Unexpected fame: Conservation approaches to the preparatory object. Proceedings from the International Conference of the Icon Book & Paper Group, Oxford 1–2 October 2018

https://icon.org.uk/unexpected-fame-conservation-approaches-to-the-preparatory-object

Capturing the marks of the Maestro: conservation, digitisation and preservation of material evidence in the Sir Georg Solti Archive

Catherine Badot-Costello

To cite this article: Catherine Badot-Costello, 'Capturing the marks of the Maestro: conservation, digitisation and preservation of material evidence in the Sir Georg Solti Archive' in *Unexpected fame: Conservation approaches to the preparatory object. Proceedings from the International Conference of the Icon Book & Paper Group, Oxford 1–2 October 2018* (London, The Institute of Conservation: 2020). https://icon.org.uk/unexpected-fame-conservation-approaches-to-the-preparatory-object (accessed date).

Catherine Badot-Costello

Capturing the marks of the Maestro: conservation, digitisation and preservation of material evidence in the Sir Georg Solti Archive

Abstract
The Eda Kuhn Loeb Music Library at Harvard University is home to the archive of legendary conductor Sir Georg Solti. The collection spans his entire career and contains 487 published scores, which Solti heavily annotated and amended for both live performance and recording for Decca Records. Many flyleaves of the bound scores contain lists of cities and dates of those performances. Solti's working methods and resultant material evidence present challenges for the conservator and the digital workflow. The amendments, often complicated by layered pressure-sensitive tape, Post-it notes and offset media, reveal Solti's unique working methods and must be considered when forming a conservation and digitization plan. This paper will focus on the development of treatment protocols to stabilize the collection while preserving evidence of Solti's working methods. It will also assess how well the digitized scores translate that evidence to the user.

Keywords
Solti, score, Harvard, Post-it, annotation, tape

Introduction

Throughout his career the legendary conductor Sir Georg Solti heavily annotated and amended music scores for performance and in the recording studio. The amendments, often complicated by pressure-sensitive tape under and over the annotations and off-set media, reveal Solti's unique working methods and must be considered when forming a conservation and digitisation plan.

Born in Budapest, Solti (1912–1997) was a world-renowned conductor of opera and symphony with stints in major European capitals. He is considered one of the most influential

Fig. 1 Sir Georg Solti, photograph ©Yousuf Karsh Estate. Used with permission.

musicians of the post-war era. As of 1969, he held a 22-year position as conductor with the Chicago Symphony Orchestra. Prior to his death in 1997, Solti expressed his wish that the archive would stay together and that it be available for scholarship and teaching. This paper will focus on the material evidence unique to Solti's working methods and the treatment protocol designed to preserve that evidence for future students and scholars.

The collection arrives at Harvard

The Sir Georg Solti archive of conducting scores came to Harvard University's Eda Kuhn Loeb Music Library in 2011. In a large academic institution with a dynamic music department and library to support its programs, the archive was anticipated and well received. A collaborative community was formed to welcome the collection and honour Solti's wish that his scores stay together and be made accessible for teaching and study. The 487 published scores in the archive spanning Solti's entire career are heavily annotated for performance in Solti's hand, in different coloured media, with many flyleaves containing lists of cities and dates of performances and recordings. Solti would revisit the same score but treated each performance as a unique event.

A subset in the archive contains the scores annotated uniquely for recording when Solti worked with British Decca Records (1947 to 1997), leaving a legacy of over 250 recordings. He received the most Grammy Awards (31) earned by an individual artist. Solti's working methods in the recording studio and the resultant material evidence, including annotations, Post-it notes and metal fasteners, present challenges for the stewards of this collection, conservators and the digitisation workflow. An understanding of Solti's working methods was of great importance. As noted by his widow, Lady Valerie Solti, 'Every bar has a comment or annotation.'[1] In order to determine whether a score could move along the path outlined by the music library (digitisation, exhibition, access for teaching and research without risk of loss of material evidence), a conservation assessment of the Solti scores was requested by the Special Collections Librarian of the music library. Once the cataloguing of the collection was complete, the Weissman Preservation Center was introduced to the collection.

1 Lady Valerie Solti in conversation with Robert J. Dennis, Curator of Recordings Collections. https://library.harvard.edu/onlineexhibits/solti/introduction/index.html

Preservation at Harvard

The Weissman Preservation Center manages a comprehensive conservation program for the care and treatment of rare books, manuscripts, prints, drawings, maps, photographic materials, and other special collections. The staff of book, paper and photograph conservators and technicians work collaboratively to serve more than 70 libraries throughout the university. The conservators each serve as a preservation liaison to an assigned special collections library, acting as channels of communication and information, fielding questions and connecting repositories with appropriate Preservation Services Specialists.

