

1. Memory of the future. Archiving, representing, narrating and understanding

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1.1 Identitary perspectives

In January 2021 Politecnico di Milano initiated, under the mandate of the Rector, an internal discussion process aimed at understanding the impacts of the pandemic events on teaching, research, and more broadly, the university's development prospects. This process was part of a broader reflection within academic institutions on the dynamics of profound transformation in the scientific world and education, linked to the convergence of knowledge, the acceleration of technological innovation, and global-scale phenomena such as the climate crisis and increasing geopolitical instability (Antonietti *et al.*, 2021). From this phase onward, like many of the most prominent international technical-scientific institutions, Politecnico embarked on an overall process of revaluing its core principles, also stemming from what was subsequently recognized as *collective post-traumatic syndrome*, leading to a redefinition of institutional policies. This revision extended to various sectors of the economy and society, from corporate contexts to the scale of individual lives (Fulco & Aquilani, 2023; Leach *et al.*, 2023).

Against this backdrop, in March 2021, the Department of Design at Politecnico di Milano launched a dialogue process among faculty and researchers to recontextualize their development perspectives within the changed institutional, cultural, and social landscape. This initiative led to the formation of a working group initially composed of the core faculty members responsible for drafting the Department's Scientific Project, a strategic guidance document required of all departments triennially, introduced the previous year. Subsequently, this group initiated the *Design Philology* project, activated in January 2022.

The working group's reflection immediately focused on the need to reconsider the perspectives identified in the Scientific Project, formulated in a phase that did not foresee the profound impacts of the pandemic crisis. It acknowledged a context not only radically different from previous projections but also characterized by challenges of global-scale change even more apparent and pressing than in the pre-pandemic phase. Based on these considerations, the group placed at its core the awareness of the educational and research world's necessary assumption of responsibility in guiding a long-term process of *reconstruction* and *transformation*, to be initiated based on a new imaginative capacity. From this premise emerged the hypothesis of fostering and directing this new design capability through a collective reconstruction of the identity traits and cultural roots of the Department and more broadly, the *Design System* of Politecnico di Milano and its community of reference. Underpinning this objective is the philosophical assumption, broadly supported by cognitive sciences, regarding the inseparable relationship between memory, construction of identity characteristics, and imaginative capacity (Krell, 1982; Assmann, 2011; McDowell, 2016).

Therefore, *Design Philology* is structured as a project for the codification and reconstruction of the historical memory of the *Design System*, serving as a tool to clarify its identity traits and ground new strategic perspectives. In this perspective, *design*, understood as both *cognitive* and *project* capability, is placed at the center of *Design Philology* from an (1) *epistemological*, (2) *praxeological*, and (3) *phenomenological* standpoint. It serves as (1) the subject of historical and critical inquiry, reconstructing its evolutionary stages and institutionalization within the university as a discipline; (2) the *operational*

approach adopted, developed through the application of theoretical models, methodologies, and design tools typical of design; and

Design Philology. Platform→



finally, (3) its outcome, materialized in an artifact, the Design Philology platform, which retains its dynamic, process-oriented nature, characterized by constant openness and *projection towards the future*, inherent to the notion of *project*.

The following paragraphs will introduce the theoretical premises, design guidelines, and characteristics of *Design Philology*.

1.2 Reconstruction of memory, identity, and historical narrative

Design Philology is based on the assumption that the memory of a complex social and cultural actor such as a university constitutes a cultural asset to be preserved and enhanced. This premise aligns with the design, physical-digital construction, and long-term sustenance of institutional university archives, which, according to guidelines developed by the Conference of Italian University Rectors (CRUI, 2009), *are among the main tools enabling free and immediate access to the results of scientific research produced at a university or other research centers*. They contribute primarily to maximizing the visibility of research output and its impacts on various stakeholders through the management and dissemination of institution-produced knowledge materials in digital formats and through advanced languages (Swan & Carr, 2008, p. 31). In this form, they represent not only a crucial testimony of the evolution of scientific communication models but, together with their original nature of *peer conversation*, can engage increasingly broad non-specialist audiences. Their goal is to narrate the historical role of the university in society and the advancement of technical-scientific knowledge (Cappelletti, Morosini & Vitale, 2023).

Design Philology builds upon this strand of reflection and project design, aiming to reconstruct the historical traces of the development and institutionalization of design education and research at Politecnico di Milano and more broadly at the academic level. Identifying this goal during the project's inception revealed tensions between potential theoretical and operational models that seemed initially divergent.

