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Interactive Topography with IIIF: Open Access to Photographs from the Ernest Nash Fototeca Unione Collection

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Interactive Topography with IIIF: Open Access to Photographs from the Ernest Nash Fototeca Unione Collection

Abstract

The Ernest Nash collection documents ancient Roman architectural monuments and associated archaeological artifacts in pre- and post-World War II Italy. The American Academy's Photographic Archive has contributed some of Nash's images to an open access, interactive website called the *Urban Legacy of Ancient Rome*. This geo-referenced digital resource uses IIIF to reveal the ancient city of Rome in stunning detail and makes it possible to explore and examine approximately three thousand photographs housed in the Fototeca Unione Collection.

The Academy continues to digitize and describe the extended Fototeca Unione Collection with the generous support of the Kress Foundation and has recently made all their image collections IIIF compatible. In partnership with Archivision and vrcHost, new high quality digital photography is being added to enrich these historical images with contemporary photographs of the same Roman monuments to document changes. This article provides a progress report on this project which is searching for efficiencies and learning more about what it takes to move digital photography into IIIF.

Author Bios

Maureen Burns is an information professional with over 30 years of experience developing and managing teaching resources of analog and digital images at UC Irvine, the Getty Villa, and CSULB. Burns currently works on a consulting basis through IMAGinED, providing support for the CSU Dominguez Hills Archives digitization projects and doing other image-focused work with Archivision/vrcHost. She is active in the Visual Resources Association as chair of the Awards Committee and previously served as VRA president, VRA Foundation director, editor of the *VRA Bulletin*, and chair of the VRA's Southern California Chapter.

Lavinia Ciuffa currently serves as Curator of the Photographic Archive at the American Academy in Rome. She has been working in the Photographic Archive since its creation in 1996. During these years, her responsibilities have changed several times. Initially hired to work on conservation for the collection, Lavinia continues to use her conservation skills to set up guidelines for preservation projects, but her main responsibility has become the managing of staff working on cataloging and digitizing the collections. Ciuffa has been a member of the VRA since 2007 and has chaired and participated in the VRA International Chapter since 2014.

Introduction

The digitization of historic photography collections started in earnest in the 1990s and thirty years later, we are not only reaping the benefits of this groundbreaking work but searching for new ways to enable online access to high quality images, develop new standards and frameworks, and increase the educational utility of such visual resources. This article discusses one such endeavor from the American Academy in Rome (AAR) to share lessons learned and inspire additional experimentation in the visual resources community.

It centers on the Ernest Nash collection documenting ancient Roman architectural monuments and associated archaeological artifacts in pre- and post-World War II Italy. What made Nash's work significant, beyond capturing the present state of the ancient Roman monuments at a volatile historical moment, was the primacy of the topographical photography and the systematic order he brought to this subject. The American Academy's Photographic Archive contributed some of Nash's images to an open access, interactive website called *The Urban Legacy of Ancient Rome*. This geo-referenced digital resource reveals the ancient city of Rome in stunning detail and makes it possible to explore and examine approximately three thousand photographs from the Fototeca Unione Collection. They are accessible for viewing and zooming in, but also can be used with IIIF-compatible viewers. The Academy continues to digitize and describe the extended Fototeca Unione Collection with the generous support of the Kress Foundation and has recently made all their image collections IIIF-compatible. In partnership with Archivision and vrcHost, new high quality digital photography is being added to enrich these historical images with contemporary photographs of the same Roman monuments to document changes – whether conserved, restored, altered, reconstructed, re-sited, or destroyed.

The first half of this article provides background information and the second half a case study of this demonstration project which is searching for efficiencies and learning more about what it takes to move digital photography into IIIF. Finding new ways to provide ready access and juxtapose historic and contemporary photography online builds upon the legacy of Nash's quality curation and scholarship to create an accessible, twenty-first century, online educational resource of great interest and utility to scholars, students, and a wide audience of ancient Rome enthusiasts.

Background

The American Academy in Rome (AAR) was founded in 1894 and is the oldest American overseas center for independent study and advanced research in the arts and humanities.[1] To support these activities, several scholarly resources were developed over the years: 1) an important library, 2) an archaeological study collection, and 3) a photographic archive which has been in existence since 1896 and now consists of over 100,000 images.[2] The latter is discussed in this article.

The images in the AAR's Photographic Archive have artifactual value for the history of photography as well as documentary value for study and research on specific subjects, from archaeology, art history, architecture, topography, and art to landscape architecture and gardens.[3] The American Academy's photographic collections have been acquired over the years, mainly through donations. They provide an extraordinary record of the activity of considerable personalities, master photographers as well as scholars, active from the second half of the nineteenth century (for example, John Henry Parker) to the beginning of the twentieth century (such as Esther

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[1] "About," American Academy in Rome, accessed March 7, 2024, https://www.aarome.org/about.
[2] "Research," American Academy in Rome, accessed March 7, 2024, https://www.aarome.org/research.
[3] "Photographic Archive," American Academy in Rome, accessed March 7, 2024, https://www.aarome.org/research/photographic-archive/about.

Van Deman, Marion E. Blake, Henry S. Askew, Tatiana Warsher, and Anne Laidlaw) and more recently (Georgina Masson, Barbara Bini, and more).

The Academy has accepted new gifts, such as the Detweiler collection (archaeological sites in the Middle East), the Vermeule collection (Greek and Roman antiquities), the Aronson collection (aerial views of Rome), the Knauer collection (monumental sites in the Mediterranean area and in Northern Europe), the McCann collection (Cosa port excavations and excavations at Pyrgi and Populonia), and the Ludwig collection (Renaissance marble tomb reliefs). In addition to its own collections, the American Academy also houses the Fototeca Unione founded by Ernest Nash in 1957, which is a growing collection focused on the architecture and topography of the Roman world (approximately 30,000 photographs to date). The historical value of the AAR's photographic archive lies in its documentation of excavations from the early years of modern archaeology, providing a record of the changes that have occurred to monuments and sites over time, and preserving important images of the past that might otherwise have been lost.

The most important collection for documenting pre- and post-war Rome, Nash's Fototeca Unione provides comprehensive visual documentation of ancient Roman architecture and topography, covering not only the city of Rome, but also the Roman world beyond.[4] To understand the value of this collection, a brief mention of Nash – a pioneer of archaeological photography – is necessary.[5] Nash led an extraordinary life that reflects the dramatic events of his time. He was a lawyer in Germany when Nazi Socialism was rising. Because of his Jewish heritage, he had to reinvent his life twice. First, he escaped to Rome, where he developed an interest in photography and began capturing the city's rich artistic heritage. Then, for the safety of his family, he moved with them to the United States. Spending 15 years in New York, he had a photo studio and became an American citizen before returning to post-war Italy.

When in Rome, Nash focused again on his intellectual interests: photographically documenting ancient Roman monuments. By the end of the 1950s his collection of classical images already numbered over 3,000 negatives and was housed at the American Academy in Rome, named the Fototeca Unione. Gradually, the original nucleus of images of Rome was augmented by archaeological images of the rest of Italy. After Nash's death in 1974, the photographic campaigns continued, and the collection was enriched with images from the ancient Roman Empire outside of Italy (Fig. 1). Currently, the Archive consists of over 30,000 negatives, among them documentation of monuments in Syria, Jordan, Lebanon, and Libya – once part of the Roman world – that have experienced modern warfare and other disasters which have greatly damaged the ancient monuments.