As the preservation liaison to the special collections in the Eda Kuhn Loeb Music Library, I was introduced to the collection once cataloguing was complete and a spreadsheet created with bibliographic information about the collection and curatorial priorities. Lady Valerie Solti collaborated with library staff to prioritise the scores by importance. Plans for an exhibition and digitisation of the exhibition candidates established priorities for treatment at the lab. Whether a score could be safely handled and digitised without conservation treatment was the central focus in this assessment in order to meet a short deadline. The item level conservation assessment of the archive revealed numerous challenges to be addressed, and subsequently a treatment protocol was designed for the collection. The task at hand for those involved with the project was to preserve the evidence of Solti's unique working methods, enabling digitisation and future access of the original scores with all forms of material evidence intact.

Assessment and treatment protocol

The annotations

The identification of all media used and an understanding of Solti's working methods were crucial to the development of a conservation and preservation plan for the collection. The red pencil seen in the Karsh photograph in Fig. 1 was donated to the music library along with his graphite sticks (see Fig. 2). Still available today, these pencils are manufactured by Schwan-STABILO, a company which began making coloured pencils in Germany for artistic use in 1925. Made of a colorant (pigment or dye), binding material (cellulose ethers or vegetable gums) and wax (paraffin, beeswax or carnauba wax), Solti's pencil is "aquarellable" or

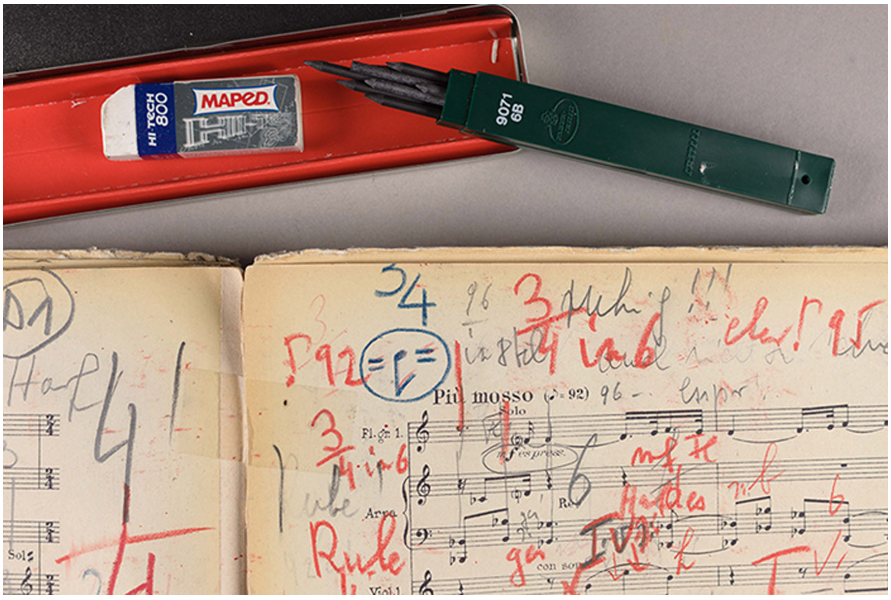

Fig. 2 Solti's graphite sticks, courtesy of the Eda Kuhn Loeb Music Library, Harvard Library.

water soluble. Solti's media choices for annotation evolved over his career. In the early part, we note the use of thin lines in red, black, purple, and pink pencils as well as the use of ballpoint inks in red, blue, and purple. Graphite in thick and thin soft lines is a media found throughout the scores. More prominently used in late career were black, and most often, red grease pencils, made of wax (paraffin, ceresin, carnauba, and spermaceti), colorant (pigment or dye), tallow (beef or mutton), alkali (potassium carbonate), stearic acid and filler (talc or kaolin).[2] The thick putty-like lines could be scraped off and corrections made.

The many layers of soft graphite and red, blue and green pencil were applied for different performances and revisited for recording with added markings. In some cases Solti was often excited to receive an unmarked score of a work that he had performed 100 times and mark it with new graphite and red pencil, creating a new unique interpretation. On many of the flyleaves, Solti would write the city and date of performance or recording of that score. A researcher is able to listen to the known recording of the performance listed on the flyleaf and

2 Margaret Holben Ellis and M. Brigitte Yeh, 'Categories of Wax-Based Drawing Media,' *Waac Newsletter* 19, no. 3, September 1997.

