

CIRAS Discussion Paper No.81

Architectural and Planning Cultures Across Regions

Digital Humanities Collaboration Towards Knowledge Integration

地域をこえる建築・都市計画文化：デジタル・ヒューマニティーズから学知創成へ

アンドレア・ユリ・フロレス・ウルシマ 編著

CIRAS Discussion Paper No.81

Andrea Yuri Flores Urushima (Ed.)

**Architectural and Planning Cultures Across Regions:
Digital Humanities Collaboration towards Knowledge Integration**

©Center for Information Resources of Area Studies, Kyoto University
46, Shimoadachi-cho, Yoshida Sakyo-ku, Kyoto-shi,
Kyoto, 606-8501, Japan

TEL: +81-75-753-7302

FAX: +81-75-753-9602

<https://ciras.cseas.kyoto-u.ac.jp>

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This volume aims to document -- and advance the debate about -- the topics discussed during the INTERNATIONAL SYMPOSIUM “ARCHITECTURAL AND PLANNING CULTURES ACROSS REGIONS: DIGITAL HUMANITIES COLLABORATION TOWARDS KNOWLEDGE INTEGRATION”, co-organized with the Unit of Academic Knowledge Integration Studies of Kyoto University Research Coordination Alliance (KURCA), which was held between 26-27 March 2017. This volume contains a report of the lectures given during the symposium, based on the transcriptions of audio and video recordings¹, and post-symposium considerations about the future development of some of the topics discussed during the symposium.

The symposium aimed at discussing the potential and the limits that technologies of information offer to integrate architectural and planning cultures across regions. Participated in this event well-established and promising historians, theoreticians and critics of architecture, urban design and planning to evaluate the processes of production of knowledge in these fields.

These fields of knowledge production have developed in order to contribute to a critical assessment of the models, technologies, forms, methods and materials used in the making of architecture, cities and villages across the world. These fields developed in order to train and inform the professionals practically engaged in shaping the spaces inside and outside cities. The fundamental task of critically orienting the modernization of cities and architecture anchors the interest that scholars have in maintaining and advancing research in these fields. Up to now, the debate about the modernization of cities and architecture has overcome several intellectual crises illustrated in the apparition and disappearance of terminologies, such as, post-colonial, post-modern, and post-environmental. The challenge nowadays is to produce knowledge useful for the design and planning of spaces inside and outside cities, that takes into consideration a variety of values and perspectives operating in a global scale within varied disciplines and, among different actors of society. In this context, for producing a well-informed architectural and planning culture, it is necessary to take into consideration the concep-

tual, organizational, formal and material references coming from urban-rural, modern-traditional, international-local, government-community interactions in different regions across the world.

From the point of view of planning history, during the 1960s period an important conceptual transition occurred in the planning theories developed worldwide since the late 19th century. It was the moment when the mainstream values of a rational physical planning theory were submitted to criticism and reassessment. From that moment, gained relevance a systemic thinking approach that emphasized the connections between local, regional and territorial scales within a large range of disciplinary viewpoints. The physical aspect of cities as the main focus of planning and design lost its pivotal relevance in order to give place to new comprehensive views to spatial transformations, which were sensitive to everyday living needs and the reality of localities. Following, architect-planners began to largely share the planning and design task with the community, and with other academic disciplines, such as, geography, agriculture, economy, sociology, anthropology, among others. In this process also gradually arouse an awareness that universal city making theories/models had limited applicability at local contexts. The criticism to the limited scope of universal theories has led to a renovation in the practice and theory of urban and regional planning towards a recent appreciation of how particular features of planning cultures developed across the world. However, among the fields that treat the history and theory of planning and design -- specially those closer to architectural history, and with less incidence within those mainly focused on planning history -- it is still possible to perceive the maintenance of academic traditions of knowledge production heavily based on: analysis circumscribed to national contexts; an Euro-American perspective to universal theory; and extremely specialized viewpoints.

In order to renovate the urban and regional planning debate, becomes indispensable to engage into a critical assessment of the historiography which backbones that debate and the processes of knowledge production. Nowadays, historians, theoreticians and critics of architecture, urban design and planning have access to a huge quantity and diversity of information. They are impelled to engage into the disclosure of the knowledge produced at a

1. Original transcriptions of audio and video recordings done by Leisa Moreno and revised by Andrea Urushima.

local level for a larger global audience. At the same time, they have to think about how certain criteria and standards permit or impede the comparison and the sharing of this knowledge being produced in varied contexts. These are important challenges of the 21st century that anyone interested in the debate about city shaping and making have now to tackle in order to produce an architectural and planning culture that is critical and updated. In order to address the 21st century challenges above, this symposium invited historians, theoreticians and critics of architecture, urban and regional planning and design to discuss:

- What are the benefits and obstacles for integrating knowledge through the use of new technologies in digital humanities?
- How will these new technologies impact the way we produce knowledge in the fields of history, theory and critics of architecture, design and planning?

Recently, the frequency of use of new technologies and the type of technologies used to support the knowledge production in the fields described above have varied enormously. These variations occur due to generation's gap among scholars, and disparities in the established academic practices between different regions. This symposium created a platform for exchanging the preoccupations, difficulties and solutions that scholars met or expected to meet during the process of engagement with new technologies. The symposium gathered both scholars who have experimented with new technologies in the past, those trying to use them now, and others who expect to use them in the future. Among other topics of discussion, the contributors in this volume discussed the creation of a virtual exposition that reinforces the exchange about the Latin American modern and contemporary architecture globally; the use of digital platforms to make available and facilitate the research about the Japanese architecture in France; the use of text-mining tools to analyse the contents of architectural magazines, specially in the Spanish context; the use of GIS platforms in order to rethink the definition of urban and rural areas in Brazil; the creation of a digital platform to promote international workshops based on the design of "tea rooms"; the use of network analysis and data mining for building visual models of dwelt environment's transformation in Sri Lanka; and the creation of a database of architectural magazines of an international scope.

The debate above has raised critical questions about how architectural and planning cultures have been shaped. Most of participants pointed out to

the utility of digital tools to enlarge the spread of information at low costs, to break apart with some formal and well-established systems of knowledge production (specially in terms of funding distribution) and the huge potential of these tools to amass a huge quantity of information produced in varied languages, which is expected to have lasting impact over the shaping of architectural and planning cultures across regional boundaries.

Architectural and Planning Cultures Across Regions: A Reflection On Translation Processes

The Japanese historian of urban planning, Ishida Yorifusa, has once reviewed the book *Mori Ōgai: Bunka no Hon'yaku* [The translation of culture in Mori Ōgai's work](2005) written by Nagashima Yōichi, a professor at University of Copenhagen. It was intriguing to see that a planning historian was enthusiastically engaged in the discussion about the processes of translating culture. For those interested in the planning and design of cities, it is unclear, at first, why Mori Ōgai was a figure of relevance to the history of city making and thinking. However, looking at the details of his life and career it is possible to understand. Mori Ōgai is known as one of the literary giants of the Meiji (1868-1912) and Taishō (1912-1925) periods. He used to be a surgeon at the Japanese army, a translator, a novelist and a poet during the period of intense modernization of Japan, whose most famous writings are collected in a novel format entitled *The Wild Geese*. As a young man, he was among the few privileged to travel abroad, specially known for his travels in Germany. Although Mori became famous for his literary pieces, he has also written important manuscripts about housing and public health in cities, based on his observations of cities in Europe and North-America. Because of that, Mori became a member of the Tokyo City Planning Building Regulations Inquiry Committee (1890-1894), contributing to the translation into Japanese of the German Building Ordinance which served as reference for writing the draft of the first version of the Tokyo City Planning Law.

That explains why, in 1999, Ishida decided to publish a book entitled *Mori Ōgai no toshiron to sono jidai* [The urban theory of Mori Ōgai and its time], in which he carefully analysed the debate behind the formulation of the first Tokyo City Planning Law and he compared the original German manuscripts with the translations and the translation process engaged in by Mori and his colleagues. From this detailed analysis Ishida perceived the ex-

istence of disparities between the original and the Japanese translation, which he attributed to be the result of different practices, such as, simple mistranslations of the original words, disparities coming from a lack of deep understanding of some of the original concepts of the German building law, and translations that differed from the original manuscript after a process which Ishida considered to be an intentional deletion of parts from the original manuscript. This intentional deletion being the result of a careful edition of ideas or concepts that the translators considered to be relevant for the urban culture in Japan of that time. For example, the prescriptive exclusion of less than one-year-old children from the calculation of the minimum ventilation requirement in a room. Architects and planners then were discussing how many people should share a sleeping room? Or how much open space is needed for ventilation or illumination in relation to streets' size? Were those definitions related to universal health definitions or were rather oriented by varied cultural interpretations of what is a healthy lifestyle in cities²?

The first draft of the law contained several public health related concerns, directly translated from the original German manuscript, which after successive meetings were finally eliminated. After four years of work of this committee, charged with proposing the first planning law in Japan, the committee was dismantled and the law was not approved. For Ishida who carefully analysed the whole process, this dramatic conclusion was not coming from a difficulty in translating the language, but from the difficulty of translating certain concepts and ideas born in a culture that was completely different from the Japanese culture. This is exactly what Nagashima wrote: that for making proper translations one should not only be Bi-lingual but also Bi-cultural. These are two different concepts, and translators must be highly sensitive to this difference during the process of translating concepts of a way of living which eventually do not exist in a different culture.

Indeed, in the late 19th century, cities in Japan were quite different from those in Europe and one main objective of translation was to inform Japanese unfamiliar with European or North-American

cities, about the concepts, ideas and processes that served to shape varied urban forms and lifestyles. These differences had in history captured the attention of any traveler coming to Japan at that time. For example, Aluisio de Azevedo, one important representative of the Brazilian literature, wrote about Japan after a visit in 1897. In that book he described Japanese cities as impressive visions built in bamboo and wood. In Brazil, at that time, the great majority of constructions were built in earth, brick, stones, and cob, following constructive traditions influenced by the Portuguese colonizers, also with adaptations, specially in smaller constructions, which included the constructive practices of indigenous native communities and the African influences brought in with the Atlantic slave trade that began in the 16th century. In the description of Edo, the actual Tokyo city, Azevedo praised the technical and executive capacity of Japanese builders, for example, in the construction of channels that until nowadays define much of the physical features of the central area of Tokyo. And several of these features have been shaped more than 300 years before Azevedo arrived there.

Nowadays, this understanding that different cultures generate varied materiality in cities is current and well-accepted. But it is important to remember that since the modern establishment of architecture and urban planning practice, there was a whole process of institutional creation and reorganization that included the definition of rules and laws related to that practice. The practical training was anchored in a discourse that emphasized the technical aspects of these professions and the belief that planners as technical experts were able to create good cities by mainly following technical rules and standards. Specific aspects of the local cultures could (and mostly, should) be dissociated from certain standardized mechanics of the urban thinking and making. This assumption is best illustrated by the words of the architect, Le Corbusier “a house is a machine for living in”. Thus, city's models conceived after rational and functional motifs, were meant to be reproduced and fit in varied regions of the world, similar to other efficient technical objects.

The idea of culturally framed objects unable to fit into the frame of varied localities was unattractive and was an idea often overlooked within modern discourses. Until the mid-twentieth century, “Planning Culture” was an expression rarely found in the debates about planning theory or history. We see that the debate that evidences the existence of “Planning Cultures” emerged with a debate that questioned the validity of “universal models”. And nowadays has gained attention the fact that

2. Similar type of questions have also emerged during the process of definition of the minimum housing standards as documented in the Prewar writings of the housing specialist and professor of Architecture Department of Kyoto University, Nishiyama Uzō. See more in A. Flores Urushima, “Unavoidable modernization and the image of hell: visual planning in mid-twentieth century in Japan”, in *Alternative visions of postwar reconstruction: creating the modern townscape*, ed. John Pendlebury, Erdem Erten, Peter Larkham. London: Routledge, 2014, p.98

planning professions have been institutionalized varies in every different region --although in several cases their institutionalization processes have followed precepts of technical universality. This varied institutionalizing processes generated "Planning Cultures" which are as varied as the variation we can perceive between different cultures.

And how variations occur in the institutional framework of the practice and training of architects and planners in different regions is readily perceived in the variations of the names of institutions related to that. For example, in Japan, the great part of departments of architecture are sheltered inside Faculties of Engineering. There exist very few faculties of architecture and this is related to the fact that during the establishment of architecture as a profession, the idea that Japan is an earthquake prone region, which demanded extreme caution with the design of structures led to the development of the architectural training with much less autonomy from engineering-based training as is possible to perceive in other countries.

By thinking about the names of the institutions of the participants in the symposium, it is possible to verify the varying levels of understanding of how are interconnected the training of architects, engineers and urban planners. Variations in the names of institutions suggest the existence of faculties of architecture and urban planning inside a university; of autonomous national schools of architecture; or of institutes that include varied disciplines, more similar to a polytechnic school. The presence and absence of urban studies related terminology in the name of the institution is also notable. And these variations are associated to the way these institutions have historically developed inside a larger frame of local and national academic organizations. Looking at these variations it is possible to realize that architecture is sometimes perceived to be closer to arts, sometimes more related to social sciences, sometimes deeply connected to engineering, sometimes inseparable from cities.

Few examples from the list of participating institutions, include the *Escuela Técnica Superior de Arquitectura de Madrid*, an institution with a history that goes back to 1844, first created as an independent school that was later incorporated to a university system, and which has now been incorporated into a polytechnic university. It would perhaps be comparable in Japan to the Imperial College of Engineering (1873), that was later incorporated to Tokyo University, with the difference that Madrid's school was born from an arts school (that included painting, sculpture and architecture), while the Japanese Imperial College of Engineer-

ing, was already born as an institute of technology. Also, worth to mention the case of the *Faculdade de Arquitetura e Urbanismo* of University of Sao Paulo, which translation into English has two different versions (Faculty of Architecture and Urban Planning; Architecture and Urbanism College). This is an independent faculty inside a university, which was born from the dissatisfaction with the engineering approach and the technical domination over design. The creation of this faculty aimed at reinforcing studies of design and planning with considerations to history and social sciences in order to generate Brazilian locally inspired solutions to modernity. Also, worth to mention the case of the *École Nationale Supérieure d'Architecture Paris-Val de Seine*, which is the result of a recent merge of different architecture schools and is part of the system of national architecture schools of France, with similar connections to arts as in the case of Madrid. And although there is no mention to cities and planning in the name, most of French schools also include urban studies. These nuances of how the practice of architecture and planning is perceived in relation to arts, social sciences and engineering, among others, also deeply reflects how the role of criticism to the practice is perceived.

At least, these subtle nuances, in the names and the history of institutions are easily lost in processes of translation. In translating these names into Japanese, as they encompass varied meaning and origins, it becomes necessary to adapt the translation into the cultural context of the institutional organization of architecture and planning professions in Japan. Also, when translated into English the name of certain institutions, very scarce information will be found in a search from the internet. Thus, what is the point of writing the name of an institution in another language if it is impossible to find information about that institution once the name is translated?

This is just a punctual example that illustrates that the task of comparing regions, and the architectural and planning cultures of regions can be quite complex. It is necessary to find standards of references not only for translating the language used in each region, but also for translating the culture that sustains those practices in every region. With this challenge in mind, we expect that the use of digital humanities would support the translations of bilingual and bicultural concepts, but also the larger definition of standards and references that could allow for the comparison of architectural and planning cultures across regions.

Twentieth Century Latin American Architecture: a Network and a Digital Exhibition

Hugo SEGAWA

University of Sao Paulo



As representative of a joint research group, a network dedicated to the study of the Modern Latin American Architecture, the invitation to be in this symposium came in an important moment of discussion and decision regarding the use of digital tools and data bases within the activities of the group, altogether with the debate about their influence over the research needs and outputs. IT demonstrates a potential to support unforeseen frameworks of analysis and publicization of knowledge.

My first real approach to complex systems in IT happened in 2013 and 2014. I was the academic coordinator of a team at the library of the School of Architecture and Urbanism of the University of São Paulo (FAU USP in Portuguese abbreviation) which realized the digitalization of the Brazilian architectural magazine *Acrópole*, published between 1938 and 1971 in the city of São Paulo. In the web site entitled “Revista Acropole” (<http://www.acropole.fau.usp.br/>). It is possible to research all the collection, and each of the 391 editions is entirely available. The website displays all issued magazines and its covers per one year. It is also possible, instead of looking at years or by issue, to search a specific content by word mining.

For instance, by searching the word “Japão” (or, Japan in Portuguese) some results will be displayed. There is a publication about the Japanese pavilion

designed by the architect Horiguchi Sutemi and built inside the Ibirapuera Park in Sao Paulo city in 1954, on the occasion of the 4th centennial of the foundation of the city of São Paulo. This, and other examples of forgotten or unknown facts of how architectural exchanges and the architectural culture in Brazil was shaped, demonstrate that this kind of database is an important tool for research, and would be especially useful for data mining analysis.

The *Observatório de Arquitetura Latinoamericana Contemporânea – ODALC* (Observatory of Contemporary Latin American Architecture) is a network of researchers of the University of São Paulo (Brazil), Universidad Nacional (Colombia) and Universidad Autónoma Metropolitana (Mexico) dedicated to the study of contemporary Latin American architecture and cities since 2011.

In this research network we have started discussions about how to reinforce intercultural connexion within Latin America. So far, in Brazil, in Mexico and in Colombia every year or every two years, we organize symposiums and personal meetings. However, these are not enough for allowing an everyday exchange of information that would be required for a proper research network. But thanks to the cloud system and many other devices that support digital exchanges the network is seeking an operational way of continuity.

Among the various aims proposed during the regular meetings, two issues emerged as challenges related to potentialities of IT.