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[4] Lavinia Ciuffa, "The Ernest Nash – Fototeca Unione Collection and the Project 'The Urban Legacy of Ancient Rome,'" *Visual Resources Association Bulletin* 46, no. 1 (2019), https://online.vraweb.org/index.php/vrab/article/view/17.
[5] Lavinia Ciuffa presented detailed information about the Nash collection at the 2019 VRA Conference in Los Angeles and published it in the *VRA Bulletin* (see article above).
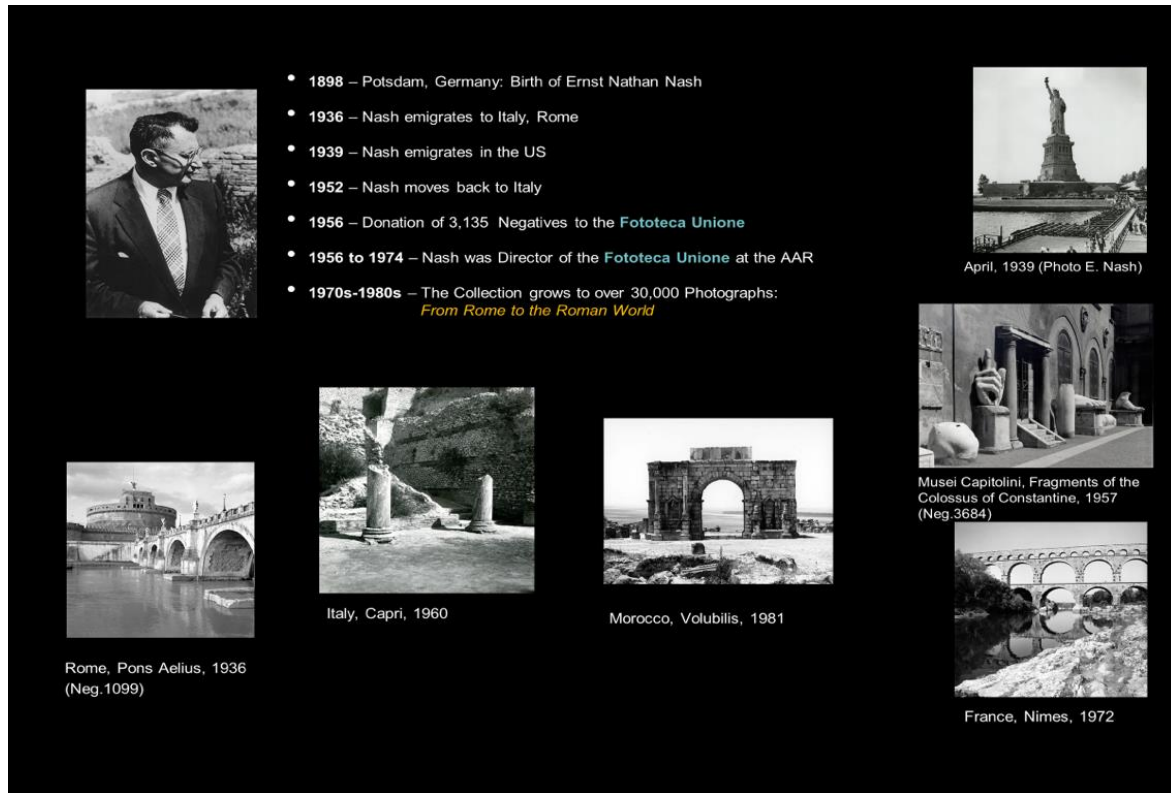
Figure 1: Chronology of Ernest Nash's life with a sampling of the photography in the Fototeca Unione. Clockwise from upper right: the Statue of Liberty in New York, fragments of the Colossus of Constantine in the Capitoline Museum in Rome, the Pont du Gard in Nimes, the Arch of Volubilis in Morocco, Villa Jovis in Capri, and the Pons Aelius in Rome.

The Fototeca Unione collection, thus, is key to the study of ancient Roman architecture and topographical research. Its renown began with the publication of Nash's seminal photographic work in 1962. In two magnificent hard copy volumes, the *Pictorial Dictionary of Ancient Rome* presented 1,500 photographs taken while Nash was in Rome during the 1930s and 1950s. He supplemented them with concise historical and architectural descriptions, as well as an extensive bibliography. His idea was to provide illustrations using a newer medium that went beyond the traditional written texts and drawings – a medium with which he had experience (Fig. 2). As scholar Theodor Kraus stated in the preface to the second edition in 1967, "anyone who leafs through the book with any care soon discovers how much the pictures themselves tell – sometimes to such an extent that pictorial documentation amply substitutes for long descriptions."[6]

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[6] Ernest Nash, *Pictorial Dictionary of Ancient Rome* (New York: Frederick A. Praeger, 1968), 5.
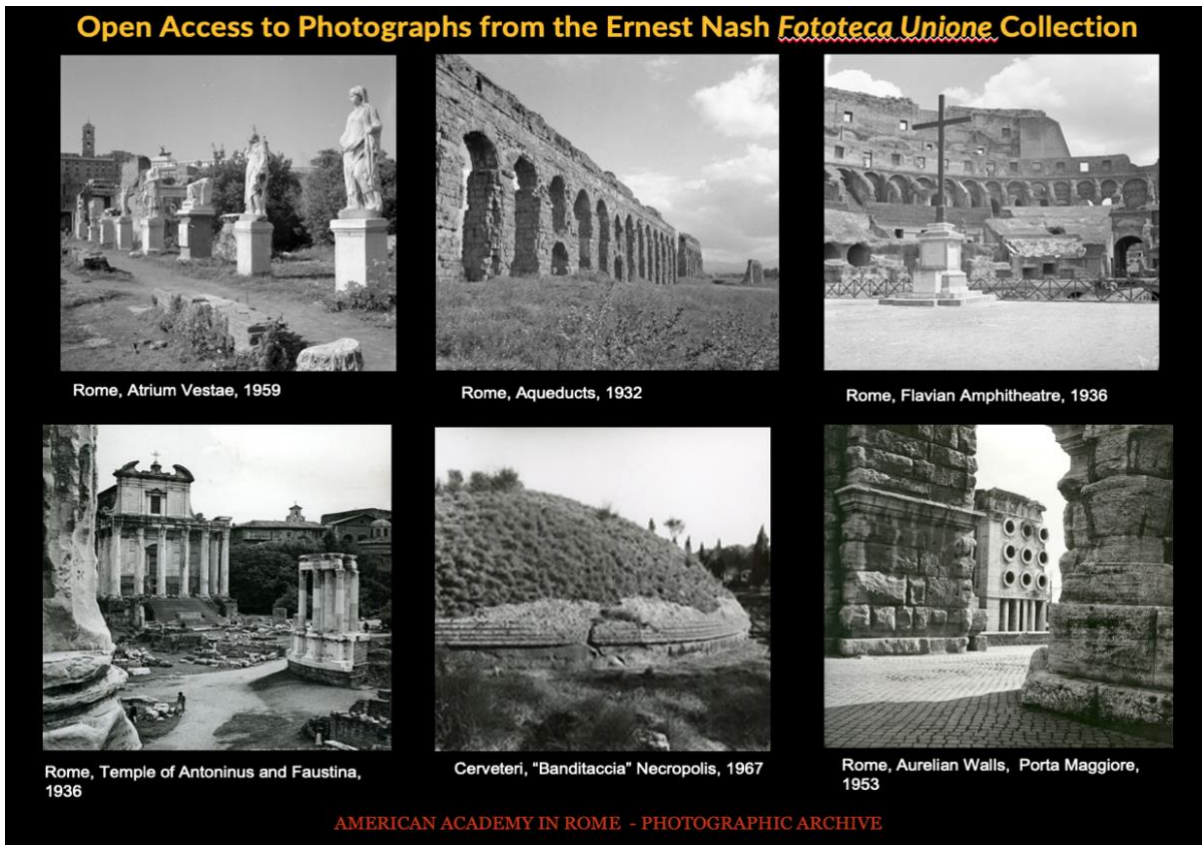
Figure 2: A sampling of the photography that can be found in Ernest Nash's <u>Pictorial Dictionary of Ancient Rome</u> *from before and after World War II. Clockwise from the upper left: the Atrium Vestae in Rome, Aqueducts in Rome, the Flavian Amphitheatre in Rome, the Aurelian walls in Rome, the "Banditaccia" Necropolis in Cerveteri, the Temple of Antoninus and Faustina in Rome.*

The value of the Nash images expanded in 1974 when the University of Chicago completed the reproduction of nearly all the Nash negatives as microfiche, permitting the collection to circulate to a wider audience in the United States and beyond (Fig. 3).[7] More recently, the digitization and electronic dissemination of this key resource expanded access by making the Fototeca Unione readily available to a global audience via the internet.[8]

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[7] Ernest Nash, *Ancient Roman Architecture: Photographic Archive on Microfiche*, ed. Karin Bull-Simonsen Einaudi (Rome: Fototeca Unione, American Academy in Rome and Chicago: University of Chicago Press, 1977-1982).

