

# For posterity

Preserving Elvis' birth  
certificate and the Emancipation

Proclamation—it's all in a  
day's work for the Northeast

Document Conservation Center

BY JEANNE SCHINTO

**A**t Rocky Ridge Farm in Mansfield, Missouri, the historic home of children's book author Laura Ingalls

Wilder, an association of Wilder devotees recently faced up to a problem of paper and the passage of time. One of the aims of the Laura Ingalls Wilder Home Association, says its director, Irene Lichty LeCount, is to preserve and display the manuscripts of the pioneer girl who grew up to write of covered wagons slowly being pulled by horses across America, of Ma's fresh lemon pie, of the music of Pa's fiddle at night. It was at

Rocky Ridge Farm, in 1930, that the 63-year-old Wilder began to write down what would become *Little House in the Big Woods*, *Little House on the Prairie*, and other books in the immensely popular series published in the 1930s and '40s.

The paper on which Wilder chose to write in the 1930s seems appropriate to the task of priming memories of a frontier childhood

JEANNE SCHINTO IS A FREELANCE WRITER WHO LIVES IN LAWRENCE. HER ARTICLE ABOUT SKINNER'S AUCTION HOUSE APPEARED IN THE APRIL 6 GLOBE MAGAZINE.

then more than 50 years past: thick "school tablets" of lined newsprint without margins, a child's paper. She wrote in pencil, and when she finished each manuscript, she copied a final draft, double-spaced, in pencil, on the same rough paper and sent it to her New York publishers. It's a charming detail, true to the author's style. But the penciled newsprint is also the source of the association's recent headaches.

Though the manuscripts had been kept in locked glass cases for more than 30 years, and though they had not been handled by researchers



Touching up an Audubon print at the document conservation center in Andover.

or visitors, LeCount and the others realized several years ago that they were being destroyed. It wasn't apparent to an untrained eye, perhaps, but the yellowed sheets, if handled roughly (or, in some cases, handled at all), would have broken into pieces. "We weren't going to *have* the manuscripts too much longer if something wasn't done," LeCount said not too long ago. Archivists who happened to be in tour groups LeCount led past the cases over the years would scold her, saying, "Those ought to be *treated*." Five years ago, all the manuscripts, containing many stories and events not included in the published books, were microfilmed by the University of Missouri at Columbia, so there is now a permanent record of Wilder's work that can be duplicated for libraries around the country. But the original documents Wilder created in her own hand were still slowly, silently breaking down.

The trustees of the Wilder tablets are not alone in their concern about deteriorating paper treasures. The nature of paper itself is the trouble. While some words may well be immortal, what they're written on isn't. Ask any gardener who mulches with it: Paper is organic and subject to dramatic chemical changes and eventual disintegration. It must be true that nature has no taste: Without discrimination, it will devour Oscar Wilde, Laura Ingalls Wilder, Thornton Wilder, and so on up and down the library shelves. Light will bleach or yellow the paper, humidity will cause molds to grow, insects will bore, rodents will nibble. Human use and abuse, of course, also contribute to the gradual destruction, as does a relatively new leveler called air pollution.

The decline in paper quality since the end of the Civil War is another Industrial Age legacy working to accelerate the insidious process. At that time, ground wood-pulp paper, which is highly acidic, came into wider use, replacing "rag" papers made from cotton, linen, and other highly refined plant fibers. Ground wood pulp is the stuff of mass-market paperbacks and this magazine page in your hands, as well as Wilder's favored school tablets. Its pronounced chemical instability explains why words written on it can rot, untouched, in a locked glass case. It's also the reason why 16th-century books, printed on good rag paper, can look and feel newly minted in comparison to 1960s paperback books by Tom Wolfe or Ken Kesey.

Hope, however, comes in a word: conservation. About a dozen important paper conservation centers have been founded around the country over the last 15 years, all in response to the massive, and still largely unresolved, problem of decaying paper. Working to prolong the life of our paper culture, these centers are regional for the most part, serving a particular geographical area with highly specialized equipment and a staff of experts all located in one place.