The first one is to build a more specific database according to the network’s research needs, exploiting IT resources to allow the circulation of internal documentation (due to the recording and use of copyrighted material). The system should permit a more intense interactivity among the members of the three countries. Data feeds, information exchange and sharing of work development should be done from and to any research center, with a more user friendly unfragmented platform than those available in the international research software system. Connecting different groups and allowing those who joined the network to contribute with

1. The architect Kuma Kengo in visit to São Paulo during the opening of the Japan House commented about the striking contrast between Horiguchi Sutemi’s delicate wooden architecture inside the Ibirapuera Park, placed side-by-side to the radical experiments of the Brazilian modern architecture (Andrea Urushima, editor’s note).

data and information are targets.

The creation of database and respective management, as a tool used to develop deeper reflections, analyzes and approaches is an important issue related to compatibility or the creation of a platform of easy performance where texts, photos, movies and drawings can be added.

Architectural historians and architects would know what to do with such documentation. This kind of database is really important and could be shared comprehensively. For example, when a Brazilian building data is available, Mexican colleagues and architects can analyze it with their own methodologies. Their approach of the same subject is clearly different from that of architects and architectural historians from Brazil. In the process of database construction, we would like to foresee the use of tools which do not need to be created, but something that already exists in an effective and flexible way, which could accommodate different types of data, including GIS information.

The second issue that emerged among the various aims proposed during the regular meetings, as a challenge related to potentialities of IT, was the design of a virtual/online exhibition on 20th century Architecture in Latin America.

It could be exhibited in museums, cultural centers, libraries and schools by means of large-format projections or in monitors or performed in lectures. It would be constantly remodeled and updated, according to new interpretations, the advances of the research and improvement of the available material for the show.

We would like to think of an architectural virtual exhibition based on the use of online systems that are flexible in the way we can choose or organize what we want to show and that allows the members of the group without any specially IT ability to update the data we collect. This type of system would allow us to work everyday and change the exhibition everyday by uploading and feeding new information. This information could be quickly presented in a digital mode that could sometimes be used for teaching in a school or simply as a virtual show in complement to an exposition in a museum or wherever else an exhibition could be displayed.

The exhibition would be organized with flexible contents, multilingual, shaped according to the occasion and the desired focus. It would be possible to select segments of the totality, according to chronological, thematic, typological, geographical or any other convenient criteria or curatorial con-

cerns.

Databases are permanent sources and serve as a basis for a virtual exhibition if creatively managed. We are specialists in contents, but not on the capabilities of IT. We must still understand its potentialities and develop best ways to present this information, but we still have an unclear idea on what works better with that.

In order to compare with traditional exhibition arrangements, may I talk about my experience as organizer and curator.

In Frankfurt in 1994, for a show at the Deutsches Architekturmuseum on contemporary architecture in Brazil, we have exhibited mainly printed photos taken by a Brazilian photographer, Cristiano Mascaro. We asked him to prepare special images for this exhibition.

Photos complemented by the displaying of other objects, such as books and blueprints of the buildings, represent a very conventional exhibition way, ever since architecture expositions has been organized in 20th century. A not so dark room exhibited a slide show, with the today surpassed and now forgotten 35mm slide projector of Ektachrome or Fujichrome positive images. Visitors could also look at prefabricated structure pieces that give an idea of the construction materials used in the buildings, and bring some of the “materiality” of the architecture (Fig.1).



Fig.1 Contemporary Architecture in Brazil exhibition: prefabricated piece and blueprints of architecture drawing exposed.

In 2012, in São Paulo, in the Centro Universitário Maríantonia, of our university, we curated the exhibition *Le Corbusier | South America | 1929*, featuring Le Corbusier’s drawings and croquis that he made during his visit to South America in 1929.

Original drawings powerfully attract the attention of the audience, which could be partially explained by the “fetish” type of emotion caused by the view of the secrets hidden in the hand drafts of Le Corbusier.

If it we had displayed copies or reproductions, the impact would not be the same. We have showed truly works of art from the Le Corbusier Foundation archives in Paris, and compared with other schemes published in his book *Précisions*. Five houses sketched in the drawings were materialized in scale models. We tried to be didactic and to give an idea of the relevance of the original drawings with explanations. As croquis and models are very important elements in architectural exhibitions, we also included the sketches of a little known planned personal library in São Paulo which was not built, and we made a tridimensional model from tentative drafts (Fig.2).



Fig.2 Le Corbusier | South America | 1929 exhibition at the Centro Universitário Maríantonia, São Paulo, 2012. Paulo Prado's library original sketches by Le Corbusier behind the scale model made after these drawings.

We also counted with other devices which made available the displaying of videos. This was a very successful exhibition, specially among architects.

Traditional exhibitions can be quite expensive, and this could be represented by the exhibition *Latin America in Construction 1955-1980*, organized in 2015 at the MOMA – Museum of Modern Art New York. That was a type of show that is hardly affordable in Latin America and maybe wherever else. Perhaps, some of you have visited this exhibition: images, videos, movies and newly scale models and original drawings (again the “fetish”). Unique drawings that came from all over Latin American archives, including schemes, models and

photos of the early capital of Brazil, Brasília; and very expensive maquettes that cannot be transported so easily to other venues.

In contrast, for thinking about affordability, democratic and easily accessible expositions, digital exhibitions are a good possibility that avoids the need to deal with the “fetish” of original drawings, which insurance and handling fees are extremely expensive. Following this trend of a more accessible form of exhibition, since last October we started discussions on how to conceive this kind of virtual show and it is now a work in progress.

Instead of explaining the concept, I will try to show the proposition that structure our tentative concept for the 20th Century Latin American Architecture exposition. We have framed the collection of data following three topics with a multicultural approach, firstly for bilingual exchanges between the Portuguese and Spanish speaking communities, and to be expanded to other languages. The three topics are:

- Discourses
- Poetics
- Territory and Landscape

We have, as great background, the ethos or the question of identity, as a reason to organize this exhibition. The ethos as a “set of traits and modes of behavior that make up the character or identity of a person or a community”, according to the *Diccionario de la Lengua Española* (Real Academia Española, our translation) or the “the distinguishing character, sentiment, moral nature, or guiding beliefs of a person, group, or institution”, following the Merriam-Webster Dictionary. These three topics are like superimposed layers. But we are still uncertain about the design behind the scheme. Are they flat layers, or are they special layers, meaning, 3D layers that we could think of linking the contents of the exhibition through 3D layers? What connects these is not only a superposition of layers, since we must consider the need to interlace these three topics; what is behind these issues is the time line. It was very interesting when Prof. Hara showed the time line rule which demonstrated that there is a way to create this type of structure we are thinking. Maybe there is a way to create this connection information science specialists could help us to think about this time line and the special relation between time and contents. This would help in imagining the layers not as flat layers but thick ones or massive volumes where territory, po-

etics and discourses are intertwined, thorough the linkage with the dimension of time, which is very important.

Just for an idea of what I'm talking about, I selected a sample of images coming from one of these topics to show you what we want to create. For example, one possible approach would be framed by a subtitle of a chapter: "Living collectively and production". In this section, we could show a mining company town – Sewell, in Chile, from the early 20th century –, that are listed as UNESCO World Heritage Monument (Fig.3), as well as we could present Vila Serra do Navio, another mining company town of mid-20th century designed for the Brazilian Amazonia, where we would also include the architectural early drawings and the photos of the town as built.



Fig.3 Mining town of Sewell, Chile, founded early 20th century.

Other examples are the social housing complex designed by Carlos Raúl Villanueva in Venezuela (Fig.4), or another housing projects, like this one in Brazil designed by Affonso Eduardo Reidy (Fig.5). For Caracas or Rio de Janeiro, they are modern urban proposals surrounded by traditional city configurations, rising behind the favelas (slums). In the exhibition we have to show and explain what it means and the context of its construction. We have to show the existing connections between the apparition of this type of architecture and urban proposals concerning the topics of Poetics, Discourses, Territory and Landscape, tuned to a time line.

Another sample chapter would be "To teach, to research and to emancipate", in this case focused on campuses and university cities.

This 1927's campus of the Universidad Técnica Federico Santa María in Valparaiso, Chile, illustrates the early symbolic appropriation of university imagery in Latin America (Fig.6) with traditional

type of architecture and urbanism, following a European type of university arrangement.



Fig.4 23 de Enero Housing complex, Caracas, Venezuela, 1954-1967, designed by Carlos Raúl Villanueva and team.



Fig.5 Pedregulho Housing Complex, Rio de Janeiro, Brazil, 1947, designed by Affonso Eduardo Reidy and team.

That one heavily contrasts to a more modern system of urban plan and architecture, as we can see in this amazing Universidad Central de Venezuela university city in Caracas, designed in mid-20th century by Carlos Raúl Villanueva, and listed as an UNESCO World Heritage (Fig.7). In our exhibition we have to show and explain what is the meaning of this masterpiece of Latin America architecture and try to digest the links that existed, for example, between the Venezuelan case with another UNESCO World Heritage case that is the UNAM university city in Mexico D.F. (Fig.8), in order to understand how outstanding development had such typologies in the Latin American context.

On the other hand, we have another kind of university campus that is not really an ordinary campus, and most of the people don't understand that it is a campus. Even in the MoMA exhibition this was not clearly explained. However, for us we consider that the Ciudad Abierta de Ritoque (Ritoque Open City) is an experimental typology of campus in Chile. Ciudad Abierta is a field for developmen-



Figure 6 – Universidad Técnica Federico Santa María, city of Valparaíso, Chile, 1927, designed by Smith Solar & Smith Miller.



Fig.7 City University of Universidad Central de Venezuela. Aula Magna building, 1954, by Carlos Raúl Villanueva and team.



Fig.8 University City of Universidad Nacional Autónoma de México. Cosmic Rays Pavilion by Jorge Gonzalez Reyna and Félix Candela (left), and Medicine School building, by Roberto Álvarez Espinoza, Pedro Ramírez Vázquez and Ramón Torres.



Fig.9 Open City of Ritoque of the Catholic University of Valparaíso, Viñas del Mar, Chile, built from 1971.

tal architecture and landscape founded in 1971, cooperatively organized by architects, artists, writers, poets and alumni at the Design and Architecture School in the Catholic University of Valparaíso. The cooperative has acquired 270 hectares of land located 16 kilometers to the north of Valparaíso city, composed of a broad coastline spotted with wetlands and dunes and sheltered by hills, which is permanently transformed into an open partially habited place, through the intervention of students and professors. This is an experimental campus in the sense that all involved people can elaborate their own spaces, architecture, objects, landscape and land art as in practical workshops and create this experimental territory. In the slides we're looking to objects, but in fact is much more than objects in an almost desert-like scenery (Fig.9).

The relation between these varied conceptions of university cities makes us want to understand the questions of identity or of places, ideas of a different way of teaching and learning, ideas of an experimental campus and other experiences such as in the cases of universities in Caracas, in Mexico or in Valparaíso.

Another chapter of our planned virtual exhibition would deal with a theme incarnated by three words: spirit, body and soul. One sub-chapter could be titled "Heal the Spirit", with the inclusion of early 20th and mid-century theatres and movie theatres. An outstanding sample of this architecture typology is theaters related to immigration, such as the one with German background in the city of Blumenau, in Brazil (Fig.10).



Fig.10 Carlos Gomes Theater, city of Blumenau, state of Santa Catarina, Brazil.

Since immigration is a big issue, we could richly inform a whole debate through the History of Architecture. By linking the spiritual role of theaters to society and the topic of immigration, it would be possible to relate to other works through this

online or digital system, since we could reorganize because all this information would be registered in a database. Theaters and cinema serve the purpose of taking care of spirit (and body) as much as other types of buildings, as soccer stadiums. For example, the Estádio Centenário was the stadium that sheltered the first Soccer World Cup in 1930 in Montevideo, and it still exists (Fig.11), or other examples among the first stadiums in Brazil, such as the Estádio Mario Pessoa in Ilhéus, Brazil, of early 1940s.



Fig.11 Centenario Stadium, Montevideo, Uruguay, 1950, designed by Julio Scasso. Postcard dated 1950.

If we consider a section themed as “Heal the Body”, we would be able to include hospitals that would support in understanding health systems through an observation of very early buildings of the 1930s, such as sanatoriums dedicated to tuberculosis rehabilitation or spas dedicated to provide health facilities. In the case of Brazil, modern types of spas such as this in Águas de Lindoia (Fig.12).



Fig.12 Municipal SPA of the city of Águas de Lindoia, state of São Paulo, Brazil, 1953, designed by Oswaldo Bratke.

In the section “Bless the Soul”, we would include churches and chapels, such as the World Heritage Monument by Oscar Niemeyer In Belo Horizonte (built 1939) or other similar buildings built all over Latin America, as the Cathedral of Chillán,

designed by Hernán Larraín Errázuriz in Chile (built 1943). This peculiar vaulted structures that I think Niemeyer originally made up and then became a Latin American distinguishing trait for religious buildings, and is found in several other cases.

Or the Susana Soca Chapel, in Uruguay, designed by Antonio Bonet in 1959, a Spanish architect that worked in South America. Again although we include churches in a section about caring of the soul, we could easily connect the immigrant role in shaping the Latin American architecture, through looking at the immigration of architects from Spain, such as Antonio Bonet and those from Germany working in the south of Brazil or other with German background architects such as Niemeyer or Jesus Tenreiro Degwitz in Venezuela, which San José Benedictin Abbey, in the outskirts of the city of Güigüe, Venezuela (built 1984-1991) is praised as a late 20th century religious masterpiece.

There is a proposal to list the buildings by the Uruguayan Eladio Dieste as UNESCO World Heritage Monument, as this church in Atlantida, nearby Montevideo (Fig.13). We have soul caring structures of all kinds, masterpieces as the Church of Santísima Trinidad de las Condes, Santiago built 1962) by the clergyman and architect Gabriel Guarda in Santiago, the Mausoleum in the Northern Cemetery, Montevideo, Uruguay (built 1960-1962), designed by Nelson Bayardo. or the Pantheon Chapel, city of Jungapeo, state of Michoacán, México (1984), designed by Carlos Mijares Bracho. The latter, as Dieste’s ones, could interlace the section of “Bless the Soul” with another one chapter which makes reference to the use of bricks, and the poetic of the bricklaying, or approaching to a vision of poetics and architectural tectonics.

Other chapter would be titled “Humanized Landscapes”, having as smart samples Luis Barragán and his Mexico City’s El Pedregal urbanization or the Brazilian Roberto Burle Marx, the foremost modern landscape architect, with proposals in Brazil and in Venezuela.

One of Burle Marx’s iconic projects is the Flamengo Park in Rio de Janeiro, a worldwide known city for its beautiful beaches. These are wonderful places and they look so natural that no one believes that there existed no beach in Rio de Janeiro before the first quarter of the 20th century. (Fig.14). Burle Marx created some of the beaches or treated the seafront for the pleasure of the people. In the Flamengo Park a sand seashore was devised by the landscape architect and it exotically

became an archetype of Rio de Janeiro's landscape. However this is an entirely man made place. In fact, Burle Marx played the role of a "god" creating an unnatural landscape.



Fig.13 Church of the Parish of Cristo Obrero, resort town of Atlántida, Uruguay, 1958, designed by Eladio Dieste.



Fig.14 Flamengo Park, Rio de Janeiro, Brazil, designed by Roberto Burle Marx and team, 1961-1965.

The final example (among many we could show) from a larger and yet imprecise whole of an exposition proposal is a chapter entitled "Change Surfaces". It can be exemplified by the Panama Canal (Fig.15), a waterway connecting Pacific and Atlantic oceans (built 1904-1914), which is an absolute amazing structure from the second decade of the past century. It is the material expression of how human actions have played with and over the nature. It represents a huge territorial intervention with all the big ships crossing from the Atlantic to the Pacific Ocean or vice-versa. Navigating it, we can see US Military infrastructure and other facilities built alongside this structure.

Hydroelectrics are other large human undertaking in nature. These are such big impacting action that we can see their effects in Google Earth image

shots (Fig.16). They are also part of the 20th century human intervention in Latin America represented by the construction of big infrastructures.

A sample of Discourses Topic and Ethos

Discourses are a dimension to explore as a topic in the exposition. This is mainly a comprehension of articles, essays and manifestos as repositories of the characteristics to outline what Latin America would be. Insofar the main database to create is written documents.



Fig.15 Canal of Panama, Miraflores lock.



Fig.16 Itaipu Dam, Foz do Iguaçu region, Brazil and Paraguay, 1971-1984.

An important issue along the first decades of last century was the search of a proper architectural identity among active architects in countries like Argentina, Brazil, México or Peru. This movement was known as Neocolonial. An intense interchange happened within the Latin American architects concerning a creation of an own style, based on 16th to 18th century architecture forms and shapes, as sources and solutions for this identity research.

For instance, from the pages of the Brazilian

manifesto of the Neocolonial style (“A Arte Tradicional no Brasil - A Casa e o Tempo”, “The traditional Art in Brazil — the House and the Time”), we could try to understand or pick up the main statements using a very simple and manual way for a detailed examination: taking a pen or a pencil and start underlining a paper copy. But we could also try some more improved methods of analysis by using text mining softwares. In this way we can show the ideas behind the words, we show the ideological narratives of architecture, we connect their ideas to the kind of architecture that were produced.

We could expand the written narratives to built architectural narratives, that is, devise an interpretation looking to the changes of concepts and ideas in a time line intertwining words and buildings. We could name this switch embodied in three terms suggesting transformations: “From the Neocolonial to the Modern until Postmodern.”

Lucio Costa, by the construction of Neocolonial houses, as this built in 1924 (Fig.17), became one authority of the style, or one of the main architects to propel this change from the Beaux-Arts tradition to a Neocolonial type of architecture, until his conversion to the Modern Architecture early 1930s, championing Le Corbusier’s ideals.