[8] "Fototeca Unione - Collezione Fotografica di Architettura e Topografia Romana /Architecture and Topography of Rome and the Roman World," American Academy in Rome, Digital Humanities Center, accessed on March 8, 2024, https://dhc.aarome.org/fototeca-unione.
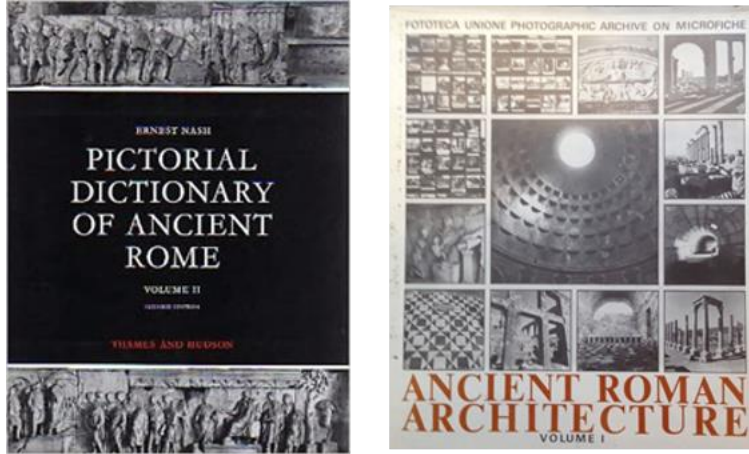
Then in 2018, a digital humanities project coordinated by Stanford University resulted in an interactive website entitled *The Urban Legacy of Ancient Rome* that geo-referenced the Nash photos (Fig. 4).[9] There are three aspects of this project that will be referenced later: 1) the maps show the exact location of the Nash photos, 2) the images were made IIIF compatible, and 3) there are interesting curated features that can be expanded on the website.

Figure 3: (left): The book cover of the "Pictorial Dictionary of Ancient Rome" published in 1962 with the Roman Forum's Trajanic reliefs above and below; (right): "Ancient Roman Architecture," the collection of microfiche published from 1977 to 1982, with the interior of the Pantheon's dome and other Roman monuments on the cover.

The goal of the Academy's Photographic Archive is the preservation, organization, and dissemination of these images. This has always been the AAR's priority, as well as making the Photographic Archive resources better known and used by more scholars and
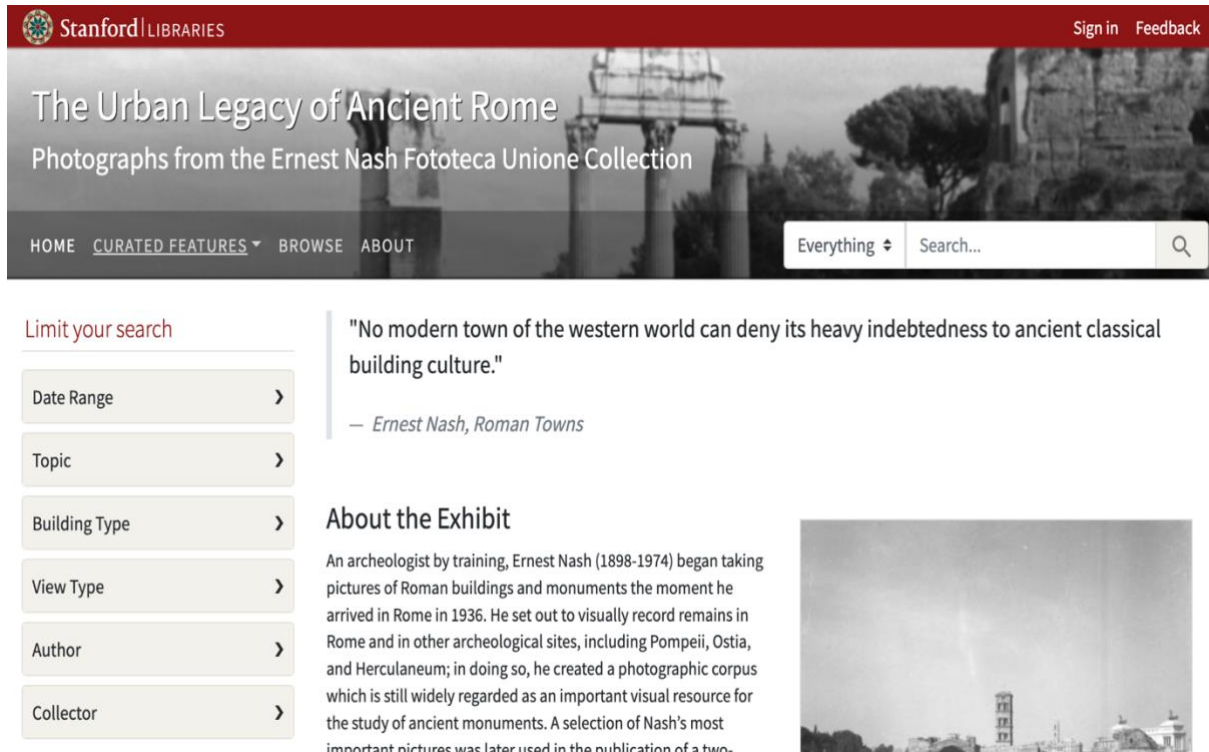

Figure 4: Screen shot of the "Urban Legacy of Ancient Rome" website with a view of the Roman Forum and navigable menus at the top and browsable search guidance on the left.

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[9] In partnership with the American Academy in Rome, the Stanford library team digitized, georeferenced, and tagged over 1,295 photographs from the Fototeca Unione, founded by Ernest Nash. *The Urban Legacy of Ancient Rome: Photographs from the Ernest Nash Fototeca Unione Collection*, Stanford Libraries, accessed March 8, 2024, https://exhibits.stanford.edu/nash. Readers are encouraged to explore this terrific website to obtain a better understanding of the ancient Roman monuments and their relation to one another.

artists. With the generous assistance of the Samuel H. Kress Foundation, the digital work began more than twenty years ago – identifying items, cataloging, digitizing, and adding them to the library system (Koha).[10] The images were digitized at high resolution for preservation purposes and smaller versions were made for web access. Recently, the focus has been on the Fototeca Unione Collection, a project that will be concluded in summer 2024. Processing the entire collection of about 30,000 images, the Nash images and a great part of the Fototeca Unione, the digital images and descriptive information are available through the Academy's Digital
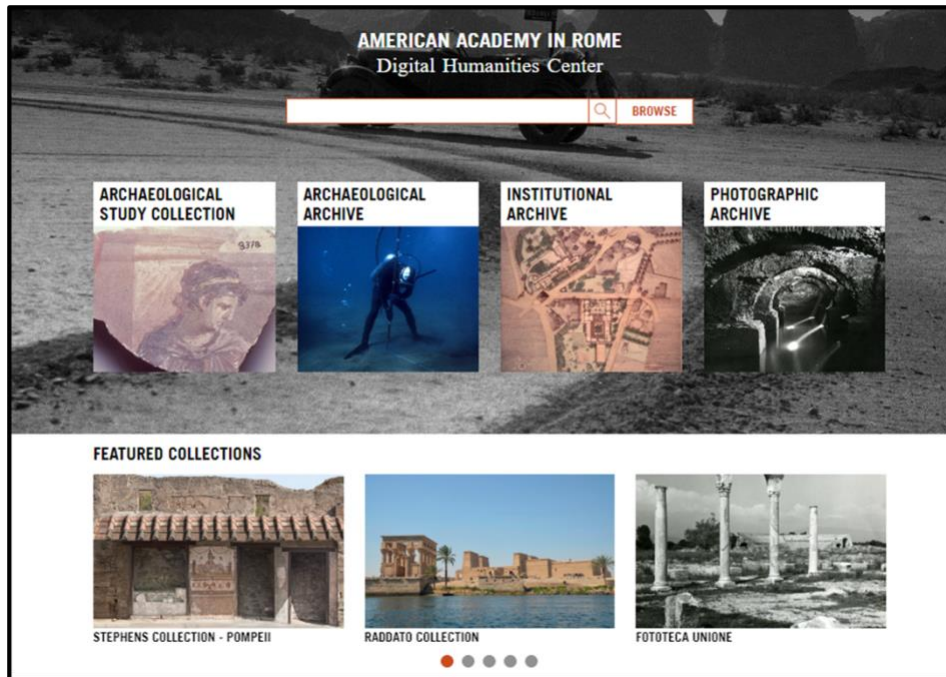

Figure 5: Screen shot of the American Academy in Rome's Digital Humanities Center website showing the various repositories accessible – Archaeological Study Collection, Archaeological Archive, Institutional Archive, Photographic Archive – and Featured Collections below.

