1. It is a graphic nightmare.
2. It uses six colors, which in addition to artistic considerations, will create additional costs and problems in reproduction.
3. The hardware is not to scale.
4. The word "Apollo" is not readable when the patch



is right side up.

5. The “symbology can easily be misinterpreted. (During consideration of alternate designs for the official ASTP emblem in Moscow last October, the Russians made the point that too literal a rendering of the docked spacecraft hovering over earth could create the impression that the US and USSR were joining in space to exercise worldwide hegemony.

In the final approved version of the insignia the focus is on the two spacecraft in the act of docking, with the sun in the background at upper left and the Earth at lower right. At the top of the patch are the spacecraft names “Apollo/Союз” and below are the names of the crew members (with the American names in Latin letters and the Russian names in Cyrillic). The three Apollo astronauts are represented by three white stars on blue to the left of the spacecraft names, perhaps reminiscent of the stars on a U.S. flag. To the right are two gold stars on red representing the Soviet cosmonauts, perhaps recalling the gold-on-red color scheme that was frequently used on some versions of the Soviet flag. The star was the only symbol that the U.S. and Soviet flags had in common, so its use was based upon symbolic common ground between the two nations. It is also interesting to note that the crew patch worn by the cosmonauts incorporated both flags into the design.¹³

Patches in the Space Shuttle Era

The initiation of the Space Shuttle Program opened up a new era for the design of crew mission patches. Flights into space became more frequent and crew sizes increased as the program progressed. In the second part of this paper, an analysis of Space Shuttle mission patches will reveal that the insignias designed for the flights also became more complex and incorporated a wider array of symbols. It was perhaps the larger crew size that led many of these patches to be more “flair like.” Just as the waitress in *Office Space* was encouraged to express herself through the wearing of more flair on her

Figures 8-10. From left: Rejected design for the American crew patch for the Apollo Soyuz Test Project, final approved NASA ASTP crew patch, and Soviet ASTP crew patch. *Courtesy JSC Archives, Univ. of Houston at Clear Lake, NASA Image S75-20361, and Courtesy Eugene Dorr.*

uniform, the larger crews may have felt that more symbols on their patches would help them to better reflect the interests of the individual astronauts, their roles in the missions, and the goals of their flights.

This paper was presented as part of the program at the 47th Annual Meeting of the Association, 12 October 2013, in Salt Lake City, Utah. Part 2 will be published in the next issue of Flag Research Quarterly (No. 5, March 2014).

Notes

¹ The *Urban Dictionary* offers the following definition of “flair”: “Flair” is a general term used to describe round buttons of various sizes pinned to one’s shirts and used to express one’s self. Popularized by the 1999 film “Office Space,” where a restaurant “Chotchkie’s” required employees to wear “at least” 15 pieces of flair.

Definition of “flair,” *Urban Dictionary*, <http://www.urbandictionary.com/define.php?term=flair>, accessed 21 October 2013.

² Anne M. Platoff, “Flags in Space: NASA Symbols and Flags in the U.S. Manned Space Program,” *The Flag Bulletin* No. 230 (vol. 46, no. 5-6) (Sept.-Dec. 2007)(actual pub. date 2010).

³ Anne M. Platoff, “A Shuttle Full of Flags: Use of Flags in the Space Shuttle Program,” presented to the 25th International Congress of Vexillology (ICV 25); publication pending in the conference proceedings.

⁴ Most sources of information about mission patches are written for a popular audience. For more information on space patches, the author recommends the following: Judith Kaplan and Robert Muniz, *Space Patches: From Mercury to the Space Shuttle* (New York: Sterling Publishing Co., 1986); Gregory L. Vogt, *Space Mission Patches* (Brookfield, Conn.: The Millbrook Press, 2001); and Eugene Dorr, *Space Mission Patches* website, <http://genedorr.com/patches/Intro.html>, accessed 30 June 2013. Vogt’s book is a children’s chapter book, but it is still useful to the scholar who is interested in this topic. An overview of space mission patches within the context of the history of military symbolism can be found in A. Brumfitt, L. A. Thompson, and D. Raitt, “The Art and Science of Mission Patches and Their Origins in Society,” *Acta Astronautica*, v. 62 (2008), p. 715-720.

⁵ Kaplan and Muniz; Vogt; *Space Mission Patches* website.