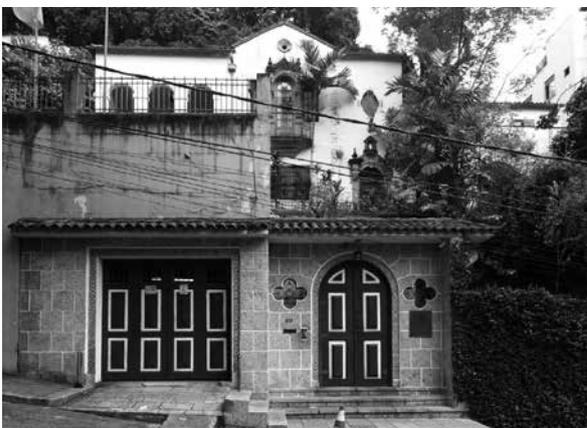


Fig.17 Neocolonial style house designed by Lucio Costa, 1924.

But even in his wake to modern concepts, he designed a hotel in which coexisted tradition and modernity. One of the most important issues in Latin America is that architectural modernity and tradition have developed in close relationship. Lucio Costa won the competition to the urban plan of Brasilia in 1957 (a worldwide recognized sample of modern planning), but in the 1980s he built a house in Amazonia with very traditional mood (Fig.18). Thus, 20 years after Brasilia was designed, he designed a house that includes several traditional fea-

tures, making it look like a paradox in Latin America Architecture: the co-occurrence of modern and the traditional attitudes in the same architects.



Fig.18 House for Thiago de Mello, town of Barreirinha, state of Amazonas, Brazil, 1980s, designed by Lucio Costa.

Luis Barragán, who is reputable Mexican most admired architect, and a Pritzker Prize awarded, started his career designing Neocolonial style architecture, as we can see in some of his houses of the late 1920s, as the neoconial style house for Efraín Gustavo Luna, in the city of Guadalajara, Mexico (built 1928). Then he turned into modern architecture, and the most celebrated Barragán’s architecture is those known for its color schemes and geometries, as the famous Gilardi House in Mexico City (built 1976).

Explaining Architecture

Another possibility to explain how architectural proposals are generated could be demonstrated by using computer animation. This is a much more sophisticated resource of which we are really attracted, but not yet within our reach due to limited knowledge on IT realm. To make a good explanation of design method in Architecture and Planning depends on a deep understanding of creative processes and its constrainings. However, to translate such interpretations to a more pedagogical means is a bigger challenge, considering that an exposition is in general destined to non-specialists, lay people to whom an exhibition must make things clear. So, computer animation is not an end, but a means to achieve didactic goals. In a show on 20th Century Latin American Architecture, animation would be extremely useful, considering its virtual format and as a step ahead of showing only drawings, scale

models and photos.

For now, we are limited to some timid trials, exploring to the limit presentation programs like Power Point, before rehearsing video programs or other devices which are not yet under our immediate agenda.

For instance, we have a preparatory presentation trial just have a slight idea about. This Power Point is about an ensemble of school and religious retreat in Antofagasta, Chile. Besides aesthetic and constructive characteristics, this is an approach based on the geographical and multi-climatic features of Latin America. We try to underline some issues and problems that emerged in the process of finding solution adequate to specific ecoclimates. Both the cities of São Paulo and Antofagasta are under the Tropic of Capricorn latitude. But while the Brazilian city has a humid tropics condition, the Chilean city is at the shore of the Pacific Ocean in a desert region. Cities under the same latitude does not mean the architectural and urban solutions are the same. By showing Google Earth images, the architects' sketches, plans, sections and photos, we try to explain in a very limited animation such ideas behind the architectural and landscape proposals.

The idea of creating this database is also to allow to approach and superimpose the architects sketches in the places and start to explain their solutions, the built architecture, through locating them in time and space. IT technologies would be of incremental support.

A PREZI structure

This virtual exhibition is being conceived and prepared together with colleagues in Colombia who proposed the application of the PREZI software. In a recently trial sample produced they have been thinking of a composition which is not based on a flat imagery system, but a perspective represented in a tridimensional structure. Even if unfinished, they selected drawings and images, and created axis of proximity according to some ideas and concepts. We would like to explore the possibilities of connections and relations that are possible to evoke, even if we still have no clear idea of the capacity of PREZI to respond to all the flexibility that we want to organize this kind of exhibition.

2. Prezi is a web-based presentation software, created in Hungary. This freedom of movement enables "conversational presenting," a presentation style in which presentations follow the flow of dialogue, instead of vice-versa. The word Prezi is the short form of "presentation" in Hungarian (Andrea Urushima, editor's note).

Questions and Comments

(Pedro BRANCANTE) How to make people use PREZI by overcoming the challenge of language barriers or cultural differences in the process of establishing such complex and rich information system? Is it possible to design it in a way that people from different cultures and different regions will be able to use and access it, in order to learn more about Latin America Architecture?

(Hugo SEGAWA) This is one very important issue. We do not have an answer now. What we have been preparing is a kind of online structure that could be presented in the museum, or be used in a classroom, or during a seminar. Of course, each of these occasions is different. However, this is not an open structure (I mean, as Wikipedia), but we could eventually create and establish a version for academic use, and another for non-specialists, with an approach which is more open, multi-cultural and didactical with the aim of explaining Latin-American architecture for non-architects, and maybe create a version more sophisticated to present other bold interpretations on Latin American Architecture. The main issue is that we do not have yet a database, a main structure that shelters all this data, that once created would allow us to pick what we want to show according to the administrator or the user, and according to the target of the presentation. So, we must first build this database, this structure that would allow Mexican colleagues in a seminar, or wherever else, organize samples and selections of works that they want to show in a seminar or exhibition. First, we must create an open structure in the sense that the members of this joint research could use it and upload/update information. Following this proposed database main structure, at every time Colombian colleagues would be able to upload some new information that was unknown and this new information could be used for another analyses. We would like to create a very open database in this way but I am not sure yet if this is possible, and if we would be able to use this in this way. This is a problem that we must still find the solution.

(Gaia CAMELLINO) I understand that the proposal of the Latin American Virtual Exhibition is a kind of response, an answer to the MoMA exhibition that tends to historically level and overlook the specificities of certain experiences. Of course, one of the limits in some way of traditional exhibi-

tions is that we have some rigid, mandatory paths and is not open to different levels of interpretation. One of the great values of the virtual exhibition is that you can somehow select how to interrogate the exhibition and in your presentation emerged the plurality of categories from typology, to authors, methods of constructions, techniques, scales, etc. Are these levels of the virtual exhibition open to the general public? Could this virtual exhibition be interrogated through these different levels of analyses? What is your idea about this?

(Hugo SEGAWA) Virtual information overwhelms us, we have an overdose of information. The task of researchers is to organize ideas. The database is thought to be an open structure that anyone could see. Of course, we have a lot of materials and then what can we do with this? Collections? A collector collects for collections from varied reasons. We have reasons to collect information, this is the foundation of databases, this is what Prof. Hara showed us: there are infinite possibilities. In academia we collect them to make interpretations. How open would this need to be is a different question. Maybe new researchers from Argentina or Chile can come and join us, but they are entering this database in the middle of the way. It is ready, an incredible database yet to be open to the general public.

(Corinne TIRY-ONO) You ended your last sentence with the expression of general public with the suggestion that this kind of exhibition might not be for it. In fact, usually architectural exhibitions are very difficult to understand for the general public as they are very professional kind of documents (drawings, plans, sections), if you are not an architectural student or architect yourself those documents are very difficultly to understand and to read. I think that what you offer is the possibility to manipulate documents in order to make people understand why a building has such shape, or why it implemented in that way within that the landscape and so on. This is a very powerful advantage of the IT as a kind of didactic tool for the general public in terms of architecture.

(Hugo SEGAWA) I think you are right. We are worried about this, this is one of the concerns. I showed the exhibitions we organized in Frankfurt and the one with Le Corbusier's drawings, and we are aware that the great part of the public were specialists, but of course we think that we have to open them and this is one of our concerns.

IMAGE CREDITS

Figure 11, unknown photographer, Hugo Segawa archives.

Figure 16 is a printscreen from Google Earth.

All other images by Hugo Segawa.

Japanese Spatial Culture from a Cross-Disciplinary Approach

JAPARCHI: From a Network to a Collaborative Tool for Innovative Research

Corinne TIRY-ONO

National School of Architecture Paris-Val de Seine, CRCAO



Thank you for the invitation. As I got engaged in the discussion, the topic of the symposium became more and more stimulating for me, because in the beginning I was troubled with the idea of what should I do with this topic. Finally this theme could be related to a project we have, within the Japarchi network which I have co-directed for the last two years with my colleague Sylvie Brosseau, a professor of Waseda University. So, as a director of this French-Japanese research network I am trying to think about the future of this network by using IT. I brought the book published by the network in 2014 that is circulating in the room.

First I will briefly introduce what is the Japarchi Research Network, why it exists and how it works. The first part will be a presentation of this collective publication (book) done in 2014. The second part will be a very short presentation of a new project under discussion because we have to present a new project every three years. And in the third part I will show one existing example of a French online tool which could be a model for what we would like to do. As conclusion I will present a short summary of the project and its potential.

What is the Japarchi Research Network?

Considering space as a cultural tool to understand a society and its environment—past, present and future—, we consider that identifying and sharing fundamental knowledge is becoming more and more crucial in the context of a rapidly changing world. Research has indeed an important role to play in this context, such as revealing the some-

times hidden, lost or forgotten spatial structures of a specific culture, clarifying its meaning and complexity, looking at its formation or regeneration through various influences, borrowings, adaptations, etc. In other words, it helps to better understand changes in progress and cultural differences, by bringing closer different cultures in order to temper the conventional on-going discourse on cultural homogenization due to our globalized world. Spatial notions and their built-up devices constitute a visible and material expression of such dynamics. The dispersed range of knowledge it requires formed the first motivation to establish the Japarchi research network.

Japarchi is a French-Japanese network that has been founded in 2006 by a group of French architects and scholars who are teaching and researching at French National Graduate Schools of Architecture.

This research network is one of the 10 research networks that are funded by the French Ministry of Culture. It is worth to emphasize that architecture schools belong to the Ministry of Culture and not to the Ministry of Education in France. This project has been developed as part of the Ministry policies to promote research in the field of architecture, urban landscape and territory, history and design, with a quite large scope. It also aims to encourage cross disciplinary and international research.

The network contract at the Ministry is renewed every three years. It is mandatory to submit a project proposal and have it approved by a committee of evaluation, composed of peer-professors.

Today this network has nearly 100 French and Japanese speaking members, this is the first particularity of this network: the Japanese colleagues are all speaking French, and are mostly doing research about French topics in architecture or urban and landscape theory, history and design. Moreover, French speaking members are teaching or doing research and have engaged in studies of Japan's spatial culture or comparative studies between France and Japan's spatial culture. About 2/3 of the members are French and 1/3 are Japanese.

All the members have a background from varied disciplines which is challenging for when we need to work together. At the same time this has a very high potential to develop new research fronts through the exchange of the research viewpoints and topics from different fields.

The original task of the network was not only to do the research, but also to link the research production to the educational and professional activities in the field between France and Japan. Another task is to capitalize the French-Japanese research in these fields and disseminate it among a larger research community. Another task is also to make the produced knowledge and information available for students engaged at the Master level and then orient them towards the Doctoral course level in this field. Of course the network has the objective to foster scientific and academic activities like organizing seminars, symposiums, publishing books and articles as usual.

In a way this symposium gives us an opportunity to think what is this network and finally rethink the role of Japarchi as something more than a network. It is perhaps possible to define this group as a knowledge and information platform which goal is to facilitate and promote cross-cultural studies between France and Japan in our fields. It is not a research laboratory specialized in one specific discipline but a platform where the specialists on the study of Japan's Spatial Culture coming from different institutions and disciplines can meet, exchange and collaborate.

It is organized towards the aim of guaranteeing a high level of academic quality, with a double head direction, one in France and one in Japan. There is a scientific committee composed of French and Japanese members of the network and this committee gives orientations and evaluates members proposals according to ongoing collective research projects. When publishing collective books there is a reading committee which composition is adapted according to the research project.

The tools used by this platform are very simple. As main tool, there is a website, a communication tool that is open to the public, at the same time it is a showcase to display members' activities and production. It serves also as an information database where the general public and students can find information about French-Japanese exchange programs, French-Japanese research centers, activities and so on. We have also a steering group which role is to link the network members and the public be-

cause as the website is open to the public there are often questions from the public about the activities of the network or about other general information. The steering group feeds the website with information and support in the organization of events such as seminars or symposiums for instance.

The most important feature of this organization is its shared framework. This format allows us to develop a collective research about the question of space, particularly, in dealing with notions of the Japanese space as a material or conceptual device. This was a way we found to bring together the diversity of knowledge, the diversity of disciplines, and the diversity of written and visual materials that are manipulated. A very simple website built upon a low budget, and in the directory it is possible to click the names of the network members to access the list of the publications of one specific researcher and their respective biographies. There is a “news” page where are published the individual production of the members of the network. Another page where is possible to get information about French-Japanese institutions or research programs, etc..

Japarchi Editorial Production in 2014

The book that is circulating in the room during the presentation is the first collective production that the network has produced (Fig.1).



Fig.1 Japarchi collective publication in 2014 (back and front cover): Philippe Bonnin, Nishida Masatsugu, Inaga Shigemi, (eds), *Vocabulaire de la spatialité japonaise*, CNRS, Paris, 605p.

This is what we call the “frame” that explains the methodology used in the network. It focuses on the definition of some spatial concepts present in the Japanese Culture through explanations given with words or vocabulary particular to the Japanese context, and the translation of it into spatial devices. This frame has been implemented regarding four specific dimensions of space as research

objects and our purpose is to use them in a dynamic research process rather than within compartments or partitions, separated by categories. The four specific dimensions that we share take into consideration the varied disciplines of members' speciality. A first dimension is that of "scale": researchers could think about one notion under very different scales (micro to very large), and think about the links between varied scales. The second specific dimension is "time", whether historical or at the present time. So in the process of defining the notion of the Japanese spatial culture we tried to identify a dynamic relationship between different periods. This would allow to understand the evolution of the notion and the spatial devices in order to clarify if there is some permanence through the centuries or whether there are changes, evolutions or mutations in the notions and spatial materialization of notions through different periods. The third specific dimension is "fields and disciplines": through the analysis of one notion there was an interest in clarifying the interaction rather than the partitions of knowledge into different disciplines. And the fourth specific dimension, which is still a challenging one, is the "duality of knowledge sources", between practice and theory. This is because in the network some members are teaching theory and some are teaching design more connected to the professional world.

The format used in this collective research project is typically based on the conventional dictionary's entry. It is based on the specifications or guidelines given in the process of writing an article, which try to reflect the complementary specific dimensions explained before.

The main principle is that each entry is a word that could be a notion, a toponym, an architectural typology, a pattern or a spatial phenomenon, among others. What is important is that each word was chosen with consideration to its relevance to the Japanese spatial culture whether in the past or today. The advantage of using terms/words rather than themes, for instance, is that all categories offer a possibility to build upon real interdisciplinary approaches. Each entry in this book starts with a focus on the genealogy of the term/word and its various meanings from origin to the present day usage. Then the entry develops a definition based on the explanation of the spatial device in terms of its form when there is knowledge available about it. Next, the entries try to bring light to the transformation process as well as permanence of the device. So each entry's contents make reference to existing

dictionary entries when appropriate. Visual materials such as drawings and photographs are also used to illustrate historical stages or specific representations of each device or notion during its process of existence within the Japanese culture.

For you to have an idea about the format of the book:

- The book contains 190 entries;
- It has been written by 64 members of the network;
- It has been reprinted several times (the success of the book is explained by the fact that students have been using it as a guide inside French architecture schools. Moreover, in many cases their teachers use it to prepare their courses);
- It received a prize from the French Academy of Architecture

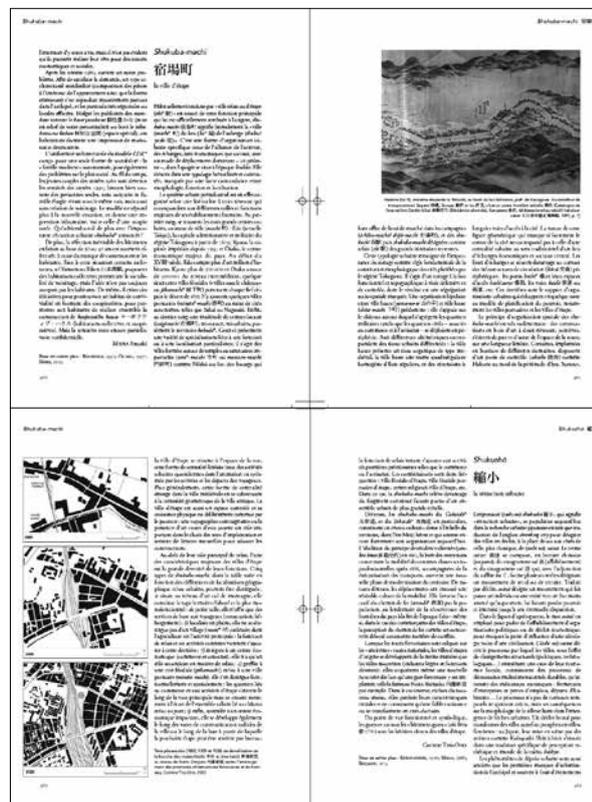


Fig.2a, Fig.2b
Example of one entry using an urban type to describe a large scale spatial organisation, from its original meaning to its current definition ("shukuba-machi/宿場町/la ville d'étape", op. cit., p.460-463).

The book had three editors, with a special mention to Philippe Bonnin who was the former director of Japarchi network and its founder.

As an example of one entry, an urban type, the post-station *Shukubamachi*. As you can see, it appears in Japanese, in French and in the romanized form of the Japanese term. This is to show the di-

iversity of visual materials used, beginning from the typical historical representations. This kind of material allows researchers to make their own drawings, and understand the evolution or the destruction / disappearance of this urban type nowadays. (Fig.2a, Fig.2b)

In the book there are conventional navigation tools. In the index all the terms are listed in the alphabetical order of their romanized form from the original Japanese terms. There is also an index of family names of authors, and a thematic index such as housing, housing regulation, or other fundamental categories, such as, spaces or palace's architecture, among others. There is one index missing in the book, that is the list of terms in French language organized in the alphabetic order. Thus, some readers complained that they couldn't find words because they did not know the original Japanese term, so we are thinking that one solution to that would be to create an online list of the terms translated in French in the website (Fig.3).

