I N THE 1970S, LOCKHEED’S HIGHLY CLASSIFIED SKUNK WORKS operation began developing what became known as the F-117 Stealth fighter. Under the supervision of Ben Rich (see photo, at bottom), engineers at the Burbank outfit designed a plane with flat panels that could deflect radar signals. The project itself remained top secret well into the 1980s, although by then Southern California had become widely acknowledged as the center of the aerospace industry, employing more than a half million people.

In “Taking Flight” (page 10), historian Peter Westwick says that “Southern California as we know it would not exist without aerospace.” He writes about The Huntington’s new Aerospace History Project, a collection that includes Ben Rich’s archive as well as the personal papers and oral histories of other corporate leaders, design engineers, and manufacturing engineers that together give scholars perspectives “from corporate boardrooms to engineering bullpens to the shop floor.” Until now, the historical impact of the industry had gone largely unnoticed because materials were not organized or readily accessible. While scholars will likely glean much from items like Rich’s early aerothermodynamics notebooks and his detailed log on Lockheed’s Stealth program, they will also come across surprises, such as the unexpected common denominator shared by a modern-day aerospace engineer and an eccentric inventor who sold stock in various aircraft ventures back in 1911.

Scholars constantly are looking for that one letter or diary that might be flying under the proverbial radar. Art historian Margaretta Lovell has come across items in the vast Huntington archive that had gone untouched for decades, but she explains in an interview (page 6) that much of what she admires about 19th-century artist Fitz Henry Lane has been hidden in plain sight for more than a century. In the 1960s, critics lauded only the artist’s emptier canvases showing stationary ships awash in sunlight. Instead, Lovell is drawn to Lane’s “inhabited landscapes,” where people—workers, captains, traders—embody the New England maritime economy in motion.

Archaeologists operate under the assumption that much remains hidden from view, below ground, if only they could figure out how to find it. Laura Voisin George was trained as an architectural historian but tells us in “Surveying the Past” (page 16) how she became part of an archaeological team that recently excavated property owned by the University of Virginia Foundation. An 18th-century map from the Huntington Library, with notes in Thomas Jefferson’s hand, became the basis for their survey map. The crew then rolled up their sleeves, grabbed their shovels and metal detectors, and got to work.

MATT STEVENS
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Getting the Word Out

NPR’s Joe Palca Distills the Sciences

After he traded in his gig as a writer for Science magazine in 1992 for a microphone at National Public Radio, Joe Palca was struck speechless when an acquaintance asked him what it was like now that he didn’t have to write anymore.

“What was this person thinking?” recalled Palca. “I write my scripts, my introductions to stories, I write everything.” But then Palca felt flattered because on the radio it doesn’t sound like he has written anything.

“I’m not lecturing or hectoring people,” he said. “I’m talking to them.”

Last year, Palca was the Science Writer in Residence at The Huntington. From April to October, he worked on a new book called Annoying: The Scientific Tour of the Things That Drive Us Crazy. In it he touches on the things that bother mice, why we find fingernails on a blackboard so excruciating, and what exactly happens in your brain when you get annoyed.

He admits that even in a longer form, his writing takes on a casual tone. “When you read the book it will feel more like I’m talking to you than like a treatise.”

Palca knows how to get through to an audience, although he recently reported that the treatise route worked very effectively for Charles Darwin. Shortly after returning to his routine at NPR last fall, he broadcast a story on the 150th anniversary of Darwin’s On the Origin of Species, musing on why the famed 19th-century author might have had better luck reaching an audience than today’s science writer.

“Science writers,” says Lewis, “have an increasingly heavy burden. They have to be able to translate, synthesize, and clarify scientific concepts that the public doesn’t necessarily understand.”

When the book first appeared, said Palca, “an educated layman was likely to be able to understand and evaluate Darwin’s argument.” Back then, inquisitive readers could navigate their way through academic treatises on geology, botany, and zoology. Palca marveled at how many of those early readers got their hands on Origin thanks to Moody’s Circulating Library—a kind of Netflix for books that predated the emergence of a public library system in England. Moody’s bought up 500 copies of Origin (out of a print run of 1,250) and loaned them to annual subscribers who hungered for information but couldn’t afford to buy the book.

Today, while science publications are readily available to a lay readership, they aren’t necessarily written in an
Historians of science, too, must bridge the gap between the humanities and hard sciences.

“We have to rely on the broad cultural, social, political, and economic fabric for the history of science,” says Daniel Lewis. “So if you are speaking about engineering, you’re not necessarily going to focus on the host of equations about the stress on a bridge. You’re going to talk about why a bridge was important for a particular community, and what it connected, and what affect it had on the local economy. But the technical details are often important, and historians of science have to be great translators of those details.”

Part of that role is interpreting their research to the public. Each year, The Huntington presents a full slate of public lectures, including several talks sponsored by the Dibner History of Science Program, now completing its second year. An endowment for the program came to The Huntington with the 2006 acquisition of the Burndy Library, one of the largest private collections of books and manuscripts related to the history of science. The program offers short- and long-term fellowships to historians of science and technology and organizes conferences and seminars in addition to the public lectures.

You can listen to recorded Huntington lectures on iTunes U, including talks about Charles Darwin:

- **Darwin and His Discontents**
  - Daniel Lewis, Dibner Senior Curator of the History of Science & Technology at The Huntington, examines the difficulties Darwin faced in publishing his seminal work, *On the Origin of Species*.

- **Anti-Evolution in America: From Creation Science to Intelligent Design**
  - Ronald L. Numbers, historian of science and medicine at the University of Wisconsin, Madison, discusses the history of the debate over evolution in America, from William Jennings Bryan’s crusade to eradicate Darwinism from schools to current efforts to promote the teaching of “intelligent design.”

Go to itunes.huntington.org to listen to these programs as well as other talks in the fields of American history, art, book and printing history, California and the West, early modern history, literature and theater, and the history of The Huntington. You can also download audio tours as well as videos about the collections.