In New England, the place is the Northeast Document Conservation Center, in Andover, Massachusetts, founded in 1973 by the New England Library Board, an organization of New England library directors, with headquarters in Hartford. First called the New England Document Conservation Center, in September 1980 it became an independent nonprofit organization, adopting its new name. Currently the NEDCC supports itself with fees for services and runs on a \$1 million annual budget. It has also grown to become more than a regional resource. It has earned a national reputation and attracts clients such as the Smithsonian Institution, the Art Insti-

tute of Chicago, Stanford University, the Metropolitan Museum of Art, and the Library of Congress.

Faced with the disintegrating tablets, the Laura Ingalls Wilder Home Association took the advice of the University of Missouri microfilm staff and sent the first of two batches of Wilder manuscripts (19 tablets that make up five books) to the NEDCC in the spring of 1985. The Wilder association was in eclectic company: Other items entrusted to the NEDCC's care include a pencil draft of a poem by Emily Dickinson, a photograph taken by Alfred Stieglitz, the birth certificate of Elvis Presley, a report card of John F. Kennedy, the Emancipation Proclamation, the first book published in Antarctica (owned by Dartmouth College), a field map used by Gen. John J. Pershing, the Treaty of Versailles, and money recovered from the wreck of the *Andrea Doria*. That brief list is telling: It shows how many forms our paper culture embraces, and it gives a hint of the various challenges of a major conservation center's work.

**F**irst located in the basement of the Museum of American Textile History in North Andover, the NEDCC moved in 1978 to Abbot Hall, the stately brick building it rents on the grounds of Phillips Academy. There are four parts to the NEDCC operation: a paper conservation laboratory, a book bindery, a darkroom for photoduplication, and a microfilm laboratory. There are 30 people on the staff, a third of them conservators.

"Don't call them craftspeople," urges NEDCC senior conservator Mary Todd Glaser. Every conservator, she says, has earned a four-year master's degree offered at only three

universities in the country: New York University; Coopers-town Graduate Program in the Conservation of Historic and Artistic Works, in Coopers-town, New York; and Winterthur/University of Delaware Art Conservation Program in Newark. Conservators' undergraduate backgrounds are varied and often multidisciplinary, including art history and studio arts, as well as physics and chemistry. Glaser estimates there are only 200 paper conservators in the country; she herself was the first graduate of New York University's program, in 1964. Though the demand for conservators is great, she says, the supply remains limited, because the field is so new and because the training depends so much on long experience, one-on-one.

At least to the unversed, one particularly startling fact about the paper conservation process is that it often involves submerging items under water. When the first batch of Wilder tablets arrived at the NEDCC in the spring of 1985, they were "disbound" and soaked, page by page, in a magnesium bicarbonate bath. The baths are part of the deacidification process, for many acids are water soluble, and discoloration will float away with the acids. Bathe the wrong thing, however — the wrong kind of photograph, for example — and the image itself may literally dissolve.

Under several inches of warm water in a sink one day recently in the NEDCC paper shop (as the paper conservation lab is informally known) was a long, narrow architectural drawing of the Pawtucket Street Bridge in Lowell, dated 1880. The colors were cornflower blue and mustard yellow, and the careful script was in black ink. The drawing was

*Continued on page 28*

# For posterity

CONTINUED FROM PAGE 24

bathed for two hours, during which associate conservator Gary Albright changed the water several times. The sinks are probably the most important pieces of equipment in the room, Albright says, gesturing at the neat, open, brightly lit space that resembles, in some corners, a science lab, and in others, an artist's studio. The sinks are shallow and several feet wide, with large tables nearby for drying pieces flat between thick felt pads.

Most of the 320 Frank Lloyd Wright architectural drawings treated over the years by the NEDCC were cleaned and deacidified by bathing. Many were also in need of more extensive restoration because they had been exhibited frequently and treated roughly. Some were torn, perhaps during the construction process, when they were used for reference. Transparencies and microfiche copies exist, but because the drawings are so fine, in many instances nothing but the originals will do, and for any additions to existing buildings these drawings will again be used for reference.