JAPARCHI			
Accueil » Outils » Index alphabétique en français du « Vocabulaire de la spatialité japonaise »			
Outil complémentaire de consultation de l'ouvrage « Vocabulaire de la spatialité japonaise »			
Télécharger le document au format pdf ou excel			
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z			
A			
acteurs de la construction	Zenon / senji jūshū	ゼネコン / 設計事務所	P542
alignement	Madivani	まぢわみ	P209
aménagement du territoire	Kotudo koku	国土地政	P276
apartemen	Jichūsei	マンション	P132
appartement type	LDK (Living dining kitchen)	エル・ディー・ケー	P203
architecture	Kenchū	建築	P247
B			
barre	Humi	風鳥	P135
barrière	Kitagai	堤外	P106
barraques	Barakku	バラック	P46
béton	Konkretto	コンクリート	P279
biens culturels	Bunko zai	文化財	P13

Fig.3 One intermediate tool: the book's online index according to the French alphabetical order (<http://japarchi.fr/outils/index-alphabetique-francais-du-vocabulaire-de-la-spatialite-japonaise/>).

Japarchi new project for 2018-2020

For the next stage of the project, we thought it would be interesting to develop the network as a collaborative tool in order to create a dynamic online database similar to the book. The idea is to create a simple and classical database, because the traditional printed system of publication is very limited regarding the need to update, to add new entries, to translate the contents in English, to add more visual materials, etc. Thus, we would like to keep the same principle of organization and use the advantages of IT tools to develop this dictionary into a larger project. As one example of its limitations, when the project of the book started a

list of 300 entries was envisaged. However, it was not possible to add all of the terms that had been selected by that time by the scientific committee. It would be possible in an online form to expand the contents of the publication.

We have also been discussing what benefits would bring this kind of online tool for the network. In terms of knowledge production, it has undeniably been increasing the dynamic between various fields, disciplines, types and scales. A collaborative tool online would probably be the best way to allow a collaborative work that would offer a new perspective for the research, and would allow an upgrade in the quality of the knowledge produced. Moreover, it would allow the production of innovative approaches to the understanding of the spatial notions. It would also stimulate the reactivity of the research community which would be able to make comments on the online contents, make reviews, or support in improving and updating the contents, or making it available in different languages. Another advantage of working online is that it would allow us to geo-localize the examples that the authors mention in different entries. It would also be an opportunity to interconnect the written and the visual materials in one entry; to link them with the contents of different entries, by creating a kind of superposition of multiple layers of information; to add visual materials of varied types; and to make hyperlinks with others Japanese studies centers or institutions or to create other open editions in collaboration with scientific magazines, for instance.

As an example of an existing database, there is a project which is still being developed offline, called "Archipédie" created by the French National Center for Architecture and Preservation (*Cité de l'architecture et du patrimoine*) in Paris. It is a collaborative digital encyclopedia on Modern and Contemporary architecture and the focus is the history of men and women who make architecture. It is an editorial project with educational and experimental dimensions and it creates a place for sharing and diffusing knowledge on this topic. It is conceived in collaboration with teachers and students from the French Architecture Schools and the aim is to incorporate researchers' productions in the near future. The main target now is the general public (Fig.4).

The main purpose of "Archipédie" as an online collaborative tool is also to take part on the critical thinking or debate about the Modern and Contemporary Architecture through the use of innovative

editorial information tools. “Archipédie” is organized in four categories: people, groups, institutions and publications (other categories, such as events, themes and architectural pieces are planned to be incorporated online from the next year). Each entry of this online encyclopedia and collaborative tool is the name of an architect. So it is quite conventional because finally the content of each entry is a monograph. The contents uploaded online are checked by a committee who is also in charge of deciding if the submitted contribution can be uploaded or not.

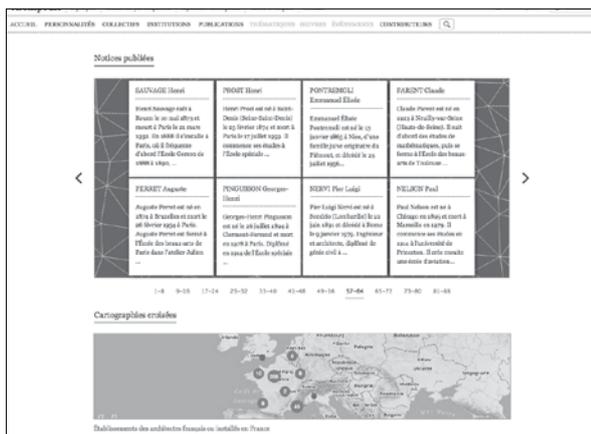


Fig.4. Cité de l'architecture et du patrimoine (CAPA, Paris), (ed.), 2017: “Archipédie”, <http://archipédie.citedelarchitecture.fr>

I show you some images of “Archipédie”. This is the homepage where different entries are listed. It is possible to look for the name of an architect we’re interested in but we can also search in this encyclopedia for the location/geo-location of the architect’s offices — if the architect has many offices around the world — or the main regions where the office has built. In the dashboard of the encyclopedia the upper left part has the information about which one is the latest entry, or which one has been recently modified, and in the upper right corner, we can know who are the new contributing authors and on which entry they are working on. At the bottom left we can know the proposals that are under examination of the scientific committee and the column in the middle is the latest contributors to this encyclopedia. More statistically, we have how many entries are published or how many are waiting in the process of being checked. We can understand how many teachers, researchers, or students collaborated in this encyclopedia and how many people had made comments on different entries.

Some interesting tools that they are now developing will deliver broader views of the whole data of this encyclopedia. For example, a worldwide

view of the implementation or localization of the architects’ offices or their online published entries. This is a typical example of one entry: the architect’s monograph shows his lifetime production, and in the end of the monograph there is a quite detailed chronology. If we click on the year where the architect was born we have an overview of other architects who were born in the same year, so we can understand the generation to which that architect belongs. After the detailed chronology there is also a list of the buildings the architect made and, in the same way, if we click on the “building” we can have an overview of who were the main builders or important buildings created in the same year. At the end of the entry there is a list of the publications of the architect, a bibliography and the location of architect’s archives and other related links.

Conclusion

So, we have been discussing about the adoption of a temporary name for the project that could be: “Japarchipédie”. In summary we have demonstrated the potential of this digital platform project under discussion. As an attempt to answer to the questions posed by the organizers of this symposium, we have tried to define the project of a digital collaborative tool for research about the Japanese culture of space and its components (architecture, city and landscape). We have two purposes with this proposition: first, reinforce a cross-disciplinary approach, in order to enrich the knowledge production process; and second, to give access of the results to specialists and also to a general public.

The type of data likely to be included in this project is similar to that used for the publication but this new digital project would allow us to review, update, translate, interconnect and geo-localize the materials. We envisage that most of the contributors would be researchers and doctoral course students. And we would be glad to hear your comments on this project, thank you!

Questions and Comments

(Hugo SEGAWA) We have in our network on Latin American architecture, several undergraduate and graduate students that could collaborate in updating or feeding the information of the database. One problem that we have is that many of the senior researchers have difficulties in dealing with the technical aspects of the database (the IT knowledge), and the young generation has of course less problems with that. If you consider all the variations in

generations of people involved in the project, from seniors to young students, do you think we can open this database to all the people, sometimes just transitory people who are part of the research program or research group for a period but they leave after a while? Because we can think about the Wikipedia system that is absolutely open, but sometimes it is so open that questionable articles might come out. What do you think about open systems? Do you think there should exist managers that permanently control the “feeding” of the entries on the system?

(Corinne TIRY-ONO) Absolutely, in the organization of the network, which is an academic group, there is a scientific committee that will control the quality of the contributions and if the online project develops further, we would need to organize a special group that is comfortable with IT tools and have the capacity to control the quality of the contents, and of the materials that would be proposed by the contributors. This already exists for the “Archipédie” online collaborative tool. There is a coordinating group that is really controlling strictly what is proposed and that can forbid or give authorization to what can be published or not. It is just like when an article is proposed to publication in an academic journal: there is a reading committee that reads the paper and makes comments then refuses, accepts or asks to review, update or develop some points. It would have exactly the same way of functioning. I am confident that if we organize people in charge of filtering the information, the contributions will match a level of academic content.

(Adriana PICCININI) Coming back to the Wikipedia discussion, one good feature of Wikipedia is that the process between submission and review is quite fast. If we think about academic publications this process can take quite a long time. If we think about using efficiently digital tools, would the “academic” format of publication take too much time?

(Corinne TIRY-ONO) Different than a book where the results are published and once printed cannot be changed, the purpose of this collaborative tool is to create a dynamic research process where contents are always developing and being updated. So whether the uploading process is fast or not, this is less important. I think the most important is to have the possibility to update the contents and allow people to bring their knowledge to always improve the quality of the content.

(Gaia CARAMELLINO) I wonder if in the process of shifting from the book to the digital platform and include a new research, are you also planning to deal with the usage of the terms by different specialists’ fields? Or if the usage of the terms from specialists to other people? I am thinking about the example of Christian Topalov, “L’Aventure des Mots de la Ville”, do you plan also to include the variety of uses of terms when you plan this platform? Is there a plan to present the different kinds of use of words, terms and notions in varied fields?

(Corinne TIRY-ONO) Basically in the book we have already tried to do so. We have explanations of the change of the use and usage of notions until today.

ArchiteXt Mining: Taking advantage of Periodicals as an Architectural Data Base

Ana ESTEBAN-MALUENDA

Technical University of Madrid

Luis SAN PABLO MORENO

ArchiteXt Mining Project (MINECO-ERDF)



Ana ESTEBAN-MALUENDA

The ArchiteXt Mining project is funded by the Spanish Government, included in the National Program of Excellence. It started in 2016 and it will continue to be developed during the next three years. Before explaining the technical details of the way the project is organized, I will present how the project was born.

In the XXI century, it is scarcely possible to think about scientific research without considering the digital aspect. The world that we are living is more and more reliant on data. We can find more and more information, identify types of behavior and visualize information in a different scale. Some analytical tools like data warehousing and data mining have reached very important results in terms of the massive treatment of the information. Text Mining is a more specific technique that looks for patterns and tendencies in texts. This technique allows us to discover hidden knowledge so it is possible to respond to questions that were previously asked or to discover hidden patterns in a group of texts. This kind of analytical processes have been largely used in many scientific and humanistic disciplines with positive results. (Fig.1)

For example, the Italian priest Roberto Busa in 1946 began to build the Index Thomisticus as a tool for performing text searches within the corpus of Thomas Aquinas works. At the beginning Busa used basic tools like punched cards to make his analyses, however thanks to the strong development of these techniques the best results of this project have been obtained later in the end of the XX century. More

recently many other projects have applied text mining tools. Many works of authorship identification of literary pieces are well-known, specially the analysis of William Shakespeare works which has achieved remarkable results.

In architecture, there were also several pioneers in digital analysis, like Juan Pablo Bonta who wrote the book *American Architects and Texts* published in 1996. (Fig.2)

In his research, Bonta worked with data cited in 380 texts about the American architecture since 1815. Today the vast work of Bonta that quantifies the projects of all those architects have been overtaken by tools like the Ngram Viewer by Google Books, which allows to visualize in few seconds a huge amount of cites of a certain author included in books of the XIX and XX centuries. These graphs show cites that were found in books during the XX century of the five Masters of Modern Architecture: Le Corbusier, Frank Lloyd Wright, Mies van der Rohe, Walter Gropius and Alvar Aalto. As you can see, the cites are growing with the time due to the fact that nowadays the publishing market is much more developed than in the past. Therefore, it seems that this tool isn't good to measure the real interest provoked by these authors in a certain moment. So if the development of the publishing industry contaminates the quantifying of cites and makes this kind of analysis invalid, where can we obtain information about the evolution of Modern Architecture without accumulating these mistakes? Is it possible to use databases that can provide information about Modern Architecture at a certain point in time? The answer is: yes.

The architecture of the XX and XXI centuries has an extraordinary database where the most important concepts, events and buildings have been registered: the architectural periodicals. Most researchers who are specialized in architecture use them as a source. Unfortunately we are still doing this work in the same way that it has been done for the last 50 years. We still need to go to the library and review page by page all these issues. In last decades, many architectural periodicals indexes have

been built in order to help researchers, but those indexes are usually incomplete and they don't include records about the minor texts, for example, the news section. The big quantity of information in periodicals hinders the researcher's understanding. It is necessary the help of computers in order to transform this large database into a readable format which can be easily computed.



Fig.1 The Jesuit Priest Roberto Busa shows the *Index Thomisticus* in the IBM stand of the Expo 58 in Brussels.

ArchiteXt Mining proposes the use of advanced techniques in data analysis for building tools for researchers that use periodicals for their work. Also, ArchiteXt Mining aims to be a collaborative tool which provides information at the same time as receiving it from users and researchers. Another aspect to highlight is that it is a pilot project which hopes to explore a new way of carrying out research. It was born in Spain, with the focus on Spanish Architectural Periodicals, but with the aspiration to grow into something larger. But before we need to explore the tools possibilities with the well known area of a recent theme, which is the Spanish Architectural Periodicals of the 1940s, 1950s, 1960s and 1970s. The changes in the Spanish Architecture that happened during these years give a wide range of possibilities to explore.

At the beginning, we have already digitalised the journals of the Institute of Architects of Madrid, *Revista Nacional de Arquitectura* and *Arquitectura*, and the one of the Institute of the Architects of Barcelona, *Cuadernos de Arquitectura*. Apart from these, it will be completed these material with other important Spanish periodicals like *Hogar y Arquitectura* and *Nueva Forma*. The initial aim was to scan and digitize some European Periodicals as *L'Architecture d'Aujourd'hui*, from France, *The Architectural Review* and *Architectural Design*, from Great Britain, and *Domus* and *Casabella*, from Ita-

ly. Due to the reduced budget of the project, these European sources probably will not be included in the first phase. But this project thinks big and wants to branch out internationally, sharing information with other countries.

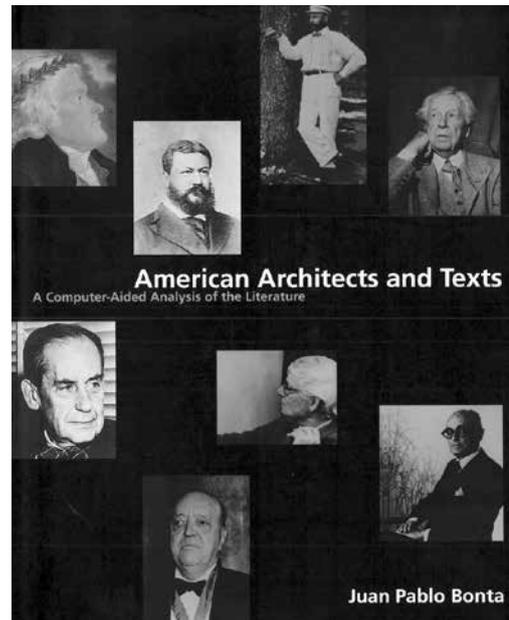


Fig.2 Cover of the book *American Architects and Texts* (1996), by Juan Pablo Bonta.

One issue that we would like to highlight in this project is that it is not a simple machine digitalization. The digitalization projects are very important since they bring the magazines closer to the researchers but in fact they do not change the need to look up information in journals page by page. Another very important aspect is the digitalization with OCR (Optical Character Recognition), as Hugo Segawa has used in the case of the *Acropole* magazine, that provide us the possibility to do searches of words or group of words. But we want to provide researchers with something more. A tool that not only helps them to save time, but it even serves them as a source of inspiration. So we proposed the creation of a database on Modern Architecture published in Spanish periodicals which will be accessible to the academic world. This will be more than the basic bibliographic information contained in the indexes that are already available. At the same time, we will start making in-depth analysis of the contents of articles applying the methodologies of Text Mining. The intention is to establish several patterns of similarities and differences not only between magazines but also between Spanish and foreign architecture. The quantitative analysis of the trends will be fundamental as well as the location of the main nodes of the reception and

admission of news.

Another target of this project is to supply an objective list of texts that have set trends in Spanish architecture and those that, on the contrary, have been a mere reflection or continuation of the same. On the other hand, we aim at establishing rankings that indicate the importance of architects, buildings, critics and a considerable number of variables of interest for the researches. One of the stronger goals of this project is its potential growth. We wish to be the starting point to a worldwide project in which Text Mining becomes a really powerful analytical tool.

So our first task was the development of a biblio-thematic database. This is an initial classification according to the traditional formula done by the members of the research group. However, it provides a lot of information that is not included in traditional bibliographic indexes. Trying to explain the power of this tool, I propose you a very simple search in the contents of the journals of the Institute of Architects of Madrid - *Arquitectura* and *Revista Nacional de Arquitectura* (RNA) - and the one of the Institute of Barcelona - *Cuadernos de Arquitectura*. We can look, for example, the term “Japan” and the results are the following: 2 little mentions in RNA and 19 references in “Arquitectura”. Just with the results of this search in the biblio-thematic database we can deduce very different conclusions. For example, the first one that we can deduce it’s the very different interests of the two architectural notes ongoing in Spain (Madrid and Barcelona): the magazine of the Institute of Architecture of Barcelona did not publish anything referring to Japan during those 20 years, compared to those 21 mentions that were made from Madrid.

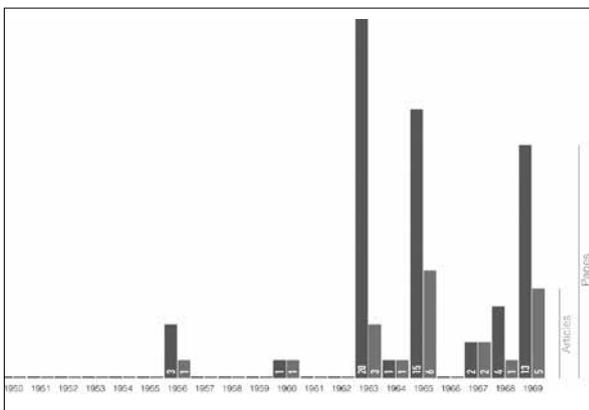


Fig.3 Distribution over time of the articles on Japan, published in the magazines of the Institutes of Architects of Madrid and Barcelona in the 1950s and 1960s.