Joe Palca’s book *Annoying: The Scientific Tour of the Things That Drive Us Crazy* will be published by Wiley in 2011.
The Perfect Storm

IN FITZ HENRY LANE’S ART, MARGARETTA LOVELL STUDIES THE CONVERGENCE OF ART, CULTURE, COMMERCE, AND PATRONAGE

Gloucester, Mass., sits just a few miles north of Boston, on Cape Ann, and has long been known for its thriving fishing industry. For generations it has drawn young men to lives at sea while also enticing artists and writers with its tales of peril and hardship. While today’s readers and moviegoers know it best as the location of Sebastian Junger’s bestseller The Perfect Storm (1997), 19th-century school children knew of it from the memorable lines of Henry Wadsworth Longfellow’s “The Wreck of the Hesperus” (1842).

For art historian Margaretta Lovell, Gloucester is the favorite setting for many paintings by Fitz Henry Lane, an artist appreciated in his day for his accurate renderings of maritime scenes but all but forgotten after his death in 1865. There was a revival of interest in Lane’s works in the mid-1960s, when critics began celebrating those of his canvases that featured an interplay of light on moody skies and the calm, reflective water. In an interview with Huntington Frontiers, Lovell explains that critics appear to have been viewing Lane through a modern vantage point; rather than seeing Lane as a progenitor of abstract expressionism, Lovell argues that we should learn to appreciate his unique depictions of Gloucester’s day-to-day economy in action.

Margaretta Lovell, the Dana and David Dornsife Fellow for 2009–10 at The Huntington, is writing a book tentatively titled Painting the Inhabited Landscape: Fitz H. Lane and Antebellum America. She is the Jay D. McEvoy Professor of the History of Art at the University of California, Berkeley. She has had a long association with The Huntington, from curating the exhibition “Celebrating William Morris: The Artful Book and The Artful Object” in 1996–97 to contributing an award-winning essay to the exhibition catalog A ‘New and Native’ Beauty: The Art and Craft of Greene & Greene (2008). Her most recent book is Art in a Season of Revolution: The Artist, the Artisan, and the Patron in Early America (University of Pennsylvania Press, 2005).

Above: Fitz Henry Lane (1804–1865), Sailing Ships off the New England Coast, ca. 1855, The Huntington.
What do we see in Fitz Henry Lane’s painting from The Huntington’s collection, *Sailing Ship off the New England Coast*?
We see a ship, a schooner, and a brig carrying goods as fast and as profitably as possible, in multiple directions. These are all different classes of vessels that carry different kinds of products. The water is rough, meaning there is a good wind, and from the perspective of a merchant, the beautiful cumulus clouds indicate that this is a fine, windy day to move goods from one place to another.

How does this painting rank among the artist’s works?
When Lane was active, a newspaper critic said, ‘The further Lane gets out to sea, the better his work becomes.’ In other words, his contemporaries preferred paintings like the one in The Huntington’s collection. But for American audiences since 1965, when Lane was ‘discovered,’ the preference has been for the much quieter, emptier canvases, where the water is completely still and reflective of the sky. And so one of the things I’m doing is investigating the history of taste, which has changed so substantially in terms of this artist. In his time, he was valued for his incredibly accurate depictions of ships and weather conditions, and his depiction of water and action.

This year at The Huntington, you have been working on a book about Lane, tentatively titled *Painting the Inhabited Landscape*. Why that title?
Most artists at this time who were painting the American landscape were painting wilderness, what appears to the viewer as a virgin wilderness, one in which there are no fences or property lines or structures. Which is exactly how Lane *does not* paint. Lane paints an inhabited landscape. He’s interested in describing the relationship between labor and land—or sea—in a way that the artists who have been most celebrated from this period did not. Artists like Frederic Church and Albert Bierstadt wanted to present, for all sorts of reasons, America as an empty canvas on which a national destiny could be written.

What have you been reading in the Huntington Library this year?
I read diaries, memoirs, newspapers, logbooks of ships—I try to understand the economic history of the production of these paintings. Which means understanding the political economy of Gloucester in the 1840s, ’50s, and ’60s. And in order to do that I have to understand what is supporting the economy, not just what’s supporting the artist. Because this artist is painting images of that political economy at work. He’s interested in seeing the extraction industries as they are occurring—whether in lumber or granite or fish—and his patrons are very involved in the lumber industry and fisheries as well as in the design of the fastest ships and that sort of thing. So I’ve been reading the diaries of his patrons as well.

Where would Lane have been without his patrons?
He couldn’t have had a career. Many of his patrons were extremely wealthy, self-made men who lived lives of rip-roaring adventure while making a good deal of money doing it. Commissioning these paintings, I conjecture, was one way to root their experiences to specific moments in their lives, their hometowns, or the ships they built or sailed.

Have you come across any surprises in the manuscript and rare book collections?
Well, most of my sources are written by men—they did the logbooks, account books, and town histories. They are the mapmakers. A couple years ago I came across a small notice in a Gloucester newspaper from the 1850s about this woman named Mrs. Prince who was coming through town selling her memoirs. After I began my research fellowship at The Huntington, I thought I’d look for the memoir in the library collection, and sure enough you had it.

What did you find in her memoir?
What’s interesting is that she was African American. Her husband worked as a mariner. Well, Gloucester had trading partners all over the world, and Mr. Prince ended up in Russia, where he caught the eye of the emperor, who hired a number of Africans, African Americans, and African Europeans to work in the palace.

So Mrs. Prince went to live in the palace, and in her memoir she gives these interesting accounts of seeing this incredibly different social system, including serfs and their relationship to the land and property. And so the memoir gave me another perspective, an unexpected perspective, which also showed the global reach of Gloucester.

I imagine sometimes you find items that are fascinating but might take you too far afield. Will Mrs. Prince’s memoir make its way into your book?
Absolutely, because Lane and Gloucester are not just local stories. What we call globalism today is nothing compared to the world of what we might call ‘highbound Yankees.’
They thought nothing of heading toward Turkey or India or China or Russia, and I’m not just talking about the big traders, but also the mariners on board every ship.

I’m trying to sort out how Lane saw the world. How did his patrons and the other people in this town of about 8,000 understand it? Gloucester was anything but a little local horizon.