The first critical dimension of reflection concerns the type of historiographical approach to be adopted within Philology, given the nature of the identified research object. As the history of the formation of a new study and research context subsequently formally institutionalized within the university, it fits well into the typical approach of classical historiography. This perspective aims to trace the historical narrative by highlighting the path of political-institutional events, reconstructing them linearly and supported by official documentary sources (Sahlins, 2023). Classical historiographical approach often intends, as in the lesson of Thucydides, to verify the truthfulness of facts, identify causality in events, and offer a pedagogical interpretation guiding future choices and behaviors based on the *lessons of history*. However, the limitation highlighted by new historical currents emerging since the mid-19th century is the potential for transforming this approach into political ideology, leading to distorting phenomena, as noted by Eric Hobsbawm regarding the historicization of practices invented to facilitate their institutionalization and social acceptance (Hobsbawm & Ranger, 2012). In contrast to this view, the historiographical approach primarily influenced by the *Annales School* seeks to challenge mechanistic views of historical facts and time, promoting an investigation that includes social, cultural, and anthropological phenomena (Braudel, 1986). History becomes a *history of stories*, where dimensions and narratives stratify, time relativizes, contracting and expanding based on perspective and subject, and the contours of the investigated reality emerge from the sum of *micro-stories* (Ginzburg, 1976; Levi, 1993). However, the risk of this approach lies in presenting a disjointed narrative archive of anecdotes and vernacular without a methodological, theoretical, and interpretative framework (Hunt, 1989).

The second critical dimension of reflection concerns the specific nature of the content examined by the *Design Philology* project. As previously introduced, the evolutionary traces of a scientific institution, materialized in knowledge, texts, and artifacts produced, codified, and disseminated over time, can be considered in themselves as *cultural assets*. In this sense, their study is well-suited to take the form of *cultural history*, which, inspired by the 18th-century Wunderkammer, adopts an *archaeological* methodology of collecting traces and artifacts, leading to the creation of an *archive*, an ontological architecture

organizing and cataloging diverse content, reconciling the heterogeneity of sources and artifacts (Burke, 2019). While particularly effective in evocative and inspirational terms, this type of historical content organization suffers from dispersiveness and lacks an ontological and interpretative architecture to provide depth of knowledge. On the other hand, the theme of the birth and evolution of a scientific practice and discipline, such as design, lends itself to interpretation as *history of knowledge* or epistemology of thought. In this sense, it can be approached through the lens of Foucault by studying texts and *discourses* (Foucault, 1999). This method offers a comparative and descriptive way to read history, highlighting how the emergence or transformation of a domain became possible in relation to common theoretical models that appear in the discourses of a particular period. Ultimately, it allows for the identification of vertical relationships between knowledge and the social, economic, and political conditions of a specific historical phase (Paltrinieri, 2017). This approach undoubtedly offers a greater potential for critical understanding of a certain thought context and the intrinsic rules and values that governed it but risks creating a discontinuous landscape, an archive of discourses lacking an overarching narrative framework that aligns with either philosophy or history.

From these two illustrated critical reflection dimensions concerning historiographical approach on one hand and content organization on the other, emerged potential project directions that guided the subsequent development and implementation choices of the *Design Philology* project.

A first project trajectory concerns the choice between a classical historiographical approach, highly focused on *institutional history* putting together the formal steps (and related documents) of constitution and organization of the historical facts under study, and conversely, a historiographical approach oriented towards intercepting all dimensions, including cultural and social aspects tied to minor events, often traceable to informal, heterogeneous documents and secondary sources.

A second project direction concerns the choice between content organization as a *cultural collection* of traces and artifacts obtained through an archaeological approach and categorized in an archive offering a possible ontological architecture for understanding and utiliz-

ing the collection, versus an organization of content that prioritizes the *knowledge* dimension, i.e., discourses and narratives of history reflecting values and theoretical and interpretative models of the study period.

The context of identified project trajectories, each carrying potential in offering a rich and non-simplistic restoration, led to a careful evaluation of the inherent potential of digital innovation. The aim was not to favor a particular direction but to integrate solutions capable of offering historical readings inspired by the different approaches outlined. Therefore, the development of the *Design Philology* project aimed at adopting and applying digital models, methodologies, and tools capable of reconciling a multiplicity of possible solutions, harmonizing the diverse project trajectories identified.

1.3 Digital innovation, knowledge archiving and representation

Historical research processes, archival practices, conservation of cultural deposits, as well as access, consumption, and historical narration, have been profoundly transformed by digitization.