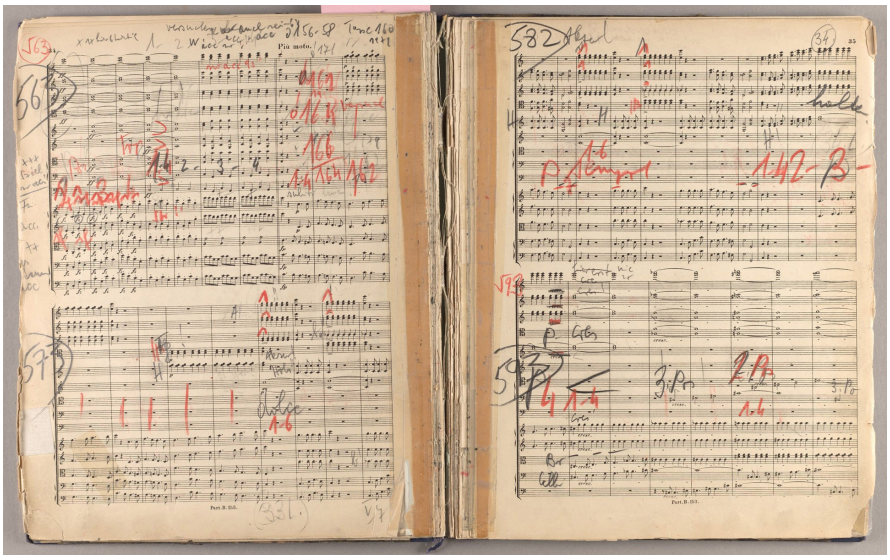

Fig. 3 Franz Schubert, *Siebente symphonie* (Leipzig: Breitkopf & Härtel, 1885). Sir Georg Solti Archive, Merritt Room Mus 800.1.89.5 Solti. Courtesy of the Eda Kuhn Loeb Music Library, Harvard Library. Photographed at Weissman Preservation Center.

follow along with the digitised pages to study Solti's interpretations. Schubert's Symphony is one of the most heavily annotated scores in the archive. On the upper flyleaf Solti listed 17 performances and their locations, from the late 1940s to the 1990s. The pages are laden with the pressure sensitive tape repairs necessary to hold the pages together for use during the many performances and recordings across time and place.

Solti would scrape off the heavy red media to make way for new. Residue is found in the gutter of the gatherings. Erasures leave traces of graphite barely readable on the page. Additional challenges are the potential failure and misplacement of annotations written on scraps of paper taped in place to mask an earlier interpretive choice. Often the pressure sensitive tape stains are the guide to placement. Fasteners and Post-it notes were also used in recording sessions as editing tools.

Treatment protocol

The digitisation component of the Solti Archive was taken into consideration as part of the treatment protocol. A digitised page of a heavily annotated score can be rendered more readable with manipulation of the image, which influenced the choice of treatments. Minimal surface cleaning was done, using cosmetic sponges and soft brush, only where necessary to prevent staining at the location of a paper mend. Off-setting of media is problematic because it often intersects with Solti's annotations, scrapes and erasures. This was therefore left untouched.

Edge tears in the leaves were mended using remoistenable mending tissue (RMT). A 1:1 ratio of wheat starch paste and methyl cellulose was brushed onto a sheet of polyester film and a machine-made Japanese paper dropped onto the surface.[3] Once dry, repair strips were cut and reactivated with deionised water. These mends were strong enough and did not obscure Solti's manuscript. A similar RMT was made with hydroxypropyl cellulose (Klucel G), 2–5% w/v in water as the adhesive and reactivated with ethanol where less moisture was warranted because of risk of tidelines in the paper and proximity to soluble media.

A stronger mend was necessary to secure detached pages. Concern for the abrasion of Solti's markings with the movement of loose pages or the loss of a detached page made this treatment a priority prior to digitisation. Mending papers were chosen for strength with minimal bulk in the gutter and tonal match. Korean paper made without a chain line was often used because of its tonal match and strength. Where possible wheat starch paste was the chosen adhesive. Most problematic were the mends on paper laden with old pressure sensitive tape adhesive, no longer tacky but a resistant substrate for a mend. Reactivating the tack using brushed-on ethanol and applying a Japanese paper guard with 3% w/v solution of Klucel G in ethanol as an adhesive was sometimes effective.