On the other hand, we can see how articles are distributed over time and how the Spanish architects became interested in the Japanese architecture since the 1960s, particularly since 1963. And you could ask me: why? Because in that year a Spanish architectural exhibition was shown in Tokyo and that circumstance lead to the Japanese Journal *Kokusai kenchiku* to publish a monographic issue about the Spanish architecture.

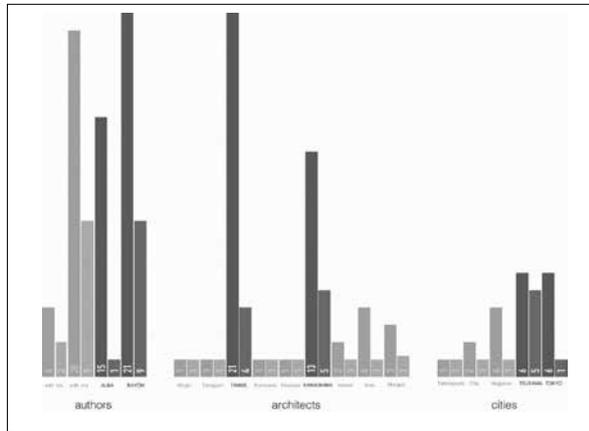


Fig.4 From left to right, graphs of the Spanish authors who wrote more articles on Japan; and the most popular Japanese architects and cites published in the magazines of the Institutes of Architects of Madrid and Barcelona in the 1950s and 1960s.

Most pages devoted to Japan in Spanish architecture were written by Antonio Fernández Alba and Mariano Bayón, and the most popular Japanese architects were Kenzo Tange and Koji Kawashima. In terms of cities, Tokyo and Tsuyama captured the Spanish attention throughout the whole decade.

In short, looking up the biblio-thematic database, the researchers could have a global idea about the Spanish architects’ interest in Japan, but in addition to this reflection, this database aims to bring additional values.



Luis SAN PABLO

Our objective today is to show you how can we use the elemental unit of information in the data-

base ArchiteXt Mining, that is no more than the article.

This is the normal presentation of an article in our reviews of periodicals. We can see different pages full of texts and pictures and also with several draws, but for us this kind of information is quite complicated to process, as before prof. Segawa has already remarked. It is very complicated to us to work with these different formats of information. So we need to “clean” these articles and take only the texts to be processed automatically. For example, we have a Spanish article to be translated in English for the audience’s comprehension. This is the material we are going to work with and, in a second step, we are going to put the material into a work sheet, no matter which kind of work sheet. We have to transpose the orientation of the text not because it is indispensable, but only for practical purposes. After that we see that there are certain words that are alone themselves and they don’t have specifically meanings. They are not useful in text mining and they are called in data mining as “stop-words” - words that are very useful for connecting ideas and phrases in texts but for our purpose to analyze semantic significance of words are not useful, therefore we need to remove them. So this is our text when these words are removed, and as can you see it makes a lot of difference when we have a text with “stop-words”. “Without stop-words” we have only names, substantives and verbs, which are the nucleus of the information. Now we can create a matrix of words with the ranking of frequencies of different words that appear in the text. On the left, we have our text and, inside the matrix, we have the words organized according to appearance frequencies: words with high frequencies in one side and, in the other side, words with low frequencies. It is not complicated to understand this organization, but probably it will be easier to understand with a graphic view the appearance of words in a text. This is the usual technic to approach texts in a digital work.

After this we would like to demonstrate three practical examples of how we can use these technologies and techniques and to start to work with examples with deeper analysis.

Text similarity studies

The first type of analysis possible to be executed is to create indexes of similarities between two texts. Here we have two different texts, both written by Spanish architects, the first was written by An-

tonio Fernández Alba in 1963 and the second was written by Mariano Bayón in 1968. There are five years of difference between them, and we are going to make an experiment to correlate them in terms of frequency matrix, not in terms of a text, trying to understand what it covers.

So, here we have the first frequency matrix of the text number one, that could be considered the DNA of the text, and here a matrix of the second one. If we consider only the common words of both texts and we put together only the common words in two columns, we get to this: $Sim(d1,d2) = x_1y_1 + \dots + x_Ny_N = \sum_{Ni=1} x_iy_i$

This mathematical expression means that we have the same words in both texts and it shows the differences of frequency appearance of these words in text number 1 (T-1) and text number 2 (T-2). For example, the word “architecture” appears seven times in T-1 and four times in T-2. So we would like to propose you an index that could measure - in an objective way - how these texts are close in terms of significance. We are going to make a scalar product, a pondered scalar product of frequencies of many terms, as common words we have in our texts. For example, we would like to multiply for each different common word the frequencies of T-1 with the frequencies of T-2, obtaining a sort of terms that finally will be summarized for the analysis, in order to obtain an index like this: 0,436. If we express it in a percentage format, it means 43,6% of similarity. This is an objective criteria for researchers that we can provide them. And with these indexes they could have some criteria before reading if one text is quite similar to other. This is very important to save time. It is not the same to write a doctoral thesis in 10 years than writing it in 5 years. We will provide these tools for investigators and researchers to do similarity searches on all texts that we have stored in our database. This probably will become a powerful tool for them. Our aim is to give this information as fast as possible. Thus, we will calculate in advance the combinations of all the articles stored in the database two by two and obtain an index for any combination of text, in order to make it available to researchers and users under demand. Regardless of any combination users want to do, the fast output will be possible because these indexes will be calculated in advance.

Word correlations’ studies

With word correlation analysis, it is possible to know how words are presented in a text together

with others. Usually, words show tendencies of how they can be grouped with others in a certain way. For example, in our texts the word “form” usually appears near to the word “world”, “claim”, “needs”, “aspects” or “life”. This graph shows the strength of relations between words and provide us a powerful tool to know concepts that are related together. In the second test, we have the word “urban”, which is usually presented together with the words “studies”, “terms”, “structure” or “approach”. For example, the year “1960” is clearly related closely to the word “urban”. As I am not a specialist in the history of architecture, I don’t know why it is. But with this clue, I can search and find that in 1960 Kenzo Tange proposed a large urbanistic scheme on Tokyo Bay. Thus, even for a non-specialist like myself, it becomes possible to realize that these two words are grouped together and make easy and clear to understand the relations that exist between words.

Studies of frequencies

There are different ways to present ideas of an article. For example, on the left we have the T-1 word-cloud and on the right the T-2 word-cloud.



Fig.5 Word-clouds that show the most common words in T-1 (Fernández Alba, 1963) and T-2 (Mariano Bayón, 1968).

In the first one, We can see the most common words in T-1 in larger fonts: “forms”, “structure”, “plastic” and “material”. Thus, in 1963 Fernández Alba gave us the physical component of the architecture of Kenzo Tange. These words are followed by others like “new”, “time” or “born”, giving the idea that this concept of urban planning presented by Kenzo Tange is really interesting to write about as a novelty. On the other hand, in T-2 we also see the most common words: “system”, “communication”, “prospective” or “flow”. These are more abstract concepts so, probably, the other author – Mariano Bayón - was willing to give us the idea of more abstract aspects of the Tange’s architecture.

But, even though both texts have 5 years difference between them, we can found common concepts like “human”, “planning”, “urbanism”, or “city”. So here is another tool that gives us different ways to extract information about articles.

Here I present another very interesting graph that shows how information is disposed in an article in time and space. Before, in other presentations, we have seen other projects that are structured in three parts: introduction, development of contents in the middle, and conclusions at the end. This is the classical way to organize a discourse, a speech, a presentation, a book, an article, whatever...

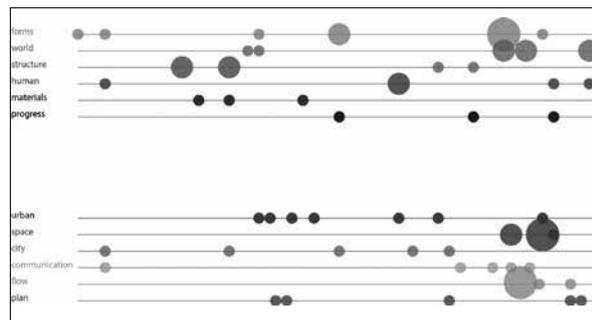


Fig.6 Bubble-graphs of the most common words in T-1 and T-2. They show how words are disposed in the two articles in time and space.

In T-1 the word “structure” is used to propose certain theories at the beginning. After that, in the middle of the text, Fernández Alba uses the words “forms” and “urban” to develop these ideas. At the end, in the conclusions, he writes the word “forms” to obtain or give power to the conclusion. In T-2 probably the conclusions are even more evident. For example, look at the density of bubbles in the final part, where the concepts are concentrated all together. The word “space” and “flow” are probably in the basis of these conclusions. On the other hand, the word “urban” doesn’t appear with high frequency but appears quite persistently, and the same happens to the word “city”. They are not treated as very important concepts but they are the substratum of the text because they appear all time. In contrast, the word “communication” is mainly used at the end. So probably with this kind of analysis, it is possible to develop different points of view that are not also appreciated in a first lecture of the article.

These are three practical examples that serve to explain how this technology can help the researchers. However, these techniques and technologies cannot substitute researchers because the brains of the investigators are much more powerful than any

of these tools. The main objective of creating these tools is to help researchers in getting into new types of results.

Finally, in the future we would like to reinforce the international component of this project but, at least for now, we must overcome certain limitations of budget. Thank you very much.

Questions and Comments

(Hugo SEGAWA) Thank you for your presentation, I learnt a lot. I once read a book about this kind of analysis of the speech of politicians. But I have a doubt, not as an analyzer, but as a writer. Usually, when I write a text, in my final revisions I tend to search for words that are repeated and I try to avoid the repetition of words, thus I try to find synonyms or other language supports in order to change the words but saying the same content. Thus, is there any analysis that could consider this kind of variation? Then, a second question. Of course, I do not know the methodology of your analysis, but I remember that Juan Pablo Bonta in his analysis of words, he well referred to studies of semiotics and linguistics. So, is there any possibility to link your methodology to semiotics? Or is there any possibility to analyze the frequency of terms that you presented from the point of view of linguistics?

(Luis SAN PABLO) In fact, we have shown very simple examples of how we can work with printed texts, but there are also other algorithms that avoid these two problems that you have remarked. The first, is that synonyms are different words that have similar meanings, obviously this happens in any language. But we also need to know that most of the languages have no more than 40,000 or 50,000 words. In average, a child can use about 500 words and an adult about 10,000 words, and if we use more than 10,000 words we are considered to be erudite or intellectual. So, it is possible to store all these words in a database, and we can group words with similar meaning, and finally we can associate these words with one concept. We are prepared to consider the first situation related to the use of synonyms. Then, the second issue. We have tools to consider words with the same etymological root: for example, architect, architecture, or architectural. It is possible to consider that similar roots imply in similar concepts and it is possible to generate automatic analysis of this type. It is not a perfect solution, if we go so fast, we will always forget some aspects in the process of analysis. But I prefer to

have this kind of analysis – imperfect or inexact – to begin to work than having nothing.

(Adriana PICCININI) Your work is really interesting. You showed us the analysis in English. I was wondering if you have tried to make this analysis in Spanish? And if you have tried in Spanish what was the difference? How much do we get lost in translation?

(Luis SAN PABLO) This is a very interesting question. Obviously, the process must be done in only one language. I think that if we do it in English or Spanish the index will probably show little variation, most of the variation will probably appear due to different organization of words in the text. In fact, when two different texts speak about the same topic usually they have remarkable indexes. But we have not done this exercise yet, experimenting with more languages. This would be a challenging exercise. Most probably we are still not ready to do this in this moment. It is easier to do with some languages, for example, Spanish and Portuguese are not so different. If the vocabularies of the authors are not radically different, the indexes will be the similar and the trust can be guaranteed. There are other ways to test the similarity and avoid the search interference or noise brought in by certain “enemies”, like style and the use of synonyms, that could be not beneficial for this technic.

(Gaia CARAMELLINO) I got really fascinated by your presentation because I am very far from all this. Since I am also working on magazines, I am very curious about how you can treat critical statements. Of course, because working on circulation and statements, if you work on a project or a figure, it is possible to map the circulation and transfer experiences. When you arrive to texts, it starts to be difficult. So enlarging the geographies of the observation, how can you treat these shifts of different languages? Which I think is an important question.

(Luis SAN PABLO) I think it is a question of criteria. Finally, I think English would become a common language for an international project because of the practical aspect, that we need to have everybody understanding each other. I know that it will not be beneficial for the Italian researchers, or the French, or the Spanish. This is obvious! But we need to accept this kind of minor disadvantage that might come with the “standardization” of the information.

(Gaia CARAMELLINO) The second one has to do with the analysis on a specific geography. If when you work on the recurrence and combination of words, is there a possibility to include the variable of time in this observation. For example, “urban artifact”, we would use only urban, or only artifact, but it is an expression that after Aldo Rossi experiments gained a specific meaning and started to be used regularly. Other expressions, like “city region” have similar development.

(Luis SAN PABLO) The component of time is always difficult to be managed. It is complicated because the example we brought here treat texts in a fixed moment of time. But the evolution of one authors’ style could be a very interesting project. It would be interesting to see how one author’s style has been transformed from the beginning to the end. For example, Picasso had in the beginning of his career one style, which was somehow understandable, but he reaches the end of his career with paintings which are impossible to understand, with a series of transformations in style that show very different ways to express.

(Ana MALUENDA) I think to incorporate time in this project would come in a second step because we are now in the very beginning of the project. Right now, we are only working with words; in the next step, we plan to work with groups of words; then later, we would like to work with other countries and other continents. We would love to see this project grow and grow, but one step after the other, and right now we are dealing with words.

Acknowledgments

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GIS Thematic Mapping as an Instrument of Analysis for the Identification of the Rural in Complex Territories

Roberta FONTAN GALVÃO

University of Sao Paulo

Marta Dora GROSTEIN

University of Sao Paulo



The content of this work is based on the doctoral research about rural territories within São Paulo urbanization in a macro-metropolitan context. The objectives of this lecture is to show the differences between the Brazilian official territorial classification of rural and urban spaces and the reality found in these areas based on an exploration of the concept of rural and the variables that characterize it.

In addition to this it will be demonstrated the relevance of Geographic Information System (GIS) tools and the creation of thematic cartography as an important instrument of theorization. In order to achieve these objectives the presentation will treat:

- 1.The context of the “Macro-Metropole Paulista (MMP)” in Sao Paulo State;
- 2.The Brazilian Institute of Geography and Statistics (IBGE) classification and the MMP urbanization - Spatialization as an analytical tool;
- 3.Characteristics of MMP municipalities - 3 examples;
- 4.The differences between IBGE classification and what is seen in the territory - 3 municipalities: Joanopolis, Piracaia and Sao Paulo;
- 5.Urban and rural concepts and approaches;
- 6.Possible contributions for comparative analysis.

The context of the Macro-Metropole Paulista (MMP) in State of São Paulo

About the context of the Macro-Metropole Paulista (MMP) in the State of São Paulo, in terms of

respective municipalities and regions within the boundaries there, includes four others metropolitan regions: Campinas, Baixada Santista, Sorocaba, and Vale do Paraíba e Litoral Norte; two urban agglomerations, Jundiai and Piracicaba; and one regional unit named Bragantina.

This territory is composed of 174 municipalities and a population of around 31 million people that corresponds to 75% of the State of São Paulo; its area is around 53.000 Km².

The map below (Fig.1) comes closer to this territory where the MMP is situated and shows its urban spots. It is possible to observe that the urbanization is mainly concentrated around São Paulo municipality to the others that surround it through the main routes. This occupation alternates dense populated areas located along the axes and the areas of dispersed settlements as the municipalities are further away from larger agglomerations.

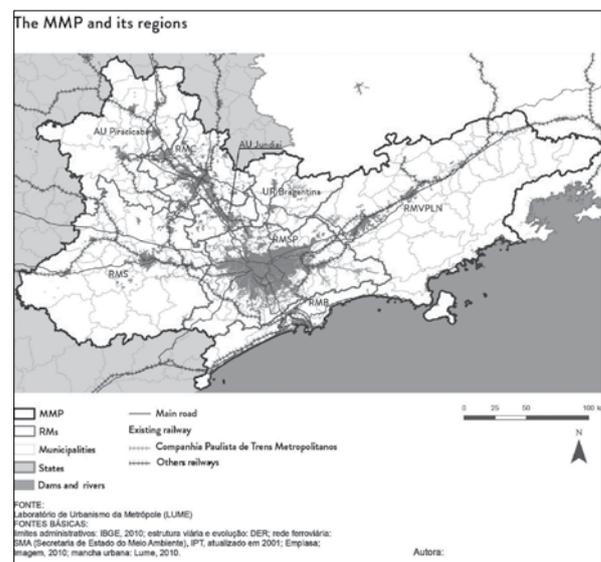


Fig.1 The MMP and its regions

In Brazil since the end of the 1960s, industries were stimulated to move out of São Paulo city and be located on both the interior of State of São Paulo and the rest of the country, specially the north-east and the middle-east of the country. The process of

urbanization thus accelerated during the 1960s and in the 1970s (Fig.2) when the country became effectively urban.