Owned by the Frank Lloyd Wright Foundation in Scottsdale, Arizona, the drawings include plans for the Solomon R. Guggenheim Museum in New York, for Tokyo's Imperial Hotel, and for Fallingwater, in Bear Run, Pennsylvania. Virtuoso designs, the drawings are also virtuoso executions in Wright's own hand. In some cases — the Imperial Hotel is one — the structure has been demolished, so the original paper plan is the closest we may come to that particular manifestation of Wright's genius.

If a paper is as priceless as an original drawing by Wright, mending it can be as nerve-racking as cutting a diamond. Thomas K. McClintock, an NEDCC associate conservator who addressed an international meeting of paper conservators at Oxford University several months ago on the Wright conservation task, is proud of the manual dexterity essential to his profession — which he does call a "craft." Tools, he says, must suit the individual conservator exactly — in choosing them, the conservator is like "a baseball player picking out his bat." Lined up at McClintock's work area in the paper shop are some of his favorite tools: Japanese wooden mixing bowls and paste brushes of six different kinds, with bristles made of deer and rabbit hair. These are used for mixing and applying the natural adhesives conservators use: rice-starch and wheat-starch paste.

A drawer nearby holds papers handmade in the United States and in Asia, where papermaking was invented. The repair paper that conservators prefer is handmade in Japan from the inner bark of the mulberry tree. Acid-free, often erroneously called "rice paper," it comes in many different weights, with exotic names such as *oka*, *sekishu*, and *tengujo*, familiar enough to McClintock, who has been to Japan to research the ancient origins of his modern profession.

Then there is the other extreme in paper-shop equipment: high tech. An ultrasonic welder, for example, "encapsulates" documents in clear Mylar, or polyester film, by means of ultrasonic pounding and pressure — on the edges of the

*Continued on page 32*

## For posterity

CONTINUED FROM PAGE 28

Mylar, not on the document itself. NEDCC staff members stress that whenever possible the methods they use are reversible — in case new and better technology is developed in the future — and a Mylar-encapsulated document may be extracted as easily as a letter from an envelope.

The ultrasonic welder, bought by the NEDCC in 1983, is only the 14th machine of its kind, produced by Minter and Malosh of Chicago. Next to it is an Israeli-made "leaf caster,"

developed in the 1970s, to restore "paper losses," as conservators put it. Book pages damaged by insects may resemble paper doilies, but the leaf caster can help, by filling in the lace-like holes page by page. Leaf casters of this type, the NEDCC conservators boast, are used in only a few other places in the world — at the Library of Congress, the Canadian Conservation Institute, Paris' Bibliothèque Nationale, and Oxford University's Bodleian Library.

Upstairs from the paper shop, the NEDCC's bookbindery is where disbound, deacidified pages are sewn together by hand with needle and thread, and new bindings are made.

The Wilder tablets, for example, were resewn here with linen and bound at the top with a strong linen tape. Working on another project not too long ago, book conservator Sherelyn Ogden painted rice-starch paste onto a newly hand-stitched book spine. The book, actually a handwritten notebook, was held in place by an antique-looking waist-high iron book press. Ogden moved all around it, applying the paste, which had been cooked on a stove downstairs, then cooled. Much purer than flour pastes or any other synthetic adhesive, it looked like gray gelatin, only thicker, tackier, and all broken up into lumps.

Another small notebook awaited treatment by Ogden in another mammoth iron book press a few yards away. Forty additional notebooks were spread across a library table. And on the other side of the room — a high-ceilinged, well-lit, studioli-like space — assistant conservator Joseph Newman was making new bindings for the notebooks at a paper cutter with a blade that rivaled a guillotine's.

Ogden and Newman were nearing the end of a project commissioned to the NEDCC by the National Library of Medicine in Bethesda, Maryland. The 42 volumes once belonged to Benjamin Rush, the Pennsyl-

vania-born physician who was America's first professor of chemistry as well as a signer of the Declaration of Independence. Written in brown-ink script between 1770 and 1790, the notebooks are not in Rush's own hand but are notes taken by Rush's chemistry students, according to Dorothy Hanks, a librarian in the National Library of Medicine's History of Medicine division.