Figure 11. The Apollo 8 patch was in the shape of the command module and depicted the flightpath of the first circum-lunar Apollo mission. *NASA image.*

⁶ "Mission Patch," *Wikipedia: The Free Encyclopedia*, http://en.wikipedia.org/wiki/Mission_patch, accessed 3 April 2013; Dorr, "About Patches," *Space Mission Patches* website, <http://genedorr.com/patches/About.html>, accessed 3 April 2013; Dorr, "History of Patches," *Space Mission Patches* website, <http://genedorr.com/patches/History.html>, accessed 3 April 2013; Travis K. Kircher, "More Than Just a Merit Badge," *Ad Astra magazine* (Nov/Dec 2000), pp. 23-25, available online at http://www.collect-space.com/resources/patches_astronauts.html, accessed 3 April 2013; Kaplan and Muniz, p. 42-43, 69-102; Keith T. Wilson, "The First US Astronaut Crew Patches," *Spaceflight* v. 38 (May 1996), p. 172-173; Eddie Pugh, "Space Patches," *Spaceflight News* #23 (November 1987), p. 44-45; Dick Lattimer, "All We Did Was Fly to the Moon": A Mini-History of America's Manned Moon Program Including America's Astronaut Patches and Callsigns (Gainesville, Florida: Whispering Eagle Press, 1983), p. 24-25; Gemini 5 Mission Insignia, NASA Image S66-59530 (August 1965), <http://spaceflight.nasa.gov/gallery/images/gemini/gemini5/html/s66-59530.html>, accessed 29 June 2013; Russell F. Still, *Relics of the Space Race*, 3rd edition (Roswell, Georgia: PR Productions, 2001), p. 193-196, 209; Dorr, "Gemini 5," *Space Mission Patches* website, <http://genedorr.com/patches/Gemini/Ge05.html>, accessed 29 June 2013. Dorr's site shows a variety of images of the Gemini 5 patch, both with and without the unapproved slogan. On the NASA image (S66-59530) careful examination reveals stitching where a small piece of parachute fabric had been sewn over the slogan before the flight.

⁷ James E. Webb, NASA Administrator, "Memorandum for: Mr. Donald K. Slayton, MSC, Houston, Texas" (14 August 1965), from the *Space Mission Patches* website, <http://genedorr.com/patches/Webb.html>, accessed 19 June 2013; Lattimer, p. 24-25.

⁸ Wilson, p. 172-173; Lattimer, p. 26-39; Still, p. 195-197; Dorr, "Gemini," *Space Mission Patches* website, <http://genedorr.com/patches/IndexGe.html>, accessed 29 June 2013.

⁹ Lattimer, p. 46-47; Still, p. 198; Dorr, "Apollo 1," *Space Mission Patches* website, <http://genedorr.com/patches/Apollo/Ap01.html>, accessed 29 June 2013; Apollo 1 Mission Insignia, NASA Image S66-36742 (1966),

<http://spaceflight.nasa.gov/gallery/images/apollo/apollo1/html/s66-36742.html>, accessed 29 June 2013; "Mission Insignias," in Richard W. Orloff, *Apollo by the Numbers: A Statistical Reference for the Manned Phase of Project Apollo* (self-published, 1996), p. 24,

<http://georgetyson.com/files/apollostatistics.pdf>, accessed 30 June 2013. ¹⁰ Kaplan and Muniz, p. 9-10, 47-51; Lattimer, p. 48-63; Still, p. 198-199; Orloff, p. 24, <http://georgetyson.com/files/apollostatistics.pdf>, accessed 30 June 2013; Dorr, "Apollo," *Space Mission Patches* website, <http://genedorr.com/patches/IndexAp.html>, accessed 30 June 2013.

¹¹ Lattimer, p. 64-71; Orloff, p. 24; Still, p. 199-200; Michael Collins, *Carrying the Fire: An Astronaut's Journeys* (New York: Farrar, Straus and Giroux, 1974), p. 332-336; Apollo 11 Mission Insignia, NASA Image S69-34875 (June 1969),

http://spaceflight.nasa.gov/gallery/images/apollo/apollo11/html/s69_34875.html, accessed 30 June 2013; Dorr, "Apollo 11," *Space Mission Patches* website, <http://genedorr.com/patches/Apollo/Ap11.html>, accessed 30 June 2013; Kaplan and Muniz, p. 51-54.

¹² Lattimer, p. 72-95; Kaplan and Muniz, p. 55-60; Still, p. 200-202; Eugene Dorr, "Collection: Space Patches," *Eye: The International Review of Graphic Design*, v. 14 #56 (1 June 2005), p. 72; Apollo 12 Mission Insignia, NASA Image S69-52336 (September 1969),

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<http://spaceflight.nasa.gov/gallery/images/apollo/apollo16/html/s71-56246.html>, accessed 30 June 2013; Dorr, "Apollo 16," *Space Mission Patches* website, <http://genedorr.com/patches/Apollo/Ap16.html>, accessed 30 June 2013; Apollo 17 Mission Insignia, NASA Image S69-52336 (September 1969),

<http://spaceflight.nasa.gov/gallery/images/apollo/apollo17/html/s72-49079.html>, accessed 30 June 2013; Dorr, "Apollo 17," *Space Mission Patches* website, <http://genedorr.com/patches/Apollo/Ap17.html>, accessed 30 June 2013.

