

DIGITAL ARCHIVES TO FOSTER AND ENHANCE THE ARCHITECTURAL HERITAGE KNOWLEDGE

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Scientific context

Contemporary society looks to the digitization of the archives and its rapid spread as a catalyst for a profound cultural, social and economic change.

The research investigates the process of transformation of cultural institutions, and in particular of architecture and design archives, and explores the opportunities of change induced by the impact of digital technologies and the participatory models of users. It analyzes the significance of archives today, from simple repositories to production and dissemination cultural centers.

This work is part of the larger research conducted in the scientific and disciplinary Research Unit, named Design for Cultural Heritage (DeCH), now Design & Culture, in the Design Department of Politecnico di Milano. It has been conducted in continuity with the research project PRIN 2010/12 "*The design of cultural heritage through history, memory and knowledge: the immaterial, the virtual, the interactive as a matter of project in time of crisis*"^h which has been investigating the development and potential of the digital, the virtual features of the web and the application of multimedia tools for the creation of new ways to benefit from cultural heritage.

Focus

The work focuses on designing programmatic actions for the promotion and fruition of Cultural Heritage archives, considering two innovative aspects:

- design as project of a transformation process, and
- contemporary cultural heritage open to the intangible (referred to creative practice of arts and crafts) and immaterial (with the contributions of the most advanced digital technologies) dimensions.

Archives in contemporary society are bound to the need of a profound rethinking at the institutional level. The emerging networked model, brought by the digital technologies and web development, with its fundamental principles of interactivity, sharing, and public domain, strongly put into question the concept of possession and use of cultural heritage, the traditional knowledge systems, the role held by cultural institutions, that need to be deeply 'redesigned'.

The archives, repository of memory and storage of collections, are traditionally considered, with museums and libraries, perched fortresses of knowledge, closed and inaccessible places. They are now becoming open to the temptations of contemporary dynamism and participation, to become active production and experimental centers of cultural dissemination.

To go beyond the secular function of 'recorders of history', archives today are enclosing open, relational and participatory models, taking advantage of the technology for the construction of new models of knowledge and new cultural practices.

"The memory palaces of the twenty-first century, will have much more permeable walls than their predecessors. (...) And they will be much bigger, both from the standpoint of the physical territory that they must cover and the corpora of information that they must harbor, by exploiting the expressive potential of tools such as Google Earth and the three-dimensional virtual world counterparts and taking advantage of the increasing availability of wi-fi networks to interact with

ubiquitous computing devices equipped with GPS technology capable of recognizing the physical location of an object or individual. All this represents the future of knowledge, culture, social and political practice will emphasize embeddings of virtual within the real, a future where the information will surround and envelop the collaborative process of sharing, re-interpretation and creative production that will be added to the tangible and concrete world, improving it. A future that has already arrived and that aims at enhancing the dissemination platforms to facilitate the creative interchange between real and virtual, without access limits".ⁱⁱ

The application in the archives of computer methodologies from digitization to media communication, has introduced innovative approaches in conservation and arrangements of documents, but above all opens the archive to a novel communicative and informative function.

The collections' conversion from analog to digital, integrated with new generation of contents directly produced on digital media, have contributed to the construction of articulated database (conversion of collections), able to describe the archival documents in a detailed and exhaustive way, and capable to provide additional information – metadata - that simplify and amplify their consultation.

The online displayed materials, enhanced by its forms of multimedia and interactivity, will add 'freshness' to the archives thanks to the possibility of offering visual immediacy and easy access to the documents. Automatic research tools allow to establish unusual relationships between the documented materials, defining associations not only on the basis of typological or formal aspects, but extended to the most rich repertoire of information related to the projects (techniques, materials, commissions, collaborators, etc.). Finally, the online inventory opens the 'micro-worlds' of historical, artistic and creative collections to the collective world, increasing it with high resolutions photographs and expanded by the possibility of cross references, with other archives and databases from other institutions.

The interoperability and participation introduced by the web evolution, allow to enrich the kaleidoscopic network system with countless fragments collected in digital platforms (hubs), updated and enhanced by the new generation contributions of the users (crowd-sourcing).

