Mapping 20th Century Periodicals:
A Platform for Architectural and Urban Knowledge

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Keywords

Architectural Periodicals; Transnational studies; Architectural history; Digital Collections;

In March 2017, I was invited to participate to the International Symposium "Architectural and Planning Cultures across Regions. Digital Humanities collaboration towards knowledge integration", held in Kyoto and organized by the Center for Integrated Area Studies of the Kyoto University. On that occasion, I presented the work on 20th century Architectural Periodicals, conducted, in collaboration with Nicole De Togni, over the last four years with the students of the Master course of History and Theory of the Twentieth Century Architecture at the Politecnico di Milano (http://www.architettura.polimi.it/en/lavori).

A number of presentations, adopting diverse angles and tools, addressed the study of 20th century architectural periodicals, investigated in a wider interpretative framework that, at various levels, explored the potentialities provided by methodologies and tools of data analysis and analog history. All the lectures stemmed from a shared interest for the digital humanities and for the impact that they can have on the research and teaching in the fields of architectural history and theory.

The feedback of other participants like Hugo Segawa, who was responsible for the creation of a digital collection of articles published by the Brazilian magazine Acropole, and the comments and remarks of the discussant, in particular Ana Tostoes, convinced me to explore the possibility to move from the educational experience to a more consolidated research project, that aims to investigate – through the use of data analysis and adopting a cross-cultural perspective – the role of 20th century periodical press in producing, consolidating and disseminating contemporary architectural and urban knowledge.

Since April 2017, we worked on the creation of a multidisciplinary research team based at Politecnico di Milano and enhancing the interactions between scholars in the fields of Architectural and Urban History, Digital Humanities, Architecture and Urban studies, ICT and digital tools. The project benefits from the collaboration with the Department of Electronics, Information and Bioengineering (DEIB) and the AUIC Central Library of Politecnico di Milano, in collaboration with Italian scholars in fields as diverse as philosophy, social science and representation studies, and within a wide international research network. Several months have been dedicated to the definition of the first research hypotheses and aims. Looking at architectural periodicals as data sources, the project intended to create a digital collection of articles (a repository of texts and images), adopting approaches often experimented in the field of art or cultural history.

As mentioned, at the time of the Symposium in Kyoto the investigation of 20th century architectural periodicals was conceived as an educational experience. Since then, we developed our research in two directions: on one side we structured the research project called "Mapping 20th century periodicals as platform for architectural and urban knowledge", stemming from this experience and exploring the field of digital humanities in order to create a dynamic data-base with a related digital collection; on the other, we brought some improvements – originated while structuring the research project – as new tools and methodologies in our work with the students.

In keeping with the interest for the theory of Documentality developed by M. Ferraris in the last decades (Ferraris 2007), the project places architectural magazines (paper documents) – observed in their conceptual, theoretical, graphic and material dimensions – at the center of the investigation. Moving from the need to classify and store the documents, the project aims at exploring the interaction between digital tools and historical research,

contributing to the ongoing critical discourse on digital architectural history (on the relations between Architecture History and Theory and the sciences of representing and processing information and knowledge) and to the creation of a more structured view on periodicals as multifaceted research and teaching material for the contemporary writing of architectural history.

The specialized periodicals are explored as sites of construction, innovation and production of knowledge, as well as platforms for criticism supported by a network of exchanges between editors, critics, professional cultures and bureaucracies. As complex sources and datasets to be analyzed in their interrelations, periodicals will not be investigated within their national boundaries but will rather challenge the potentialities of cross-cultural reading and comparative analyses in documenting, mapping and exploring the circulation of models, projects, notions, visions, persons and discourses in diverse cultural and linguistic areas, offering an insight into the transnational dimension of the process of production, reception and discussion of architectural and urban knowledge over the 20th century.

The corpus of periodicals we are working on has been critically selected according to their genders and generations (as defined by Jannière, 2016), to guarantee the coherence of the dataset and thus encourage the cross-reading. The first explorations were conducted on 46 periodicals, published in 17 different countries between 1920s and 1960s. Because of their specificities, we excluded several groups of publications: the short-living, ideological avant-garde magazines of the 1920s; periodicals published after the 1980s, when a process of "mediatization" of architecture started; magazines purchased by press groups and electronic media that contributed to transform the logics of the production of knowledge. And we excluded all the theoretical magazines that developed an autonomous discourse within the departments of architectural theory and history of North-American universities in the 1970s and the so called "little magazines" (Colomina, 2012), modeled after the image of avant-garde journals. We focused then on different types of established magazines: from the post-war American trade-commercial journals to technical publications, to institutional journals linked to official professional organizations.