¹³ Lattimer, p. 98-117; Still, p. 202-203; Apollo-Soyuz Mission Insignia, NASA Image S75-20361 (27 February 1975),

<http://spaceflight.nasa.gov/gallery/images/apollo-soyuz/apollo-soyuz/html/s75-20361.html>, accessed 30 June 2013; Dorr, "Apollo Soyuz Test Project," *Space Mission Patches* website, <http://genedorr.com/patches/Apollo/ApSo.html>, accessed 30 June 2013; "Apollo Soyuz Test Project," *Spacepatches.nl*,

<http://spacepatches.nl/astp/astp.html>, accessed 14 July 2013; Memos and images exchanged between officials at NASA's Johnson Space Center (Houston, Texas) and at NASA Headquarters (Washington, D.C.), archival materials from the Center Series, George W. S. Abbey Papers, ASTP Crew Patch 1974-1975, folder 4, box 10, JSC History Collection, UHCL Archives, Alfred R. Neumann Library, University of Houston—Clear Lake (sent to author on 15 July 2013).

ARTICLE

An Introduction to Flag Preservation and Storage

By GWEN SPICER

Proper storage is critical for all collecting institutions and private collections. In this first in a series of short articles, I will provide some tips and considerations for those looking to better store and preserve their collections. The goals of storage are to provide proper support and environment. Flags and other artifacts deteriorate from poor handling and lack of archival materials, high light levels, mold, pest, temperature and relative humidity and inherent vice, i.e., a material's intrinsic and irreversible instability to a chemical or a process used in its manufacture. The role of proper storage is to lower the effects of these modes of deterioration.

A flag's condition is a result of its previous use and environmental exposure over its lifetime. Often little can be done to correct the results of poor materials. Some materials inherently are more sensitive to environment than others, such as silk, plastic, and some synthetics. However, to lengthen the life of an object by controlling its environment is what we aim to do with proper storage.

Another important aspect to flag condition is the deterioration from former use. Fly ends of flags are often tattered, showing tears and losses. In addition, vast majorities have been exposed to sunlight. The length of this exposure is in direct relation to flags that are in poorer condition versus those that have not suffered extensive light exposure. The energy of sunlight is far stronger than any other light source. Fibers not only lose color by fading, but also become brittle and weak. The effect might not be immediately apparent. But when added to other environmental conditions over time they will appear and, of course, are irreversible.

In conjunction with a flag's condition, the flag's fiber content, construction, and size of collection also need to be considered. Cotton and wool flags that are a single layer can be rolled around tubes, whereas silk prefers to be kept flat. In addition to fiber content, a full evaluation of the flag or group of flags in which the degree of damage is understood is needed in order to determine the best means of storage. There are always exceptions; for example, a wool flag that has very brittle fibers should be stored flat.

The construction of a flag is unique. Unlike some other textiles, flags are typically a single layer, but on occasion they are double-layered or have a section that is double. All double-layered sections need to remain flat. This is also needed when painted surfaces are present, as well as other embell-

ishments on flags.

The presence of a staff needs to be considered when designing storage. Any association between a flag and its staff should be preserved and the connection noted with documentation. Separating the two is common among museum collections due to the difficulty of storage and the amount of space needed. When separated, each part can be stored with the best means for that material.

Evaluating storage

A useful way to approach any storage is to think of it as a "a box within a box within a box." The first level of box is the building itself, then the room, then the storage furniture, and last is the possible boxes that contain each item. Each layer of protection enhances the environment of your collection. Large fluctuations in temperature and relative humidity are diminished with slower transitions; and pests are more prevented from getting to the flag. This is especially important for wool and cotton. Covering items will protect them from dirt carried in the air, and on hands.

When selecting a location for your storage, it is best if it is dedicated, kept clean, and has easy accessibility.

The goal for any collection storage is that it should be housed in closed cabinets, or at least in lidded boxes. However, all the textiles, regardless of condition or configuration, should be supported and covered. Any unsupported or unpadded fold will be vulnerable to being crushed; causing a crease that can in time can become a slit or tear. Evidence from these sharp creases cannot be reversed and only become a weak area. Proper support protects flags from mechanical damage that can result from these creases as well as flexing when the flags are moved.

Size and weight also need to be considered; heavier should be placed lower, and lighter more towards the top of the storage container and area.