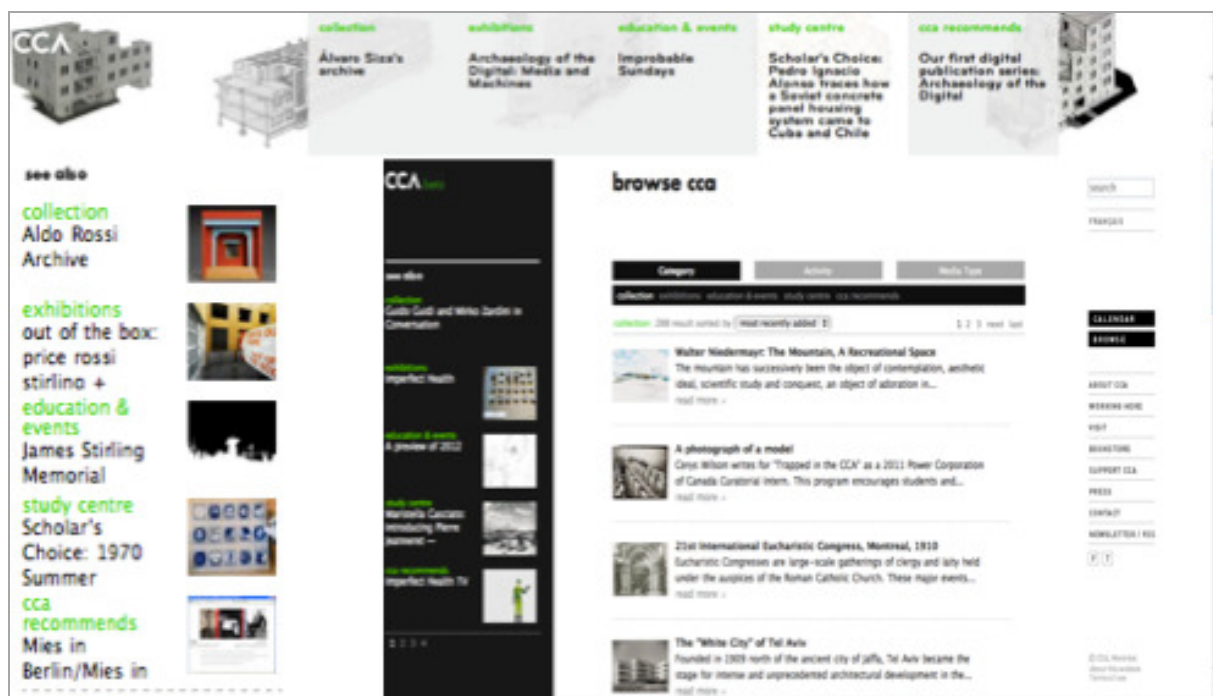
Information flows in both top-down and bottom-up models (Castells, 2008) thanks to online placing of content, provide the opportunity to widely intersect, with multidirectional queries, different disciplines and large communities of interest. The World Wide Web, multimedia and multi-channel platform, flexible and open to the ongoing process of input/output of data, will be recognized as a global database, the base for the construction of a new order of knowledge, with no territorial and cultural boundaries. The computer and its logic of database, makes possible a "quantitative or total history" (referring to Bloch's French Schools): the opening of channels of information sources, the exponential access to information, open to new forms of "informal" learning, the new paradigm of knowledge.

Within information flows and intersections, digital archives of architecture and design, are conceived as extracts of analogue archives incremented by the new generation of contents, contributing to the spiraling growth of digital heritage. The circulation of a rich and creative archive's repertoire of sketches and drawings, photographs and models, letters and technical reports, audio and video tracks, increased by the materials of documentation of activities and events carried out in the exhibitions and educational programs, opens opportunities to contemporary interpretations and reinterpretations of heritage archives.

Modern Heritage

Architecture and design archives are not only the testimonial of architecture and design creative thoughts: the modern heritage between the nineteenth and twentieth century, that built the contemporary landscapes and environments" are also forging platforms for the contemporary aesthetics. They regard the design and the architectures of the Modern Heritage great masters, such as Le Corbusier, Gropius, Mies van der Rohe, Aalto, in Europe; Wright and Buckminster Fuller in the USA; and Terragni, Figini, Pollini, Libera, Lingeri, next to Ponti, Michelucci, Pagano, Moretti, then the group BBPR, Magistretti, Castiglioni, Albini, Gardella, among others, in Italy. All mind that have become milestones in the history of modern architecture and references for entire generations, spreading a modern idea of living by the principles of geometric rigor, functionality, new technologies, and innovative materials.