What’s another example of the global reach of Gloucester?
One of my chapters is called “Surinam,” after one of Gloucester’s major trading partners. It was a Dutch colony on the northern coast of South America, and Gloucester was the largest fishing port in the Atlantic at that time. That’s where most of the Gloucester fish went—to feed the slaves. The tropical colonies didn’t sustain their own fleet of independent fishermen, and the dried and preserved fish from Gloucester could be barreled and shipped as the primary source of protein for the hard-laboring slaves.

And so one of the questions going through my mind was, What are they thinking—what are they getting in exchange? Well, it turns out that molasses and sugar went back to New England and were distilled into rum.

Lane was really interested in temperance; he and many others—the local newspaper editor, for instance—were hostile to the rum trade. Which then as its corollary suggests hostility to the slave trade and to slavery. Those opinions about sugar and slavery and temperance, which you see enacted in this little town, had everything to do with this global reach of the economy and of these people as individuals.

So there is the armature of my book. Once I figured out how to tell the story, I tell it from the point of view of the materials—granite, lumber, fish—and places—Surinam, California, and Puerto Rico. I’m telling the story from the perspective of goods and the globe. Each of these chapters works as a piece of this larger story about Gloucester, Lane, his patrons, and the political economy of New England in the 1840s, ’50s, and ’60s.

How does California fit into this New England economy? It completely upsets it. The idea that a breadwinner will labor hard and make a living and, if clever, make a profit is suddenly and completely undercut by a gamble—I mean California represented a gamble.

In the Gloucester newspaper, for 10 years after the Gold Rush began, every issue had something about California.
The newspaper articles make it clear that California was upsetting expectations—family expectations, father-son expectations. They don’t quite know what to make of it.

How did this impact Lane’s paintings?
Some of the ships that Lane painted were called The California and The Golden State. The names were sort of an acknowledgment of the power of California as a kind of magnet and a place of tremendous wealth. Some of his paintings were commissioned to go west with Gloucester families heading for Sacramento as mechanisms for helping them keep Gloucester affections and memories vivid.

The movement of young men to California created a sense of loss, disruption, and melancholy at home. I think when most art historians see Lane’s canvases with a sunset sky, a still ocean, and maybe one ship in it—maybe even a wrecked ship—they usually say the sense of brooding and melancholy was coming from the Civil War. But in my readings, including something called The Fishermen’s Memorial in The Huntington’s collection, I found that far more men were dying at sea than in the war. Yes, they were bleeding some men to the Civil War, and I know the names of who they are. But they were bleeding far more—twice as many—to shipwrecks and to hurricanes. And they were bleeding them to California.

You have a doctorate in American studies from Yale—how does that distinguish you from someone with a degree in art history?
For 30 years I’ve been training—if I can use that term—art historians. I’m teaching art historians to think like cultural historians. I understand formal analysis, and I understand its importance. I understand why it is important to be a connoisseur, to know this came before that, or this is technically done this way rather than that way.

It’s just that the questions that really interest me are, How is the artwork a text about its culture? About its context? And that means not just its context at the moment that it is made. In Lane’s case, there was a 100-year span in which nobody paid any attention at all—I mean his reputation tanked, totally. The paintings as far as I can see never changed hands, never were exhibited. We didn’t even know his middle name.

You seem so varied in your career—from William Morris and Greene & Greene to your most recent book about 18th-century portraiture in colonial America.
I think there is real value in seeing a broad field, and I suppose the one constant is that I’m always interested in the relationship between art, culture, money, and patronage. And that’s kind of a unifying thread, and even William Morris couldn’t have done what he was doing if he didn’t have John Ruskin there running in front of him and very well-heeled patrons beside him. He was a genius, but an artist is never just creating in a vacuum.

What’s next for you?
Maybe someday I’ll go back and do something longer on Greene & Greene, I don’t know. Maybe I’ll go back to the 18th century, but I don’t think so. I think I’m going to stay in the antebellum period for a while. I know it’s kind of various, in fact some people have met me and said, ‘Are you the same Margaretta Lovell?’

I guess I’m just lucky, I think I have the best possible job, we get to decide our own agendas and then hopefully fulfill them. ♔

Interview conducted by Matt Stevens, editor of Huntington Frontiers.
few months ago I was sorting through the Ben Rich papers, one of the first collections to arrive in the new aerospace archive at The Huntington. They offer a rare window on Lockheed’s celebrated Skunk Works, known to aerospace cognoscenti as the developers of the U-2 and SR-71 spy planes, both of which Rich had worked on as a young up-and-coming engineer in the 1950s and 1960s.

In 1975 Rich took over as Skunk Works director from the legendary Clarence “Kelly” Johnson, who had founded the outfit during World War II and overseen its emergence as the premier producer of planes that could fly higher and faster than any others. As director, Rich supervised Lockheed’s development of Stealth aircraft, starting with the F-117.

The Rich papers are an invaluable resource for the study of the highly classified Skunk Works, from Rich’s early aerothermodynamics notebooks to his detailed log on Lockheed’s Stealth program. The SR-71, for example, could fly at Mach 3.2 (getting from Los Angeles to Washington, D.C., in about an hour); if targeted by antiaircraft missiles, its evasive strategy was simply to outrun them. At those speeds the aircraft skin reached temperatures up to 800 degrees Fahrenheit, requiring exotic materials such as titanium alloy. The F-117 Stealth fighter had a radar signature as small as a ball bearing; the flat, angular plane was aeronautically unstable on all three axes, a problem that it countered with a computerized fly-by-wire system.

It was therefore perplexing to encounter, amid these accounts of extremely high-performance aircraft, a century-old photo of bearded gentlemen in a barn, standing around an implausible contraption resembling an airplane. What in the world was this? Who were these bearded gents? And what were they doing in Ben Rich’s papers?

The rest of the folder answered the first two questions. The photo was of Lyman Gilmore Jr., circa 1907, and his brother Charles in their barn in Grass Valley, Calif., in the Sierra foothills. Lyman was the plane’s designer and moving spirit. He had been born in 1874 in Washington state, one of 11 children. He tinkered with bicycles as a kid (the same mechanical background as the Wright brothers), and also loved folding origami-like paper birds and dreaming of flight. He was said
to have ridden through town on his bicycle, flapping large bird-like wings in hopes of leaving the ground. His father dismissed such stunts as “tom-foolery,” but in the 1890s young Lyman moved to California to take up mining and aeronautics, eventually settling in Grass Valley.

