Maria Alessandra Panzanelli Fratoni, Silvano Montaldo, and Clara Silvia Roero. *Approcci digitali al patrimonio culturale delle università. Gli oggetti, le collezioni, i luoghi della scienza*. Bologna, Il Mulino, 2024, 274 pp.

In a moment when European universities are called to reconsider their role in shaping cultural memory and transmitting knowledge, the volume *Approcci digitali al patrimonio culturale delle università. Gli oggetti, le collezioni, i luoghi della scienza*, edited by Maria Alessandra Panzanelli Fratoni, Silvano Montaldo, and Clara Silvia Roero (Bologna, Il Mulino, 2024), which collects the proceedings of the XII Atelier Héloïse held in Turin from 25 to 27 October 2023, offers a broad, collective, and methodologically innovative reflection on the nexus between universities, heritage, and digital transformation. The conference, organized under the auspices of the Héloïse Network – European Network on Digital Academic History, brought together nearly fifty scholars from diverse institutional and geographical backgrounds, convened around a theme as wide-ranging as it is urgent: how to interpret, preserve, and make accessible – including through digital tools – a stratified, heterogeneous, and constantly evolving academic heritage.

Since its inception, the Héloïse project has functioned as an interdisciplinary and inter-institutional forum for researchers in the fields of university history and digital historiography, fostering dialogue among approaches that often remain siloed despite addressing contiguous segments of the academic ecosystem. The Turin edition marked a further step forward by advancing an integrated and critical vision of what constitutes "university heritage," expanding the concept beyond libraries and archives to encompass scientific collections, spaces, rituals, objects, and the tangible and intangible knowledge generated through academic life.

As underscored in the introductory reflection (p. 9), the volume is structured around a set of transversal categories that function as its analytical pillars: objects, collections, spaces, networks, and academic practices – all reframed through the transformative lens of digital technologies. Far from adopting a merely preservative approach, the volume embraces a dynamic and generative conception of heritage, understood as a living, plural structure continuously reactivated through use, research, and public engagement. This review takes these categories as interpretive keys to examine, section by section, the trajectories proposed by the contributing authors.

The nineteen essays collected in the volume – drawing from both

Italian and broader European contexts, spanning historic universities and newer institutions – converge in constructing a shared reflection on the contemporary significance of university heritage as a strategic nexus of identity, memory, and future. Five key themes traverse the volume: digitalization as both epistemological and civic tool; the historiographical value of collections; the centrality of digital infrastructures in knowledge transmission; the critical reinterpretation of university spaces; and the promotion of collaborative and networked academic practices.

Many of the contributions demonstrate that digitalization is far from a purely technical operation. Rather, it emerges as a transformative practice could be streamlined to avoid redundancy. Scientific objects –often silent witnesses to experiments, pedagogical practices, or now-obscure epistemological pathways– are reintegrated into meaningful frameworks that return them to both academic and broader societal relevance. Two emblematic examples are the AcCuDiRe project, analyzed by Stefania Zucchini and Monica Fiore (*Acquisire, custodire, digitalizzare, restituire: per una digitalizzazione del patrimonio archivistico e librario dell'Università degli Studi di Perugia*, pp. 127–138), to enhance juridical, normative, and scientific library heritage on a European scale, led by Damigela Hoxha and Nicoletta Sarti (*Eredità da preservare, diffonde-re, re-investire. Esperienze bolognesi*, pp. 139–146). In both cases, digitalization is not an end in itself, but a vector for cultural restitution, critical access, and historical reinterpretation of materials through scientific curatorship, museographic narrative, and public openness. The same tension between scholarly rigor and public communication animates other contributions: the digital and museological experiences reported by Cristina Cilli et al. (*Le collezioni digitali del Sistema Museale di Ateneo di Torino*, pp. 189–203), the participatory reconstruction of the Botanical Garden of Padua by Elena Canadelli et al. (*Orto Digitale. Carte, voci e storie dall'Archivio storico dell'orto botanico di Padova*, pp. 205–224), and the Tuscan project coordinated by Stefano Salvia (*Per un ecosistema digitale della cultura scientifica in Toscana. Digitalizzare un laboratorio su carta: i manoscritti galileiani della Biblioteca nazionale centrale di Firenze*, pp. 171–188) which engages with the complexity of Galileo's manuscripts in the pursuit of a renewed digital ecosystem for scientific culture.