Questions to Consider When Evaluating Storage Needs

While in future installments I will provide greater detail into the various storage methods, a necessary first step is evaluating your needs based on the nature of your collections. The following questions will aid the collector in storage planning:

Question to ask	Storage comment	Flat	Box	Roll
What is the age of your flag?	The age of the materials that compose the flag greatly affect the method of storage to select. Older flags need more protection and support. Therefore it is important to realize that the better the storage early on, the better the preservation in the long term. Early flags that have been kept off display remain in far better condition than those that have been exposed to poor environments.			
Is your flag made of silk?	Silk becomes quite brittle with age, loosing its flexibility. Of the natural fibers, silk is the most dependent on its environment.	x		
Is your flag made of cotton?	Cotton is susceptible to moisture and mold growth.		x	x
Is your flag made of wool?	Wool is most susceptible to insects, like webbing clothes moths and carpet beetles. Protection from these insects is critical.		x	x
Is your flag made of Nylon or other synthetic material?	Many synthetic materials are easily degraded in sunlight, and the effect is not fully realized for several decades later. Caring for these flags now will only lengthen their preservation. Flags from WW II and the Korean War are deteriorating and are becoming weakened.		x	x
What is the size of your flag?	Small flags are quite easy to store flat in sink-mats or layered and placed into a box. It is when the flag becomes large that require storage solutions to be found, where boxing and rolling become necessary.			
How is the flag constructed?	Sewn/stitched Glued Printed Painted			
What is the condition of the flag?	Being able to evaluate the condition assists the determination of the flag's storage needs. The condition of the various materials of which the flag is composed is critical.			
Has your flag been treated previously?	Treated flags often have additional supporting layers that prevent the flag from being rolled. In additional, early treatments can contain materials in which their aging properties were not well understood and the flags may now be brittle. Learn the date and materials used in the treatment. It is best to follow the instructions of the treatment.	x		
Is it a thinner, flexible, flat textile in good condition?	When flags are in good condition with no embellishments or paint, and made of flexible fibers, rolling is a very good option.			x
Is it a weak or damaged or fragmented textile?	Such flags should be kept sandwiched between two layers of fabric or other flexible material. The layers support the flag, lowering stresses on the textiles when handling or moving. Keeping such flags flat is the best solution, but some can be rolled if done on a large diameter tube.	x		
What embellishments are present?	Embellishments present on flags are often thick isolated areas. When these areas are rolled, they cause isolated pressure points in layers.	x	x	
Are painted surfaces present?	Paint layers, as they age and become dry, are no longer flexible. They crack when flexed and are vulnerable to flaking.	x		
Is the flag a single or double layer of fabric?	A double-layer flag must be flat; a single layer can be boxed or rolled. When a double-layer is rolled, the inner layer is crushed and the outer layer is stretched, making the option not possible. Also, double-layered flags frequently have additional cord edging or other embellishment the cause a range of thicknesses.			
Is the flag too large to be accommodated in a box?	Box sizes can be quite limiting for larger flags, requiring the flag to be folded in two different directions that cause more creases and folds. Rolling provides support. When rolled, it is the height of the flag that will be the length of the tube.			x
Is the flag unusually shaped and will not roll evenly?	Textiles that are flat and square are the most easily rolled textiles. However, it is rare that a textile is either flat or square. As the textile becomes more distorted, the chances of a successful roll decrease. A flag hung on a pole for an extended time gradually elongates into a parallelogram.	x	x	
Is the flag thick, layered, embellished with thick fringe or three dimensionally decorated?	Any flag that has uneven surfaces due to embellishments or thick fringe should be flat or boxed.	x	x	
Does the flag need to be viewed frequently?	Any flag that is accessed extensively should be kept as flat as possible. Rolling is another good alternative, especially if only the section of the flag near the hoist is of interest.			x



REPORT / RAPPORT

Of Eagles, Beehives, and Bears: The Evolving Iconography of Allegiance on One American Flag