Cultural models



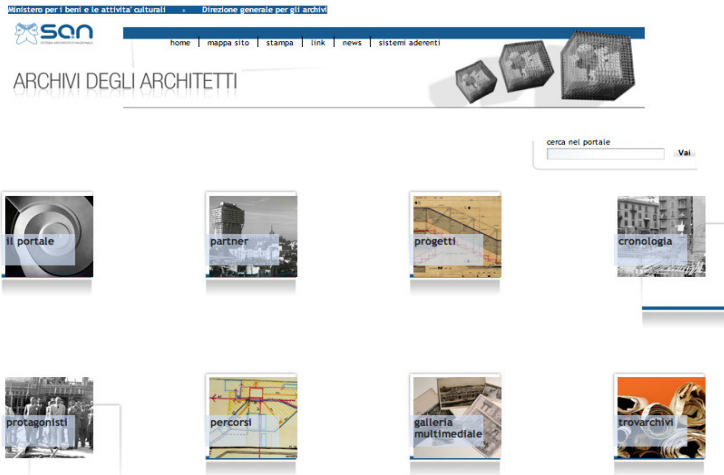
CCA_website

The interactive, multimedia and participatory digital models, suggest to archives new opportunities for the experience of the cultural content, both in the organization of the exhibition (exhibitions in situ) and in the disclosure in the network (portals and websites).

In situ, exhibitions and cultural programs, open to transversal variations of design topics (planning, architecture, design, territory, etc.), and to contemporary issues (about environment, climate, urban development, health, migration, etc.), widen to the participation of visitors and open their collections cyclically putting on display all the materials from their archives.

Online, web sites and portals are considered the new communication tools for online dissemination; as publishing projects, as well as fertile testing ground for the communication design, they exhibit the characteristics and activities of each institution, with multimedia experience.

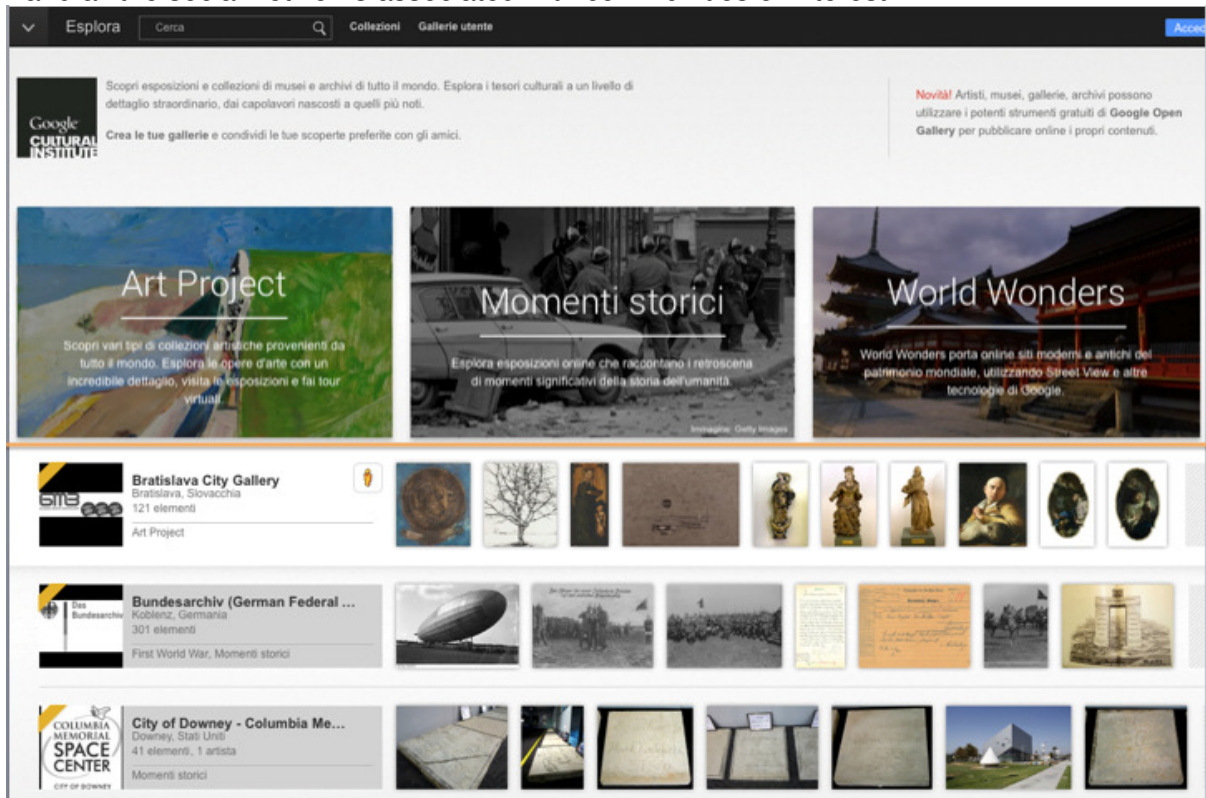
These two active forms lead to strengthening the identity of cultural institutions, increasingly recognized as centers of cultural production.



