

## Documenting Library Conservation Treatments: Using the 583 Action Note Field in the MARC Record

### ABSTRACT

This paper recommends the use of the 583 action note field in the Machine-Readable Catalog (MARC) record as an efficient database for documenting library conservation treatments. MARC is the platform catalogers use to describe an item in the library's electronic catalog. Within the MARC record the 583 action note field is dedicated to information about processing, reference, and preservation. To our knowledge, this field is not widely used by conservators though it is quite possibly the most appropriate database because it embeds the treatment history in the bibliographic data, transparently linking conservation and curatorial agendas by locating all collection information in the same database.

Two models of code for entering data in the MARC Record are provided, one used by Hagley Museum and Library, Wilmington, Delaware, where Jim Hinz was formerly head of library conservation, and the other by the American Antiquarian Society, Worcester, Massachusetts, where Babette Gehrich serves as chief conservator. Both systems use terms based on detailed treatment protocols, though they do not always use exactly the same terms for similar treatment procedures. Also provided is a list of hypothetical treatment terms and protocols meant only as examples to help other libraries set up their use of the 583 field.

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This paper recommends the use of the 583 action note field in the MARC record as an efficient database for documenting library conservation treatments. The MARC formats are widely used standards for the representation and exchange of authority, bibliographic, classification,

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community information, and holdings data in machine-readable form. They are used in most library catalog systems—NOTIS, RLIN, OCLC, VTLS, VOYAGER, and EXLIBIRIS. In other words, MARC is the platform catalogers use to describe an item in the library's electronic catalog. A complete description of MARC is available at [www.loc.gov/marc/umb/](http://www.loc.gov/marc/umb/).

Within the MARC record there are many predetermined data fields for information such as title, author, and date. The 583 action note field is dedicated to information about processing, reference, and preservation. To our knowledge, this field is not widely used by conservators though it is quite possibly the most appropriate database because it embeds the treatment history in the bibliographic data, transparently linking conservation and curatorial agendas by locating all collection information in the same database.

### THE BENEFITS OF USING THE 583 FIELD IN LIEU OF A SEPARATE CONSERVATION DATABASE

- The cataloging database likely exists in your library and can be made available to conservation staff.
- The treatment history is embedded in the bibliographic data.
- The field is searchable.
- The record is visible to all library professionals within an institution.
- The entire database is regularly backed-up by the host institution, insuring the retention of data.
- MARC records also support visual documentation in the 856 electronic location and access field, where high-resolution digital images—most often JPEG files—can be linked via a web server.

Conservation staff wishing to use the MARC 583 and 856 fields for treatment documentation should work with their library catalogers or archivists to gain access to cataloging privileges and learn the system procedures for data