University spaces, understood not merely as buildings but as symbolic and social loci of knowledge production, lie at the heart of a renewed geography of learning. The essay by Lucia De Frenza (*Storie universitarie. Università Adriatica di Bari: percorsi intellettuali e materiali all'interno del Palazzo degli Studi*, pp. 225–238) offers, through the case

of the University of Bari, a reading of academic space in terms of foundational rituals, public memory, and institutional self-legitimation practices. Similarly, Silvia La Placa (*Archivi digitali e architetture scomparse. Procedure di ricostruzione e fruizione virtuale di un patrimonio archivistico*, pp. 55-74) investigates the testimonial value of vanished academic architectures, presenting a model of digital reconstruction that reactivates such spaces for collective use through archival sources and 3D technologies. A comparable attention to the historical-spatial dimension emerges in the contribution by Alessandro Leccese, Paola Novaria, and Marco Testa (*L'Archivio dell'Università di Torino in mostra. Strumenti per la ricerca di base, collezioni di pregio, raccolte tematiche di fonti*, pp. 75-87), where the university archive becomes an exhibition and pedagogical site capable of communicating the material stratification of academic knowledge.

Annalisa Barbara Pesando's work (*Open Science: una traiettoria per il deposito storico digitale del Politecnico di Torino, dall'archivio alla ricerca e ritorno. Il caso studio sulle origini della Scuola di applicazione per ingegneri di Torino (1859-1877)*, pp. 89–104) propposes a reinterpretation of the spaces of the Scuola di applicazione per ingegneri in Turin as a laboratory of institutional memory, where architecture, documentation, and scientific identity intertwine.

Another key axis concerns academic collections, which emerge as the locus of a dual tension: on the one hand, as subjects of philological and scientific study; on the other, as focal points for projects of valorization and public access. The essays clearly illustrate how digitalization enables the aggregation of dispersed collections, the construction of visual narratives, and the design of thematic paths that recover or reconstruct the original significance of otherwise marginalized artifacts.

Especially noteworthy in this respect are contributions dedicated to university museum heritage.

The essay by Ester Maria Bernardi et al. (*Esperienze di digitalizzazione del patrimonio del Sistema Museale d'Ateneo di Pavia: catalogazione, Digital Library e fruizione in rete e nelle sale*, pp. 11–24) a complex process of cataloguing, digitalization, and public restitution of the collections of the University Museum System of Pavia, addressing with clarity the challenges related to the creation of an accessible, scientifically robust Digital Library. On the Emilian front, Mauro Mandrioli (*Il progetto Morebooks per la valorizzazione digitale del patrimonio museale dell'Università di Modena e Reggio Emilia*, pp. 25-40) details a project aimed at digitalizing and disseminating the naturalistic museum heritage of the University of Modena and Reggio Emilia, highlighting the didactic and outreach potential

of digital tools – even for scientific knowledge of the past.

Equally central are the essays on juridical books: Maria Alessandra Panzanelli Fratoni (Le Opere dei maestri, le opere del Maestro. Masters' Works, Master's Works, pp. 147-162) examines IVS Commune online (ICo), a digital tool for studying the transmission of legal texts from the Middle Ages to the early modern era. The project is directly connected to another database, giving rise to an initial form of interoperability: the information produced within ICo is enhanced and made available also within a second digital archive, Onomasticon. Erika Luciano (*Travailler par fiches. L'ordre matériel du savoir géométrique dans le Schedario Segre*, pp. 105–117) examines the Segre File as both epistemological artifact and scientific archive, demonstrating how the material organization of mathematical knowledge mirrors epistemic structures and didactic practices. In a similar vein, the ViViBo! project by Marco Orlandi and Giulia Zornetta (*ViViBo! Un progetto di visita virtuale multimediale e interattiva per la scoperta degli stemmi del Bo*, pp. 263-274) enhances the civic and symbolic value of heraldic decorations in Padua's Palazzo del Bo through immersive digital tours.

Together, these contributions reveal how university collections, once silent or invisible, can be reactivated as narrative architectures, semantic nodes, and epistemological tools. Digitalization, far from being a mere replica, operates as a mode of resignification in which collections are not only preserved but also interrogated, interpreted, and made accessible to society.