In evolutionary terms, digitization initially revolutionized memory preservation by offering more efficient conservation systems through digital reproduction of texts, documents, and images. Projects stemming from this initial wave of digital technology applications often replicated the typical organizational forms of physical archives, translating into *digital catalogs* accessible through traditional consultation methods albeit mediated by digital interfaces (Kyong Chun, 2016). Subsequently, the development of fields such as *Social Computing* and *Digital Humanities*, fueled by technological advancements, focused on exploring the digital potential within social phenomena and cultural assets, leading to new approaches that transformed both content organization and consumption methods. On the content front, new data organization criteria emerged, especially within the context of *Social Computing*, primarily developed in the field of computer science. Leveraging the enhanced computational capabilities of next-generation computers and neural network models, new *da-*

ta-mining techniques emerged capable of bottom-up relationship systems between documents, texts, data, and images, automatically generating novel content architectures and new ontologies (Kaplan & di Leonardo, 2017). On the consumption side, the contribution of *Digital Humanities* does not solely focus on data analysis but also seeks to emphasize user centrality and experience in accessing cultural content. There is a particular emphasis on the knowledge representation dimension aimed at enhancing perceptual and visual qualities and enabling rich cognitive pathways, effectively applying curatorial practices in the digital realm (Druker, 2011; Poole, 2017).

The convergence between analytical-numerical approaches typical of computational sciences and humanistic approaches has opened new perspectives in the study and valorization of content and cultural heritage. Within the field of *Cultural Analytics*, limitations imposed by mono-disciplinary views are surpassed, integrating diverse methodologies of data analysis, organization, and representation to create open, hyper-textual, flexible knowledge architectures navigable through multiple and multimedia reading modes (Manovich, 2016). The focus shifts towards relationships and the cognitive process rather than individual contents, leveraging the potential of interaction between users and digitized cultural heritage (Schnapp, 2008, 2018). Interaction defines the digital as a dimension of uniqueness, radically transforming the typical top-down, unidirectional organization, and consumption modes of traditional archives and cultural heritage (Ernst, 2012).

Thus, the full potential of digital innovation for cultural assets emerges, nowadays allowing the integration of storage and analysis systems into a single model, as well as different historiographical approaches and modes of visualization and narration. The potential project trajectories outlined in the previous paragraph, seemingly divergent, find in the contemporary context the possibility of harmonization within a single *artifact*, an assumption that inspired *Design Philology*.

On one hand, aiming to achieve both *institutional history*, based on an archive of official documents, and to include *minor stories* and direct and indirect testimonies. On the other hand, aiming to multiply data representation and narrative consumption, transitioning from *inspirational Wunderkammer* visualization methods to more guided curatorial paths, and even to theoretical-critical readings. The result was

the creation of a platform whose components and stratifications enable access to both intuitive and redundant interfaces, open to free and spontaneous exploration, following the model of *generous interfaces*, as well as offering vertical and constrained paths that provide access to interpretative and critical readings (Whitelaw, 2015).

In this perspective, *Design Philology's* platform embodies four objectives that translate into four exploratory sections: *Archive*, *Timelines*, *Narratives*, and *Essays*.

Archiving represents the primary function, organizing and displaying documentary fragments and heterogeneous data collected through historical research in an immediate, accessible, and random manner. The Archive section serves as the basic knowledge architecture, continually open to integration through the means of *crowdsourcing* methods, allowing spontaneous and free exploration and generating personalized user paths, capable of activating relationships between data and digital objects.

[Archive. Section →](#)



Visualizing involves visualizing archive contents and, through typical approaches of *cultural analytics* and *data visualization*, is structured within the Timelines. This section explores one of the multiple possibilities offered by computational and visualization methods; it serves as a testing ground to progressively explore the potential of *wide data*, organizing and representing the same dataset through infinite variables defining them, starting with time-based ones and integrating others such as location, people, themes, and more (Manovich, 2016).

[Timelines. Section →](#)



Narrating is the function of storytelling, where the interpretative filter of an expert intervenes, introducing an authorial component. It allows curators to draw from the archive to organize guided paths of in-depth study. This is materialized in the Narratives section, designed to incrementally and openly accommodate contributions from experts and curators, offering a historical interpretative perspective on the data through interactive digital storytelling.

[Narratives. Section →](#)



Knowing resembles instead traditional *direct interfaces* as it takes the form of actual texts or, following Foucault's approach, *discourses*. The Essays section contains critical scientific texts that adopt the most institutional form of knowledge codification to ensure transmissibility and generalizability but do not shy away

[Essays. Section →](#)



from being connected, through hypertextual forms, to other sections within a structured system of cross-references.