Humanities Center (DHC).[11] Tremendous progress has also been made in processing and digitizing a number of the Academy's most important larger collections. Currently, 90% of the Photo Archive's holdings are available through the DHC (Fig. 5). The AAR is now in a good position to explore other ways of increasing the value of these extensive image collections.

The American Academy has just launched an updated version of the DHC and outsourced services related to the library systems management and digital archiving. A company called Emme.Bi.Soft has created a new digital platform and they assist in all phases of the workflow, including storage.[12] In addition, Emme.Bi.Soft recently updated the Academy's system with one of the most useful sets of open standards for delivering high-quality, attributed digital objects online at scale – the International Image Interoperability Framework (IIIF).[13] Beyond a more visually appealing experience, the main reason for the relaunch was to render all photographs and documents

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[10] The Koha Library Software is a fully featured, open-source, scalable library collection management system. Development is sponsored by libraries of varying types and sizes, volunteers, and the support companies worldwide. "Koha Library Software," Koha, accessed March 8, 2024, https://koha-community.org/.

[11] Lavinia Ciuffa, "From Processing to Public Service: The Digital Humanities Center at the American Academy in Rome," *VRA Bulletin* 44, no. 1 (2017), http://online.vraweb.org/vrab/vol44/iss1/3. The Digital Humanities Center (DHC) of the American Academy in Rome unites the Academy's archival resources in one single search interface and contains close to 100,000 digitized photographs from the Photographic Archive and the Fototeca Unione Collection; over 10,000 photographs of archaeological objects from the Norton-Van Buren Archaeological Study Collection; and photographs, archival documents, and oral history interviews from the Academy's institutional Archive, as well as scanned drawings and photographs from the Academy's excavations at Cosa and the Regia. "Digital Humanities Center," American Academy in Rome, accessed March 8, 2024, https://dhc.aarome.org/.

[12] "Emme.Bi.Soft s.r.l.," MBS, accessed March 8, 2024, http://www.emmebisoft.it/.

[13] "Home," International Image Interoperability Framework, accessed March 8, 2024, https://IIIF.io/.

available on the DHC IIIF-compatible. Access to the lower resolution JPGs was replaced with direct access to the high-resolution TIFFs in the Academy's Archivematica repository. The new IIIF-compatible database provides access to the Academy's images and digitized texts at high resolution without barriers. Scholars can now link to, manipulate, and seamlessly integrate the Academy's images and digitized texts in their IIIF-compatible digital libraries, teaching platforms, and online exhibitions. This will greatly enhance access to these high-quality images and facilitate their inclusion in scholarship. Not everything is complete as there are still some images and selected collections being updated and added to the database, but these are being processed.

Now the Academy can start exploring the possibilities of continuing to expand the visual documentation by adding more visual resources, especially if they build upon the most important visual history of Rome – the Nash Fototeca Unione legacy. A recent partnership is currently searching for new ways to provide continuity to Nash's original idea. The Academy would like to continue to add value to Nash's work to further represent the passage of time in the city of Rome and expand upon Nash's legacy.

Case Study of the Demonstration Project

A partnership between the American Academy in Rome and Archivision began in 2016 when I (Maureen Burns, co-author and Archivision associate) visited Lavinia Ciuffa (co-author and curator of the AAR Photographic Archive) at the American Academy in Rome. Lavinia provided an in-depth tour of the photographic collections, discussed the digitization efforts, and demonstrated the various systems that were in place to discover and access the visual resources. We lunched with Sebastian Hierl, the Academy's Drue Heinz Librarian, and learned about the Academy's many projects as well as their desire to bring in more grant funding. Subsequently, the possibility of working collaboratively on a potential project emerged and we wrote a few small grants.

I was particularly excited to see the Nash collection in both its analog and digital forms since my graduate research focused on ancient Roman art history, architecture, and archaeology. Thirty years after Nash's Pictorial Dictionary was published, I used his books to guide the renovation of the ancient Roman architecture photographs at the University of California in Irvine. Nash's scholarship provided a framework for the reorganization, key images and historical comparanda, topographical information for context and descriptive metadata, and extended references. You can see the renovation results and enjoy the nostalgia of past analog slide collections while also glimpsing the complexity of the city's topography in the textual lists that guided the project (Fig. 6). This is just one pragmatic example of how the images and information in Nash's books provide scholarly authority and have withstood the test of time.
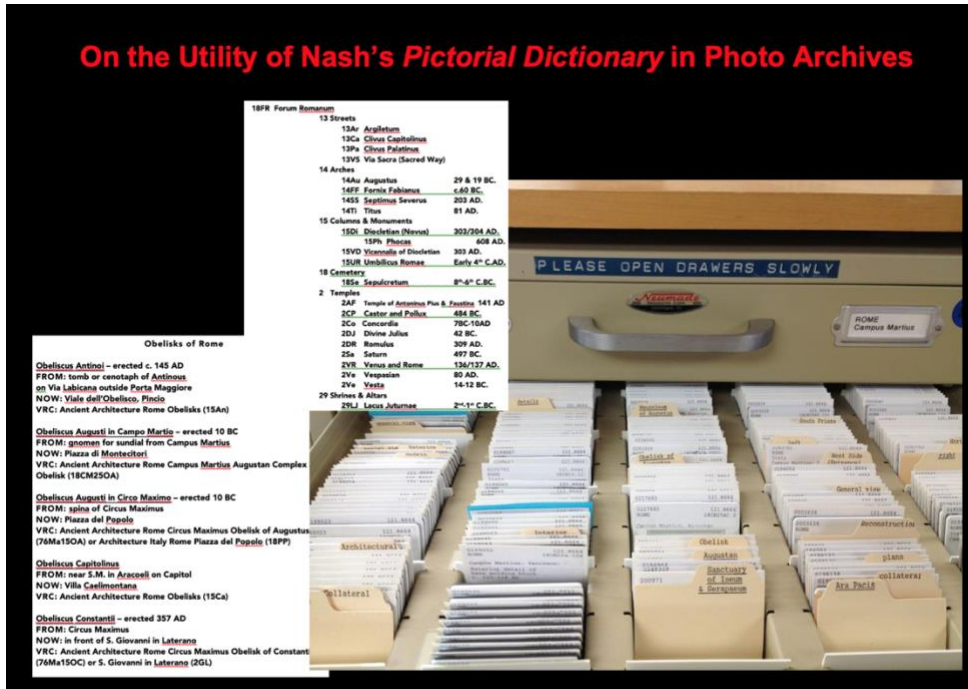
Figure 6: Photograph of an open drawer of 35mm slides in the UC Irvine Visual Resources Collection with a detail of textual outlines of the updated classification scheme, largely based on the information form Nash's Pictorial Dictionary of Ancient Rome.
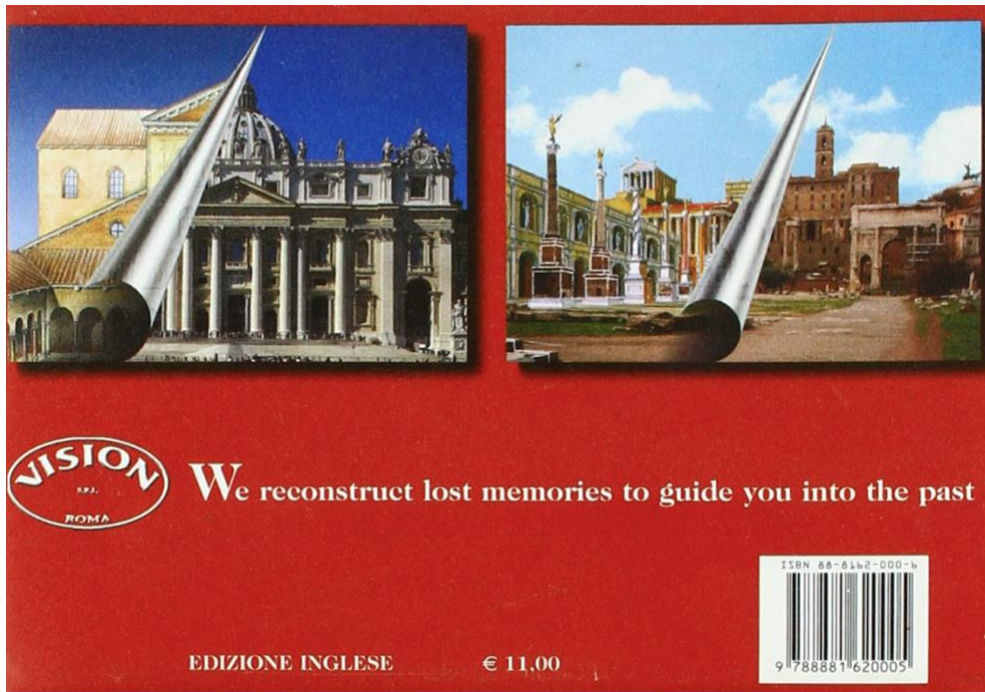