Sometime after the move, another story goes, Gilmore built a larger, fixed-wing glider and hooked it by rope to a horse’s harness. The horse took off at a trot and the glider soared off the ground—until the horse chanced to look back and catch a glimpse of the airborne machine. The startled horse promptly bolted, bringing the test flight to a crashing halt. Gilmore meanwhile began working with steam engines in hopes of achieving powered flight. In May 1902 Gilmore claimed to have flown a monoplane with a 32-foot wingspan, powered by a 20-horsepower steam engine, at Knickerbocker Flat outside town. No eyewitnesses, however, could verify the flight.

News of the Wright brothers’ flight in 1903 raised Gilmore’s ambitions. He and his brother began building an eight-passenger plane, the one in the photo, and opened Gilmore Airfield outside Grass Valley, with the hopes of sparking a boom in commercial aviation. By 1907 both the airfield and plane were taking shape. In some respects the plane anticipated the future of airplane design. It had an enclosed cabin within a metal fuselage, instead of open framework; a single wing instead of the common biplane design; and the propeller in front, a “tractor” design instead of the rear-mounted “pusher” type popularized by the Wrights.

Gilmore’s visions outran practical reality. In particular, the big plane lacked an engine powerful enough to get it off the ground. And as the photo suggests, compared to the Wright Flyer Gilmore’s plane was a fairly flimsy contrivance. Gilmore supposedly attended an engineering school in Washington at one point, and he could turn out detailed mechanical drawings, including a design for retractable landing gear, but he apparently did not pursue research with scale models or wind tunnels. Other photos suggest a less than systematic approach: he apparently built the plane bigger than the barn’s opening; he would have had to dismantle either the plane or barn to test his invention.

This absent-minded streak verged on outright eccentricity; he refused to cut his hair and beard and apparently gave up bathing, a choice that gave him a pungent presence. He was obsessed with secrecy, and his aeronautic applications to the Patent Office were rejected for their rambling imprecision. His writings in general resonated with rapturous visions of an aeronautical future,
and of a general revolution in spiritual harmony among peoples and nature. After several promised exhibitions at which his planes failed to fly, his investors lost confidence. Gilmore continued to tinker with airplanes but he spent more time in gold mining, and in 1935 his airplane hangar—the old barn—burned to the ground with his airplanes inside. He died, penniless and unnoticed, in 1951.

Few today credit Gilmore with the first powered flight; Knickerbocker Flat will not replace Kitty Hawk in the history books. Even if he did beat the Wright brothers, the historical point is moot: it was the Wrights who led the way to modern aviation.

So what exactly was Ben Rich’s connection to Gilmore? Rich apparently first developed an interest in him in 1968 and continued to chase leads for several years, into his tenure as Skunk Works director, filling a folder with correspondence and old articles. Why did a modern-day aerospace engineer, consumed with building the most cutting-edge aircraft, take time to indulge a fascination with a long-forgotten would-be aviator?

Acquaintances recalled Gilmore, for all his eccentricities, as an enjoyable companion, a friendly storyteller who liked to joke around. Rich too loved a good story and was well known as an inveterate joker, as uninhibited with generals and senators as he was with close colleagues. In a talk about Gilmore, Rich noted with evident relish that “Mr. Gilmore was quite a promoter. He sold stock, way back in 1911, in his various aircraft ventures. In fact, the records show that he sold as much as 600 percent in some ventures.”

Rich was likely drawn to Gilmore as a colorful addition to his extensive collection of anecdotes. But he may also have recognized a connection. Granted,

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Ben Rich in 1959, when he was the design manager of the propulsion system for the SR-71. Ben Rich papers, The Huntington.
there is no path from Lyman Gilmore’s barn to Skunk Works, no technological lineage from his steam-powered plane to Stealth aircraft. And Gilmore’s haphazard methods bore little relation to the advanced scientific theory and engineering techniques deployed by Rich and his colleagues. There is, however, a shared context and history (besides the secretive bent of both Gilmore and the Skunk Works). Gilmore is interesting to historians, as he was to Ben Rich, because he tells us something about aviation, and about California.

California historian Kevin Starr has long described the state as a land of dreamers. It is perhaps no coincidence that Gilmore was a gold miner living in the heart of the Mother Lode, or that some of his early investors came from the nearby town of You Bet. Like the original Gold Rush, early aviation attracted a romantic, entrepreneurial spirit, one willing to risk failure in pursuit of uncertain rewards. The visionary spirit behind Gilmore’s belief that his unwieldy contraptions could defeat gravity similarly inspired the Skunk Works designers’ faith that their flat, faceted Stealth plane would in fact fly. When Kelly Johnson glimpsed an early Stealth model, he bluntly told Rich, “That goddamn thing will never get off the ground.” Gilmore no doubt often heard the same message, yet, like Rich, he persisted in pursuing his blue-sky dreams.

From early aviation enthusiasts drawn to the imaginative possibilities of flight to aerospace engineers decades later designing planes and spacecraft to go ever farther and faster, California attracted and nurtured such a sensibility, which helped it become the epicenter of the aerospace industry. That’s why The Huntington’s aerospace archive has a place for people as seemingly disparate as Lyman Gilmore and Ben Rich; and that’s why it includes not just the engineering drawings and technical proposals that document the industry’s technological development, but also files on obscure gold miners that suggest deeper cultural connections. The scope of Rich’s papers, from Gilmore to Stealth, echoes the breadth of aerospace’s role in California’s history.

Peter Westwick is a historian at the University of Southern California and the director of the Aerospace History Project at The Huntington.
In January 1910 a quarter million people descended on Dominguez Hills in Los Angeles to watch the first aviation meet in the United States, including a Los Angeles Times reporter who declared it “one of the greatest public events in the history of the West.” The judgment is fair in retrospect. A century later, the aircraft and aerospace industries have transformed Southern California from a collection of agricultural groves to a sprawling high-tech nexus on the Pacific Rim.

Southern California as we know it would not exist without aerospace. Many Californians, however, fail to appreciate its fundamental historical influence. One primary reason for such neglect is a lack of organized and accessible sources. Archival material remains scattered among individuals and institutions, if it has survived at all. And with each passing year, more of this history is forever lost.