Networks –both in their material sense (connections among institutions, archives, museums, libraries) and in a conceptual dimension (interdisciplinary intersections, integrated approaches)– emerge as a fundamental condition for any initiative involving the mapping, digitization, or academic storytelling of heritage. Together with academic practices, they constitute perhaps the most transversal axis in the volume, as they underpin both the ways in which university heritage is aggregated and made accessible, and the models of cooperation, methodological frameworks, and infrastructures that render such heritage intelligible, navigable, and narratable. Far from being a mere technical backdrop, the digital practices examined here are presented as epistemological and political strategies, aimed at constructing a shared and interoperable European academic space.

A central role in this direction is played by the census project of digitized and digital heritage of Italian universities, coordinated by Fiammetta Sabba and Silvia Tripodi (*Censimento del patrimonio culturale digitalizzato e digitale degli atenei italiani: un progetto dell'Università di Bologna per la Digital Library del Mic*, pp. 41-54).

This initiative places at the core of its inquiry the need to map, systematize, and render accessible the digital resources produced by Italian universities. The development of common standards, the sharing of best practices, and the dialogue between universities and national institutions –especially with the Ministry of Culture's Digital Library– are conceived as pivotal steps toward a multi-layered cultural governance model capable of transforming data and collections into collective heritage.

On the European level, Kaspar Gubler's essay (*Connecting Prosopography and Written Works Digitally : Methodological Perspectives from the Repertorium Academicum (REPAC)*, pp. 239-255) offers a compelling example of digital academic practice rooted in interoperability and the interconnection between biographical repertories and written works. His contribution reflects on how digital technologies can be used to link identities, texts, and intellectual contexts, thus generating new forms of prosopographic and networked historical narrative.

On a more local scale, Carla Frova and Marco Menzenghi's project (*Nuove funzionalità e prospettive di sviluppo per la banca dati dello Studium perugino*, pp. 256-262) addresses the development of the *Studium Perusinum* database. Their work emphasizes the need for a flexible, searchable interface designed for diverse user groups –from specialists to students, from international researchers to local cultural institutions–. The database is not conceived merely as an archive, but as a workspace, a methodological laboratory, and a site of relational engagement between the public and the academic heritage.

Positioned at the intersection of scientific heritage and public communication is the contribution by Enrica Bodrato, Margherita Bongiovanni, Nicoletta Fiorio Plà, and Francesca Gervasio (*Patrimonio digitale per il public engagement: valorizzare le collezioni storico-scientifiche e archivistiche del Politecnico di Torino*, pp. 119–126), which illustrates the Polytechnic University of Turin's public engagement strategies through the valorization of its historical-scientific and archival collections. Here, digitalization is interpreted as a vehicle for civic activation and as a means to return academic knowledge to the city, fostering inclusive and participatory processes.

Maria Teresa Biagetti's essay also aligns with this trajectory. Her presentation of a digital portal dedicated to illustrated Italian books from the sixteenth to the eighteenth century (*Libri illustrati italiani 1501–1800. Una ricerca e un portale culturale*, pp. 163–170) is grounded in meticulous bibliographic and philological research and expands toward an open, cooperative cultural platform. Designed for cross-referenced exploration and public use, it exemplifies how specialist content can be rendered accessible through digital frameworks.

Taken together, these contributions strongly advance the idea that digitalization is not a finished product but an evolving process – one that demands shared decisions, common visions, and collaborative practices. The network is not merely a technological infrastructure but a working metaphor for rethinking the relationship between universities, memory, and citizenship. The volume thus shows how digital academic practices can become fertile ground for constructing a connective, plural, and generative university history.

One of the volume's greatest strengths lies in its methodological self-awareness. Rather than simply compiling experiences of digitization, the editors propose a theoretical and operational framework for understanding university heritage in the twenty-first century. The contributions are shaped by an explicitly interdisciplinary perspective, intertwining the history of academic institutions with digital humanities, museology, archival science, sociology of science, and public history. Erika Luciano's already-cited essay exemplifies this approach, as it explores the relationship between knowledge forms and the materiality of their supports, demonstrating how the organization of scientific knowledge both reflects and generates epistemic structures and pedagogical practices.