Figure 7: The back cover of Staccioli's "Rome Monuments Past and Present" showing the facade of St. Peter's Basilica with an overlay of Old St. Peter's and a view of the Roman Forum looking west towards the Capitoline Hill with an overlay of a reconstruction of how the monuments appeared in the past.

Lavinia and I were intrigued that the Urban Legacy project, mentioned above, made the Nash images IIIF-compatible and wanted to learn more about this new framework and its capabilities. The IIIF framework provides a way to standardize the delivery of images and audiovisual files from servers to different environments on the web where they can then be viewed and interacted with in a variety of ways.[14] It makes these objects work in a consistent way, enabling portability across viewers, the ability to connect and unite materials across institutional boundaries, and more. There are two main components to IIIF: 1) the image API defines how image servers deliver image pixels to viewers and sites, and 2)

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[14] The information in this paragraph was obtained and summarized from the IIIF website: https://IIIF.io/get-started/how-IIIF-works/.

the presentation API attaches basic metadata and structure to digital objects, defining how they appear in viewers, via the Manifest (a JSON file which bundles all the different elements of an IIIF object). There are currently several viewers available which generally allow users to pan, zoom, rotate, and resize image objects and play audiovisual files. Some viewers allow annotation with text, audio, and location, and allow for side-by-side object comparison.

We realized that it could be valuable to compare the Nash IIIF images with current, high quality, color digital photographs in IIIF to further document the ancient Roman structures' current conditions and changes over time – whether conserved, restored, altered, reconstructed, re-sited, or destroyed. One of our inspirations was the "monuments-past-and-present" books often seen in museum bookstores (Fig. 7).[15]

Since I work with Scott Gilchrist who developed the Archivision Research Library (Fig. 8),[16] a rich collection of professional photography with extensive descriptive information, it was natural that this resource came to mind. As a trained architect & professional photographer, he would be the best person to shoot new images comparable to Nash's. As a Romanist, I could help with the photo campaign planning, metadata research, and even some of the actual photography using Archivision's technical standards. Andreas Knab of vrcHost,[17] Archivision's technologist partner, has the capacity to make images IIIF compliant, provide access using the open-source MDID program, and host the new Nash-comparable photographs on his servers.[18] Everyone agreed that it would be great to try a pilot project and we entitled it *Rome Revisited.*

There were a few obstacles along the way. We tried to obtain grants but were unable to secure funding. This made finding the time to do the work and getting the necessary institutional support challenging, but we made it a back-burner project to work on whenever we had extra time. Then the
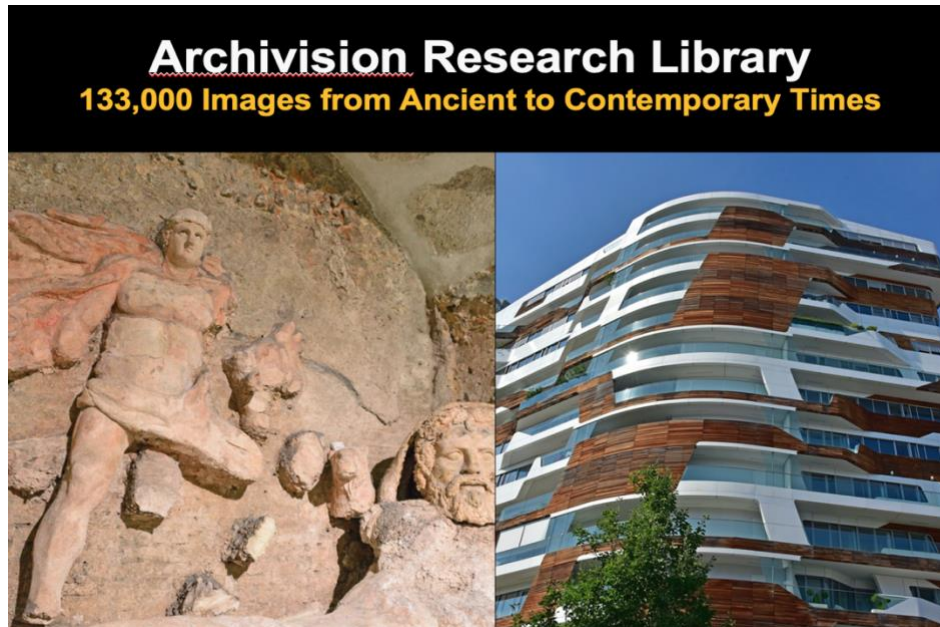

Figure 6: Two Archivision images juxtaposed to illustrate the temporal range of the Archivision collection: (left): the ancient Roman Mithraeum under Santa Prisca on the Aventine Hill; (right): CityLifeMilano housing complex by British architect Zaha Hadid, a contemporary structure.

pandemic happened, but just before all the closures, Scott and I both happened to have small windows of time in Rome, which provided opportunities for experimentation starting in 2019. He

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[15] R. A. Staccioli, *Rome Monuments Past and Present: Guide with Reconstructions* (Rome: Vision, 2001).
[16] "The Archivision Digital Research Library," Archivision, accessed March 14, 2024, https://archivision.com/educational/.
[17] "MDID Services," vrcHost, accessed March 14, 2024, https://www.vrchost.com/.
[18] The collection to date can be found in MDID. "Discover Experience," MDID, accessed March 8, 2024, https://demo.vrchost.com/explore/explore/?c=allcollections:36.

first planned and photographed structures in the Roman Forum, since so many important monuments can be found in close proximity.