The Huntington Library, through the Huntington-USC Institute on California and the West, has started a major initiative to document the history of Southern California aerospace. The Aerospace History Project combines The Huntington’s strengths in California and the West, history of science and technology, and business history. The National Science Foundation has recognized the project’s importance through a substantial grant.

The project is trying to obtain personal papers and historical corporate files for The Huntington’s archival collections. Initial acquisitions include the papers of Ben Rich, longtime head of Lockheed’s Skunk Works; Willis Hawkins, Lockheed designer for 50 years and first president of Lockheed Missiles and Space; Harvey Christen, one of Lockheed’s first employees; Albert Hibbs, an architect of the early space program at the Jet Propulsion Laboratory and a polymathic science popularizer; and Jack Real, longtime Lockheed designer and close confidant of Howard Hughes. The papers of Tex Thornton, founder of Litton Industries, are also committed to the archive. The Hawkins and Christen collections include several thousand unpublished photos spanning six decades of American aviation.

The aerospace archive also includes oral histories, which capture memories and perspectives missing from the documentary record. Project historians have already completed 25 oral-history interviews of aerospace corporate leaders, design engineers, and manufacturing engineers, providing views on the industry from corporate boardrooms to engineering bullpens to the shop floor, and from old-school large aircraft firms to alternative-space upstarts, and have many more in the works.

The project aims to answer two basic historical questions. Why did Southern California become a focal point for aerospace? And what were the consequences for the region, and for aerospace? Answers to the first question, for example, include the role of civic boosters, newspaper publishers, and real-estate developers; local universities as suppliers of research, testing facilities, and technical labor; open-shop rules in the labor market; the local military presence; favorable climate; and a culture of expansive imagination and entrepreneurialism. The archive’s collecting strategy reflects this inclusive perspective: It embraces topics not just in aerospace history and the history of science and technology, but also labor and business history; the environment; gender and ethnicity; and popular culture. As Huntington curators acquire and process aerospace collections, they keep this broad range of interests in mind, since materials that appear mundane or irrelevant on first glance may be of great interest to future historians.

SOUTHERN CALIFORNIA AS WE KNOW IT WOULD NOT EXIST WITHOUT AEROSPACE.
When I arrived at the University of Virginia to begin graduate work in architectural history, my home in Pasadena seemed a long way away. Thomas Jefferson’s university—with its World Heritage–designated central campus, The Lawn—breathed a sense of history and a pattern of rural life that contrasted strongly with the sophisticated urban setting of the University of Southern California, where I had completed my undergraduate degree in planning and development two years earlier.

As a native Californian, I chose the program in Virginia because I wanted to learn how other regions of the United States approach the history and
preservation of their built and natural environments—places whose history stretches back through the centuries. Little did I know when I arrived in Charlottesville that I would become involved with an archaeological investigation tracing thousands of years of history. Critical to my collaboration with archaeologists, anthropologists, historians, and Thomas Jefferson experts was a rare map from The Huntington whose significance to the Virginia landscape had gone unnoticed since its acquisition by Henry E. Huntington in the early 1920s.

My participation in a research project at a historic estate began innocently enough. Shortly after my arrival in
Charlottesville, I met Stewart Gamage, who recently had become the director of the University of Virginia’s Morven Project. The Morven estate is located in the Southwest Mountains above Charlottesville, about two and a half miles from Jefferson’s famous Monticello. In 2001, philanthropist John W. Kluge donated it to the university as part of a 7,379-acre gift of Albemarle County property. When the University of Virginia Foundation began planning for public outreach, civic engagement, and various academic efforts related to the property’s ecology, land use, and sustainability, Gamage realized what was needed was a history of the property’s previous owners. She asked me to take on the job.

At that point, everything about Morven was terra incognita for me. I started by reading the history of both the state and Albemarle County. Over the next few months I unearthed information about the property and its former owners, moving from one...
reference and file folder to the next at the Albemarle Charlottesville Historical Society, gathering sources and citations. When the 1,334-acre property was first subdivided from a larger land grant in 1795, it was known as “Indian Camp”; it was later renamed “Morven” (Scottish for “ridge of hills”) by its second owner, David Higginbotham. A few local historians suggested there had been a Native American settlement nearby, but none gave specific information about its location, nor did they provide landmarks or other features to identify it.

By early winter I had made some progress with the project but headed home to Southern California for the holidays. I was still intrigued by the name “Indian Camp” when Gamage telephoned with an unexpected assignment. With the help of a local researcher, Christopher Owens, she had come across a copy of a map of “Indian Camp” that was reproduced in Frederick Doveton Nichols’s 1988 book *Thomas Jefferson’s Architectural Drawings*. It appeared to have been created as a survey when the property was sold in 1796 to diplomat William Short, with his friend and mentor Thomas Jefferson serving as the real estate broker. The original map was part of The Huntington’s collections, and Gamage asked me to obtain an archival-quality reproduction to add to our reference materials. I shook my

**Henry Huntington and the Brock Collection**

Three years after establishing The Huntington, Henry E. Huntington purchased what was said to be the largest private collection of Virginia manuscripts and printed material ever assembled. Amassed by historian Robert Alonzo Brock, who served as the secretary of the Virginia Historical Society from 1875 to 1892, it contains an estimated 50,000 manuscripts and 800 manuscript volumes as well as an astonishingly broad range of materials, including letters, books, government publications, Civil War documents, newspapers, and graphic materials—and some documents by Thomas Jefferson. After Brock’s death in 1914, the collection was not auctioned as expected, and its price was too high for the Virginia State Library or other Virginia collectors to acquire it. With Huntington’s 1922 purchase, the collection remained intact. In 2002 The Huntington Library and the Library of Virginia undertook a project to digitize the contents of the Brock collection, making this vast resource available on microfilm to researchers.
head in disbelief. As anyone who has spent time in Charlottesville will attest, sometimes it seems like everything leads back to Mr. Jefferson.