Therefore, *Design Philology* is configured as a multi-level platform, traversable horizontally and vertically, capable of embracing both an overview and a focus on detail, open to both informative narrative dimensions and scientific depth.

1.4 *Design Philology*: new ontologies and new curatorial models

As previously mentioned, the first tangible outcome of the project is a digital platform offering multiple levels of access to data and documents. These interconnected or narratively aggregated elements constitute a comprehensive and complex system of historical and cultural information and knowledge. The platform pursues the dual objective of outlining an institutionally grounded history, based on original documents of crucial events and testimonies of *minor* histories, while ensuring a plurality of curatorial voices and diverse, complementary narratives. The platform is composed of tools providing various knowledge experiences.

The historical and cultural result is the preservation and valorization of the knowledge developed in the research, teaching, and academic practice of design at Politecnico di Milano. A vast collection of documentation related to events, people, and data, visualized on timelines or within thematic narratives, preserves a relatively recent yet rich and complex history from digital oblivion (Colombo, 1986). Heterogeneous documents (texts, images, gray literature, publications, official documents, photographs, drawings, video testimonies, etc.) are collected and organized, focusing on the history of the first 30 years since the founding of the Degree Course in Industrial Design in 1993, while tracing the initial academic efforts such as the *Progettazione artistica per l'industria* course held by Alberto Rosselli in 1963-1964. The vision of professors like Tomás Maldonado, who coordinated the first cycle of the PhD in Industrial Design in 1990, and Cesare Stevan, then Dean of the Faculty of Architecture, benefited from a fertile scientific culture in technological project development.

The first Degree Course in Industrial Design reflects 3 decades of continuous experimentation, significantly contributing to the evolution of design through a comprehensive educational offer and national and international research experiences. Drawing from a vast cultural and multidisciplinary heritage that ranges from the tradition of Furniture and Interior Architecture to the *Milanese* design culture (see chapter *Circumstances. From the Inception to the Establishment of the Design System at Politecnico di Milano*) and the development of Architectural Technology, the first Bachelor's Degree in Industrial Design has experienced 3 decades of continuous experimentation. This has significantly contributed to the evolution of design itself, in its scientific and cultural expressions, as well as in its educational and professional dimensions, through the structuring of a broad educational offering and the maturation of national and international research experiences. From a curatorial-narrative perspective, the project has developed open curatorial models that, while anchored to sources and documents, express a pluralistic vision of history, intertwining cultural, social, and productive complexities of the narrated years. The platform's open structure simultaneously presents various perspectives and in-depth looks at the recent history of design education and research at Politecnico di Milano, interwoven with national and international cultural institutions and historical events. From a user-experience perspective, the platform experiments with different consultation and learning models. Knowledge is archived, protected, represented, narrated, inter-related, filtered, and systematized in its complex nature.

Specifically, following the fourfold objective outlined above, the digital infrastructure fulfills the function of *Archiving*, as the archive allows for access to individual contents and documents, which can be selected through the application of temporal, typological, and thematic filters. The heterogeneous variety of materials present in the *Design Philology* database, differing in type, medium, and origin, enables the reconstruction of the institution's history from multiple perspectives, placing each narrative piece within a temporal framework. By starting from official documents, academic records, course catalogs, and administrative papers, it is possible to identify key moments in the establishment and expansion of the Design System at Politecnico di Milano, such as the initiation of the first design courses, the introduction of

new teachings, and the evolution and updating of study programs. Communicative materials, documents, and scientific texts narrate the evolution of research and knowledge production; images, photographs, and drawings also testify to the informal life on campus as well as public events outside the campus. Lastly, interviews and video testimonies provide insight into the ideas, motivations, and experiences of professors, researchers, and students.

The *Visualizing* goal of visually displaying the history and stories that unfold over time in parallel, often intersecting, lines is achieved through the *Timelines*. The Timelines are based on the positioning of *traces* collected in the database (events, documents, individuals) along multidimensional and multilevel timelines, allowing for a com-

prehensive view of the evolution of the Design System and,



at the time of writing, specific dimensions of Education and Research. Users are offered the opportunity to explore archive contents through a visual architecture that organizes,

connects, and represents a growing density of educational projects, research, publications, and events. Starting from the



infosphere (Manovich, 2023) of the archive, a strategic objective is to provide tools for orientation and meaning amidst the overwhelming abundance of data that traditional categories struggle to decipher. Computational analysis tools and graphical representation connect fragments of knowledge

within an infrastructure that highlights their relationships, offering a dynamic and hypertextual perspective.