Recording

Evidence of Solti's working methods in the recording studio presented challenges. Paper clips attaching sections of a score together were left in place but rendered less damaging with the insertion of an acid- and lignin-free paper as a barrier between metal fastener and paper page. Further research will determine if the paper clip as editing tool was indeed for recording or performance.

Post-it notes with manuscript notation, often noting recording times, are found in many scores. They are vulnerable to loss and misplacement as the adhesive ages.[4] As the Post-it note juts out beyond the textblock edges, creases and tears have occurred. A treatment protocol was developed to render the Post-it notes more stable.

Written and pictorial documentation was done on the conserved scores before and after treatment. Post-it note placement on a page was traced onto transparent tracing paper before removal of the Post-it. The adhesive residue was removed from the verso of the Post-it using a Staedler Mars vinyl eraser; the same was done at the place of contact on the score while avoiding the erasure of manuscript. Thin Japanese paper V-hinges (2) were attached to the verso of the Post-it note and allowed to dry under Holytex, blotter and weight. Using the tracing paper guide for placement, the Post-it inserts were adhered in the original location using wheat starch paste. When the score is returned to a custom storage clamshell-style box, the Post-it notes are folded down onto the score page to prevent damage to the edges of the notes.

Are the bindings stable?

The scores in Solti's personal archive represent the range of binding structures to be expected from music publishers. All are commercially printed and bound as issued by the publisher[5]

3 Irene Brückle, 'Update: Remoistenable Lining with Methyl Cellulose Adhesive Preparation,' *Topics in Photographic Preservation 1997* 7, Article 11 (pp. 88–90).

4 Robin Siegel, 'Conservation Implications of Yellow Sticky Tabs,' presented to the AIC Photographic Materials Group, Winter 1989. Updated March 1989. *Topics in Photographic Preservation 1989* 3, Article 10 (pp. 66–68).

5 Boosey & Hawkes, G. Schurmer, and Wien: Universal Edition.

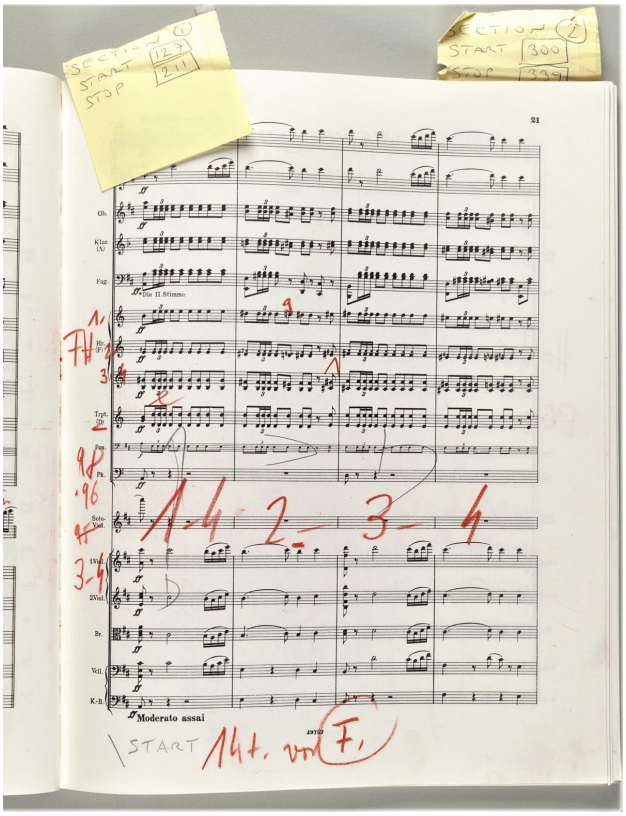

Fig. 4 Before treatment: Peter Ilich Tchaikovsky, *Konzert für Violine und Orchester* (Leipzig: Breitkopf & Härtel, [1932?]). Sir Georg Solti Archive, Merritt Room Mus 828.1.161.3 Solti. Courtesy of the Eda Kuhn Loeb Music Library, Harvard Library. Photographed at Weissman Preservation Center.

