HISTORY AND CONTEXT:
LIBRARIES AND LIBRARY MEDIA

Essential Ingredients:

+ Cows, Goats, and Sheep (1 sq yd of vellum per sheep, 225 per Bible): Leather and Vellum
+ Cotton, Linen, and Wood (and assorted other plants): Paper, Boards, and Paperboard

Earliest papers:

+ Papyrus (egypt) c 5000 years ago (3000 BC)
+ China c 2000 years ago, from Mulberry bark - 150 AD Ts'ai Lun's alleged first paper
+ 100 BC - 100 AD Roman codices
+ 150 AD, rag paper found in Turkestan
+ 793 caliph Haroun-el-Raschid establishes paper factory in Baghdad, with Chinese workmen
+ 1166 Stitched binding for books in China
+ 1255 First paper factory in Genoa
+ 1309 First recorded use of paper in England
+ 1377 First metal type book (Korea)
+ 1403 the earliest known book was printed from movable type in Korea, a process which had been used by the Chinese as early as 1041.
+ 1455 Gutenberg Bible
+ 1765 - Jacob Christian SchŠffer starts to experiment with various vegetable fibres (including wood) for paper making
+ 1799 Fourdrineir Paper making machine (Nicolas Louis Robert)
+ 1800 - The invention of rosin sizing by Illig. Matthias Koops experiments with the use of wood, straw and de-inking paper in Neckinger mill, London
+ 1811 Steam pringing press
+ 1814 Times printed by steam powered rotarty press
+ 1826-40: Infancy of photography, leading to the dgggeurotype ('39) calotype ('40)

Library history notes

+ 1876: Dewey
+ 1897: Library of Congress Classification (Putnam and Cutter)
+ 1898: Magnetic wire recording
+ 1898: Los Angeles Normal School Library, now part of the UCLA Library
+ 1901: National Union Catalog, eventually published as NUC of Pre-1956 imprints (published over 14 years)
+ 1914-1918: World War I
+ 1919: UCLA
+ 1928: Magnetic Tape (Germany: Pfleumer); 1930 (BBC); late '40-50s (Ampex/3M)
+ 1929: Great Depression
+ 1939-1945: World War II
+ 1944: G.I. Bill (officially titled the Servicemen's Readjustment Act)

+ 1945: Memex described in The Atlantic Monthly article "As We May Think," by Vannevar Bush
+ 1951: Videotape
+ 1961-1969: Development of ARPANET
+ 1967: OCLC: 1967
+ 1971: First email (Ray Tomlinson IBM)
+ 1973: FTP defined
+ 1974: RLG (Now OCLC Research)
+ 1976: Apple I
+ 1982-(2007): United States Newspaper Project (USNP)
+ 1982: Compact Disc
+ 1984: The Macintosh
+ 1988: Brittle Books Program
+ March 7, 1989: Commitment Day
+ 1989: Tim Berners-Lee describes "The Web", borrowing from the Memex concept
+ On August 6, 1991: CERN publicized the new World Wide Web project.
+ 1993: Mosaic web browser released
+ 1993: DVD
+ 1998: DMCA

Historical development of library preservation

+ Disaster planning and environmental management
+ Water emergencies
+ Disaster prevention strategies
+ Development of collections conservation & commercial binding
+ Integration & adaptation of single-item conservation
+ Reformatting and adoption of new technologies
+ Brittle books crisis & mass deacidification
+ Audio-visual & digital crisis

Core issues in preservation

+ Preventative strategies are centrally important but must still be balanced with capacity to recover from failures of prevention.
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+ Preventative strategies are centrally important but must still be balanced with capacity to recover from failures of prevention.
+ Development of mass customization allows diverse materials to be effectively treated.
+ Sufficiently well-defined problems can be approached through true mass production
+ To be effective in improving the condition of collections, these practices must be grounded in a philosophy of preservation.

Natural Disaster

+ Flood of the Arno & Florence, 1966
+ Flood of the Vltava & Prague, 2002

Florence, 1966

+ Millions of books, paintings, sculptures and manuscripts destroyed.
+ International response was immediate, involving vast amounts of labor from thousands of “mud angels.”

Prague, 2002

+ Response was rapid and well-planned. Freezing, freeze-drying and other technologies, were used to facilitate an efficient recovery.

Disaster prevention strategies

+ Water Response and Drying Technologies
+ Integrated Pest Management
+ Fire Suppression
+ Environmental Control & Optimization

Conservation & commercial binding

+ Conservation has grown to encompasses single- item conservation as well as generalized repair of circulating collections.
+ LBI standards have evolved from strict specification of binding types to performance based guidelines.
+ Both address specific techniques as well as general expectations of performance.
+ Both involve some level of mass customization.

Brittle books

+ Problems in formulation of wood pulp papers led to present wide-spread decay of collections.
+ Decay is exacerbated by environmental factors: temperature, relative humidity, pollution, light.
+ As acid reactions run towards equilibrium, materials end up in various states of disrepair, which allow various levels of treatment.

Mass deacidification, reformatting & brittle paper treatments

+ All are mass production treatments
+ No treatments currently exist to chemically reverse acid damage
+ Some treatments protect or strengthen original item
+ Deacidification can delay onset of deterioration
+ Reformatting recovers information from deteriorated object

Audio-visual media & digital resources

+ Media used to magnetic or optically encode information are inherently fragile.
+ The scope of this problem is immense.
+ Requires preservation to address life-cycle management & information encoding as well as media durability.
+ Reformatting options create digital files, so this adds to the need for reliable digital preservation.