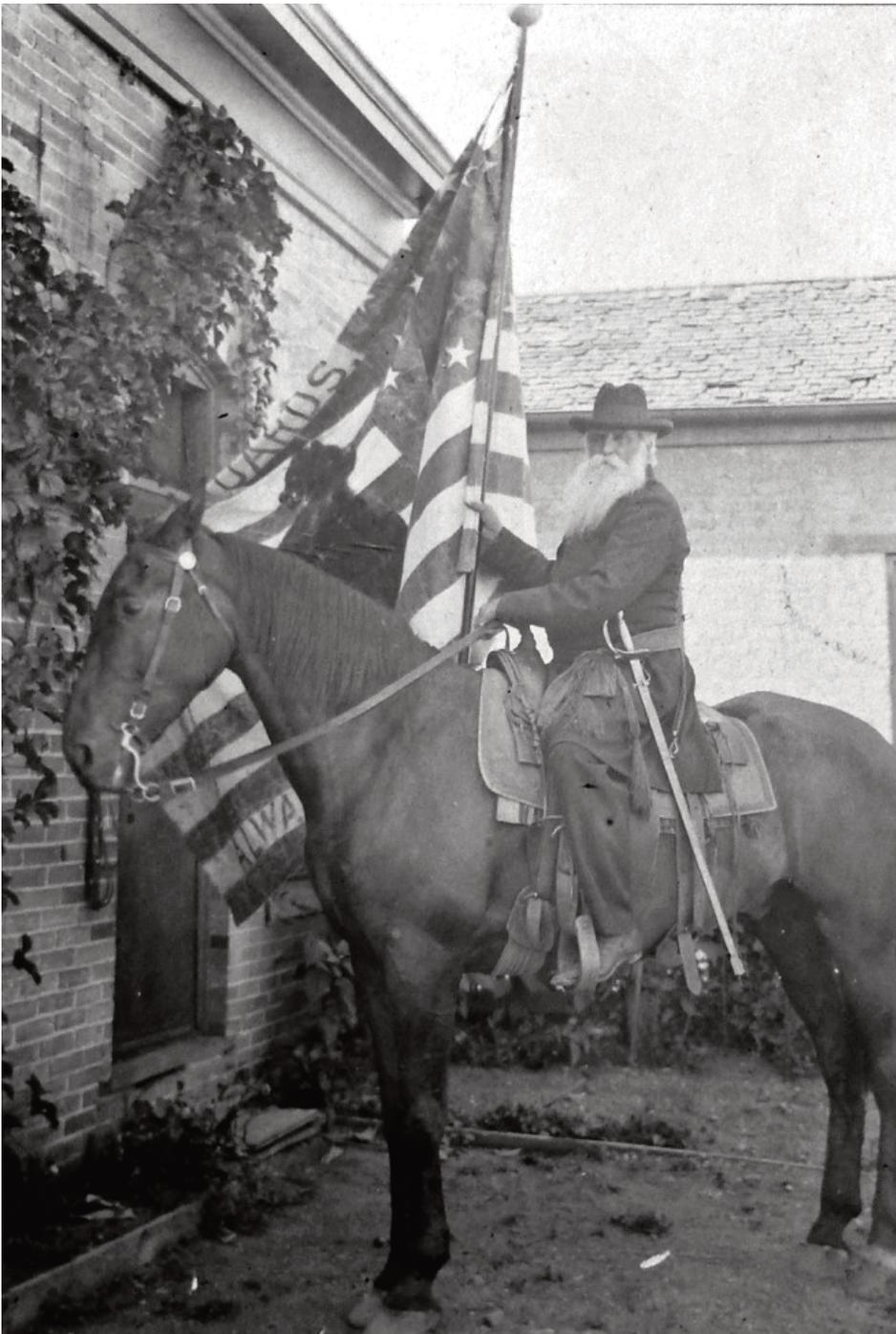
By KENNETH HARTVIGSEN

On October 10, 2013, as vexillologists began descending on Salt Lake City for the Association's 47th Annual Meeting, Utah's capital hosted another event of great interest to flag scholars. A small group of local historians and archivists, together with invited vexillologists who had travelled to NAVA 47, gathered at the Conservation Laboratory of the LDS Church Archives to examine a unique piece of U.S. political and religious history.

Those who attended NAVA 47 will remember seeing the Nauvoo Legion Life Guard Flag exhibited with other historic flags on the afternoon of October 12. The Life Guard flag is a stars-and-stripes variant depicting an eagle in the stary canton, charged with a rampant bear, and the inscriptions

"LIFE GUARDS." and "ALWAYS READY." painted on the field of stripes. E. Gary Smith, whose family has possessed the flag since the 19th century, not only generously agreed to display the flag at NAVA 47, but offered his time and a bit of his own family's history as he told of the flag said to have once belonged to the Mormon prophet Brigham Young. The family's oral history of the flag had been passed down over four generations spanning about 56 years¹ when it was detailed in an article based on an interview with Gary Smith's father, El-

ABOVE: A high resolution photograph of the Life Guard Flag taken in 2010. The flag was the subject of a forensic charrette in October 2013 in Salt Lake City. *Michael De Groot*.