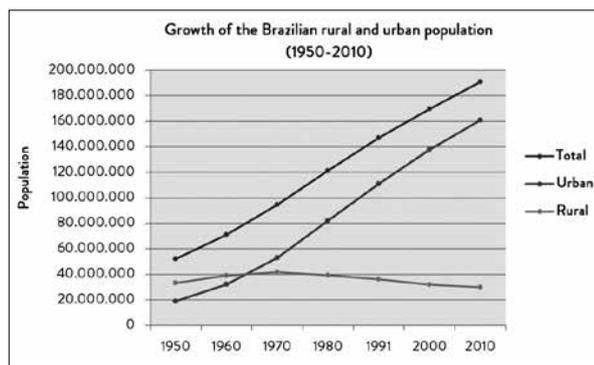


Fig.2 Brazilian urban and rural population

The definition of Rural and Urban spaces is too complex and involves many different points of views depending on economic, social and cultural contexts, and also politic and institutional concerns. In Brazil the urban and rural limits are defined by the municipalities following a simple definition based on the 1938 Law and there lacks a well-developed national criteria for this. The varied definitions in use involve many local private and public interests.

Most of the authors consider the relevance of agriculture and livestock activities other than the population density for the definition of the predominance of natural landscapes. However, during the last decades transformations brought mainly by both transportation and communication technology have deeply changed rural and urban areas. In this sense, rural and urban spaces can no longer be defined only on bases of the old, or traditionally used parameters in order to characterize these spaces.

Three examples of MMP municipalities and the differences between IBGE classification and what is seen in the territory: Joanópolis, Piracaia, and São Paulo.

Through the use of GIS and the spatialization of data of what the IBGE consider as urban and rural, overlapped by the urban spot in the MMP region it can be seen below that they don't match each other. The follow maps show first the IBGE rural and urban (red) areas; second, the urban spot that was produced by the satellites images; and third, the overlapped images (in light colors the urban spot and in red the urbanization according to IBGE classification). The fourth map expresses in detail the discrepancies between these datasets. The following represents three cases of these discrepancies. (Fig.3)

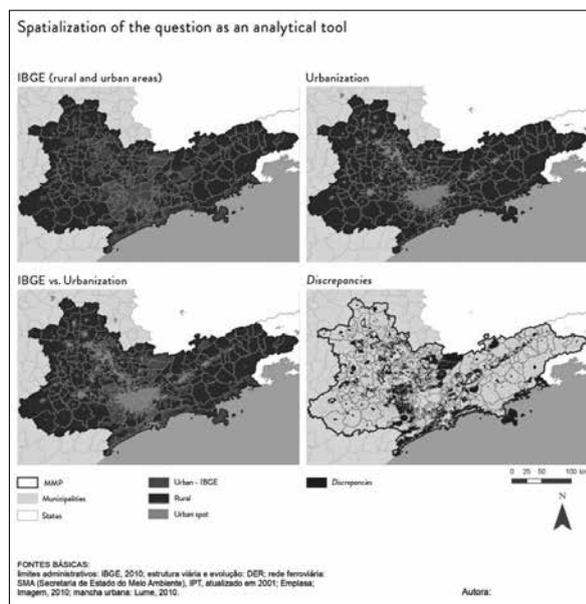


Fig.3 Spatialization of the question as an analytical tool

Joanópolis, Piracaia and São Paulo municipality show different types of discrepancies. At first, in São Paulo's case except for the legally protected areas, 100% of its territory is covered by urban spots (Fig.4). Despite this, not the totality of its population is considered urban by IBGE (99%). In this case, we see more similarities between the data although there are still small differences (in red what is out of urbanization). Another case, Joanópolis and Piracaia, shows completely different limits between the IBGE classification and the urban spots.

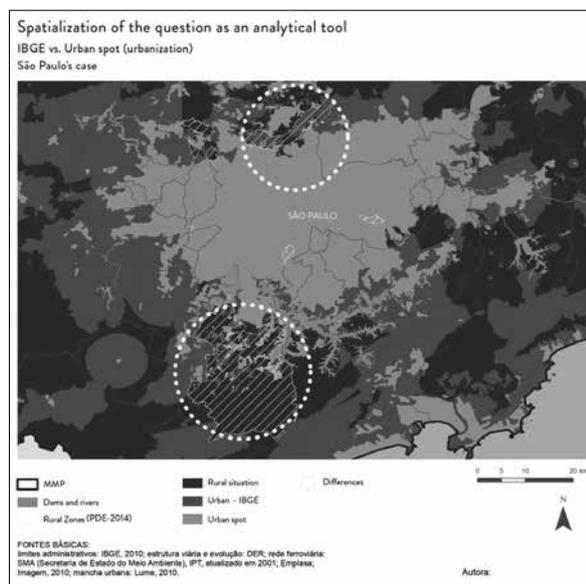


Fig.4 Spatialization of the question for São Paulo's case IBGE x urban spot (urbanization)

Detailing the examples, the data from these municipalities shows that Joanópolis and Piracaia (Fig.5) have low density and higher percentage of agriculture employment. However, according to the

IBGE there is no rural population and both municipalities totality population are considered “urban”. Some data related to the agriculture and livestock activities, show no agricultural areas and agricultural areas with sharing different type of activities compared to those ones seen in the past. Agriculture and livestock areas are predominant in Joanópolis and Piracaia according to our results not necessarily with an intensive production but also with activities associated to tourism, leisure, and services.

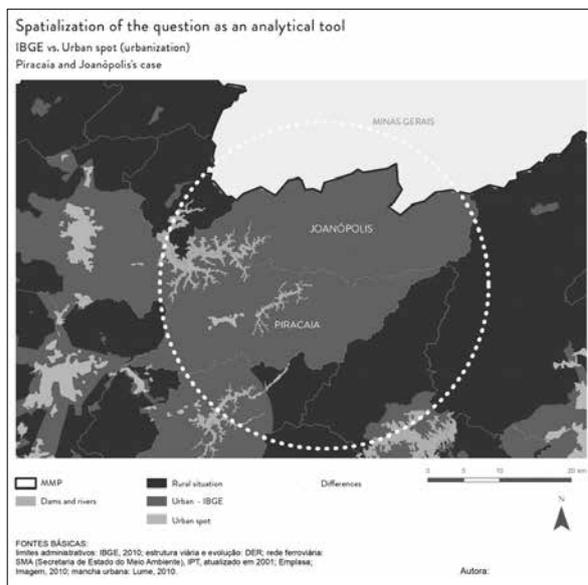


Fig.5 Spatialization of the question. Piracaia and Joanópolis case

On the other side São Paulo that is considered to have no agricultural areas, includes still some rural population according to the IBGE.

With more specialized maps is possible to clearly observe these discrepancies. In Joanópolis because there is no urban spot in the index and in Piracaia the urban spot is too small considering the size of the municipality and the classification of IBGE as “urban”. These two municipalities are then defined as completely “urban” according to IBGE. In São Paulo’s case there is in the north, the Serra da Cantareira that is a conservation area protected by law which is classified by the IBGE as “urban”.

Urban and rural concepts and approaches

In metropolitan areas or the territories that had become increasingly complex rural and urban areas definition are blurred by the presence of new functions that coexist with old functions which can no longer be located in traditional spaces. In these complex territories it is necessary to incorporate a larger number of variables into the analysis in order

to identify the rural and the urban in different contexts, with different data sources, different territorial boundaries and scales, varied data temporality and qualitative variables. Thus, it becomes necessary to consider this variability and the relationship between the various data. It becomes necessary to survey specific variables and parameters in an attempt to identify the rural and the urban, taking in to account the new territorial configurations of the context specifically in the case of MMP and in many other cases including different countries.

The use of a geodatabase (ArcGIS) modeled to meet search requirement aid in the elaboration of the cartography to support the analysis. As a result these tools can be shared in order to deepen the analyses helping to add and updating data to the general database and easily to spread the knowledge.

We are working with some special topics in this research related to the variables that requires an analyze over time; other variables population, spot density, employment, income, households and so on; the attention must be called up for the ones that can revel specificities to be modeled in database.

Possible contributions for comparative analysis

Our aim today is to show that this is a tentative to work with a large number of variables by integrating the variables that already exist in a work done during the past 4 years. In the future we plan to integrate these variables with the support of the software called SOM (Self-Organizing Map): a type of Artificial Neural Network Center that is able to deal with complex analysis in order to classify the territory as urban to the rural areas. This kind of tool would allow for the combination and analysis of a great number of attributes (which can be treated in binary relations like yes/no; have/do not have). The variables can be treated as low, medium or high, and also can be considered as quantitative values or percentages allowing the combination of different data scales from municipal scales to the Census definitions and so on.

I plan initiate an attempt towards this direction in cooperation with Professor Clayton Carneiro and Professor Mariana Giannotti (both from Poli/USP): from the rural to the urban and through the peri-urban and not using a dichotomy between rural and urban areas.

Although some difficulties exist, it would be possible to put together some countries in the same

research. However, this scheme about Brazil already demonstrates the challenges ahead. The analysis of only one country like Brazil demands the integration of many pieces of data and a lot of times would be needed if we try to do this with other regions inside the country, including federal unities and municipalities and sub-prefectures. It is worth to emphasize that in Brazil some boundaries are not national but located at federal unities' limits. It would be necessary then to discuss about a large set of variables and definitions if we consider the possibility to work with the comparison of different countries. If in Brazil it is already difficult to have unified definitions between the federal unities, a workable definition that can be used with other countries is even more difficult. The comparison might not be direct but I think that to counter different cases in order to see each ones specificities can produce good results in the future.

For the purpose of engaging in such a type of comparison it would necessary to consider similarities and divergences between entities and boundaries, infrastructure, environmental laws, as much as, demographical, social and economic data and others, as well as relationships and attributes of the database model.

Questions and Comments

(Luis SAN PABLO) You have shown us the population growth of Brazil from the 1960s until now. It is impressive to see how this population is growing from about 60 millions to almost 200 millions. Do you think that this the rate of population growth in the future be the same or might reduce in the future?

(Roberta FONTAN) Do you mean this diagram which shows the population numbers in urban and rural areas?

(Luis SAN PABLO) Yes that one. Rural areas' population remain more or unchanged, but the urban population grows spectacularly. Do you think that the rhythm of fast growth will continue in the future?

(Roberta FONTAN) The prospective data from IBGE consider that the growth rate will probably slows down in the next 20 years. Actually, the growth will continue to occur but the location of growth tends being dispersed through the territory. It means that it will not be as concentrated as seen in the past.

(Sacko OUSSOUBY) In African cities there are a lot of spontaneous growth just around the borders of urban areas, because your transition analysis focuses on urban-rural movements, but there exist a lot of layered spaces and varied growth within layered spaces, thus whenever the movement occurs in borderline territories it is difficult to decide if the growth is occurring in urban areas or in rural areas. In African cities, it becomes forcefully necessary to revise urban boundaries because the urban limit definitions do not follow the spontaneous movement of people. For example, I saw among your variables that you use land registration data. However, in the case of African cities large areas are not registered. Is it possible to include in GIS cartography some kind fuzzy condition which could represent this kind of movement? Within the layers of growth how to choose where to include them in between urban and rural "spontaneous" boundaries pushing?

(Roberta FONTAN) We have some GIS resources that can be useful to represent informality. But informality may occur in both rural and urban areas. If an informal occupation exists, there are mechanisms to change the law or municipal decision ignorer to incorporate these areas as rural or urban. But usually the definition of the population as urban or rural depends on the counting of the population in the location that they are fixed. This real geographical location is expressed in maps with official definitions of land-use. The limits and informalities over are defined in dependence of regulator authorities it mostly goes to rural incorporation.

(Sacko OUSSOUBY) I say this because many definitions tend to be applied to every world city although they do not fit the reality of many African cities.

(Roberta FONTAN) I find this kind of discussion sits in the core of this debate. When I take into consideration certain variables I know that I have to define it according to the specificity of my case study. For example, when we take into consideration the density of settlements, a number like 150 could inform a low density in Brazil but perhaps not in another country. Thus, when defining that 150 is characteristic of an urban area or a rural area, I have to take into consideration the specificities of every place. That is why I hope that using neural networks system, the SOM (Self organizing map), I will be able to adjust the analysis to specific region-

al definitions. Thus, I could input the information of what is a high or low density according to regions, and the system would represent rural and urban areas according to the varied definitions of what is low or high in varied contexts. With this I hope to be to create a gradient between rural and urban. I believe from this I could interfere in the analysis by adjusting the variables according to the answers I receive.

(Sacko OUSSOUBY) I talk about this because the Harvard University is developing a world map following almost the same idea. They are trying to put emphasis in what is rural and what is urban; they have also the analysis of poverty degree so the GIS developing map should contain several world cities, and try to globalize the analysis with different cultures and regions. I think that maybe working more with variables that aim to extend the GIS map or this software you should try to include variables which can take in account some situations that can be much more fuzzy between urban and rural

(Hugo SEGAWA) I think you are putting a question mark on the dual category of urban and rural. From planning perspectives or from the planning practice, do you think that we need to operate in subcategories or should we find new modalities or new ways to understand this transition between urban and rural? How could a planner consider this unclear border between urban and rural?

(Roberta FONTAN) I don't know if I should say this, what I will say now, but, maybe we can think about the possibility of consider not to divide, or to classify, the land into rural and urban areas. My preoccupation is that several of the researches in Brazil and the people that use this data considered that Piracaia and Joanópolis, for example, are urban areas, which is not true. So maybe this dichotomy is not really relevant. The people living there, they are inhabitants of Piracaia and Joanópolis simply. The urban and rural activities in the MMP context now are so integrated that nowadays the São Paulo municipality, which has no rural areas, will start to delimit some specific areas as rural and introducing and stimulating the development of rural activities by their population. Also many people in rural areas who used to work in agriculture are changing for service activities connected to tourism, leisure, for example. Maybe the question is not if they are rural or urban but their needs to have a good life and to be productive people. If they have the necessary conditions to carry on with their own lives.

Global Architect's Education: Tearoom Database of Interactive Online Workshops

Adriana PICCININI HIGASHINO

National Institute of Technology, Akashi College



This talk is about global architect's education in Japan. Recently the Japanese government has emphasized the training of Japanese students able to work outside of Japan. To work with people from a different culture is a difficult task. We have tried to teach our students English, but it is not only about learning the language. It is more complicated than that, so we've been trying to teach them how to work inside different cultures through workshops.

We have received students from abroad, and also Japanese students have been sent abroad but this is very expensive, so develop online tools is a much cheaper way to continue this process. Thus, I propose to envisage a platform that permits the implementation of online workshops.

At first, we will show the workshops that have been realized in real time and not virtually. We will show how the theme was chosen and then discuss how this interactive platform may work or look like.

The main theme of the workshop is "Tea". Why? Because drinking tea is a relevant social activity in many different countries. Japanese tea came originally from China. Other countries tea habits are also famous, for example, British tea, or the Brazilian tea "Chimarrão", or the Mali tea that takes hours to be prepared. The pictures show the vast differences between each culture is tea drinking habits. Tea drinking, as a social activity, is a universal concept, but Japan is the only culture that has developed a space especially built only for drinking tea. The tea room is unique to the Japanese culture. Tea rooms are interesting because they relate to something which is common to most cultures, every country has drinking tea as a social activity, but at the same

time it is a strong and unique characteristic of Japanese culture.

The Tea Room Design Workshop would be an interactive design studio platform for architecture students to allow them to work in internationally collaborated activities by designing a Tea Room together.

To explain briefly: tea arrived in Japan at the end of VIII century, but it became popular after the XVI century with the spread of Zen and Buddhism (the warrior state period). The tea room is a simple concept: you drink tea in a beautifully designed space, which is made only for drinking tea. It is like when you have water in a pet bottle and water in a wine bottle. It is the same water but which one tastes better? Perhaps, it is the power of design. By designing a space such as the tea room, it was possible to bring the experience of drinking tea to a whole different level.

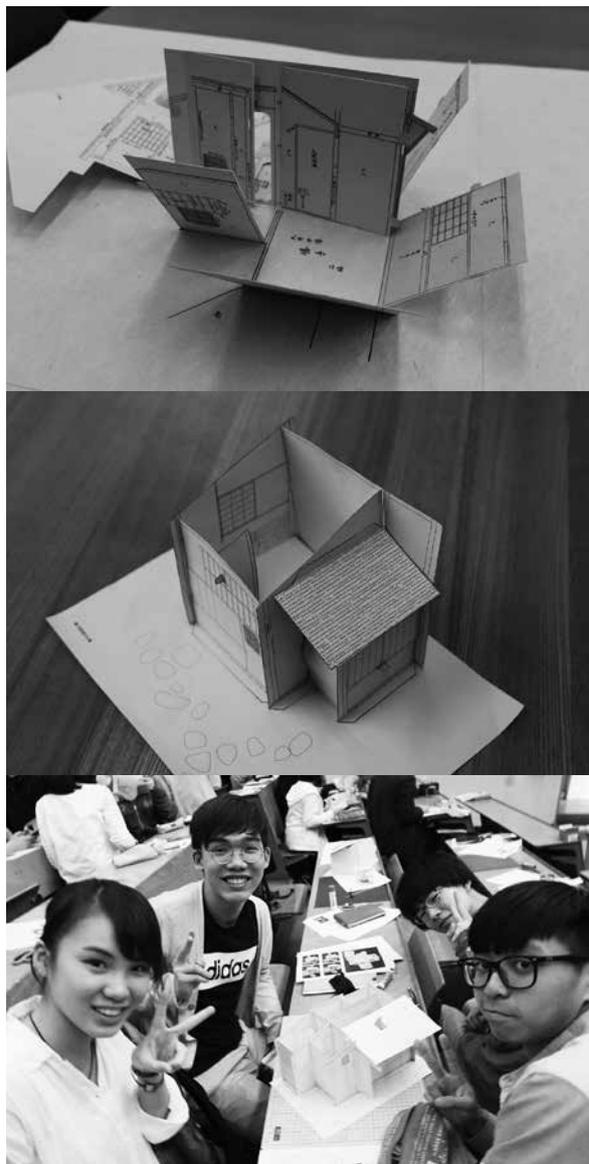
Drinking tea in a tea room is different from getting *matcha* at Starbucks. It will perhaps taste much better because it involves Japanese aesthetic concepts of *wabi sabi*. A book that explains those concepts is "The Book Of Tea" (1906), written by Okakura Kakuzo (Tenshin), the book can be found online for free. Explaining the concept of *wabi sabi* simply — which is not *wasabi*, attention!! — *wabi* means simple or poor (in a "less is more" way of thinking). *Sabi* means something that gets beautiful when it gets old, the beauty you get from time, a sort of paradox that is probably the most interesting feature about tea rooms.

