

# Kid's KOrner

## Library of Congress conducts rescue mission to save deteriorating books

WASHINGTON — America's books are crumbling away at an alarming rate, and nobody is more aware of it than Dr. Peter G. Sparks.

In a box in his office at the Library of Congress, Sparks keeps a copy of an 1896 book with the intriguing title of "Sartor Resartus: The Life and Opinions of Herr Teufelsdröckh," by Thomas Carlyle.

Pick up the book and turn one of its dry, yellowed pages. Bits of paper flutter to the carpet. In a few years the book will be unreadable.

Fortunately, it won't be lost, because it's been transferred to microfilm. But millions of other books, from every library in the country, won't be so fortunate. They're on an irretrievable path toward becoming confetti.

Sparks, a chemist who has been the library's director of preservation for the past five years, uses the Carlyle volume to dramatize the nature of the problem.

### Rescue Operation

Under his direction, the library has been conducting a rescue operation that should, in a few years, give a new lease on life to millions of books.

The Library of Congress, whose vast collections contain more than 80 million items, houses the world's largest assemblage of stored knowledge. Its general and law collections alone encompass some 13 million volumes.

Library officials estimate that one-fourth of the books in those collections — about 3.25 million volumes — fall in the category of "brittle books." And the library is losing more books at a rate estimated at 77,000 volumes a year. The process is "one of the most unrecognized and serious perils that afflicts civilization," says librarian of Congress Daniel J. Boorstin.

The villain is acid. Since the mid-1800's, when mass production of books accompanied a spurt in literacy, paper has been made from wood pulp. Its "sizing," the material used to fill its pores and make it suitable for printing, is acidic. Over time, acid destroys the paper.

Today's average book has a life expectancy of 20 to 50 years before it turns brittle, Sparks says. Books printed on better-grade paper may make it to 100 or more. Newspapers and paperbacks are the first to go.

Really old books aren't as much of a problem. They were printed on paper made from rags, and they weren't acidic.

One way to ensure greater longevity for modern books is to print them on nonacidic paper. Another way is to find a method for removing the acid from books printed on regular paper.

### Neutralizing Acid

For the past few years, the Library of Congress has been working toward an effective mass deacidification technique, experimenting with its own patented process, which uses diethyl zinc gas — DEZ for short — to neutralize the acid.

Work has progressed enough so that groundbreaking is planned for an \$11.5 million book-deacidification facility at Fort Detrick, an Army post near Frederick, Md., about 40 miles north of Washington.

When completed, the 40,000-square-foot facility is expected to be able to deacidify 500,000 to 1 million of the library's volumes a year, with an eventual capacity of 2 million, Sparks says.

But there's a potential delay. The deacidification process must take place in airtight chambers, because DEZ bursts into flame when it comes in contact with

either air or water. In congressional testimony in February, Sparks disclosed that there had been two accidental fires at the deacidification test facility at Goddard Space Flight Center in Greenbelt, Md.

The researchers and builders, he testified, are trying to determine if design changes are needed at Fort Detrick. If answers aren't found, Sparks says, "Our plan is to take the most prudent approach and delay awarding the contract until such time as these problems can be solved."

Sparks plays down the significance of the fires and predicts that the project will progress nearly on schedule, with groundbreaking this spring or summer, opening in 1987, and fully operational status in 1989.

"We're putting an incredible amount of effort into safety, and we're absolutely convinced that it will be entirely safe," he says.

There's no question about the preservative qualities of the process, which takes five days. A DEZ-treated book may last 400 years or more.

### To Share Technology

Once the kinks are out of the Library of Congress facility, the library will be willing to share its patent with other libraries at no charge, Sparks says, saving millions more books worldwide.

Librarians have known about brittle books for years, and the DEZ process isn't the only answer. An Illinois company, for example, has developed a process called Wei T'o that uses a liquid deacidification solution.

Kenneth F. Foster of the Public Archives of Canada, one of the biggest users of Wei T'o, says his agency is now deacidifying about 50,000 books a year, and "generally

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Whoosh! A hefty puff by Peter Waters, Library of Congress conservation officer, is all it takes to make confetti out of the pages of a book made brittle by slow-working acid in the paper. Using a patented deacidification process, the library is leading U.S. efforts to add years to the life on endangered books.

## COLOR THIS!

- |           |               |
|-----------|---------------|
| 1. BLACK  | 6. PINK       |
| 2. GREY   | 7. GREEN      |
| 3. YELLOW | 8. LT. BROWN  |
| 4. BLUE   | 9. LT. BLUE   |
| 5. BROWN  | 10. LT. GREEN |

**BAND-TAILED PIGEONS LIVE IN THE WESTERN MOUNTAINS AND FOOTHILLS. THEY PREFER AN AREA WHERE THERE ARE OAK TREES IN RUGGED COUNTRY WITH STEEP SLOPES AND CANYONS. THEY ARE STRONG FLYERS, INDULGING IN SPECTACULAR DIVES AMONG THE STEEP ROCKY SLOPES AND LARGE TREES.**