SAN – Sistema archivistico Nazionale_homepage

The online representation of the architecture and design archives is a reflection of the turmoil of the activities on site, amplified by prolific information circuits. Institutional web sites such as www.cca.ca, www.maxxi.it, www.riba.en, etc., just to give some examples, are supported by a myriad of channels of dedicated information, enhanced by participatory contributions according to the network model of open culture source. Beside them, there is a proliferation of:

- portals with thematic or territorial focus (ex. Sistema Archivistico Nazionale, Culturitalia, LombardiaBeniCulturali, Europeana, Google Cultural Institute, etc.)
- digital publishing (such as archdaily.com, www.architecturalrecord.com, www.domusweb.it, www.abitare.it)
- critical and historical blog (ex. www.architettura.it, www.architetturacritica.it, presstletter.com, etc.),
- multimedia sharing platforms (ex. Flickr, Vimeo, YouTube, Wikipedia, Wikimedia, etc.)
- and all the social networks associated with communities of interest.



Google Cultural Institute_interfaccia homepage e interfaccia collezioni

Increasingly common in all types of archival repositories are open systems data through simple and intuitive interfaces; with clear and efficient structures of information systems, their consistent, intuitive views facilitate the data transmission.

While bringing important technical issues - such as the reproducibility, the need for continuous updating, the intellectual property rights, the digital evolution is the origin of the transformation of the socio-cultural role of cultural institutions, more and more open to the public and its influences. "From a simple technique to a support to new forms of interaction with the public, the digital assumes a genuine cultural dimension. In the age of mechanical reproduction (announced by W. Benjaminⁱⁱⁱ) and of the dissemination in the network (emphasized by H. Jenkins), it becomes not more necessary to question the materiality of the object, its possible interpretation, the survival of his aura, the threat of its reproduction. (...) The digital approach, within its virtual reproduction and dynamic interrelation, is about to become, through historical investigation and spectacularization, an indispensable tool for the promotion and dissemination of cultural heritage, to produce new interpretations, and therefore new meanings." (Schnapp, 2013)

Archives' evolution

The research has also focused to the interpretation of the evolution and the role of archival settings over time, as result of different processes and creative expressions of the different interpretations of history. M. Foucault insights on the history of knowledge institutions show how the classificatory systems or taxonomies of artifact's collections are always the reflection of specific historical, geographical, political, economic and social contexts. Rejecting the notion of a continuous and linear history, and proposing an 'effective' dialectical history, with discontinuities, fractures, and changes, Foucault recognizes the forms of knowledge in the practice of building positive and productive relationships. By defining three orders of knowledge (episteme):

- circular, from the Renaissance, based on similarities of divine projection;
- classificatory, from the Classicism, based on categories determined by the Enlightenment;
- relational from modern time, defined by degrees of empirical relationships;

it is nowadays possible to recognize a new order of knowledge in the global system of integrated relations: a fluid, continuous, open, dynamic and distributed system, empowered by computer and algorithmic automation, extended to a variety of media and supported by the seduction of the broadcasting devices, but mostly entrusted to intuitive and creative interpretations of the individual subjects, as activators.