Returning to Virginia for the spring semester, I enrolled in a research seminar to assess all available information about the Morven property and to help identify options for its use by the University of Virginia Foundation. As I got deeper into the project, I began considering the property’s potential to yield archaeological information, something that historic preservationists ponder when evaluating a site. While comparing the Huntington map to a current map, I had a presentiment—or premonition—that the stream formerly called “Indian Camp Branch” might be historically significant. It was now named Slate Quarry Creek, and on my hunch I recommended that no development be proposed in its vicinity until this possibility could be investigated. But I also realized that the quizzical looks I got from the other classmates were justified. I needed something to go on.

I had no archaeological training, but on a cold, late winter afternoon a few weeks later I hiked down to the creek and followed it across the property—in some cases climbing over fences and scrambling from bank to bank bypassing dense undergrowth. At the point where the creek takes an almost 90-degree turn to the east, I had a strong sensation of place as I looked up to where the fields climb to a low ridge above the stream. On that day, I did not know this was the point where the stream had met the old road that led from an intersection near Monticello to Carter’s Bridge. But I could tell that something had been there.

Back at Morven’s “Claim House,” I gathered around a table with other project staff members and several fac-

As pairs of students dig the earth from the one-foot-diameter test pits, they rubbed the dirt and mud through framed screens to capture possible artifacts.
ulty members who were more familiar with the area and could interpret more from the map. Anthropology professor Jeffrey Hantman had been working over the course of eight years on archaeological investigations in Charlottesville near the “Indian mounds” beside the Rivanna River that are described in Thomas Jefferson’s Notes on the State of Virginia (1785). An expert in the history of the Monacan Indian tribe, he had been interested in following up on local lore that there had been an Indian settlement in the vicinity of the estate formerly called “Indian Camp.” As the director of archaeology at Monticello, Fraser Neiman was also interested in the possibilities of the Morven site. Over the last decade, Monticello archaeologists have teamed with specialists in paleoethnobotany, geology, and forest ecology to unravel the settlement and environmental history of Jefferson’s Monticello plantation tract from the time of its initial settlement by Europeans and enslaved Africans in the early 18th century to the present. To Neiman, Morven seemed like an ideal comparative case study.

We excitedly compared The Huntington’s “Indian Camp” survey map with current topographical maps. Hantman noted the size and placement of the agricultural fields shown near the waterways, including Indian Camp Branch. They were consistent with the 18th-century pattern elsewhere of white settlers planting in the same fields that had been cultivated earlier by Native Americans. Morven’s fields offered a rare opportunity for Hantman, because they had been relatively undisturbed since the colonial era. An archaeological dig on the site might yield rich evidence that would show the various uses of the land—first by Indians and then by white settlers—in the Virginia Piedmont, far from the usual Indian sites along larger rivers.

After a follow-up meeting, I escorted the group down to the Indian Camp Branch stream, beginning at a spring some distance above the stream’s sharp turn. It had recently rained, and as we were walking through the farm fields, Hantman picked up a piece of quartz along the muddy path. It was an Indian scraper tool, characteristic of the Monacan settlement he had studied along the Rivanna River but not previously documented in this part of the Southwest Mountains. We knew we were indeed onto something, and the group agreed to do a reconnaissance archaeological survey to determine the site’s significance.

With the archival scan of the map from The Huntington, we were able to read for the first time Jefferson’s handwritten notes, indicating the names of farmers and sizes of their fields at the “Indian Camp” estate. I recently had found corresponding references to the tenants who rented these fields in The Papers of Thomas Jefferson at Monticello’s Jefferson Library, and together they offered a more accurate picture of which areas of the property were being cultivated, and whether its agricultural products at the turn of the 19th century reflected a Jeffersonian system of crop rotation.

Meanwhile in the Monticello archaeology lab, Derek Wheeler, a research archaeologist, used a GIS program to digitally align key points shown in the 1795 “Indian Camp” map with current topographical data. Thanks with the 200-year-old map from The Huntington, researchers now had the landmarks and points of reference that had been lacking in local histories. The so-called Indian Camp map was now Neiman and Hantman’s digitized base map for Phase I of the archaeological
survey; the new map of the 200-acre survey area was overlaid with a grid of targeted excavation locations using equipment and field-recording protocols developed at Monticello.

Beginning in May, the digging was undertaken by students participating in summer field schools from the University of Virginia and Washington and Lee University. They were guided by Alison Bell, a colleague of Neiman’s at Washington and Lee University; Wheeler; and Elizabeth Bollwerk, a doctoral student working with Hantman. Wheeler used portable GPS surveying equipment to position marker flags that corresponded to the digital map’s grid. These markers served as a guide for the “shovel test pit” locations—regularly spaced sample areas (in this case, every 80 feet) in which field workers could conduct a preliminary assessment of the soil layers.

Whether in the humid heat of a Southern summer or during soggy intervals of rain, two things were constant: insects and mud. As pairs of students dug the earth from the one-foot-diameter test pits, they rubbed the dirt and mud through framed screens to capture possible artifacts. After reaching the level of undisturbed soil, which varied between one and three feet below the surface, the students measured and recorded the characteristics of each location before replacing the dirt and moving on to the next marker. By the end of each day, everyone was smudged, anointed, and imbued with the orange-tinged mud.

As often is the case with research, what we found was different from our expectations. Instead of a density of domestic artifacts that would confirm the location of an Indian village, the lighter concentration suggested a repeated seasonal use of the site, perhaps as a hunting camp. And rather than artifacts from the period shortly before European contact, recovered items included a lanceolate quartz Guilford projectile point from the Late Archaic period—about 2,000 B.C. Hantman described it as a multipurpose, bi-faced artifact.

A Society to Our Taste

In the late 1780s, after his wife’s death, Thomas Jefferson urged James Madison, James Monroe, and William Short to buy land near his beloved Monticello and settle there to form “a society to our taste.” Jefferson had met Short, a distant relation, while he was studying law at the College of William and Mary with Jefferson’s mentor, George Wythe, and he asked Short to serve as his secretary when he was appointed the nation’s second minister plenipotentiary to France. Jefferson referred to him as his “adoptive son.” After Jefferson’s return to the United States, Short remained in Europe, serving as the next American ambassador to France and subsequently as the ambassador to The Netherlands and to Spain. It was thus in 1795 that Jefferson wrote to Short about “a tract called Indian camp” near Monticello that had recently been surveyed, and which Jefferson was purchasing on Short’s behalf.
tool that could be used for cutting and scraping tasks or as a spear point for hunting or defensive purposes.