In order to deal properly with the corpus of selected magazines intended as the objects of a big data collection, we restructured the excel grid used to list all the sections of the magazines. A first part of the grid is concerning the data of the issue and

the general information about the single article; it includes an alpha-numeric code to easily individuate the single entry and to facilitate its link to the related digitalized materials (as the scans of the cover and of the list of contents) or, when available, to already existing online issues. A second part of the grid is organized in several sections to be filled according to the contents of the articles (i.e. projects, events, figures, competitions, conferences, exhibitions etc).

When possible, the fields have to be filled through a drop-down list, in order to guide the choice of keywords and to avoid misspellings or different codifications of recurrent data, which would threaten the homogeneity needed for the best results in consulting the dataset.

The updated structure of the grid is more functional to deal with all the minor sections of the journals – as reviews, letters, technicalities – which for us have a crucial role in the analysis. Moreover, it can be easily connected with the digital collection of scanned covers, lists of contents and – in the future – entire articles, which will constitute a repository of images and searchable texts. The accessibility of the full text through the Optical Character Recognition is fundamental to cross-check and enrich the researches made by consulting the dataset through keywords.

The new grid constitutes an online forms which is more easily associated with several tools of visualization, communicating the quantitative analysis on the collected data and opening to the elaboration of qualitative explorations: pie charts and histograms directly derived from the grid can display the percentages of the different typologies of articles, the distribution of the theoretical or project authorship, the countries involved by the projects or events, the typologies of realized buildings, the time frames etc; maps can be originated thanks to the geo-localization of the different entries; timelines can be structured according to specific requests.

The target of the research project is to build an online platform to host the data collection – based on the grid and the related digital collection – and the new forms of visualization.

From the methodological point of view, the project opens up new critical: the platform can be used as a multifaceted research and pedagogical tool at local and international level to investigate, communicate and teach 20th century architecture and urbanism, originating new narratives and facilitating cross-readings, encouraging the investigation of the aggregation of periodicals as a "system" and overcoming an interpretation based mainly on the his-

tories of local editorial cultures. The dynamic dataset and the related tools allow indeed to increase and enrich the possible research outputs through diverse forms of intersection of data, supporting thematic investigations that adopt a cross-cultural perspective and producing new narratives on the origins, use, fortune, circulation, hybridization, transformation, impact, fortune, revision and permanence of a set of architectural and urban notions, terminologies, ideas and protagonists operating in a global scale. Clearly, the developed analytical and methodological tools could be applied to the investigation of other historical moments and geographies.

This first attempt will hopefully bring the research to a broader public and accelerate the setting up of a reference system for comparative studies. One of the purpose is to support the construction of a new expertise, rooted in the interaction of different disciplines (architectural and urban history and theory, ITs, education) which – at the same time – maintain and enhance their specificities.

A first step of the research program on the creation of a Digital Collection, and a crucial moment for the definition of our initial research hypotheses, was the organization of an exploratory workshop, held at the Politecnico di Milano on December 19th 2018 and organized through the support of the Department of Architecture and Urban Studies. Titled "Mapping Visions, Discourses, Theories. Journals as platforms for Architecture and Urban Knowledge. A Network of Projects" (organized with Nicole De Togni, Ivo Covic and Daniele Villa)[3], the symposium was conceived as a first occasion of exchange and discussion in the frame of the departmental series of initiatives "Exploring Digital Humanities".

The workshop was planned as an opportunity to "map" and discuss five outstanding international research programs that – with diverse approaches and purposes – interweaved the study of 20th century specialist press, often observed in relation to the emergence of a national editorial culture, and adopted methodologies and tools of Digital Humanities. Conceived as a work moment, the symposium provided an exceptional occasion of exchange and discussion about the diverse methods and research practices, analytical tools and technologies.

The program of the workshop was conceived to give the possibility to the Principal Investigators of

the five research units to introduce their initial hypotheses and aims, as well as to illustrate the methodological aspects and the main outcomes, opening up to a final discussion on the future perspectives and impacts. A first session focused on the analysis of the various approaches, methods and devices used to investigate specialized press, through the creation of databases and digital collections.

The first speaker, Rute Figueiredo (PhD, ETH/gta, Zurich), Principal Investigator of the research project The Site of Discourse, funded by the Portuguese Agency for Science and Technology, presented the main outcome of the investigation on the editorial culture of the Portuguese specialized periodicals over the 20th century, conducted by a multi-disciplinary team adopting a cross-look of Architecture, Art History, Sociology and Design. Moving form a brief description of the research criteria and sources (28 Portuguese architectural magazines), she presented the main outcome of the project: a database collecting about 20.000 articles, more than 2000 authors, and 6000 architectural works, allowing a research on a significant amount of data that can help to reflect on the formal and visual support to architectural and urban discourse, the agents and their network of relations, and the discursive contents, in a wider geographical and disciplinary context.