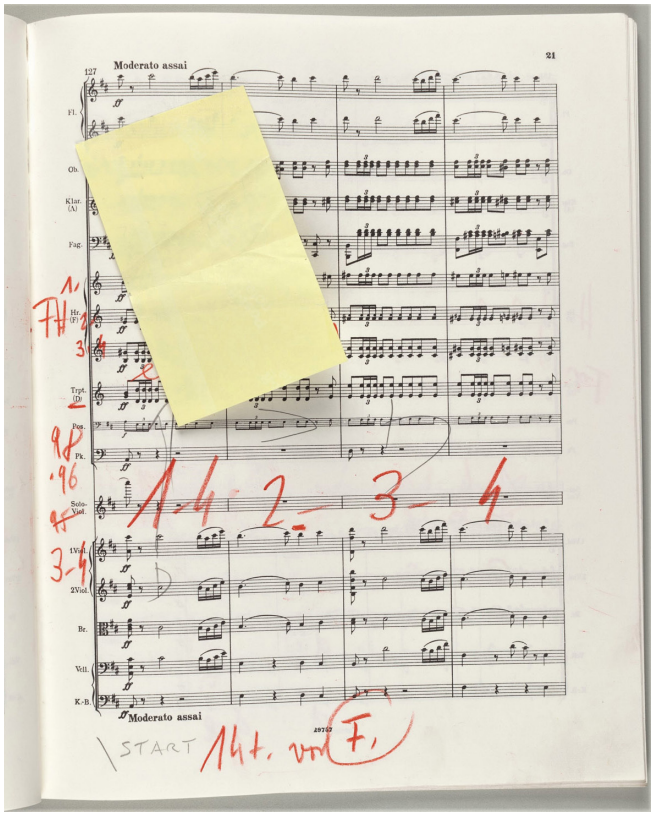

Fig. 5 After treatment: Peter Ilich Tchaikovsky, *Konzert für Violine und Orchester* (Leipzig: Breitkopf & Härtel, [1932?]). Sir Georg Solti Archive, Merritt Room Mus 828.1.161.3 Solti. Courtesy of the Eda Kuhn Loeb Music Library, Harvard Library. Photographed at Weissman Preservation Center.

with printed paper wrappers adhered to the spine protecting the gatherings, then machine sewn through the fold with a thread. Metal staples were found in scores comprised of a single gathering. With continued use, the scores would need to be fortified with mends or rebound with more robust covering materials like cloth over rigid covers. Remnants of the original printed paper binding, whole or partial, would be incorporated into the new binding, sewn in as a flyleaf or shaped with scissors as a label for the cloth cover. Solti's autograph in red crayon appears at the bottom right corner of each bound score. Stamps in blue ink, numbers on stickers and manuscript ink on paper labels are evidence of a score's place of origin and travels throughout Solti's career. Later in Solti's tenure as the conductor of the Chicago Symphony Orchestra (CSO), the CSO archive would enlarge a score for performance to Solti's specifications. 'Later on, he adopted red pencil when he was older because he didn't wear spectacles when he was conducting, not for vanity at all but practical because he sweated a lot. If [he] wear[s] specs they'll fall down [his] nose or they'll mist up. The red pencils were very important for ageing eyesight.'[6] The enlarged scores are often bound in single sheets with thick coated paper covers, then comb bound with a rigid plastic comb. The score is heavily marked for performance by Solti in thick red wax crayon large enough to be readable without his spectacles.

Comb bindings

The repair and supportive housing for this style of binding were key in preventing further damage to the media Solti used to annotate these late entries to the archive. Pages would often tear at the spine edge and detach. The scores' large size, weight and lack of rigid support are contributing factors to the inherent damage of this type of binding often found in music library collections.

The mending of paper tears and re-attachment to the comb was achieved in situ with Japanese paper bridges and wheat starch paste. More importantly, to prevent further damage and abrasion of the annotated pages, these scores were fitted to custom housings, each with a

6 Lady Valerie Solti in conversation with Robert J. Dennis, Curator of Recordings Collections. https://library.harvard.edu/onlineexhibits/solti/introduction/index.html

Fig. 6 Photograph by the Weissman Preservation Center. Courtesy of the Eda Kuhn Loeb Music Library, Harvard Library.

ledge resting on the base. The ledge of acid- and lignin-free corrugated board equals half the thickness of the spine comb and serves to elevate the textblock and alleviate the strain on the page to comb attachment.[7] All scores are housed in custom Heritage board clamshell boxes from Talas or, for thin scores, rigid board four-flap enclosures provided by Archival Products.