In addition to these prehistoric Native American artifacts, the Phase I survey made some other important discoveries related to later land use. These included the foundations of a building and fragments of household items from Jefferson’s era as well as evidence of changing methods of agricultural production. While such findings provide a greater context for understanding Jefferson’s agrarian experiments, they go a long way toward illuminating the little-documented lives of the “middling folks” who rented the fields and their role in the rapidly evolving western frontier. Alison Bell—one of the organizers of the summer dig in 2009—had written her dissertation on the subject under the guidance of James Deetz and Huntman and is now participating in the analysis of the evidence found at Morven.

I was indeed a long way from Pasadena. While starting to build a framework of the history of this part of the Virginia Piedmont, I had been challenged to recognize scattered references in a variety of archival sources and to align them with present-day data. What moved this collection of data into the archaeological survey was the Huntington survey map of Indian Camp—itself separated from its original context.

Gamage nicknamed me the “bird dog.” I’m not always sure what these Southerners mean, but I take it as an accolade for the presentiments of this Californian abroad in the Old Dominion—Virginia Jones, if you will.

It is rather amazing that I ended up close to home after all, with a centuries-old link to The Huntington, but as I said, sometimes it seems like everything in Charlottesville leads back to Mr. Jefferson.

Laura Voisin George completed her master’s degree in architectural history at the University of Virginia in May 2010. She is now the director of research for Morven.

Sometimes it seems like everything leads back to Mr. Jefferson.

Layers of Meaning

In 1798, Thomas Jefferson received what Annette Gordon-Reed calls “one of the most extraordinary letters in all of his correspondence—a bolt out of the blue that appears to have stunned him.” The correspondent was the very same William Short whose property was outlined in the “Indian Camp” map.

Gordon-Reed, the author of The Hemingses of Monticello: An American Family, received the Pulitzer Prize in History in 2009 for what the award committee described as “a painstaking exploration of a sprawling multi-generation slave family that casts provocative new light on the relationship between Sally Hemings and her master, Thomas Jefferson.”

In February 1798, Short wrote to his mentor and openly addressed the beauty that comes from the mixing of the races. Jefferson ignored Short’s musings in a reply, and the young protégé persisted with the issue in two subsequent letters. Jefferson, explains Gordon-Reed in her book, “had been checkmated.” If he challenged Short, he would be drawn into a debate that would reveal him to be a hypocrite. If he conceded, he would be contradicting the firm position on race that he had already outlined in his Notes on the State of Virginia while, according to Gordon-Reed, “leaving for posterity a Rosetta stone that might help crack the code of a part of his life that he wanted to remain totally private.”

Instead, Jefferson changed the subject, admitting he had mismanaged one of Short’s accounts and now owed his “adopted son” thousands of dollars. Short never brought up the issue of race again.

Visit iTunes.huntington.org to listen to Gordon-Reed’s recent Huntington lecture on “Writing the Life of an Enslaved Family.”

Annette Gordon-Reed on iTunes U

Go to itunes.huntington.org to listen to Gordon-Reed’s recent Huntington lecture on “Writing the Life of an Enslaved Family.”
In 1826, British diplomat Anthony St. John Baker did what visitors to the capital city of Washington still do. He visited the President’s House, officially named the White House by Theodore Roosevelt. For Americans, the mansion built from 1792 to 1800 of local sandstone painted white, expressed the triumph of a nation only decades old. With 29,500 square feet—5,000 square feet less than Henry E. Huntington’s 1911 house in San Marino—it was our largest house, bigger than George Washington’s Mount Vernon, Thomas Jefferson’s Monticello, and John Adams’ Peacefield combined. For Baker, it was a modest, Georgian-style country seat modeled on the power houses of Great Britain’s elite.

Before photography, travelers recorded cultural sites in watercolor. Baker’s vignette of the White House south facade, included with the copy of his 1850 self-published autobiography at the Huntington Library, Mémoires d’un voyageur qui se repose, is the only known extensive visual record of a stone wall constructed by Thomas Jefferson that in conception departed from the original vision for the land surrounding the house.

George Washington and city planner Pierre-Charles L’Enfant had grand plans when they set aside 82 acres of rustic Maryland farmland for the president’s estate. From the house site on a south-facing ridge, L’Enfant envisioned planted terraces stepping down to the glistening Potomac River. At the intersection of this wide alley and the Capitol mall, an equestrian statue of George Washington would memorialize the first president.

Before the ink was dry on L’Enfant’s plan, there were dissenting voices from the government commission overseeing the Federal City development. “Avoid palaces and the gardens of palaces. If you build a palace with gardens I will find you a king,” warned commissioner William Thornton, the architect of the original Capitol building. In the agrarian world of early America, land was the ultimate...
symbol of power. The question was, How much did a president need to reflect the authority of his office? Not surprisingly, it was Jefferson who addressed this concern. The third president was a revolutionary intellectual steeped in contemporary garden theory and had overseen for 25 years the landscaping of Monticello, where fences and pathways accommodated the private and practical needs of a classical villa overlooking a working plantation.

In his first term, Jefferson encircled five acres immediate to the White House with a split rail fence and a masonry wall. In his second term, he drew up plans for a flower and vegetable garden by an arch at the end of Pennsylvania Avenue. These modest efforts, for posterity, established that the president’s residence was a house, not a palace or a private gentleman’s southern plantation. The chief executive was entitled to enjoy the pleasure of a garden with walks and trees, not the terraced parterres of a French king or English lord.

When Baker painted his watercolor, the White House was home to John Quincy Adams, an avid horticulturist who promoted the planting of native American species and reforesting of lands stripped for lumber. The south portico had recently been completed and the replanted grounds were recovering from their devastation by the British, who torched the President’s House in 1814. Although a handsome fence and stone piers now framed the north gates opposite Lafayette Square, Jefferson’s fieldstone wall still stood along the south border and a private flower garden flourished near the east entrance as he had intended.

The third president was a revolutionary intellectual steeped in contemporary garden theory.