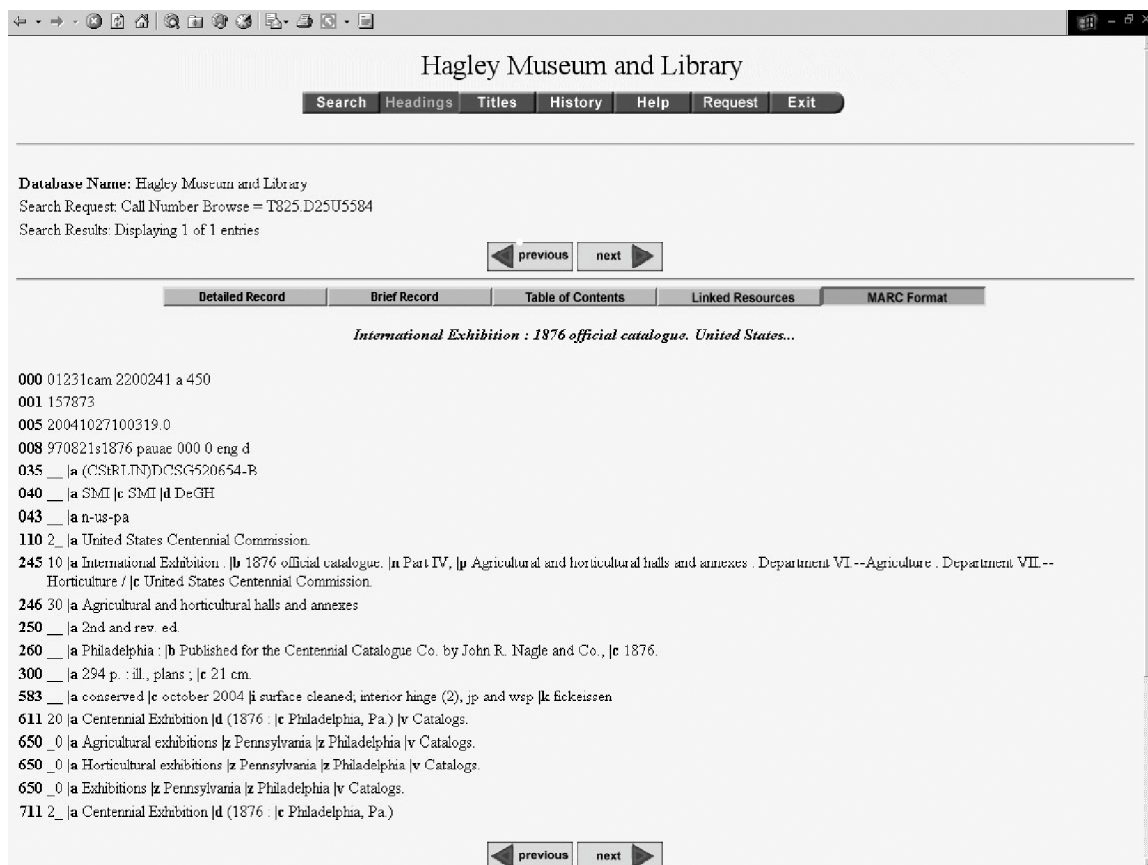


Fig. 1. Screen shot of an online catalog record. Conservation data are in the 583 field (indicated by the number in left column).

entry. For a full description of MARC standards, consult the Library of Congress web site at [www.loc.gov/marc/](http://www.loc.gov/marc/).

The screen shot (fig. 1) of an online catalog record shows how the 583 field data appears in the list of other bibliographic data. Although the conservation data in this example are visible in the MARC view (one of the many views available on Hagley's catalog), each institution has the capability of selecting whether or not the 583 field (or any other field) is visible to researchers.

Two models of code for entering data in the MARC Record are provided below, one used by Hagley Museum and Library, Wilmington, Delaware, where Jim Hinz was formerly head of library conservation, and the other by the American Antiquarian Society (AAS), Worcester, Massachusetts, where Babette Gehrich serves as chief conservator. These are the only two known institutions utilizing the 583 field as a conservation database. Both systems use terms based on detailed treatment protocols, though they do not always use exactly the same terms for similar treatment procedures. There is currently no predetermined conservation terminology in MARC.

#### USE OF THE 583 FIELD AT HAGLEY MUSEUM AND LIBRARY

The 583 field is used primarily to document treatments, research previous treatments, and tally monthly treatment totals. Conservation staff are responsible for entering their own data. The field is repeatable and may be used for other purposes and by other departments. Hagley's subfields are represented by the symbol "‡" while the AAS system uses "\$". Your cataloging system may use yet another. The following subfields are used in conservation records at Hagley.

##### Subfield Values

‡3 *Materials Specified*. The part of the described materials to which the field applies. The MARC format designates this as the first subfield in 583. Use to designate one of multiple copies, volumes, etc., if the treatment record applies to only part of the material described in the bibliographic record.

‡a *Action*. Uses the term "conserved" for a record of conservation activities input by the conservation lab.

‡c *Time/date of action*. Used to record the date an item is conserved. The date should be entered in the form: May

2003.

*fi Method of action.* This subfield is used solely by the conservation lab to record the specific treatment performed. See examples below.

*fk Action agent.* Used to record the last name of the conservator or technician.