7 William Minter, 'Spiral Bindings in a Hard Cover—An Alternative to Rebinding,' *Abbey Newsletter* 21, no. 5, 1997.

Stabilising the bindings

The bound scores in the Solti archive mark their own time in the history of the publishing of music scores. The cloth coverings and decorative paper from Germany, the original paper wrappers and later enlarged plastic comb bound scores represent all stages of Solti's career and welcome further study. The following conditions of the bindings were noted and remedied:

Problem	Remedy
Weak cover to textblock attachment	Japanese paper interior guards
Pressure sensitive tape repairs on the covers	Removal if possible and mend tears
Loose sewing/detached gatherings	Resew the textblock or one gathering
Spine covering losses	Toned Japanese paper fills
Detaching archive spine labels	Remove adhesive, line with Japanese paper, paste and adhere to spine

Pressure-sensitive tape

As a preservation liaison to the music library for many years, I have noted the prolific use of pressure sensitive tape throughout the music library's special collections used for performance. Tape is commonly used as paper repair, as a substrate for annotations, or to repair the book structure: tape has become a convention. One collection treated at the Weissman Preservation Center lab had 10,000 inches (254 metres) of tape removed. The conservation approach to pressure sensitive tape in collections has evolved over time. Not all tape is removed. In the Solti Archive the prolific use of pressure sensitive tape and its stages of degradation are now a part of each particular score/object and must not be removed if possible. The tape was placed by Solti or someone in Solti's circle to mark changes or to render that score stable for the next performance. As conservators, we know the methodology of tape carrier and adhesive removal and the risks posed by invasive treatment. Our knowledge of the life cycle of tape, carrier and adhesive informs our decision making. The following is the treatment protocol for pressure-sensitive tape found in the archive when an intervention is warranted:

Condition and use of tape	Treatment protocol
Tape carrier lifting off	Remove and retain, reduce adhesive residue mechanically
Tape carrier as substrate for manuscript	Remove carrier, reduce adhesive residue mechanically, line the carrier with Japanese paper and adhere in place using WSP (wheat starch paste)
Tape carrier on top of manuscript	Remove and retain, reduce adhesive residue mechanically
Hinged paper with amendments	Remove carrier and replace with Japanese paper V-hinges

To remove the tape carrier mechanically tests were done using a heated spatula, air pencil, and heated scalpel. The air pencil on low temperature and a rounded scalpel blade were useful tools. The air pencil was used to heat the blade then set aside. The blade can slide just under the carrier above the wax media on the score. Place the carrier media side down onto silicone release paper. Remove adhesive residue mechanically using a crepe square and/or vinyl eraser. Line the verso of the carrier with thin Japanese paper using a thin layer of undiluted wheat starch paste and let dry under tension. The lined carrier was adhered at the original location on the paper using wheat starch paste. The paper with amendments is also adhered in the original location using Japanese paper V-shaped hinges and wheat starch paste. Researchers in the future will have access to the information on the page, under the amendment, and the attachment is more stable, the risk of loss of information averted.

User experience

At the time of writing 38,000 pages of Sir Georg Solti's scores have been digitised. The requirement of 6,000 digitised pages per year is expected. The scores have been used for research and teaching upon their arrival at the Loeb library. Some scores remain under copyright protection by the music publisher and are accessed in the Loeb library reading room through a request to special collections.[8] Digitised scores are searchable through Hollis (Harvard University's online public access catalogue) and viewable in Mirador, a configurable, extensible, and easy-to-integrate image viewer, which enables image annotation and comparison of images from repositories dispersed around the world. Mirador has been optimised to display resources from repositories that support the International Interoperability Framework (IIIF) APIs. It provides a tiling windowed environment for comparing multiple image-based resources, synchronised structural and visual navigation of content. Researchers can access the digitised scores, download pages from Mirador and annotate for personal interpretation.