In the image below, you can see that Scott used the Urban Legacy website to plan the shoot, creating a visual that he could bring along to identify the specific Nash views, and we compared notes about current accessibility (Fig. 9). I learned from Scott's experiences and built upon them the next time I was in Rome. By my last trip in 2022, Lavinia and I were able to access the Urban Legacy website from our smartphones while photographing to better identify the actual geographical location where Nash was standing when he took his photos and narrow in on the specific views.
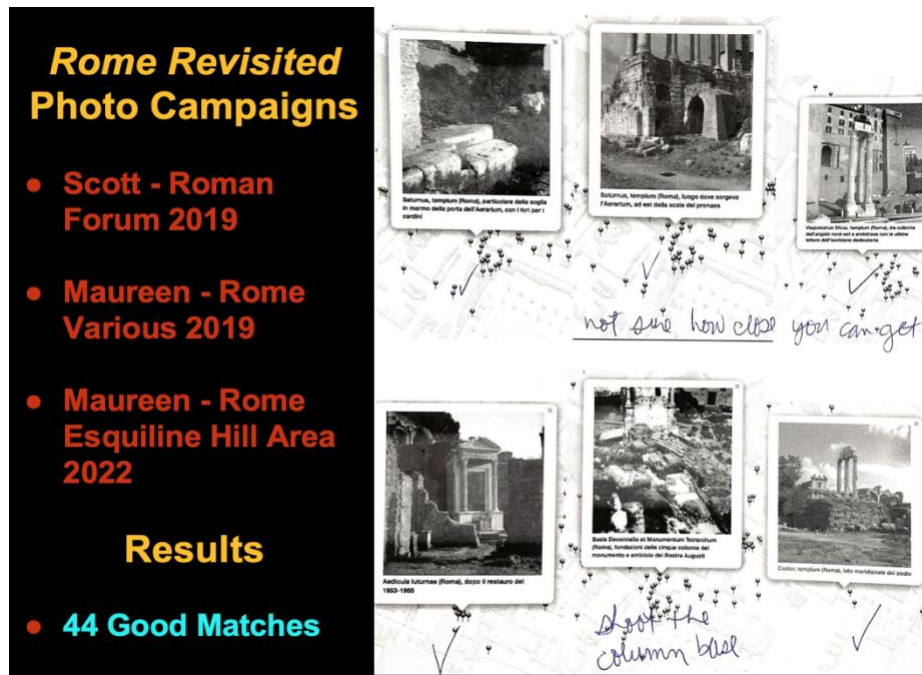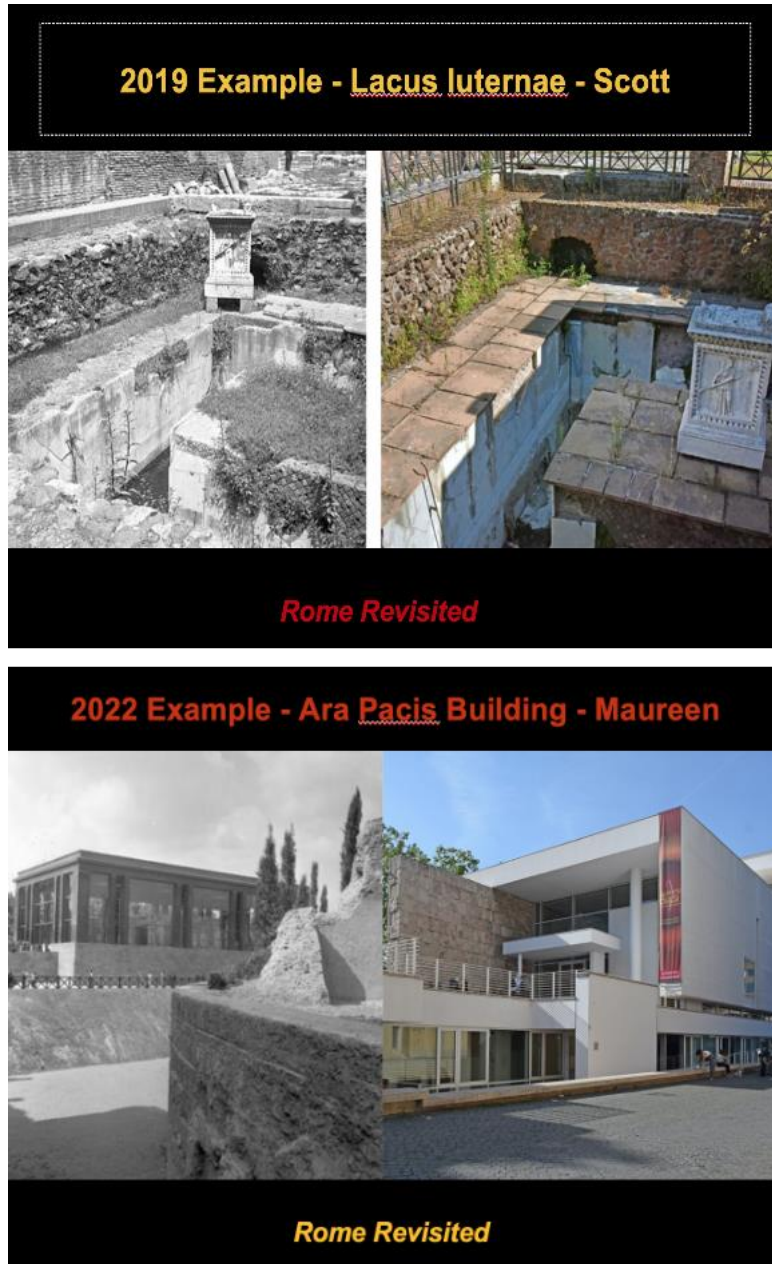

Figure 7: A summary of the 2019-2022 "Rome Revisited" photography campaigns with a guiding document that used "Urban Legacy" information to identify monuments to potentially shoot, resulting in 44 new images that correspond to Nash's originals.

Interesting lessons were learned from these limited forays; for example, finding the exact location and viewpoint as the Nash images is not always possible as it might no longer be readily accessible. It seems that Nash was provided with access to adjoining monuments to provide the best vantages or likely had a ladder to stand on when taking some shots – we had neither. However, zoom lenses helped us in some cases. Weather, time of day, direction of the sun, and crowds of tourists had to be taken into consideration, indicating the need to return to sites more than once to get the highest quality shot. The juxtaposition below of Nash and Gilchrist photos shows subtle changes to the Lacus Iuturnae. When comparing the images, you can see that the altar has been moved, but also modern tiles now cover and protect from the elements the marble cladding visible in Nash's image (Fig. 10). Most of the images we have obtained so far show subtle but important differences in the states of the monuments between the WWII era when Nash shot and today. A second example below illustrates a more dramatic change between the building Mussolini built to house the Ara Pacis and the new Meier building that has replaced it (Fig. 11).

Figure 8: Nash photographs juxtaposed with current Archivision images of ancient Roman Lacus Iuternae (top) and the buildings that have housed the Ara Pacis – Mussolini's structure and Richard Meier's new building that has replaced it (bottom).

Scott and I provided Lavinia with the highest resolution images to load into the Academy's systems. Archivision provided the American Academy with the rights to these new images so they can be openly accessible. We then realized that there could be metadata efficiencies when describing the new images. Lavinia had already cataloged the Nash materials, so she exported that metadata from the Academy's systems to Excel, providing a great starting point for the contemporary image descriptions. We agreed on a few enhancements to the metadata, including title adjustments, Creative Commons license designations, updated historical information based on current scholarly authorities, and additional subject and style/period terminology using the Getty Vocabularies' Art and Architecture Thesaurus. I completed the enhanced cataloging on the new images and returned the spreadsheet to Lavinia to upload to the Academy's systems. Then I made a copy of the spreadsheet, removed any Academy-specific fields that were not applicable to the new images, and mapped them to Dublin Core to ingest this information and the images into MDID (Fig. 11).