The famous tea master Sen no Rikyu (1522-1591), was not the first one but he is the one who developed the rustic tea room called *Soan*. He designed a very famous tea room called *Taian*. This tea room is a small space and has only two tatami mats. The size of the tea room is important because it will define the distance between the guest and the host. So if you invite someone you like very much, and you feel very comfortable, you'll have tea in a small space. But when you invite your boss maybe you would need to use a bigger tea room.

Another interesting thing about the tea room is that in traditional Japanese architecture the designer and the builder used to be the same person,

so buildings were built by carpenters without any drawings. But the tea room is designed by the tea master, who had to transmit to the carpenters all the details of the tea room, how he wanted to have it built. So the tea master began to build paper models called *okoshie* (pull up drawings) where elevations and the floor plan of the tea room are combined, to transmit their design ideas. An example of *okoshie* is the *jiguretei*, a tearoom in Kodaiji temple, designed by Sen no Rikyu's style.

Okoshie is also important because the materials used to construct a tea room are not durable. After some time the tea room may be destroyed, but if there is an *okoshie*, it is possible to rebuild it, and transmit the design over time.



The “Tea Room” has been used as a tool for international exchange between students for four years. We have promoted four “Tea Room Design Workshops”: the first one was with architecture students from Australia, the second, third and fourth

with students from Brazil. In January we will organize another one, and the invitation is open. Of course, the workshop is not only about architectural design. The foreigner's students stay three weeks in our school, in the dormitory located on the school campus. So they develop the Tea Room Project, but they also visit temples and take part in the Ceremony Tea performed by the college tea ceremony club (*sadōbu*).

The workshop has the involvement of the whole school, and great results had been obtained. But unfortunately, since it is quite expensive to come to Japan not so many students are able to participate. In the same way, it is very expensive to send students abroad. Thus, it would be great if this workshop could be organized over an online platform.

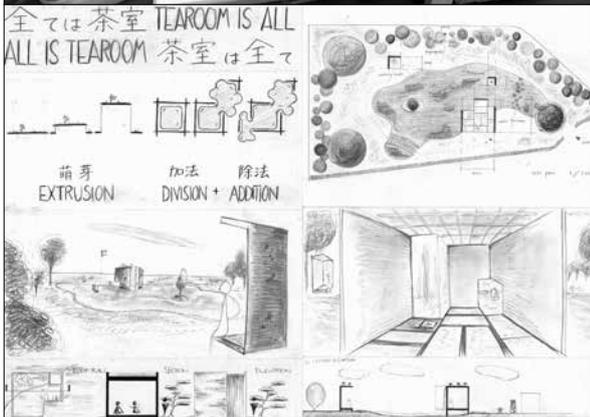
The attempt here is then to propose IT know-how items to feed this platform. I believe a “Tea Room Interactive Workshop” could have three levels of interaction. A webpage level (passive level), a database that can be consulted without evaluations, grades or certifications and open to the general public. An intermediary level (semi-active level) which allows the inclusion of evaluations in the form of quizzes or tests, to verify how students have been studying, and verify how much they have learned. Eventually part of it could also be open to the general public. And an active level that is controlled by students, the access is limited to associated schools, and from where they would be graded and evaluated, receive certifications or maybe credits for the participation in the workshops.

The material on this platform would be uploaded by the students themselves. For example the quizzes allow the online check of right answers. This platform could also include an *okoshie* (download option) drawn based on Horiguchi Sutemi's book. Sutemi's model could be printed out, and folded together or individually, to give a more 3-dimensional idea of the tea room.

The workshop module would mix the features of social media like Facebook, Line, and WhatsApp from where the students can discuss together with a notepad, exchange hand drawings. Videos could also be taken into consideration, but it must be tested because Japanese students have difficulties talking English, and it seems like with texts they would go much faster.

In this interactive platform students would work in groups, maybe two from Japan, two from Brazil, and other countries from wherever as far as the jet lag problem would not interfere, e.g., Hong Kong.

Then several groups could work at the same time, and the students would design tea rooms doing drawings, building models or by using computer graphics of their tea room design. The workshop should not be very long. The first time we organized it, it lasted for three weeks and lately it was shortened for two weeks. In fact, the students stay three weeks in Japan, but the design workshop lasted only for two weeks because they get tired if the workshop is too long and they tend to lose interest after a while. So it is better to organize an intensive workshop program with short sessions.



Video presentations of the tea room design would be uploaded to the platform after the students complete the workshop and it would be cumulative, and it could be open to the public.

In conclusion from this experience, I can say that the tea room as a theme is great to work in

short-term design workshops. It deals with a very Japanese topic and at same time links together with a very global idea. Tea rooms are small and do not take much time from the students. I believe that using new IT tools, to create virtual spaces for the students to work together with people from other countries over an online platform would allow a larger number of students to join and get the taste of international experience.

Questions and Comments

(Luis SAN PABLO) The *tatami* unit of surface is defined and used for contemporary architecture or only for traditional Japanese architecture?

(Adriana PICCININI) It is still used today, but the size is different. A *tatami* is a unit of measure of reference that if you go to rent a room in Japan, they will describe the rooms by saying if it is a four or six *tatami* room size. Real state offices use it quite often, but there are different sizes, the average is 180x 90cm (long enough for a person to sleep on it).

(Hugo SEGAWA) It is very interesting this idea of using IT to support this exchange. However, bringing foreign people to experiment the Japanese culture, the difference of cultures, is something existential, so in the workshops and the school the students live this real experience of being in Japan, of tastes (food and tea), etc.. So in the interactive platform how do you think this could happen?

(Adriana PICCININI) It wouldn't be the same sort of experience, but it would be just a little grasp of the experience, like a trailer for a movie. It will be more connected to communication, about learning how to communicate with other people, than learning about the Japanese culture itself. Japanese architecture is fun, and this could give a chance for more people to experience it.

(Sacko OUSSOUBY) I think it is really true about how we can perceive the difference of culture through tea, this peculiarity of the Japanese culture for drinking tea in a tiny space. We are now also trying to introduce the Japanese tea culture to some African countries, but I wonder how the workshops could be organized. For example, are the workshops supervised on site? Because even for explanations of terms like *tatami* or the size of it, these explanations are so deep in Japanese culture, and

the questions keep coming up, so I wonder how this platform would be supervised?

(Adriana PICCININI) I think that the Japanese students should be able to answer that. And the first part, the open part to the general public will include students' research that would allow to create materials for the general people to study it. From our experience, if you explain too much the Japanese traditional architecture, the design product from the workshop ends up being a very traditional room, and that is not what we want. We want them to understand it and go further than that. In several occasions, the Japanese students are very shy, and they don't know how to express their thinking, they are not very confident about themselves. So by using a theme based on the Japanese culture that they are supposed to know, that gives confidence and stimulate them to communicate with the students from abroad.

(Sacko OUSSOUBY) We did something which slightly resembles with these workshops in our faculty of *manga*, where we leave foreigners to bring up a conclusion to a story, and that was in France in the Japan Expo Sud. And the foreigners will come with many ideas that the Japanese students never thought about. We can see how different the ideas are. So, in your proposition will it be more oriented towards teaching some rules or preconceived models, or more oriented towards leaving the creation of foreigners. Because foreigners also have the culture of tea, so it would be like to imagine which Japanese version or what can it be for them the Japanese tea room or tea ceremony place like?

(Adriana PICCININI) The design workshop tea room should be more open-minded. At first, foreigners are there to grab the concept, the essence of *wabi sabi*, of simplification or the paradox way of treating the space of the tea room, but we do not expect them to have the *nijiiri guchi* and all these traditional elements in their design. Also, if they do not include *tatami* that would also be ok.

(Igor DE ALMEIDA) I come from a different field, from psychology, when I listened about your workshops I thought about experiments that we call "priming experiments", where we suggest some kind of international condition, and we make people start thinking internationally. Do you feel that by taking part in workshops, do you see the stu-

dents behave more internationally? And how long do you think this "international behavior" would last? A few months? Years?

(Adriana PICCININI) Well, you should ask them, they have participated in some of the workshops. どうみんなさん、国際ワークショップに参加して、世界の見方が変わりましたか？日本語でいいよ。真島くん？結構行ってる・・・ He has been to Brazil, he spent one month in Brazil

(Ryo MAJIMA) 変わってないよ

(Adriana PICCININI) He said "no changes". Liar....

(Ryo MAJIMA) 自分でやっぱり行ったほうがわかりやすい、日本の中でやるより・・・

(Adriana PICCININI) Well, he said that going abroad is better, the experience is more intense than doing it in Japan.

Comment

Akiko OKABE

University of Tokyo



There are a lot of people researching within the frames of conventional scales from the nation-wide level to the municipal level, or looking at single architectural objects. But I am working on the scales which are above and below that. I mean, the supra-macro scale, supra-national scale and on the other hand something which is inside the informal scale, that is to say, out of the conventional system. That is what I'm working because less people work on these scales, and it is impossible to work in all kind of scales because there are a lot of people working within conventional scales, and they have a very good work, specially, in the analysis of the modern and contemporary periods. So, because it is quite difficult to manage so much information and nobody can know every scale, I tried to sandwich the conventional scale with supra-macro and supra-micro scales.

First let me begin with the research done on the supra-macro scale, although recently I have centered more in the supra-micro scale, or the action in small scale, which has been my actual criteria.

I'm now doing with students several fieldwork activities like this. This is related to the aging and shrinking Japan in rural areas where we can find this kind of traditional Japanese house and where our main activities are centered (Fig.1). Also, we carry on activities in slum areas in the center of Jakarta and I'll talk more about these small activities tomorrow. I would like just to mention that I'm always organizing tea ceremony's events, and I talk about this because there was a presentation about "tea rooms" today. I think that tea ceremony, originally, in the feudal period in Japan was a strategic activity that existed in the frontier of diplomatic

negotiations, in order to avoid collisions. That is in the origins of the Japanese tea ceremony. Now it became a formalist activity and we have to follow rules, and I don't know the tea ceremony rules but I know about the origins of tea ceremony. Thus, by keeping with the origins of the tea ceremony, we hold a tea ceremony every year here in this old house in order to gather people: both local people, students and people coming from the city. Also, in the slum area we have built a small building where we can celebrate tea ceremony.



Fig.1 Fieldwork activities in super-micro scale in rural areas of Japan and urban areas of Jakarta

Tea ceremony is a very good activity that serves as a meeting point for the formal and the informal. Normally, it is quite difficult to create a space, an intimate space to gather the formal and the informal sector, but the tea ceremony has a style which is quite suitable and strategic in that meaning.

Today I would like to talk more about the large scale analysis and mainly about two topics: mainly the variety in the sense of scale because it was an important topic of today's presentations. First, Andrea Urushima talked about the differences of planning culture or design culture, by saying that it is not enough to be bi-lingual, but instead one must be bi-cultural when trying to intervene in spaces in collaboration with other people. Planning and design culture is an important reference for me because my former research topic was about the European urban and spatial strategy at the supra-national level.

In the conventional type of planning organiza-

tion, nation states have the competence of spatial planning, urban planning, and territorial planning, and also at the lower level, municipalities have the competence of urban planning, but the European Union doesn't have any planning competence. However, at the European Union level there is a need for a common strategy on how to develop Europe, so they need to think and debate about an environmental or spatial strategy for that. Thus, at the European Union, they tried first to study the differences between several planning cultures specially in terms of territorial planning, and finally, they realized that there are at least four different categories of spatial planning culture or territorial planning culture: the land use planning approach in England; the comprehensive integrated approach in Germany, in the Nordic countries, and in the Baltic countries; the regional economic approach in France, and the urbanism tradition of Mediterranean countries.

This kind of analysis was quite useful for them to identify their own planning culture and compare it with other planning cultures. Now, the planning cultures are more mixed because they know each other well and they understand the variations in planning cultures, and they have delineated a common spatial strategy. What I want to say is that the difference of the planning or design culture becomes especially important when people have the need to work together. Nowadays, they know the differences and it is not necessary to integrate different cultures. However, it is important to understand each other's different cultures of planning.

The main topic of my comment relates to the sense of scale. I made a research about mega-cities, and finally, I'm now working in the informal segments with field activities but before that what I did was to compare spatially, or the physical form, of mega cities, I mean cities with more than 10 million inhabitants. Do you know which cities are included here? Do you know where is Tokyo? (Fig.2) It is of course here. And we also have Sao Paulo city. We made these graphics following the distribution of population and it is easier to identify cities by their proximity to the sea. For example, this is Tokyo, and Sao Paulo has no direct connection to the sea. By looking at this, we can see that although Tokyo is famous for its high density, when compared to cities like Manila or Dhaka in the Southern part of Asia, Tokyo has in fact not such a high density.

Nowadays we have a discussion about compact cities in Japan. At the moment of urban shrinkage,

the debate points to the validity of more compact cities that can work and function better. And as a model, the European city has been used as the ideal model of a compact city. Copenhagen and Barcelona are famous examples of compact and walkable cities. When we talk about compact cities normally we imagine cities with high density, but the European cities are quite small and if we compare to Asian cities we have completely different scales. So, what is the compactness of cities? Its definition varies according to different cultures and this is a very important point, especially when comparing Asian cities with cities in other regions.

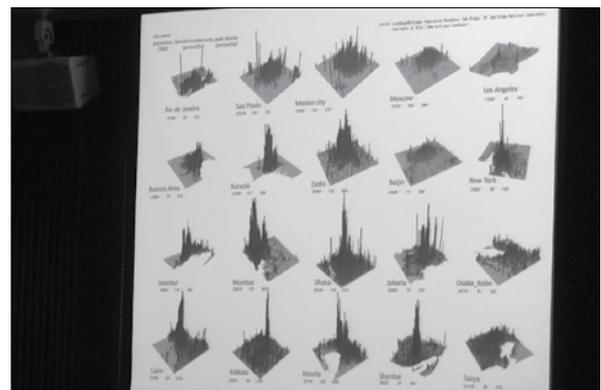


Fig.2 Urban forms identified by population distribution patterns of Megacities across the world

Today's topic links to the role of information technology and information science, and I think that information science can help us in that sense, in getting to definitions which can be largely accepted. This is a comparison of Tokyo and the Randstad in the Netherlands. Normally, historians tend to compare cities with cities, but if we understand better the scales, we can realize that it is impossible to compare European cities with Japanese cities. Here you can clearly see that Tokyo has the same dimension of a city region in Europe. This is Amsterdam, Rotterdam and many other cities which combined have the same scale of the Tokyo metropolitan area. By comparing them side-by-side it is possible to see that. The Randstad megalopolis is famous for its "green heart", a heart which is surrounded by cities. But in the case of Japan the whole Tokyo, in terms of scale, could fit inside the "green heart" of Randstad. And in terms of the green areas, the "green belt" of Japan is comparable in scale to the "green heart" in Randstad. So, Japanese cities are more comparable with city regions in Europe.

In today's presentation about Sao Paulo done by Roberta Fontan with the use of GIS thematic mapping, there was a discussion about what is urban

and rural. In thinking about urban and rural, especially in Asian countries, we must remember that the cities in Asian countries are always surrounded by paddy fields. This is the land cover of Jakarta and we can see the red part of the urbanized area and the purple part refers to the paddy fields (Fig.3). Another example of other Asian cities is Bangkok where we can see here again the red urbanized area surrounded by a purple area. So, in different cities' land cover diagrams, we can see that Tokyo also has a paddy field although now it is becoming more urbanized, in the same way as Jakarta and Mumbai.

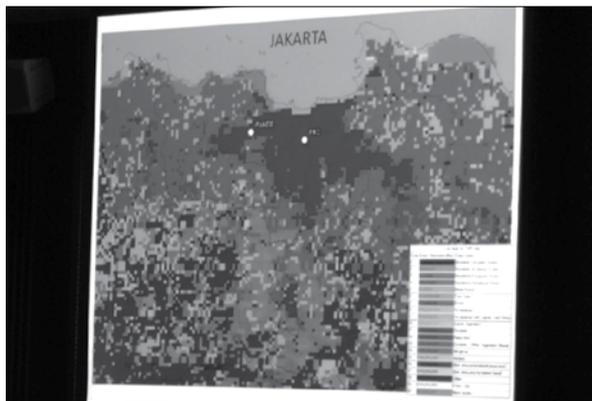


Fig.3 Paddy fields extensively surround the central urbanized area of Jakarta.

If we look at Mexico City, a Latin-American city it is not surrounded by paddy fields. Neither is Copenhagen. What is important to say here is that paddy fields are a very productive agricultural land. So, the population density in paddy fields is equivalent to the suburban density of American cities which means that it is quite difficult to distinguish urban and rural areas under these conditions. I think that it is a tragedy, especially in Asian countries, to introduce an European urban planning methodology which is based on a clear distinction of urban and rural areas.

Terry Macgee named these areas as *Desakota*. *Desa* means village and “Kota” is city so it is impossible to distinguish “Desa” from “Kota”, and there is only one term that describes these areas which is *Desakota*.

In Japan also in the moment of the high economic growth people in the rural areas around cities -- if we can call them as rural areas -- had one of the family members who started to work in cities and the family started to have an urbanized lifestyle. Since in these rural areas the density was quite high there was no need of a special urban infrastructure in order to live an urbanized lifestyle.

So, it was quite easy to urbanize spontaneously, and a scattered type of urbanized area has begun to appear around large cities. So, it is possible to see that the process of urbanization is rather different from the urbanization occurring in other regions of the world. I'm not sure about what is happening in Latin-American cities but I have to say that European cities tend to reach a population of less than 10 million inhabitants, usually counting with around 2 or 3 million inhabitants. And although a city with 2 million inhabitants can be considered a big city, still, in China or India this is considered to be a small city.