8 Eda Kuhn Loeb Music Library, Harvard Library. Contact: muslib@fas.harvard.edu

Offsite storage

Once conserved and digitised, the scores are housed in custom-made clamshell boxes and reside in the Harvard University offsite storage facility where a consistent temperature, 7.2° C (45° F), and 35% relative humidity level are optimal for the materials found in the Solti

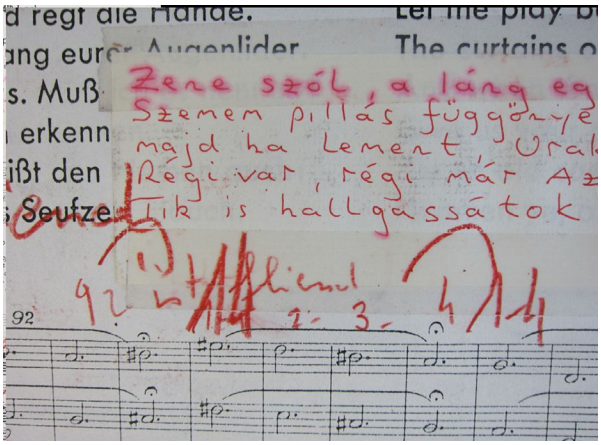

Fig. 7a Before treatment: Béla Bartók, *Herzog Blaubarts Burg: Oper in einem Akt* (Wien: Universal Edition; New York: Boosey & Hawkes, [1963] c1925). Sir Georg Solti Archive, Merritt Room Mus 627.22.604.4 Solti. Courtesy of the Eda Kuhn Loeb Music Library, Harvard Library. Photographed at Weissman Preservation Center.

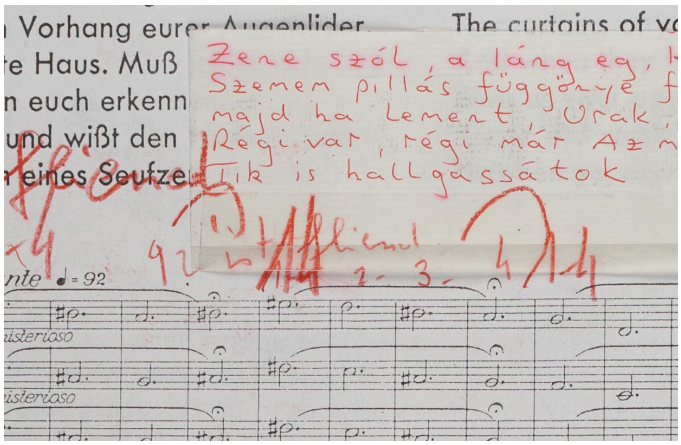

Fig. 7b After treatment: Béla Bartók, *Herzog Blaubarts Burg: Oper in einem Akt* (Wien: Universal Edition; New York: Boosey & Hawkes, [1963] c1925). Sir Georg Solti Archive, Merritt Room Mus 627.22.604.4 Solti. Courtesy of the Eda Kuhn Loeb Music Library, Harvard Library. Photographed at Weissman Preservation Center.

Archive. Environmental conditions are regulated by an integrated climate control system that eliminates radical daily fluctuations in temperature and humidity. The Weissman Preservation Center estimates that the life expectancy for paper-based materials stored in the Harvard Depository's environment is up to eight times longer than for such media when stored in a typical office environment.

A closer look

The Weissman Preservation Center receives requests from the academic community to do technical analysis on Harvard Library's special collections. A PhD fellow studying Solti's scores annotated for performance requested imaging tests of annotated pages of a Beethoven score with evidence of erasures. Pages of the score were imaged in the Center's VSC8000 (Video Spectral Comparator) using varying wavelengths of light. Infrared (IR) revealed Solti's previously erased annotations, providing a window into Solti's working methods.[9]

A window open to Solti's career

The Harvard Library created an award winning website launched to coincide with the opening of the exhibition *Music, First and Last.* Here pages from scores in the Sir Georg Solti Archive are paired with audio clips demonstrating Solti's interpretive choices. In a videoed conversation with Robert Dennis, former discographer at the music library and curator of the exhibit, Lady Valerie Solti speaks about highlights of Solti's career and his working methods. Solti's reflections and comments on composers and their music are drawn from his *Memoirs* (Knopf, 1997). The final chapter bears the title "Music, First and Last."[10]

9 Giovanni Cestino, PhD student, University of Milan, in Literature, Arts and Environmental Heritage.

10 Interactive website: 'Music, first and Last: scores from the Sir Georg Solti Archive,' Cambridge, Massachusetts: President and Fellows of Harvard College, 2014. https://library.harvard.edu/onlineexhibits/solti/introduction/index.html