#### Examples

*Treatment records:* \$3 [materials specified—if applies] \$a conserved \$c [month yyyy] \$i [treatment performed] \$k [conservator's surname]

*How records are entered:* \$a conserved \$c december 1998 \$i surface cleaned; paper mended, jp and wsp; guarded; sewn \$k payne

\$3 copy 1 \$a conserved \$c june 2003 \$i surface cleaned; disbound; paper washed; sized, methyl cellulose; mended; guarded; endsheets; sewn, link stitch; spine lined; case binding \$k hinz

All entries are done in lowercase. Conservation terms may be qualified by using a comma, i.e., “sewn, link stitch; . . .” Freeform or narrative text may also be used, though it will not be as easily retrievable in a search. A search within the 583 field for a given month or year will yield the number of treatments recorded for that time period. Specific treatment steps can also be tallied, though it is understood that numbers are only numbers and do not quantify the time spent on a given treatment. Nor do the numbers speak to the quality of a treatment. A successful search requires that all treatment terms be entered consistently and without error. Consult the hypothetical treatment terms and protocols at the end of this article for reference to how the system can function. It should be noted that there is currently no universal list of conservation terms for use in the 583 field.

#### USE OF THE 583 FIELD AT AMERICAN ANTIQUARIAN SOCIETY

This field is used by library staff to record three types of information: conservation requests submitted by the cataloger or curator, conservation records entered by the conservation department, and information relating to the creation and maintenance of the bibliographic record itself. This field is also used by the manuscripts department to record processing information. The following subfields are used for conservation records at AAS:

#### Subfield Values

*\$3 Materials Specified.* The part of the described materials to which the field applies. The MARC format specifies that this should be the first subfield in the 583. Use to specify one of multiple copies, volumes, etc., if the conservation request or treatment record applies to only part of the material described in the bibliographic

record.

*\$a Action.* Use the term “condition reviewed” for a conservation request input by a cataloger; this term is changed to “treatment request” once the treatment is completed. Use the term “conserved” for a record of conservation activities input by the conservation department; in the rare case that the request was considered, but no treatment performed, use the term “no action taken.”

*\$b Action Identification.* This subfield is used solely by the conservation department to record a treatment record number.

*\$c Time/date of Action.* Used to record either the date of a conservation request or the date an item is conserved. The date should be entered in the form: yyyymmdd.

*\$e Contingency for Action.* This subfield is used solely for conservation requests entered by a cataloger to indicate the priority level of requested treatment. Valid values are “asap” and “atp.”

*\$h Jurisdiction.* Used in conservation requests and records to record the funding agency. Valid values at AAS are:

Acquisitions  
CL  
Cataloging  
Graphic Arts  
Library  
Reference Services  
Manuscripts  
NEH 22  
NEH 23  
NEH 27  
Newspapers

*\$i Method of Action.* This subfield is used solely by the conservation department to record the treatment performed. Treatments are entered using keywords, which refer to the Standard Treatment Protocol (StTrPr) where specific treatment steps are described in detail.

*\$k Action Agent.* For treatment requests, enter the cataloger's initials in lowercase. For conservation department treatment records, enter the conservator's surname in lowercase.

*\$l Status.* This subfield is used solely for conservation treatment requests to describe the condition of the item in hand or the treatment requested. A controlled list of terms has been established for this subfield.

*\$x Nonpublic Note.* This subfield is used in conservation requests and treatment records for any details of condition or treatment which don't fit in subfields i or l. It is likely that use of this subfield will be rare.

#### Examples

The 583 field, when used for conservation requests or treatment records, uses the following subfields:

*Treatment requests include:* \$3 [materials specified—if applies]

\$a Condition reviewed \$c [yyyymmdd] \$e [asap or atp]  
 \$h [funding agency] \$k [cataloger's initials] \$l [condition of item/treatment requested]

*Treatment records include:* \$3 [materials specified—if applies]  
 \$a Conserved \$b [treatment record number] \$c yyyymmdd  
 \$h [funding agency] \$i [treatment performed] \$k [conservator's surname] \$x [additional details—if applies]

*How records are entered:* \$a Condition reviewed \$c 19980602  
 \$e atp \$h CL \$k low \$l Restitch pamphlet  
 \$3 copy 1 \$a Condition reviewed \$c 20011101 \$e atp \$h  
 NEH 27 \$k kmh \$l Tears (t.p.)  
 \$a Conserved \$b 000000 \$c 19980515 \$h NEH 23 \$l  
 map surface cleaned and mended; pamphlet resewn into  
 original fold of cover paper \$k Hegarty  
 \$a Conserved \$b 002749 \$c 20010618 \$h NEH 23 \$i  
 surface cleaned, washed, alkalinized with Ca(OH)<sub>2</sub>,  
 resized, and mended, according to StTrPr 1998 \$k Oxley

#### EXAMPLE TERMS AND PROTOCOLS

In conjunction with using the 583 field, it is recommended that library conservation labs update their treatment protocols yearly and have them cataloged as a library accession. This will provide a more thorough record of conservation treatments for a given year as treatment steps are often entered into the record as a single word or short phrase.