Exhibitions

The relationship between archives and the public is also measured within their potential capability to open up and become accessible to allow creating new links, infinite correlations, alluding to new creative interpretations. "The archives represents a state of great fluidity allowing many, diverse, even contradictory interpretations. Putting the archives on display allows each visitor to build their own path, feeds curiosity, provides more active ways to position themselves in front of the museum documents." (M.Guccione, 2012)

Shows base on archives, are becoming an exhibition trend, as confirmed by the first international *conference Archives and Exhibitions*^{iv}. "*There's no show without archives*" ((P.

Baratta, Biennale President 2012) confirms the centrality of the archives in the contemporary activity curatorship.

According to the innovative exhibition model^v, archival institutions exhibit their permanent collections in cyclic turn overs. Following few example of this tendency.

Museum of Modern Art of Trento e Rovereto, for the celebration of the ten years after its foundation, has created the exhibition *The Magnificent Obsession*, by redesigning a possible relationships among materials of the collections to the public, emphasizing their contents. Organized by subject - The posing body posing, Worlds and representations, Counterculture, Architecture, construction and reconstruction, that reveal the industrious research activities, the exhibition brings together paintings, photos, models, video, according to dynamic visual associations, through references and interference, to new unexpected meanings.



Mostra *La magnifica ossessione*, Mart Rovereto (2014)

Triennale Design Museum, opened in 2008, enhances the heritage of design objects, based not only on its rich collection but also withdrawing from the network of cultural institutions of the national territory. The museum, although permanent, offers a systematic 12-18 months exhibition format (the 7th edition is in progress), offering a different interpretation issue of the design discipline. The museum aims at a constant and dynamic renewal, offering new perspectives of diverse repertoire, capable of returning the vitality of the multi-faceted made in Italy design. Cultural center open to research and experimentation, space for reflection as well as celebration, the Museum of Italian Design interrogates the past in relation to the present "with the objective of giving the design system (companies, designers, operators) the opportunity to rethink their own history in a critical, creative and proactive way.



Triennale Design Museum, TDM5 (2007)

Netherland Architecture Institute cyclically shows excerpts from its extraordinary collections of archives. The multimedia permanent exhibition *Treasury'* offers to the public at large selections of the most prestigious "jewels" of the collection, such as Theo van Doesburg's colored axonometries, Rietveld's Zig Zag chair, Klerk's expressionistic sketches. The archive documents (models, drawings, posters, etc.) come to life through the variety and evocative choreography to tell the story of national cultural identity.



Triennale Design Museum, TDM5 (2007)

Conclusions

Open to public and to multiple channels, architectural agencies at large --museums, archives, research centers, foundations, architectural firms, publishers, social media, blogs, etc. take a new role to promote cross contents, developing as dynamic and open venues for a richer geography of cultural exchanges.

The study highlights the expressions of architectural institutions to display and promote cultural dissemination and the astounding outcome of interdisciplinary intersections. In the cultural scene of the global society, architectural digital collections within their interoperability, proficiency and efficiency, contribute to multiply the access to information: data communication and data exploration through new design scenarios of shows and portals becoming the technical tools to extend today's learning process.

As digital technologies applications evolve to articulate all kind of architectural documentary contents in multimedia formats, the network sets the function to deploy and renew contents, engaging a more heterogeneous and extended public, Browsing, using, identifying, creating, contributing across contents define potential, infinite ways to explore knowledge worlds.

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Notes

ⁱ Progetto di Ricerca di Interesse Nazionale, finanziato dal MIUR - Ministero dell'Università e Ricerca sviluppato in collaborazione con l'Università degli Studi di Palermo, l'Università degli Studi di Genova, e l'Università degli Studi di Bologna, sotto la direzione del prof. F. Irace.

ⁱⁱ J. Schnapp and others, *Umanistica_Digitale*, 2013, e-book

ⁱⁱⁱ *W. Benjamin, The Work of Art in the Age of Its Technological Reproducibility*, The University of Chicago, Chicago, 1936

^{iv} *Archives and Exhibitions, First International Conference, Archives and Exhibitions, Biennale of Architecture, (October 2012)*

^v *The model was launched by Nicholas Serota with the thematic rooms at the Tate Modern (2000)*