Addressing the goal of *Narrating*, the devices called *Narratives* aim for an exhibition-oriented dimension of historical memory. They constitute an editorial plan of digital exhibitions that, through the multiple visions of different curators, develop paths of insights weaving through words, documents, and images, drawing from the materials available in the archive and constructing meaningful connections among them. Based on a *long form* structure, the narrative unfolds across an open and dynamic grid, enabled by modules of varying sizes and colors that grant extensive autonomy and narrative freedom to the curator. Events, documents, individuals, texts, quotations and videos can be freely juxtaposed, fully exploiting the potential of digital media to construct hypertextual and multimedia narratives that differ significant-

ly not only in content but also in scope, reading times and degrees of depth. The first narratives presented on *Design Philology's* platform at the project's launch reflect the diverse possibilities of using modular layouts: from more historiographical approaches ([The Beginnings](#), [30 Years in a Glance](#)) and thematic paths ([Design Con-vivio](#), [Designing Design Education](#), [Research Trajectories](#)) that integrate texts, events, and documents, to paths where narration predominantly relies on visual components such as photographs, images, posters, and videos ([Beyond the Borders](#), [Echoes from Alumni](#)).

[Narratives. Section →](#)



Ultimately, a further dimension relates to the goal of *Knowing*, expressing in perhaps its most canonical form: the textual essay. Other than employing diverse historical-critical approaches, these essays aim to furnish tools for deeper exploration and comprehension. They are intricately linked to the documents archived on the platform, designed for both online and offline use, thereby serving as an additional hypertextual pathway, including links, references, and windows to the contents of the digital platform. The project features an annual call for curatorial contributions aimed at enriching the *Narratives* and *Essays* sections of the platform, divided into three areas.

1. *Themes*: in-depth explorations of various thematic areas covered within research, teaching, cultural and civic projects.
2. *Protagonists*: detailed studies of members of Politecnico di Milano, including professors, students, researchers and designers who contributed to the formalization of *design* within the academic context.
3. *Networks and contexts*: investigations into the relationships between Politecnico di Milano's internal history and the development of design as a discipline in other universities as well as the broader productive, cultural, and social systems that benefited from and contributed to the development of university design.

The *Essays*, together with the *Narratives*, introduce innovative editorial models within the digital platform, shaping an interconnected multi-level project. This project supports the participation of a broad academic design community, building a dynamic digital archive of the Design System.

1.5 Conclusions

Design Philology thus emerges as a complex and open system for preserving memory, constructing knowledge, and enhancing identity. To date, it represents an initial crystallization of a process that began – somewhat spontaneously and urgently – within a community contemplating its future during a period of severe collective and human crisis, deciding to reflect on its past and memory. The outcome, the

Design Philology is the result of a collaborative effort.

Note 1.

[Link→](#)



result of a significant shared effort among many actors¹, has established fundamental principles that also guide daily work within an institution devoted to education and the creation of new knowledge. These principles include continuous epistemological reflection on the discipline and interdisciplinarity, the generation of knowledge that is philological but also based on the analytical and relational interpretation of connections between data and documents, and the innovation of models for the dissemination and transmission of knowledge. The development of such an articulated platform, based on data storage spaces and organized into sections of chronological and curatorial narratives, has experimented with some of the crucial challenges of the essential relationship between the humanities and computer sciences, between Digital Humanities and Information Sciences (Tomasi, 2022).

From the experience conducted and the initial results obtained, it is possible to envision further spaces for experimentation and innovation. The process is open to being enhanced not only by feeding the archive with new documents and data but also by developing new systems for managing and valorizing information.

For example, some themes have emerged as crucial during the project's development and deserve further research. These include the potential of data mining and data visualization through dynamic artifacts for reading, interpreting, and visualizing data, with a focus on connections and relationships between the data themselves; the possibility of enriching the analytical reading of data with AI systems for more articulated and integrated interpretations; the need for further reflections on social computing concerning accessibility, the informational-pedagogical approach, and the transmission of shared memory and multifaceted identity through HCI interactions; the possibility of

integrating other display devices, including phygital ones, for further interactions; and other topics still.

Ultimately, it is about exploring increasingly refined tools to reinterpret historical memory as an evolutionary and collective phenomenon, nourished by an accumulating wealth of events, stories, thoughts, and people, and to valorize and share this common good. If the University is a place of research, knowledge, education, and relationships, we can imagine the repository of its cultural memory as a narrating, lively, and dynamic space that is redesigned daily. Design culture, which is the subject of historical research, here becomes itself a promoter of design practices, to gather the roots of memory, connect them to present cultures, and, hopefully, project them towards the future.

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