The list below is presented in order of treatment progression (basically) and is meant to incorporate common conservation procedures for library collections, especially for printed materials, though it is not exhaustive. The protocols that follow the terms are hypothetical and do not represent any one institution. They are merely examples to help you detail your own system. Treatments not represented in the terms and protocols would need to be detailed in the actual record.

Terms are presented in lowercase as that is how they are entered into the database. In an attempt to standardize the terms—which vary by institution—the object is placed before the action, as with “mold removed,” when possible. Often the object is assumed and not stated, as with “washed.” Though there is currently no standardization of conservation terminology for MARC records.

*previous treatment observed:* detailed after a comma.

*previous treatment reversed:* when it jeopardizes the integrity of the object, detailed in narrative text.

*mold removed:* by aspiration and/or with a natural rubber sponge and a soft brush.

*surface cleaned:* with natural rubber sponge for gross soil accumulations only, solid and grated vinyl eraser for embedded grime.

*collated:* in pencil on lower recto to maintain order of leaves.

Leaves are numbered from 1 in whole values, starting

with the first available leaf. Subvalues are avoided. The graphite numbering does not intentionally correspond with any existing numbering system in the volume. Books with printed collation and/or numbered pages are not fully collated, though the first and last few leaves may still require it.

*leather precipitates reduced:* with cloth or natural rubber sponge.

*leather oil reduced:* with solvent (noted) using a soft cloth. Alternately, an addition of 5% non-ionic surfactant (Orvus Liquid) may aid in the reduction of neat's-foot oil/lanolin from previously overdressed leather. Testing is done in advance of treatment as dyes may be affected and the leather may darken, especially calf. Leather requires dressing after treatment, see below.

*leather consolidated:* with 1% hydroxypropyl cellulose in ethanol (w/v). Further leather treatments detailed in the leather treatment protocols (not presented in this publication).

*leather removed:* mechanically from corners and spine, to be replaced with leather, cloth or paper.

*cover removed:* from text block mechanically.

*material consolidated:* with methyl cellulose, wheat starch paste, polyvinyl acetate, hydroxypropyl cellulose in ethanol, etc., to be detailed.

*media consolidated:* with methyl cellulose, gelatin, sturgeon glue, etc., to be detailed.

*backing removed:* from flat paper, mechanically and/or with moisture.

*paper lifted:* mechanically, with methyl cellulose poultice, or in water bath or other solvent.

*spine cleaned:* of failed linings and adhesives mechanically, often with the aid of moisture in the form of 2-4% methyl cellulose solution in deionized water. Protease enzyme and the appropriate buffer may be added to aid in the removal of animal glue, cleared (deactivated) with ethanol.

*disbound:* by releasing the text block from the cover mechanically or with the aid of moisture if necessary in the form of 2-4% methyl cellulose solution in deionized water (w/v), untying or cutting failed sewing threads, and separating the sections.

*surface cleaned:* with a natural rubber sponge if necessary to reduce gross soil, and then with grated and solid vinyl eraser to reduce embedded grime. May also apply to cover, to be detailed.

*tape removed:* removal of pressure-sensitive tape carrier mechanically or with the aid of a heated spatula.

*adhesive reduced:* pressure-sensitive tape adhesive reduced with a crepe eraser. Heat or organic solvent may be required to move the adhesive. Water-soluble adhesives such as paste and animal glue may be reduced with the appropriate enzyme and buffer mixed in a methyl cellulose poultice, applied by brush.

*stain reduced:* with the appropriate solvent, bleaching agent, etc.

*washed:* full immersion in calcium-enriched deionized water to reduce discoloration and acidity and to restore water content to the paper fibers, increasing strength and flexibility. Mends with water-soluble adhesive are removed in the bath, the adhesive reduced with a soft brush or other light mechanical action.