Good fences make good neighbors, wrote Robert Frost, but good walls also make good democracies. Jefferson’s stone wall, crumbling and already partially dismantled, only lasted until after the Civil War, but the area it defined remains part of the private garden of the White House, a retreat for the president inside the greater park of the nation’s first house.

Sam Watters is the co-author, with Ulysses Grant Dietz, of Dream House: The White House as an American Home (2009), published by Acanthus Press.
In Print

A SAMPLING OF BOOKS BASED ON RESEARCH IN THE COLLECTIONS

MARY PUTNAM JACOBI AND THE POLITICS OF MEDICINE IN NINETEENTH-CENTURY AMERICA
Carla Bittel
University of North Carolina Press, 2009

Mary Putnam Jacobi (1842–1906) rose to national prominence in the 1870s and went on to practice medicine, teach, and conduct research for more than three decades. She campaigned for co-education, professional opportunities, labor reform, and suffrage. Downplaying gender differences, she used the laboratory to prove that women were biologically capable of working, learning, and voting. Science, she believed, held the key to promoting and producing gender equality. Bittel’s biography of Jacobi shows the role of science in 19th-century women’s rights movements and provides historical perspective on continuing debates about gender and science today.

HOLY WARRIORS: THE RELIGIOUS IDEOLOGY OF CHIVALRY
Richard W. Kaeuper
University of Pennsylvania Press, 2009

The medieval code of chivalry demanded that warrior elites demonstrate fierce courage in battle, display prowess with weaponry, and avenge any strike against their honor. They were also required to be devout Christians. How, then, could knights pledge fealty to the Prince of Peace, who enjoined the faithful to turn the other cheek rather than seek vengeance and who taught that the meek, rather than glorious fighters in tournaments, shall inherit the earth? Kaeuper argues that while some clerics sanctified violence in defense of the Holy Church, others were sorely troubled by chivalric practices in everyday life.

RIVAL QUEENS: ACTRESSES, PERFORMANCE, AND THE EIGHTEENTH-CENTURY BRITISH THEATER
Felicity Nussbaum
University of Pennsylvania Press, 2010

In 18th-century England, actresses were frequently dismissed as mere prostitutes trading on their sexual power rather than their talents. Yet they were, Nussbaum argues, central to the success of the newly commercial theater. Rival Queens reveals the way actresses animated issues of national identity, property, patronage, and fashion in their dramatic performances. They intentionally heightened their commercial appeal by dramatizing the rivalries among themselves on center stage. Nussbaum also analyzes their diverse roles in works by the major playwrights of the age.

HOUSEHOLD SERVANTS IN EARLY MODERN ENGLAND
R. C. Richardson
Manchester University Press, 2010

This socio-cultural history examines the individual life stories of people in Britain’s servant class, revealing the relationships among servants and between employers and servants. It also depicts the differences between patterns of employment in London and the provinces, placing new importance on the household servant as a major agent of cultural change.
LAST FALL, THE STAFF AT THE HISTORIC Conference House Museum on Staten Island was preparing a small exhibition that would tell the story of the only pre-Revolutionary manor house still surviving in New York City. Its name derives from its role as the site of an unsuccessful peace conference in 1776 between representatives of the Continental Congress and England’s Lord Richard Howe.

Museum educator Kirsten Teasdale wanted to display a small painting of the house. “The name Cloyd Boykin was visible on it,” Teasdale recalled, “but we didn’t have much information in our collection records.” A preliminary search on the Web turned up a Huntington Frontiers article written about Boykin by Kevin Murphy, the Bradford and Christine Mishler Associate Curator of American Art at The Huntington (“Painted into a Corner,” spring/summer 2008). Boykin was well known in Boston’s artistic circles before moving to New York City in 1921. He was part of the “Negro Arts Exhibit” at the New York Public Library in 1923—one of the first major exhibitions of African American Art—but slipped into obscurity by the late 1930s. At the time Murphy wrote the article, only three of Boykin’s works were known to exist, including a portrait of John Brown at The Huntington.

Murphy’s article caught the attention of three private collectors who reported they had their own Boykin portraits—one of Walt Whitman, another of an Indian in traditional headdress, and a third of Charles Lindbergh, dated 1927, the last known work by the artist. The number of known Boykin paintings had doubled.

“But the most exciting find,” said Murphy, “is the landscape from the Conference House. We know from various records that Boykin exhibited landscapes—quite a few—but none of them had yet surfaced.” Conversely, Boykin apparently did not exhibit the portraits, which all seem to be based on photographs. “With more paintings,” said Murphy, “we can really begin to interrogate the artist’s work more fully within its cultural and artistic context.”

Teasdale, too, was excited to find out more about the relatively unknown artist. The Boykin painting brings new, previously hidden, histories to the forefront at a museum that seldom addresses periods beyond the Revolutionary War era and has never before focused on the Harlem Renaissance. Following the exhibition last fall, the Boykin painting has remained on display in the Conference House visitors’ center.

“I really hope more landscapes turn up,” said Teasdale. “Especially from the New York City area.”

Go to www.huntington.org for a complete archive of Huntington Frontiers.
For the last hundred years Southern California has been the primary home of the U.S. aircraft and aerospace industry. Firms such as Lockheed, Douglas, Northrop, Hughes, TRW, North American, and scores of others have built propeller-driven airplanes, bombers, reconnaissance planes, strategic missiles, and stealth aircraft here. The industry has helped put men on the moon and robotic spacecraft into the far reaches of the solar system.

Yet, despite its importance for the history of science and technology, of California and the West, and of World War II and the Cold War, Southern California’s aerospace industry has attracted surprisingly little sustained scholarly attention. Peter Westwick hopes to change this. The historian at the University of Southern California is director of the Aerospace History Project, a new initiative of the Huntington-USC Institute on California and the West. In “Taking Flight” (page 10) he explores the potential scholarly value of the new archive he is compiling related to the aerospace industry.

The archive includes thousands of unpublished photos, including many from the collection of Harvey Chisten, one of Lockheed’s first employees. On the cover, engines for the PV-1 Ventura at Lockheed’s Vega plant in Burbank during World War II. Above, a high school student at work at Lockheed in 1943.