The lectures were never published. Rush's biographer, David Freeman Hawke, writes in *Revolutionary Gadfly* that if they had been, Rush would have been condemned for plagiarism, because his lecture material was taken from others'

work. Hawke speculates that Rush took the chemistry professorship at the College and Academy of Philadelphia (later absorbed by the University of Pennsylvania) more for the social-climbing opportunities than anything else. As Hawke says, Rush, who "talked from compulsion and constantly," had but a "lukewarm commitment to chemistry." One can assume, then, that the ideas recorded in these notebooks so painstakingly restored by the NEDCC are not their most cherishable aspect. As Ogden explains, books have many kinds of value, including "associational," accruing when books are owned or used by someone famous — in this case, a friend of John Quincy Adams and Thomas Jefferson, a prominent citizen who fits more securely into the history of politics than medicine.

**W**hen we value the contents over the form — whether book, photograph, or other artwork — restoring the original is not the only way, of course, to preserve the ideas and feelings these pieces embody. We can always make a copy.

This is particularly true in the case of photographs, and NEDCC technical photographer Steven Puglia will spend eight months this year in the dark-room copying 19,296 original negatives of American photographer Margaret Bourke-White. The collection, owned by the George Arents Research Library of Syracuse University, comprises all of the commercial, book, and personal photos Bourke-White took between 1927 and 1960. (It includes all of her work except that which she did for *Life* magazine, says Syracuse University archivist Amy Doherty.)

An attractive woman in what was then strictly a man's field, Bourke-White was a media darling who proved herself brilliant not only artistically but also as an interpreter of history — industrial history early in her career, when she was among the first to find a new kind of beauty in steel mills, cement works, and the like; social history later, when coal miners and chain gangs were some of her unpretty subjects. She also unflinchingly recorded world history in Europe during World War II and afterward.

With white-cotton-gloved

hands, Puglia recently went through one box of Bourke-White's work in his NEDCC darkroom. He found what he was looking for: the original negative of her well-known 1946 photo of a bespectacled Mahatma Gandhi reading, his spinning wheel in the foreground. This, like every other shot, will be converted by Puglia to safety film, using the interpositive method — that is, a film positive will be made from each original negative by contact printing. Bourke-White's original negatives are cellulose nitrate and early safety film, and both present serious preservation problems. The nitrate film can spontaneously combust. That's one reason why safety film was developed and so named in 1934. But the early safety film Bourke-White used is deteriorating as well. For example, a witty shot she took of Russian film director Sergei Eisenstein being shaved on the parapet of the Chrysler Building in New York, outside her studio, is cracked and bubbling. The surface texture resembles orange peel. In fact, this piece of cultural history may have arrived at the NEDCC a little too late.

Before it got to the darkroom stage, the Bourke-White collection was microfilmed at the NEDCC. From that, microfiches will be made (by an outside contractor, for the NEDCC lacks the capability). And it is these images that researchers will see. You can't exactly curl up with a cup of tea and a microfilm machine, but it is a sturdy technology, and if stored properly, microfilm will last a minimum of 200 to 300 years, says Beverly Brown, the NEDCC's microfilm coordinator. Sometimes it happens that Brown or one of her crew of seven technicians is the last to see the original of a work sent to them for "archival-quality" filming, because the original may disintegrate during the shoot.

**M**ildred O'Connell, field service director for the NEDCC, is not a conservator but a historic preservationist who spends much of her time on the road, educating people about paper's mortal life and what might be done to extend it. O'Connell conducts surveys of libraries, museums, and archives of all kinds, to determine the condition of collec-



Preserving an original 1917 recruiting poster.

tions and make recommendations. She has roamed the stacks of the New York University Library and the back rooms of the Brooklyn Museum, and she has stayed with the Daughters of Charity in Albany, on a trip to inspect their convent archives.

In 150 reports written over the last 5½ years, O'Connell says, she has more often suggested that a new roof or air conditioning be installed or that items be moved out from under water pipes than she has recommended that a book be treated back at the NEDCC. "Very few objects warrant the care and expense," she says. "Hundreds times more are deteriorating."