*alkalized:* paper may be buffered (alkaline reserve added) in addition to being washed. This is done in a calcium bicarbonate [ $\text{Ca}(\text{HCO}_3)_2$ ] solution, which is prepared by bubbling  $\text{CO}_2$  through a solution of 1g calcium carbonate per liter of deionized water.

*light bleached:* following washing, to reduce overall discoloration or staining.

*bleaching with sunlight:* (in the summer months) the paper is immersed in a bath of alkaline water (calcium hydroxide, pH ca.8.5) and covered with a sheet of UV-filtering Plexiglas to protect it from ultraviolet radiation. It is then exposed to direct sunlight and monitored. Followed by thorough rinsing.

*bleaching with artificial light:* (in the winter months) the paper is immersed in alkaline water, as above, and exposed to light from a single-sided light bank (Lowell Light Array) with five fluorescent bulbs (Philips F40 AX 50, 5000K, 40 watts). UV-filtering Plexiglas is used, as above. Followed by thorough rinsing.

*sized:* if necessary for strength/handling. The sizing agent, unless otherwise specified, is a 0.5% methyl cellulose (400 cP) solution in calcium-enriched deionized water (w/v). May be brushed onto the dry paper with a wide Japanese brush. Sizing may also be done at the end of the washing process in a final bath of 0.5% methyl cellulose.

*flattened:* after humidification in a chamber or through Gore-Tex, between thick blotters or felts under moderate weight until fully dry. May be placed in the press if necessary. Paper texture and printing impressions are always retained. May also apply to cover materials such as parchment, to be detailed.

*mended:* tears are mended with Japanese paper (often toned with acrylics) laid down with thin wheat starch paste and flattened between blotters under moderate weight until dry. Various types of high-quality Japanese paper are used for mending, primarily Tim Barrett dry-tear-guard, *kizukishi*, *tengujo*, *kozo*, machine-made *sekishu*, and RK 0-2. Mends are laid down with wheat starch paste (*zin sho-fu*). Mends may be retouched with pastels (Faber Nu/Pastel, Rembrandt, or Stabilo CarbOthello).

*paper lined:* with Japanese paper and wheat starch paste.

*loss filled:* with Japanese paper, western paper, heatset tissue, or by pulp fill. Pulp is prepared in a blender using high quality paper scraps. Meyproid 680 is added to the slurry as a formation aid and binder in a solution of

approximately 5%. Pigments may also be added to adjust the tone.

*guarded:* vulnerable spine folds are mended with torn strips of acrylic-toned Japanese paper laid down with wheat starch paste, flattened between blotters under moderate weight until dry.

*endsheets:* made to fit with the appropriate paper stock.

*sewn:* with the original thread or with new unbleached linen thread, often toned with acrylics or dyes to blend with the patina of the leaves, using the original sewing stations and pattern when possible. Usually incorporates sewing supports such as tapes or cords. Side-sewn volumes, if jeopardized, may be converted to a through-the-fold format to reduce stress on the leaves and provide greater opening and access.

*sewing reinforced:* by stitching loose signatures with unbleached linen thread.

*spine lined:* as needed, may include layers of Japanese paper laid down with wheat starch paste; linen or cotton cloth laid down with polyvinyl acetate; and western paper laid down with polyvinyl acetate.

*endbands:* may be hand worked or glued-on, to mimic the originals. Glued endbands are either hand rolled cloth-over-core or machine made styles. To be detailed.

*recased:* in the original cover, involves adhering text supports to the boards, adhering pastedowns, etc.

*boards attached:* to text block by adhering existing supports or by adding new supports such as tapes, cords, or cloth hinges. Broken cords require tacketing with new thread or cord. To be detailed.

*rebacked:* with new spine material of cloth or leather toned to match. Any original spine material is adhered over the new spine piece unless otherwise noted.

*cover mended:* tears and losses to both spine and board areas are mended with acrylic-toned mulberry paper applied with the appropriate adhesive for the material being treated. Joint splits in vellum/parchment covers are mended from underneath with acrylic-toned spun-bonded polyester laid down with polyvinyl acetate. Surface mending is done with acrylic-toned Japanese paper laid down with polyvinyl acetate, sturgeon glue, or gelatin, to be noted.

*leather tooled:* in blind or gold, by hand or stamped.