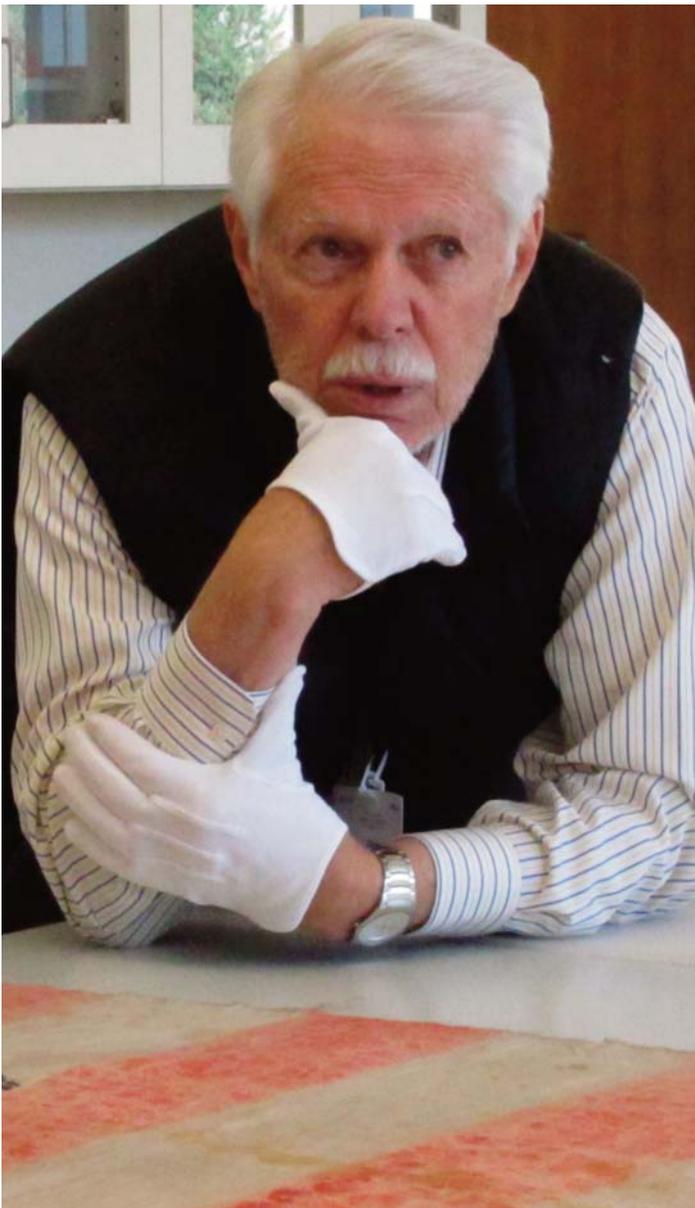
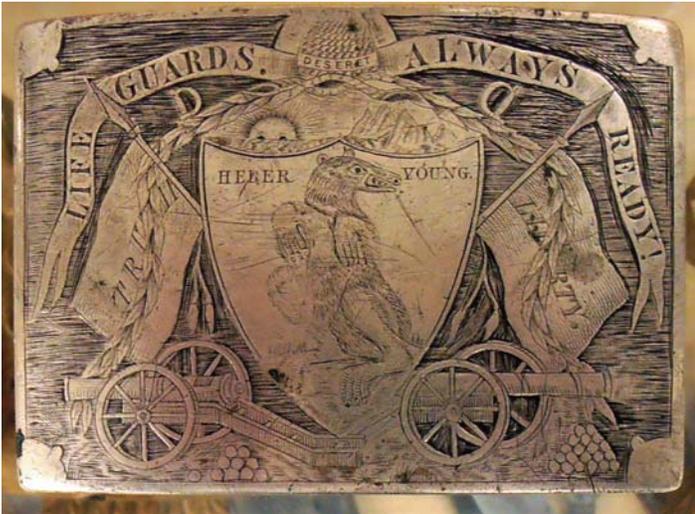
John Smith, the last Utah Militia flag bearer to carry the flag, was photographed after a parade on July 24, 1897, as documented by an inscription on the picture's reverse. *John Smith Collection of the LDS Church Archives.*

dred G. Smith, that was published in the *The Salt Lake Tribune's* Sunday "Home" magazine section in July 1967.²

Over the years since he inherited the flag, Eldred G. Smith exhibited it and other family heirlooms to countless groups as he explained his family traditions about these artifacts.³

According to the Smith family's narrative, this flag once flew over the Mormon temple in Nauvoo, Illinois, before travelling to California in a supply wagon with the Mormon Battalion during the U.S.-Mexican War, where it received its distinctive snarling bear in compliment to the California Bear Republic. After being discharged in California, the battalion's veterans arrived in the valley of the Great Salt Lake, and the Utah Territory Militia, known as the Nauvoo Legion, used the flag when, according to the Smith family tradition, the mottos "LIFE GUARDS." and "ALWAYS READY." were painted on the top and bottom white stripes of the flag's field. Also according to the family history, the flag was carried by a unit of the militia known as the "Minute Men" or "the Life Guards." John Smith was the last flag bearer to carry the flag, and he retained it after the Nauvoo Legion was disbanded by the Edmunds-Tucker Act in 1887. He was photographed on horseback carrying the already aging flag after a military parade held on July 24, 1897, to celebrate the fiftieth anniversary of the Mormon Pioneers' arrival in the Salt Lake Valley. The flag has been handed down from eldest son to eldest son in the Smith family; E. Gary Smith, who practices law in Utah, is John Smith's great great grandson.