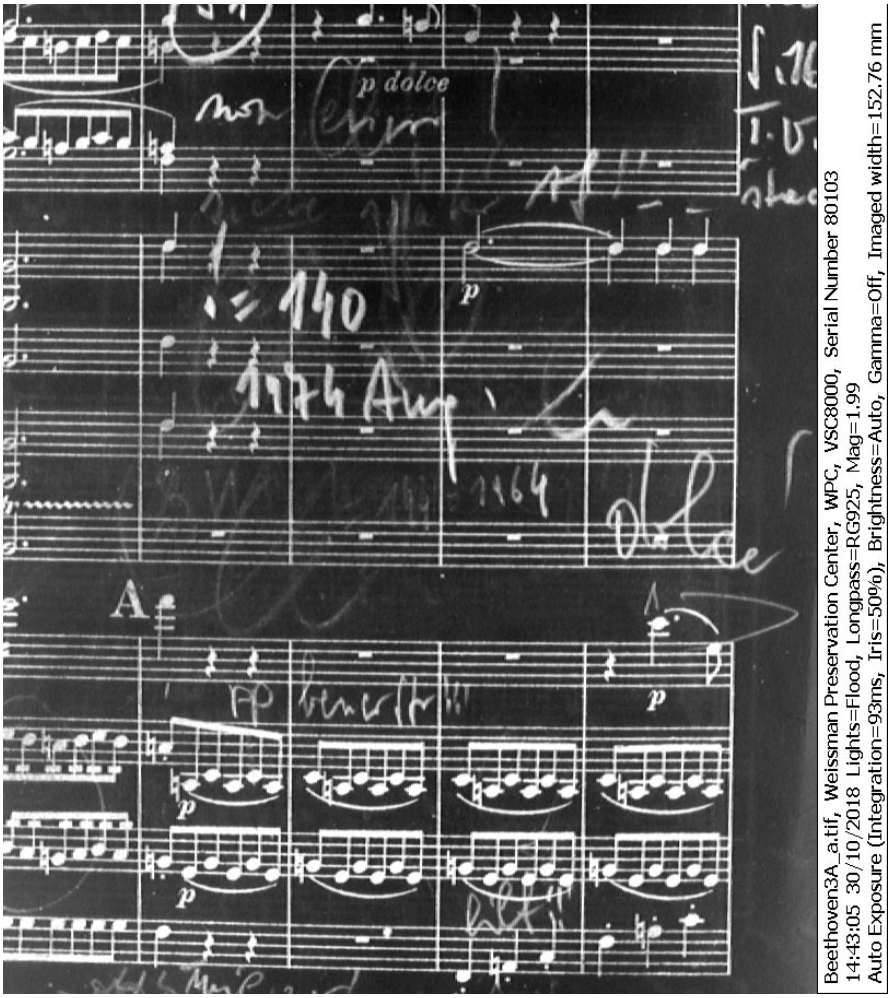

Fig. 8 Detail of an annotated score page captured via infrared imaging in the Weissman Preservation Center's VSC8000.

Acknowledgements
The Weissman Preservation Center conservators, technicians and conservation interns
Sarah Adams, Richard F. French Librarian, Eda Kuhn Loeb Music Library
Kerry Carwile Masteller, Reference and Digital Program Librarian, Eda Kuhn Loeb Music Library
Bob Dennis, former Curator of Recordings Collections, Eda Kuhn Loeb Music Library
The Yousuf Karsh Estate
Lady Valerie Solti

Biography
Catherine Badot-Costello is a Conservator for Special Collections at the Weissman Preservation Center, Harvard Library, Cambridge, Massachusetts. She has worked in the field of book and paper conservation since 1981 with studies in the visual arts, and formal study at L'École Nationale Supérieure des Arts Visuels de La Cambre in Brussels, Belgium. For the past 20 years she has been a member of the Weissman Preservation Center conservation staff providing conservation services for special collections books and manuscripts on paper and parchment, East Asian scrolls and photograph albums. She previously worked at the Northeast Document Conservation Center in Andover, MA and in private practice. She is a Professional Associate of the American Institute for Conservation.

Materials & suppliers

Heritage® archival corrugated board
Talas
330 Morgan Ave
Brooklyn, NY 11211
USA

Adjustable four-flap enclosures
Archival Products®
1801 Thompson Ave
Des Moines, IA 50316
USA

Japanese paper
Hiromi Paper
9469 Jefferson Blvd, Suite 117
Culver City, CA 90232
USA
orders@hiromipaper.com

Hanji
Polistini Conservation Material
105 6th St SE, Suite 208
Washington, DC 20003
USA

Contact
Catherine Badot-Costello
Weissman Preservation Center
90 Mt. Auburn Street
Cambridge, MA 02138
USA
catherine_badot-costello@harvard.edu