*leather dressed:* with a thin application of microcrystalline wax, otherwise with (1:2) acrylic polymer/wax emulsion (SC6000) and 1% hydroxypropyl cellulose in ethanol. More ethanol may be added for thinner application.

*interior hinge mended:* mended/reinforced with acrylic-toned Japanese paper laid down with wheat starch paste.

*hinged in:* with Japanese paper and wheat starch paste, either pasted down or sewn into the volume.

*tipped on:* with wheat starch paste or other adhesive, noted.

*inpainted:* as appropriate to the material/media with water-

color, pigment pencil, or acrylic.

*interleaved*: with alkaline paper or other between leaves to reduce abrasion, migration of media, etc.

*preservation photocopy*: black and white or color on alkaline paper.

*pamphlet stitch*: single signature, though-the-fold, with original thread or new linen thread.

*adhesive binding*: for facsimile copies, loose leaves adhered with polyvinyl acetate, often with recessed cords and case bound.

*case binding*: new paper, cloth, or leather over boards, to replace missing or extremely damaged bindings.

*conservation binding*: 10-point folio boards sewn in with the text block, with 10- or 20- point cover wrapper.

*limp binding*: flexible boards with paper, cloth, leather, or vellum covering, usually non-adhesive except for spine linings; often incorporates laced-in thongs or other sewing supports; flyleaf adhered by fore edge tab.

*stab binding*: side sewn, Japanese binding, etc.

*post binding*: polyester sleeves, cloth covered boards, aluminum posts.

*polyester cover*: Mylar D or comparable sheeting sewn to pamphlet for handling and as a surface for the call number label.

*polyester jacket*: Mylar D or comparable sheeting, custom-fit around book.

*polypropylene jacket*: custom-fit to contain red rot, primarily for oversized ledgers.

*polyester sleeve*: Mylar D or comparable sheeting, open on two sides, with alkaline paper or MicroChamber paper insert when possible.

*folder*: made of alkaline paper or lignin-free board.

*envelope*: custom-fit, made from alkaline paper.

*4 flap*: custom-made with alkaline paper or lignin free board, with spine label.

*corrugated box*: custom-made from buffered board, with lid and label.

*clamshell box*: drop-spine box covered in cloth, with spine label.

*hinges*: Japanese paper strips adhered with wheat starch paste, for mounting to back mat.

*polyester corners*: adhered with 3M 415 double-sided tape.

*paper corners*: adhered with wheat starch paste.

*mat*: 4-ply or 8-ply front mat, 4-ply back mat, in preparation for framing.

*sealed package*: UV Plexiglas glazing, spacers (if necessary), backing board, sealed with Marvelseal that is adhered with 3M 415 tape using pressure and heat. Object data label adhered to back of package.

These hypothetical terms and protocols were developed by Jim Hinz and are not specifically related to any one institution. They are not intentionally presented for debate purposes, though comments are welcome.

#### LINKING DIGITAL IMAGES TO THE ITEM RECORD

It is acknowledged that many library treatments are minor and do not require visual documentation in the same way that artwork does. The practice for library conservation at Hagley was to image exceptionally rare and important objects, extensive or unusual treatments, exhibit items, and objects going out on loan. As of 2003, 35 mm slide film was still in use, though digital image files were commonly used.

MARC records support visual documentation in the 856 electronic location and access field, where high-resolution digital images—most often JPEG files—can be linked to the item record via a web server. Work with your catalogers or technology staff to learn the procedures. Guidelines may be found at [www.loc.gov/marc/856guide.html](http://www.loc.gov/marc/856guide.html).

#### CONCLUSIONS

The 583 field in the MARC record is a readily available database for library conservators to utilize at any time. It is searchable, and digital image files may be linked via a web server. As you consult with your catalogers and familiarize yourself with cataloging procedures, we hope the above examples will be useful. Subfield values within the 583 field are predetermined, and you may find others not utilized in our examples to be of use to your operation. Subfields may also be ignored, and data may be entered as freeform or narrative text, making the information easier to enter yet more difficult to search. The most important feature of using the 583 field is that the treatment record is embedded in the bibliographic data, transparently linking conservation and curatorial agendas by locating all collection information in the same database. The authors would like to hear from others who use or are interested in the system.

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