Metadata in Excel Spreadsheet Mapped to Dublin Core for MDID

A SOURCE	B LANGUAGE	C RELATION	D IDENTIFIER	E CREATOR	F TITLE	G COVERAGE	H DATE	I TYPE	J FORMAT	K DESCRIPTION
FUN.866.Nash	English; Italian; Latin	American Academy in Rome, Fototeca Unione	MB_FU.Roma.AQI.2_F1.JPG	Burns, Maureen	[Aqua Julia (Rome, Italy), arches in Via Filippo Turati (formerly Piazza Guglielmo Pepe)]	41.89580407, 12.50680805	2022	Image	1 digital JPG file: color; full image; 3.6 MB	Built by Agrippa and repaired by Augustus.
FUN.865.Nash	English; Italian; Latin	American Academy in Rome, Fototeca Unione	MB_FU_Roma.AQi.3.JPG	Burns, Maureen	[Nymphaeum of Alexander Severus (Rome, Italy), monumental public fountain built over the Castello of the	41.89580407, 12.50680806	2022	Image	1 digital JPG file: color; full image; 2.9 MB	Supplied by a branch of the Aqua Claudia, Anio Novus or Aqua Alexandrina (not the Aqua Julia) at the fork of the Via Labicana and Via
FUN.1040.Nash	English; Italian; Latin	American Academy in Rome, Fototeca Unione,	MB_FU.Roma.ARAPA.0_F1.JPG	Burns, Maureen	[Ara Pacis (Rome, Italy), view of the current museum from the Augusteum]	41.90546237, 12.47635773	2022	Image	1 digital JPG file: color; full image; 3.1 MB	The Ara Pacis was previously housed in a 1938 glass case designed by Vittorio Ballio Morpurgo and a new structure was built by Richard Meier
FUN.880.Nash	English; Italian; Latin	American Academy in Rome, Fototeca Unione,	MB_FU.Roma.ARCD.1_F1.jpg	Burns, Maureen,	[Arch of Drusus (Rome, Italy) on the Via Appia, South side]	41.87367716, 12.50140423	2019.	Image	1 digital JPG file: color; full image; 6.1 MB	The monumental archway carrying the conduit of the Aqua Antoniniana near the Porta San Sebastiano.
FUN.265.Nash	English; Italian; Latin	American Academy in Rome, Fototeca Unione,	SG_FU.Roma.ARCUAU.9_F1.jpg	Gilchrist, Scott	[Arcus Augusti (Rome, Italy), foundations of both arches, on the right the solid one of the Parthian Arch, on	41.89182752, 12.48598203	2019.	Image	1 digital JPG file: color; full image; 5.1 MB	Between the Temple of Castor and the Temple of Divus Julius. The first arch was built in 29 BCE to celebrate the victory at Actium (31 BC); the
FUN.732.Nash	English; Italian; Latin	American Academy in Rome, Fototeca Unione,	MB_FU.Roma.ARCUC.6_F1.jpg	Burns, Maureen	[North side of the Arch of Constantine (Rome, Italy)]	41.89008794, 12.49043297	2019	Image	1 digital JPG file: color; full image; 5.9 MB	Dedicated on 25 July 315 CE, the tenth anniversary of Constantine's reign.
FUN.749.Nash	English; Italian; Latin	American Academy in Rome, Fototeca Unione,	MB_FU.Roma.ARCUGA.3_F1.jpg	Burns, Maureen	[The Arch of Gallienus seen from the east with the Church of S. Vito on the right (Rome, Italy)]	41.89572858, 12.5017573	2019	Image	1 digital JPG file: color; full image; 3.9 MB	It follows the Servian Wall in orientation, the Porta Esquilina was reconstructed by Augustus. The inscription is a later addition by M. Aurelius
FUN.104.Nash	English; Italian; Latin	American Academy in Rome, Fototeca Unione,	SG_FU.Roma.ATV.8_V2_F1.jpg	Gilchrist, Scott	[House of the Vestal Virgins (Rome, Italy), the statues of the Vestals on the northern side of the courtyard]	41.89154414, 12.48646087	2019.	Image	1 digital JPG file: color; full image; 5.2 MB	Statues of the Virgines Vestales Maximae, re-erected on the north side of the peristyle.
FUN.102.Nash	English; Italian; Latin	American Academy in Rome, Fototeca Unione,	SG_FU.Roma.ATV.16_V2_F1.jpg	Gilchrist, Scott	[House of the Vestal Virgins (Rome, Italy), courtyard with the water basin on the first floor]	41.89140314, 12.4866132	2019.	Image	1 digital JPG file: color; full image; 5.8 MB	The monument was built after the fire of 64 CE, restored and enlarged in the 1st-3rd century CE. Statues of the Virgines Vestales Maximae, re-
FUN.106.Nash	English; Italian; Latin	American Academy in Rome, Fototeca Unione,	SG_FU.Roma.ATV.19_F1.jpg	Gilchrist, Scott	[House of the Vestal Virgins (Rome, Italy): the six-roomed building east of the peristyle which is thought to be the	41.89143555, 12.48679524	2019.	Image	1 digital JPG file: color; full image; 8.8 MB	The monument was built after the fire of 64 CE, restored and enlarged in the 1st-3rd century CE.
FUN.5050.Nash	English; Italian; Latin	American Academy in Rome, Fototeca Unione,	SG_FU.Roma.ATV.10_F1.jpg	Gilchrist, Scott	[House of the Vestal Virgins (Rome, Italy), the courtyard as seen from the southwest]	41,89141553, 12,48673807	2019.	Image	1 digital JPG file: color; full image; 5.6 MB	The monument was built after the fire of 64 CE, restored and enlarged in the 1st-3rd century CE.
FUN.774.Nash	English; Italian; Latin	American Academy in Rome, Fototeca Unione,	MB_FU.Roma.AUD.7_F1.JPG	Burns, Maureen	[Auditorium of Maecenas (Rome, Italy), remains of the Servian Walls in the east part of the building]	41.89386149, 12.50145053	2022	Image	1 digital JPG file: color; full image; 5.3 MB	Part of the Gardens and Villa of Maecenas on the Esquiline Hill. The Republican city wall is visible on the Via Leopardi side.
FUN.234.Nash	English; Italian; Latin	American Academy in Rome, Fototeca	SG_FU.Roma.SACRV.6_F1.jpg	Gilchrist, Scott	[Via Sacra (Rome, Italy), semicircular	41.89143096,	2019.	Image	1 digital JPG file:	The most important and oldest axial road of the Forum

Figure 9: Archivision's Rome photography metadata after being mapped to Dublin Core schema for MDID.