John Hartvigsen, an acknowledged authority on Utah flags and NAVA 47's organizing committee chair, first became aware of the flag from items he found in the historical record. After learning that the flag was still in existence, he arranged for and accompanied Dr. Whitney Smith to view the flag in June 1980. At that time, conditions did not allow Smith or Hartvigsen to conduct a full examination of the artifact. Hartvigsen saw the annual meeting in 2013 as an opportunity to include vexillologists in the inquiry process by seeking objective opinions on the flag from persons not intimately connected with either the family, Utah, or the LDS Church—all of which have significant interest in the artifact. He approached Brad Westwood, Director of the Utah Division of State History, who immediately recognized the importance of the project



TOP LEFT: Heber Young, Brigham Young's son owned this belt buckle which dates to 1860. The bear on the shield appears to be copied from the Life Guard Flag. *John Hartvigsen; Daughters of the Utah Pioneers Museum.* TOP RIGHT: Gary Smith recounts his family's traditions about the Life Guard Flag as Kenneth and John Hartvigsen listen. *Michael De Groot.* LEFT: Smith listens as charrette participants discuss their observations. *Michael De Groot.* ABOVE: Smith and Gwen Spicer discuss the flag and its historical tradition at NAVA 47's flag display. *Michael De Groot.*



James Ferrigan, Spicer, and Kenneth Harvigsen closely examine the constructions of the Life Guard Flag's stripes. Together with other vexillologists and specialists, the charrette examined this important artifact in Utah history to jump-start interdisciplinary inquiry into its folklore. *Michael De Groot*.

and arranged for the participation of local specialists. Westwood contacted D. Kurt Graham, Director of the LDS Church History Museum, who arranged to have the flag examined at the state-of-the-art Conservation Laboratory located on the top floor of the LDS Church's History Library and Archives Building in downtown Salt Lake City.

The meeting to examine the flag, labeled a charrette,⁴ would be a gathering where a group of specialists could examine the flag first hand. While there exists mention of flags in the documentary record that could describe the flag handed down in the Smith family, the descriptions are vague and inconclusive. While it was expected that the charrette would not be able to settle all questions about the flag, it would offer an exceptional opportunity to advance the study

of a fascinating artifact by bringing together vexillologists and other specialists in an attempt to "jump-start" the process of discerning the flag's origins; that is, the charrette process is just one, albeit important, step in the multi-faceted and multi-step process of flag documentation. Further examination is needed to establish the flag's history; nevertheless, the experts were able determine a number of significant details about the flag.

The invited specialists were John Hartvigsen (Driver Award 1982, 2010), Westwood, and Gary Smith, who were joined by Michael De Groot (*Deseret News* staff writer), Gwen Spicer (object, paper, textile, and upholstery conservator and NAVA 47 presenter), James J. Ferrigan, 3d (Driver Award 1984 and experienced flag curator), Ronald L. Fox (author, researcher, and photograph historian), Katie Smith (LDS Church Archives Conservator), and Kenneth Hartvigsen (Driver Award 2011, editor of *Flag Research Quarterly*, and historian of American art and visual culture). Each examined the artifact in the presence of each other and shared his or her findings verbally.



Katie Smith examined a fiber sample under a microscope and determined that the fabric is cotton. The cotton banner was also found to be painted and not printed, as some observers had previously believed based on photographs of the flag.⁵ Gwen Spicer and James Ferrigan not only found measurable discrepancies in the widths of the red stripes, but also discovered the painter's discernible pencil guide marks. These witness marks were used to layout the flag for painting and to help keep the painted edges of the stripes straight.

The flag's other painted figures, the bear, an eagle in the blue field of stars, and the printed mottos support the Smiths' story, if the chronology of the figures' application can be ascertained. As De Groot discovered when examining the first high-resolution photographs taken in July 2010,⁶ the eagle appears to be painted over an earlier image of a beehive. At the charrette, Katie Smith took a sequence of filtered photographs of the flag, hoping to visually isolate these various layers of paint. Unfortunately, the resulting pictures could not clearly render all of the layers, but did reveal pigment so opaque that extensive over-painting is certain. Participants were able to discern with the naked eye the beehive painted beneath the eagle. Further, Westwood and Kenneth Hartvigsen noted a marked difference in style between the eagle and the bear. The former, while not crude, appears to

TOP LEFT: Spicer examines the painting on the flag's field. *Michael De Groot*. TOP RIGHT: The eye painted on the eagle is flat, dull and lifeless, and likely painted by a less experienced artist. *Michael De Groot*. BOTTOM RIGHT: Photograph taken with infrared filter disclosed layers of heavy pigment used in over-painting and indicates the eagle was painted over a beehive. *Katie Smith, LDS Archives Conservation Laboratory*.

be the work of an untrained artist. The latter exhibits traces of a more refined hand in its detailed face, the highlights on the eyes and teeth, and the careful rendering of grass and flowers at the bear's feet. Westwood suggested that as different artists likely painted the eagle and bear, they were also painted at different times.