NEDCC executive director Ann Russell says rates vary for clients, with breaks given for non-profit organizations, particularly those in the Northeast. She gives ranges for treatments: for an architectural drawing, \$100 to \$300, plus extra for stain reduction; for a wall map, \$300 to \$500; for a book manuscript, \$500 to \$1,000. She is specific about the Bourke-White project costs: \$6.05 per unit, which comes to a total bill of \$116,740.80.

The cost for treatment of the first batch of Laura Ingalls Wilder manuscripts (19 tablets, five books) was \$9,000, according to James M. Warnock, chairman of the board of the Laura Ingalls Wilder Home Association. Warnock picked up the completed work himself at NEDCC this past May. This fall, Irene Lichty LeCount is making arrangements to hand-deliver the second batch (approximately 20 tablets, again making up five books), and the cost for that will be the same as for the first: \$9,000.

If these figures seem high, imagine the toll when a whole archive or library is hit with a disaster more swift than simply time's passage. Making recommendations for "disaster planning" — what to do in case of fire, flood, or other calamity — is another part of Mildred O'Connell's job. The NEDCC is equipped to relay calls for help to her 24 hours a day, and when something destructive does occur — such as when a frozen water pipe burst and soaked 5,000 architectural drawings at a Cambridge firm not long ago — she provides free consultation. She says, level-voiced and level-eyed, that she receives two or three "disaster phone calls" a week. One day in the summer of 1985, her phone rang at 5:30 a.m. All the night before, downpours and flash flooding had hit the Boston area, and the Frederick Law Olmsted National Historic Site in Brookline was calling to say it had 26 inches of water in a storeroom. O'Connell received 17 more frantic calls that day from water-logged libraries and archives.

Water damage must be dealt a swift blow,  
*Continued on page 40*



## For posterity

CONTINUED FROM PAGE 36

because mold can start to grow within 48 hours. The answer to wet books is maddeningly simple: Dry them. The problem with doing so is usually space. Imagine finding enough room to stand on end, fanned, the books in just your own personal library, or finding enough table space to lay each book flat, leaved with pieces of absorbent paper between every page. One solution is to deep-freeze wet books quickly, thaw them later, and dry them a few at a time. But the deep-freeze has to be 20 degrees below zero, and locating suitable freezers is often another problem — one that good disaster planning might have solved.

Fire damage, the other main threat to paper, is at least a *misery whose solution may be contemplated at leisure*. NEDCC conservators have only recently treated books and documents damaged during a 1911 fire at the New York State Library in Albany, trimming the blackened margins of charred pages and rebinding them.

Whether it is in response to a sudden disaster such as fire or to an awakening to what has been called "the quiet disaster" of acids slowly eating away an entire library, all conservation work is currently characterized by labor intensity. That may change. Two major research efforts are being undertaken by the US government, one of the biggest producers of printed matter in the world. They are, as the bureaucrats have termed them, "mass deacidification" and "optical digitization" of texts.

According to Carolyn Morrow, a national preservation specialist at the Library of Congress, \$11.5 million has been appropriated by Congress for a mass deacidification facility to be ready in several years. Ground will be broken in spring 1988 in Frederick, Maryland, for two chambers able to hold up to 7,500 books at a time for "non-aqueous deacidification" — that is, by means of a gas, not a liquid. Some testing of this concept has been conducted at Goddard Space Flight Center in Maryland.

The other government project, which Morrow describes as

"exploration of the use of optical digital laser-etched discs to create a computer record of texts," uses a technology similar to that of compact audio discs. A four-year pilot program began three years ago.

What all this means to the NEDCC and other conservation centers around the country is not yet clear. The new technology projects don't faze Mary Todd Glaser, the NEDCC senior conservator, who, after all, went into conservation work from art history because, as she puts it, she "wanted to work intimately with works of art."

Some changes may come to the NEDCC shortly, though. It has certainly outgrown its space: The handsome Abbot Hall, though well organized, is cramped. In the foyer, reference books line the walls. Glaser's desk is in a cubbyhole by the stairs. And Glaser says, yes, it would be a good idea to publicize that they're looking around for new quarters. Still, the present building seems so right. Once used as an art gallery, it is ringed, appropriately enough, with the names of artists on the outside: da Vinci, Durer, Holbein, Raphael . . . and they're carved in stone. •