Below you can see the collection of 44 new, Nash-like images in MDID, which has its own excellent image management and presentation tools (Fig. 12). The open access images can be used in MDID or you can click on the IIIF symbol and copy the manifest to use it in other IIIF viewers. Andreas explained that it was not difficult to create the IIIF images using key value pairs of data. What allows other IIIF viewers to show images that are stored in MDID are the manifests that MDID automatically generates from the given metadata of a record. MDID basically reformats the image and cataloging metadata into a file that is understood by other IIIF viewers. A lack of funding, many demands on our time, and the constraints of the pandemic explain the small sample of images to date, but now we have a much deeper understanding of what it would take to pursue a more substantial project.
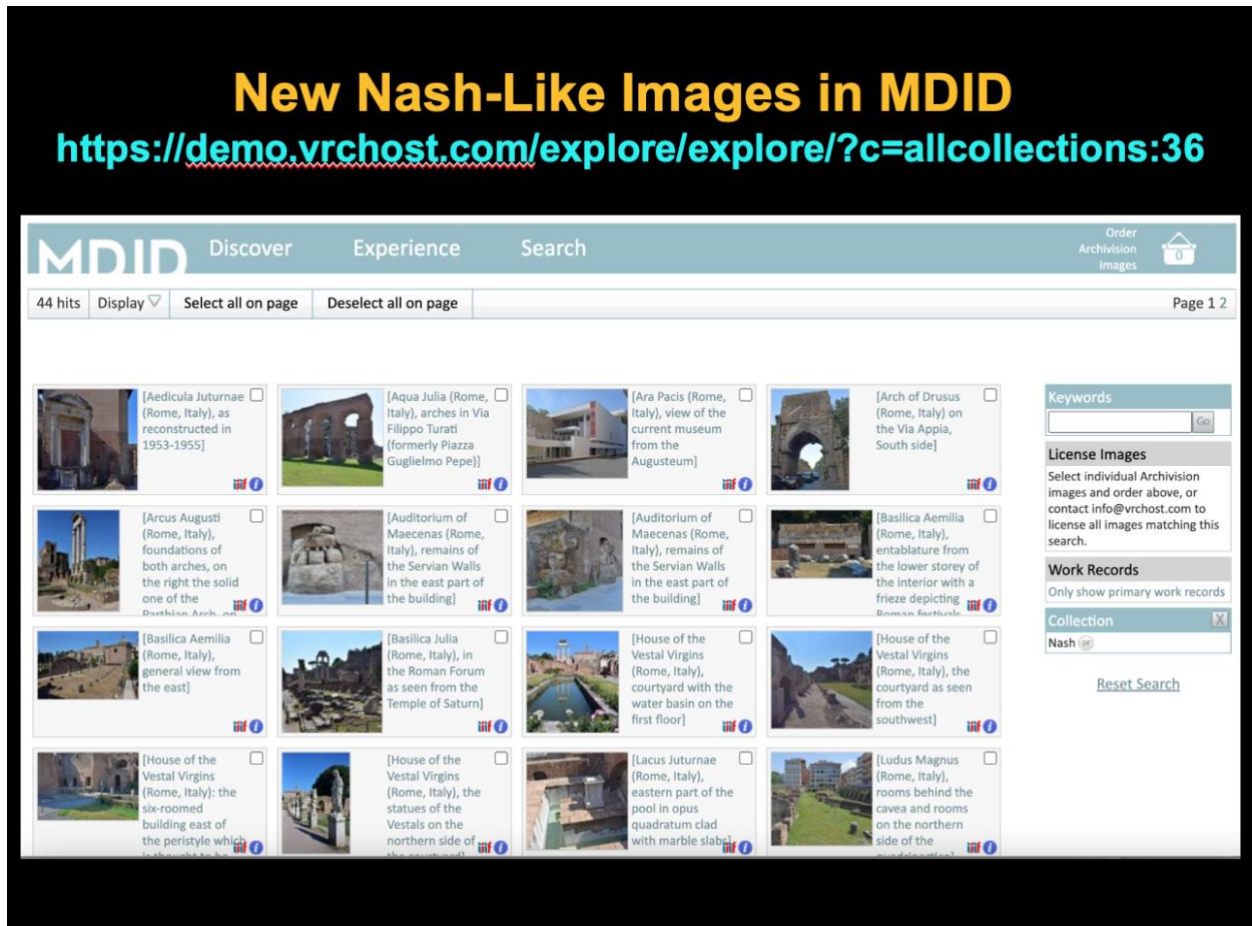
Figure 10: Archivision's Rome photography and metadata in MDID with IIIF capability.

Now that everything is in IIIF, you can see the Academy's first experiment with a small exhibit using the Mirador viewer to provide an example of the types of resources we might want to further develop online (Fig. 13).[19] We plan to eventually curate and design a more in-depth online exhibition with the existing Nash photos and the new Archivision images by experimenting with the IIIF Exhibit tool.[20] It will allow us to explore these image collections together, juxtapose the old and new photography, tell the story of this collaboration, and link to it from the curated features on the Academy and/or Urban Legacy websites. Our goal is to better understand how to utilize the new IIIF images, share the lessons learned from this pilot project, demonstrate the value of a full implementation, and publicize it to potential users and funders. We presented this preliminary information at the Archaeological Institute of America's annual conference in 2022 and the Visual Resources Association's annual conference in 2023 where the project was well-received. The 2024 IIIF annual conference will be in Los Angeles, which will provide me with an opportunity to reach a new audience and to learn more about the many IIIF technological advances and tools available.

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[19] "Digital Exhibitions Portal," Digital Humanities Center, accessed March 8, 2024, https://aarome.digitalexhibitions.it/s/nash/page/welcome and "Project Mirador," Mirador, accessed March 8, 2024, https://projectmirador.org/.

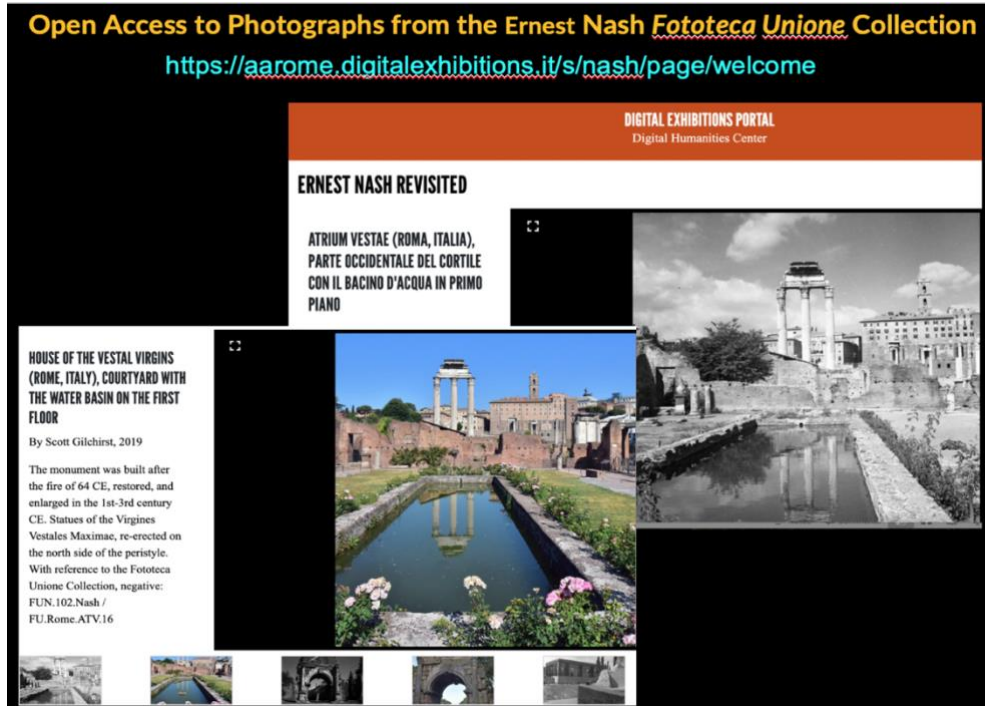[20] "Create, Narrate, and Share Exhibits," Exhibit, accessed March 8, 2024, https://www.exhibit.so/.

Figure 11: An exhibit of "Rome Revisited" photographs in the Mirador viewer comparing the Archivision and Nash images of the House of the Vestals.

Conclusion

Lavinia and I are striving to learn more about new technologies that have the ability to make historic photographic collections more accessible and understandable for all, but more specifically to try to meet the needs of archaeologists, classicists, historians, students, and the interested public for use in research, teaching, educational activities, and general enlightenment. Below are some of the project possibilities that could potentially follow the pilot project:

1) adding new Archivision images or even new photographs of more recently discovered Roman archaeological monuments,
2) experimenting with IIIF tools and exhibits to further contextualize the Roman topography,
3) including more of the newly digitized Fototeca Unione images,
4) adding reconstructions of the monuments (similar to the past-and-present books),
5) and finally, we have been in touch with the original Urban Legacy partners who are interested in adding another map – Lanciani's Forma Urbis Romae.[21]

Of course, we welcome any ideas or feedback from Visual Resources Association members and others about the potential usefulness of this project.

The goal of this article was to pique the reader's interest in Nash's Fototeca Unione, the existing Urban Legacy website, the new Archivision images in MDID, and the new IIIF access to all the American Academy in Rome's image collections, so you too can experiment with these images. A wide array of technical tools are now at your disposal to explore the topography of ancient Rome. Beyond the apparent value of documenting the current historical topography of Rome and comparing the condition of these monuments 75 years after Nash captured them on film, there is the potential for much more to be learned as we explore IIIF. Nash's work was touted as "a model

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[21] "Forma Urbis Romae," Stanford Digital Project, accessed March 8, 2024, https://formaurbis.stanford.edu/.

of a modern instrument of scholarly research" by giving primacy to photography over text. We hope to continue to find new ways to expand upon Nash's rich legacy and to keep the scholarly and technological momentum going forward.

Figure 12: Sacred area of Largo Argentina (Rome, Italy), head and limbs of a cult statue, found in 1929 between temples B and C. Ernest Nash, 1936 (FUN.1028).

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