A second team of speakers, Ana Esteban-Maluenda (UPM Madrid) and Luis San Pablo (Data Scientist at BNP Paribas), introduced the project Architext Mining: Spanish Modern Architecture through its Texts, 1939-1975, funded by the Spanish Government and aimed at developing research tools and methodologies for the use of data analysis and the application of textmining techniques on the investigation conducted on digitalized Spanish architectural magazines published during the Dictatorship. One of the main aims of the research was the creation of a database to be hosted on a public website, accessible to scholars as well as to a general public. The program proposes to use the Spanish case as a pilot experience to develop a methodology and analytical tools to conduct a wider research, to position Spanish architecture in the international panorama.

The third presentation, by Lilijana Kolesnik, Principal Investigator of the research project ART-NET_Modern and Contemporary Artist Networks, Art groups and art associations, funded by the Croatian Science Foundation, introduced the work conducted at the Institute of Art History of Zagreb by a multi-disciplinary team of art, architectural and cultural historians, sociologists, specialists in network analysis, info-linguists, and ICT experts on

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the organization and communication models of artist collaborative practices in the 20th and 21st century. In her talk, titled Between Digitized and Digital Art History. Virtual Platform for Research on Modern Architecture, she presented the inter- and trans-disciplinary methodological and analytical apparatus and the set of IT tools used to research complex networks of people, objects, concepts and events and the database of integrated knowledge – created through the application of network analysis tools – used to produce network visualizations following the approach of Art History to Big Data of Maximilan Schich. Concerning architectural periodicals, she showed the extensive data collection based on avant-garde magazines (approximately 10.000 articles) that moved from the investigation of Der Strum by combining visualization methods and lexical analysis. The research results are stored in the publicly accessible Croatian Artists Network Information System (CAN_IS) and can be presented in different formats through experimental data visualizations. In this case, the transdisciplinary analytical tools bring together research practices of Humanities, Social Sciences and Network science, allowing the development of IT tools for the multidimensional and multi-media presentation of the outcomes of the research. Analogue sources are integrated with other publicly available databases, proposed on the ARTNET website.

While the first session of the workshop explicitly addressed the investigation on 20th century periodicals, the two last presentations provided the occasion for the Milan research team to reflect on methods, research hypotheses, conceptual and interpretative tools and technical devices. Hélène Jannière, PI of the international research network Mapping Architectural Criticism, 20th and 21st centuries, funded by the French Agence Nationale de la Recherche, presented the main axes and the first results of the project, proposing an intellectual and material cartography of architectural criticism and its history from the 19th century to the present day and the ongoing project to create a Database of the critics, in the framework of analogous experiences of archival collection developed in the field of art criticism.

On the other hand, the last presentation provided precious insight on tools, information and research methods to establish a critical discourse on the potential use of digital devices and tools for the research on periodical specialized press, and on the relation between textual and visual discourses, cross-cultural and cross-disciplinary transfers. Prof. Hara Shoichiro, from Kyoto University (CSEAS), presented a set of information tools for Digital Humanities interweaving the experiences from two research groups that he has coordinated: the "Glocal Information Platform" a project developed at the CSEAS, and the "Unit of Academic Knowledge Integration Studies" of the Kyoto University Research Coordination Alliance (KURCA). The workshop provided an interesting occasion to create a shared ground of discussion on the potential impact of the research projects presented, and more in general, of the application of tool and methodologies of digital humanity for the research and teaching of architectural history.

The discussion conducted during the seminar helped us to partially reframe the methodology of the research conducted with the Master students, refining the grid for the data storage and analysis and the tools for the visualization of aggregated data. For the ongoing year, the seminar on post-war architectural magazines addresses a restricted geographical context and time span, in order to allow a more detailed listing and analysis of the publications and a more coherent dataset to enhance a fruitful cross-reading encouraging the students to observe through a cross-cultural perspective the contents of Italian, British and North American journals published during the 1950s and the 1960s. The work currently includes three parts:

- The creation of a dataset based on the listing of all the articles and of a digital collection of all the covers, colophons and list of contents, constituting a repository of images and texts;
- the visualizations of data through the use of specific software that allow to directly communicate the quantitative aspects of the analysis.
- A qualitative analysis based on the contents of the articles and rooted in their preliminary quantitative exploration, to be read using transversal interpretative categories such as protagonists, geographies and chronologies. They should be able to frame their analysis on a wider period and on the international disciplinary debate.

Through these steps, we expect students to properly handle the provided analytical, interpretative and visualization tools and to apply the full methodology. The aim is to offer them the opportunity to practice the research methods and the critical/analytical tools of the historical research, taking periodicals as research sources and objects of inquiry to reconfigure the consolidated theoretical, technical, disciplinary and discursive panorama.