This methodology allows the volume to transcend the binary opposition between material and immaterial heritage, between objects and narratives, between documentation and communication. Digitalization is not conceived as an end in itself but as a critical and transformative process, one that entails epistemological, technical, and political choices. In this sense, the volume's contribution aligns with recent theoretical approaches that see *digital history* not as a mere technological mediation of the past but as a device for constructing collective memory and cultural citizenship.

The multiplicity of case studies presented throughout the volume reveals how digitalization can serve as a tool for inclusion, accessibility, and reinterpretation—whether by valorizing neglected collections, making difficult-to-access sources publicly available, or creating participatory archives and interactive platforms. The presence of projects conducted in multiple languages and in national contexts with diverse academic traditions enriches the comparative scope of the inquiry and broadens its critical horizon.

A distinctive feature that further enhances the scientific and communicative quality of the volume is the attention devoted to images, tables, diagrams, digital maps, and interactive visualizations—not as decorative elements, but as epistemological tools capable of revealing relationships, structures, and interpretive trajectories that would be difficult to express otherwise. The visual materials, curated with both precision and intelligence, play a decisive role

in understanding the historical and cultural dynamics that shape academic knowledge. Images of scientific instruments, classrooms, architectural plans, archives, and collections allow readers to grasp the symbolic and material density of the heritage under study. Tables and graphs help to structure and compare complex datasets, enabling multi-layered readings of the phenomena discussed.

Especially striking are the numerous digital visual representations –including network maps, interactive timelines, and 3D models– that demonstrate how the language of digitalization can complement, and sometimes even enhance, that of historiographical writing. In this regard, the volume offers a virtuous example of integration between form and content, capable of engaging diverse audiences and making tangible the idea that university heritage is a "visible object" to be rediscovered through renewed perspectives.

The variety of contributions included in the volume reflects the multiplicity of European academic experiences, reaffirming the vocation of the Héloïse network to foster a transnational historical reflection. From Italian and French universities to Northern European university museums, from Iberian to Central European collections, what emerges is a dynamic and evolving map that redefines the role of academic knowledge within the broader European cultural space.

This geography is not only physical but also symbolic and political.

Collaboration among institutions –archives, museums, libraries, research centers, and laboratories– is increasingly perceived as a necessary condition for the development of effective strategies of preservation and access. The volume bears witness to the vitality of collaborative networks that do not merely share data but co-produce historical knowledge through common project models, interoperable digital platforms, participatory practices, and openness toward society.

At the same time, several essays highlight the fragility of resources and the discontinuity of many initiatives: the absence of stable funding, the complexity of legal frameworks, and the lack of institutional recognition are transversal challenges that the volume does not shy away from but addresses with critical clarity. It is precisely in this context that the European dimension –and the coordinating role of networks like Héloïse– appears even more crucial in strengthening and sustaining a shared strategy for the digital enhancement of academic heritage.

Taken as a whole, the volume offers a composite yet coherent picture in which historical reflection is interwoven with cultural planning and the transformative potential of digital technologies. On this basis, the proceedings of the XII Atelier Héloïse emerge as a mature moment of critical engagement with the present and future of university cultural heritage, restoring historical dignity and

contemporary relevance to a domain too often confined to a solely preservative dimension. Thanks to the richness of the experiences collected, the solidity of the theoretical framework, and the breadth of the geographical scope, the volume constitutes a fertile space for scholarly exchange –one in which the differences among academic systems become resources for innovation.

In a time when universities are called upon to rethink their role in society, the rediscovery of their heritage –as a cultural, scientific, and civic infrastructure– proves essential. Digital technologies, far from representing a mere technical innovation, are conceived here as instruments for re-reading, updating, and democratizing academic memory. Within this process, history is not an embellishment but a critical device for interpreting the present and guiding future choices.

The value of the volume lies precisely in its ability to combine scholarly rigor with cultural openness, transnational dialogue with local rootedness, historical inquiry with digital foresight. The decision to accompany the texts with carefully curated graphic materials, evocative images, and well-calibrated visual tools further strengthens the communicative effectiveness of the work, making it both accessible and useful – not only for academic specialists, but also for policymakers, heritage professionals, students, and citizens.

Ultimately, this publication outlines a clear direction for those engaged in the valorization of academic heritage in the twenty-first century – a direction grounded in networks, methodologies, images, and shared knowledge, where the memory of the university becomes an active and generative resource for the future of knowledge.

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