Without further testing, the exact sequence of these iconographical changes is impossible to discern. De Groot believes the now nearly invisible beehive may date from the Nauvoo period of Mormon history, while John Hartvigsen maintains that the beehive was not a symbol commonly used by Mormons before their arrival in the Salt Lake Valley. Likewise, the bear, not a typical symbol among the Mormon pioneers, could substantiate the family's claim that the Mormon Battalion in California carried the flag. However, Ferrigan, judging by the flag's material, size, and state of preservation, and drawing on his own expertise with histor-



ABOVE: Compared to the eagle's eye, the eye painted on the bear shows details employed by more experienced painters, which suggests the two symbols were not added to the flag contemporaneously. *Michael De Groot*.

ical flags, is certain the flag was not used on the march or in battle, though it may have been displayed in camp. In addition, the bear could refer to the Mormon Battalion without having actually been painted during the California campaign. Perhaps the bear was added in Utah to commemorate the Battalion's return; it is even possible that the flag dates from later in the Utah era and was intended as a commemorative replica of what could have been carried by the Battalion.

Nonetheless, John Hartvigsen sees in the painted-over beehive an evolution in iconography that speaks to the political allegiances of the early Mormon Church. If, as he believes, the beehive was added to the existing stars and stripes after the pioneers arrived in Utah, it would suggest the enthusiasm for industry and community demonstrated in the pioneer's success as they learned to thrive in their new desert home. The territory was originally named Deseret, derived from a word found in the Book of Mormon meaning honeybee, and the beehive still features prominently on Utah's state flag. The eagle, Hartvigsen believes, was painted over the beehive at a much later date, perhaps during the campaign for statehood. In this case, painting over the beehive with an eagle would symbolize that the citizens of the territory-soon-to-be state, and the Mormon Church at large, submitted to the authority of the United States. This iconographical hierarchy is preserved on the Utah State flag, in which the beehive is topped by an American eagle.

While the charrette could not ultimately prove or disprove the flag's purported history, it did more firmly establish the flag's role as a document of the evolution of a North American people. As Ferrigan summed up the findings, this appears to be a vernacular flag, painted perhaps as early as the

1840s, bearing a combination of state and national symbols of a later date relating to its use in the U.S.-Mexican War.⁷ While it was not used in battle, it seems to have functioned more after the fact as a symbolic reminder of the Mormon Battalion, and the journey and hard work of the Mormon pioneers as they struggled to build a new society in a desert territory and eventually fought for national acceptance and statehood.

The charrette was a success for all involved. Taking place just before an Association annual meeting, it was a potent reminder of vexillology's vibrant interdisciplinary nature. This single flag is woven not only out of so many cotton threads, but also from just as many stories. So, too, the determined study of flags can bring together diverse peoples, ideas, and communities, in an effort to understand more of the human experience.

Notes

¹ Eldred G. Smith was almost five years old when John Smith, his great grandfather, died in 1911. While he may not have discussed the flag's story with his great grandfather, he would have heard about the flag from grandfather, Hyrum Fisher Smith, who died in 1932. The *Tribune* article was written only about fifty-six years after John Smith's death, and Eldred G. Smith lived during the lifetimes of each of his ancestors who possessed the flag before him.

² Harold H. Jenson, "What Happened To That Flag?" *Home Magazine* Section, *The Salt Lake Tribune*, 2 July 1967, 5.

³ Don H. Miles, "Pioneer Treasures of the Hyrum Smith Family," *The Pioneer*, Spring 2000, 17-21.

⁴ A historical charrette is a session where experts examine a historical artifact, share their findings and collaborate on plans for further research. The concept originated with architecture students who placed their projects and plans on a cart called a charrette in French (literally "little chariot"). The items thus collected could then be examined by the class and critiqued.

⁵ David B. Martucci, "Review of High-Resolution photos of the Bear Flag of the Mormon Battalion, Flag of the Lifeguards," an undated monograph based only on examination of photographs of the flag.

⁶ Michael De Groot, "Secrets of the Patriarch's Flag," *Deseret News*, 7 July 2010.

⁷ James J. Ferrigan, 3d, "Preliminary Report on observations of a Mormon 'Life Guards Flag,'" 18 Oct. 2013, a monograph based on the examination of the flag at the charrette held on October 10, 2013.