Learning from allied fields

+ Medical ethics: The Hippocratic Oath
+ Wilderness conservation: National Parks Service charter, mission & guiding principles
+ American Institute for the Conservation of Historic & Artistic Works: Code of Ethics & Guidelines for Practice

The Hippocratic Oath

“I will respect the hard- won scientific gains of those in whose steps I walk, and gladly share this knowledge with those who are to follow. I will apply, for the benefit of the sick, all measures which are required, avoiding those twin traps of over- treatment and therapeutic nihilism.

I will remember that there is art to medicine as well as science, and that warmth, sympathy, and understanding may outweigh the surgeon's knife or the chemist's drug. I will not be ashamed to say ‘I know not,’ nor will I fail to call in my colleagues when the skills of another are needed for a patient's recovery.

I will respect the privacy of my patients, for their problems are not disclosed to me that the world may know. Most especially must I tread with care in matters of life and death. If it is given me to save a life, all thanks. But it may also be within my power to take a life; this responsibility must be faced with humbleness and awareness of my own frailty. Above all, I must not play at God.

I will prevent disease whenever I can, for prevention is preferable to cure.”

The youngest (library) science

“The American medical schools are under great pressure to bring back the family doctor... Doctors, the critics say, are applied scientists, concerned only with the disease at hand but never with the patient as an individual, the whole person... But there is another difference, worth emphasis. Many patients go home speedily, in good health, cured of their diseases.”

-- Lewis Thomas, from “Leech Leech, Et Cetera” in The Youngest Science.

National Park Service Organic Act of 1916

“To conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

National Parks Service Mission Statement

“The National Park Service preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.”

Guiding principles of the National Parks Service

+ Excellent Service: Providing the best possible service to park visitors and partners.
+ Productive Partnerships: Collaborating with federal, state, tribal, and local governments, private organizations, and businesses to work toward common goals.
+ Citizen Involvement: Providing opportunities for citizens to participate in the decisions and actions of the National Park Service.
+ Heritage Education: Educating park visitors and the general public about their history

and common heritage.

+ Outstanding Employees: Empowering a diverse workforce committed to excellence, integrity, and quality work.
+ Employee Development: Providing developmental opportunities and
+ training so employees have the "tools to do the job" safely and
+ Citizen Involvement: Providing opportunities for citizens to participate in the decisions and actions of the National Park Service.
+ Wise Decisions: Integrating social, economic, environmental, and ethical considerations into the decision - making process.
+ Effective Management: Instilling a performance management philosophy that fosters creativity, focuses on results, and requires accountability at all levels.
+ Research and Technology: Incorporating research findings & new technologies to improve work practices, products, and services.
+ Shared Capabilities: Sharing technical information and expertise with public and private land managers.

American Institute for the Conservation of Historic & Artistic Works: Code of Ethics & Guidelines for Practice

I. The conservation professional shall strive to attain the highest possible standards in all aspects of conservation, including, but not limited to, preventive conservation, examination, documentation, treatment, research, and education.

II. All actions of the conservation professional must be governed by an informed respect for the cultural property, its unique character and significance, and the people or person who created it.

III. While recognizing the right of society to make appropriate and respectful use of cultural property, the conservation professional shall serve as an advocate for the preservation of cultural property.

IV. The conservation professional shall practice within the limits of personal competence and education as well as within the limits of the available facilities.

V. While circumstances may limit the resources allocated to a particular situation, the quality of work that the conservation professional performs shall not be compromised.

VI. The conservation professional must strive to select methods and materials that, to the best of current knowledge, do not adversely affect cultural property or its future examination, scientific investigation, treatment, or function.

VII. The conservation professional shall document examination, scientific investigation, and treatment by creating permanent records & reports.

VIII. The conservation professional shall recognize a responsibility for preventive conservation by endeavoring to limit damage or deterioration to cultural property, providing guidelines for continuing use and care, recommending appropriate environmental conditions for storage and exhibition, and encouraging proper procedures for handling, packing, and transport.

IX. The conservation professional shall act with honesty and respect in all professional relationships, seek to ensure the rights and opportunities of all individuals in the profession, and recognize the specialized knowledge of others.

X. The conservation professional shall contribute to the evolution and growth of the profession, a field of study that encompasses the liberal arts and the natural sciences...

XI. The conservation professional shall promote an awareness and understanding of conservation through open communication with allied professionals and the public.
XII. The conservation professional shall practice in a manner that minimizes personal risks & hazards to coworkers, the public, & the environment.
XIII. Each conservation professional has an obligation to promote understanding of and adherence to this Code of Ethics.

Some guidelines for library preservation

+ To conserve library materials and the information therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations;
+ To respect the hard-won scientific and practical gains of the profession, seek to advance our practical skills and knowledge, and gladly share these gains with those who are to follow; to apply all measures which are required, avoiding the twin traps of over-treatment and of superficial repair;
+ To remember that there is science to preservation as well as art, and that treatment must be guided by the present usage of an item & institutional mission, as well as respect for the conservation of past;
+ To never be ashamed to say "I know not," nor fail to call in my colleagues
+ To remember that there is science to preservation as well as art, and that treatment must be guided by the present usage of an item & institutional mission, as well as respect for the conservation of past; to never be ashamed to say "I know not," nor fail to call in my colleagues when the skills or knowledge of another are needed;
+ To save both an object & its content, if possible, and when preservation of content requires destruction of an object, to face this responsibility with humility;
+ To prevent damage and decay whenever possible, for prevention is preferable to cure.