Thus, the sense of scale varies in different cultures. Historically, Greek pattern cities can be found almost everywhere in the world. In several books of architecture and urban history circulating across the world, we can see these figures of Chang'an in China and Miletus in Greece. But just looking at the plans we get confused because we think that they have the same scale. But when we superpose a square of one km to one km, which represents a walkable distance, this is the area of cover in the case of Miletus (almost the entire city) (Fig.4). And how about the case of Ancient Chinese cities? This square is very small and covers a few blocks of the city. In the way the figures are included in the books, with similar expression, we get confused by the scales. However, the scale of the ancient city in China is the scale of a city region in ancient Greece or Rome.

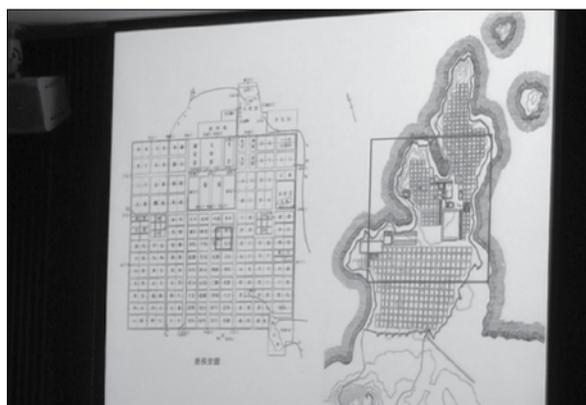


Fig.4 The plans of Chang'an and Miletus are often printed side by side with different scale reference which leads readers to confusion.

But we are all human beings so we share something in common. For example, one square kilometer is a daily walkable distance and it is not different in Europe or in Japan. And nowadays we have Google Earth which is a very practical tool to compare different cities because it has a common

basis of expression for maps which is very different from what was used in historical textbooks. In historical textbooks, scholars were using the plans of that time so it's quite difficult to compare. But now with Google Earth, we can compare Medieval cities in Italy, like Siena with the Piazza del Campo in its center, with Tokyo, New York and Paris. Now it is possible to compare like this but without Google Earth it used to be exhausting. So, Google Earth was a revolution in this sense. I remember more than 15 years ago when Google Earth first appeared that I showed it during my lecture of urbanism in the University of Chiba and everybody was really surprised. Now everybody knows it. And it is interesting to compare different areas: for example, Tokyo Disneyland has the same scale of the airport of Doha. A square of one kilometer per one kilometer in the past could be considered to have a city scale but according to some ideas of contemporary architectural thinking, it can be considered as the scale of a single piece of architecture, such as an airport. So, this kind of standard expression offered by Google Earth is possible thanks to the development of Information Technology, and with the help of the information technology we can produce more knowledge. I belong to the Graduate School Frontier Sciences now and my background is architectural design. In our Graduate School there are three divisions: Transdisciplinary Sciences, Biosciences and Environmental Studies. I am in the division of Environmental Studies where there is a department of Socio-Cultural Environmental Studies which has a transdisciplinary approach following the basic concept of our Graduate School. In the department of Socio-Cultural Environmental Studies there are professors of architecture and others from different specialties from water technology, sociology, anthropologists and historians. It is transdisciplinary and we also collaborate with the spatial information center, that use spatial information technology, they are specialists of information technology. We started with this organization because we can help each other a lot and develop new ideas. But the cultures of information technology, architecture and social sciences are very different and at this moment a creative collaboration is still not possible, I must say that this is a great challenge.

I show you one attempt of one of my undergraduate students here. His approach was quite unique and he tried to analyze the Earth from the view of an extraterrestrial intelligence. So, they can observe from far away only by looking at data, the texture

of the surface of the Earth and the projection pattern of landscapes like this (Fig.5). And how can extraterrestrials analyze? If this is the only information they have, what can they analyze? He mainly considered two factors: the number of building blocks (many blocks in red and less blocks in blue); and the density (dense has a dark color). He then tried to compare different cities with the use of data from the Open Street Map. He compared nine cities and you can see that Tokyo and Manila have red color that means that there are a lot of blocks. And it gets darker when the density is high, for example Paris is higher compared to Stockholm or Jerusalem; and Manila, Tokyo, Los Angeles is partially high (all high but here with more blocks). By doing this, it is possible to see the difference. This could be one methodology to compare with the same type of expression completely different cities. And there are many possibilities to develop in this direction for the comparison of cities. For example: compare Tokyo with London, Tokyo with more projections and London with less projections, more flat and the density is lower and also in the case of London there is a central high density and lower density that surrounds it. But in the case of Tokyo it is more random (there are parts with high density, lower density, and a mixture of high and low density).

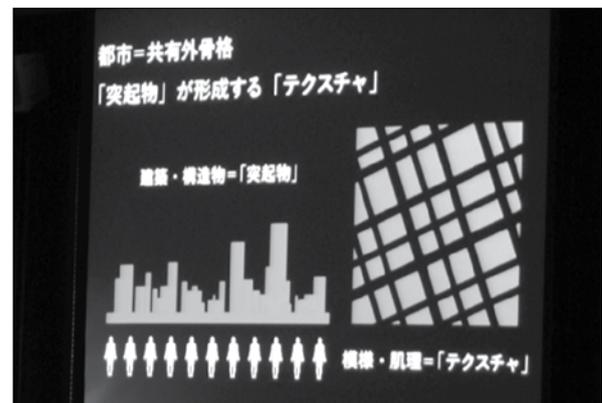


Fig.5 The Earth from the viewpoint of an extraterrestrial intelligence (based on data, texture of the surface and landscape projection). Created by T. Igarashi

Comment

Shoichi OTA

Kyoto Institute of Technology



Since I am myself a little bit more like an analog person, from a position outside of the digital specialized world, I would like to leave a very short comment here. In terms of digitalized humanities there are key ideas which we always refer to: the most frequently quoted ones are perhaps database and network. As I understand that most of the people here are coming from an architectural background, where visualization becomes important, yet, visualization is not only important in the architecture field but also in any kind of scientific research. Today, visualization has a large meaning to the digitalized world and is indispensable to the discussion here.

Based on these basic ideas we can draw some key issues: to establish a database and the data mining are key issues from my experience. “Quantity is quality” is always a kind of catch phrase to encourage students and young scholars to collect architecture data. If the quantity of data is enough it is already a kind of quality. So data mining becomes a very fundamental issue here, as well as platform. Here, in each and every presentation we can see varied sorts of networks, different kinds of networks already established in the digitalized world. Each network is connecting and gathering people established through varied types of platforms which sometimes generate an arena of rich debate.

Corine’s presentation of Japarchi shows a very important example on how to establish a platform between two countries, such as Japan and France, which are geographically apart, but mutually connected through this platform at any time and any place, and the result is very fine. This is an example to show the platform is a key issue.

Today’s presentations are not always focusing on the representation of architecture, however, I will primarily refer to this topic. For us, architectural scholars how to represent architectural spaces is a very big issue. Not only in terms of research but also for the establishment of architectural education, how to represent and how to circulate architectural ideas is a very important issue. Basically we have some common methods to make architectural plans. In the analog world, the plan is one fundamental method to circulate architectural ideas, but also some photographs are quite useful. Some Japanese Architectural magazines, like A+U or GA, are successful media to circulate architectural photographs. Some recent studies evolved through specific collaborations between architects and photographers, which demonstrates an importance of visualization.

Architectural press and media are very innovative today thanks to the development of digital technologies. From my limited experience I’d like to refer to some examples, first one is Hanoi Area Informatics Studies organized by Prof. Shibayama, who is retired now, an emeritus professor of Kyoto University. Area Informatics is a new terminology introduced by Prof. Shibayama who has a background of informatics, and who developed a large collaboration with History and Humanities scholars especially History of Southeast Asia in this center, in collaboration with Prof. Sakurai, a specialist in the field. In this Hanoi Area Informatics Studies we identified many kinds of stone steles inscriptions and also collected some geographical data, architectural data and related them one by one. We integrated all this data to create a 3D database, and also a 4D database (which normally means, the 3D plus the time scale), but here it was perhaps a 5D database which was possible because we collected the surface’s geomorphological data, along with the below-the-surface data, namely the geological data was also collected. Hanoi, the capital city of Vietnam, it has a history of more than 1000 years and is located on the red river delta. The city is growing on a delta region so this means that a small difference of the contour is crucial to establish the human environment, for distributing the location

of each stone stele. The oldest one is a record that dates back to the 7th or 8th century, and the recent ones to 19th and 20th century. The distribution of stone stele is very much related to the contour and the geographical data. To understand this kind of relation, we collected enough amount of data, more than 100 or 200 pieces of inscriptions, which are still preserved in this center.

Another example is collecting travel paths of an architect, which is one of my past personal projects supported by a funding of JSPS. Here I focused mostly on one specific architect, who was once active in the 19th century Yokohama, this was the opening port era. His name was Richard P. Bridgens. Until that time, his middle name was only identified with a P. In the course of my research I identified that the P. of the middle name is a reference to “Perkins” and it is all thanks to an existing database created by the University College of London. The name of the database is “Legacies of British Slave-ownership”. Maybe the name is due to a dark side history but in the database there is so much that we can find, for example rich people, foundations and estate owners, who were once traveling from England to the Caribbean countries, or “The New World”, including the United States. So when I utilized this existing database I could trace the travel path of this architect. He was born in England, and then traveled to the United States, from the East Coast and Pensilvania, transferred to San Francisco and finally he reached Yokohama in 1964, where he designed the first railway station in Japan both in Shinbashi and Yokohama. This means he is very important person in terms of Japanese modern history but unfortunately we didn’t even have his middle name before now. When we had identified this person’s genealogy we would need to research directly at San Francisco and Pensilvania, and then check the Church records, so there is so much that we have to do. But thanks to the modern technologies we can find and trace the path of one specific architect by only using the computer. And it was a very successful test. Following this example I had proceeded with more genealogical studies of this kind of adventurer architect that once joined the building of modern cities like Yokohama, Tokyo, Osaka, and Kyoto also. Because only one part of these adventurer architect-engineers is identified. But thanks to the modern technologies this kind of statistics maybe are going forward quickly.

The third example which is a recent project that just started, named mASEANa Project. mASEANa

meaning: Modern ASEAN Architecture project, which connects the people of the ASEAN countries such as Singapore, Thailand, Myanmar, Laos or Cambodia, the people who do modern architecture studies. Of course each and every country, including ASEAN countries, have their own architecture and the definition of architecture and of modern architecture differs from country to country. So that is why small “m” for modern and the last “a” for architecture instead of capitalized letters. On the other hand, ASEAN has the definition already established, so that is why we call it the mASEANa project. It is on the starting point and just in the last week I travelled to Myanmar to meet architectural scholars in Yangon and Mandalay, and connecting people through modern technologies, such as: Facebook and Messenger, which are very efficient means for connecting people. It became much easier than the existing traditional e-mail. Travel to visit houses in Myanmar is still costly and takes much more time, but thanks to this modern technology communication with these local scholars, and local architects becomes much easier.

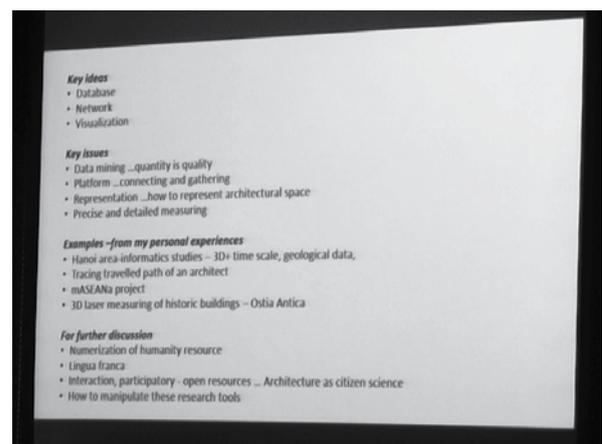


Fig.1 Slide presented during the symposium

For today’s discussion it might be less concerned, but the fourth one is very important in terms of architectural studies that is the visualization. 3D laser visualizing for historical buildings is a very innovative idea. Architectural historical studies, example the “Ostia Antica” located in the suburb of Rome, the project was organized by Prof. Hori in Kyushu University. For the same purpose, we can use traditional tools like measures, pencils and scales, as architectural students in training, for example at Akashi College having trained them with these kind of methods. But using the 3D laser technics we can have more precise measuring. It is a very surprisingly innovative tool as we can even identify each piece of brick (not only the size, but

also location, height, etc.). This means that using this result we can make use of more detailed information for historical studies. For example, we can identify in which phases the bricks were layered. The first layer, the second layer etc. So, we are now able to collect more precise data comparing to traditional methods. This is perhaps one of the biggest contributions to the architecture scholars from digital humanities.

Following these experiences, I here show some points for the further discussions:

- Numerization of the humanity resources: because we all know that humanities resources, such as transcriptions and literature scripts and old paintings are very difficult to numerize. For a digital analysis, we must numeric each kind of resource. For example, from the Hanoi Area Informatics we have collected stone stele inscriptions. One method is to identify the inscription written in Chinese characters, so we can identify each other by numbering every Chinese character, but we can not choose this method because it was too much work and we did not have so much human resources at that time. But we could numerize the location of each stone stele, geographical position and elevation, geological data, and year of inscription. So combining this kind of chronological and geographical data, we can identify in which time the stone stele was established, which means the place that people have settled at that time. So, all this combined that allow us to visualize how the growth of human settlements followed chronological processes. Besides the numeration of resources, we also have to secure the integrity of the resources, and these two points are a little bit difficult to deal with.
- Lingua franca: when we have to distribute the results we have to decide which language shall be used. Perhaps today the lingua franca here is Portuguese? I guess. Also in the digital representation, what kind of tool we can use according to the language of communication is very important for the database and for the visualization of pictures;
- Network and Platform: for interaction and participatory, open resources are very important for the time being. Architecture as a citizen science is a very big issue that we are confronted

with, because up until now, most of the people from the architectural background think that architecture and the design of architecture is a kind of “black box” initiated by only talented architects. But I think that for today’s digitalized society, architecture as citizens’ science must be developed as an idea. Thus, participation in the design of architecture has become very important and we can find many examples not only in Japan but everywhere. All over the world there are examples of participatory projects mainly in public institutions and buildings all thanks to the modern technology.

How to manipulate these research tools not only for the architects but for practitioners or educational systems is still ongoing issue. We must develop many tools for the future.

Beyond Architecture: How Computation empowers the 21st Century Master Builder

Kristof CROLLA

Chinese University of Hong Kong



The presentation will cover works from both my office called Laboratory for Explorative Architecture & Design Ltd. (LEAD) and other the projects I have developed as Assistant Professor in Computational Design at The Chinese University of Hong Kong School of Architecture. What I'll be talking about today is how computational technologies are allowing for a different type of architectural practice to emerge.

I'm from Belgium originally, but I've been in Hong Kong for almost seven years now. I used to work for a while for Zaha Hadid Architects back in London before I decided to move to the other side of the world where we live in dense cities, maybe the most compact cities, depending on how one looks at it.

The city of Hong Kong was a radically different environment to arrive in for many reasons. When I was working for Zaha Hadid in Belgium and in London, as well as for other projects like this in Europe, what you draw is usually what you are going to end up getting. The clients we worked with, the consultants we worked with, the budget we had at our disposal, all formed an unique experience and it was great to be part of a team like that. At the same time as I was working on a project for Zaha in Belgium, her office worked on this competition implementation in China, just across the border from Hong Kong. This is the Guangzhou Opera House and, you may not be aware of it, but this project became a milestone for anybody who is operating in China—unfortunately for the wrong reasons.

This is from a news article published a year after the construction. People were lamenting the fact

that the building was already falling apart. In a way this project became a stereotypical example of how things can be poorly made in China. There is even a book talking about product design suffering from a similar tendency (*Poorly Made in China: an Insider's Account of the Tactics Behind China's Production Game*).

I watched this project closely during its implementation and upon its completion and I don't think that the finger for this is to point at Zaha's architecture or at the Chinese construction industry. I think the result is entirely out of lack of a constructive dialogue, of authentic dialogue, between the people that implement buildings and the people that design them, and how designers work with the means that they have at their disposal. If there is such a lack of awareness, then disasters can quickly happen. Since I moved to Hong Kong this topic has been very much at the forefront of every piece of work I've been doing.

To give an example, these are the outlines of work as specified by the RIBA, the Royal Institute of British Architects, where you see all the phases that architects are supposedly involved with, going from conceptual design all the way to construction and post occupancy reports, etc. For the majority of the work this is not happening in Hong Kong and I think it is a trend that starts to spread world-wide: architects are very often separated from the entire format. Very often, especially if they work with developers, they are dealing with in-house design teams which are already put in place, and all they have to do is basically to provide concept design, maybe design development. Then your project is handed over to Local Design Institutes that develop and build it, and you're left with just the artistic supervision, meaning that in that process a lot of complexities of your project might become very problematic, unless you're building very generic architecture.

So, how can we, as young architectural designers, find a way to hack the system? How can we move around this reality?

That is where the centre of my research and my office work is based. One of the great things of do-

ing this type of work today is that nowadays your washing machine has more computational power than they used to put people on the moon on the 1960s. That is a fact! Processors nowadays are so fast and so cheap to produce that they don't even produce the cheap ones or the slow ones that you need for the washing machines.

We have a redundancy of computational power at our disposal. That means that there is an opportunity for computational architectural design practice that engages with often non-digital or less digital cultures through strategic dialogue.

The talk today is centred on what it means to materialize architecture and what differences computation and digital design can potentially bring to it.

I'll be talking about three projects, from small scale to big scale, art projects to urban installation, from small to large structures, and the use of computation in various aspects of their design. The first one will frame the working methodology, the second one will talk about idiosyncrasies of the context in which we're working, and the final one will summarize and bring everything together.

The first project is the Dragon Skin Pavilion, a project that we did in 2012 for the Hong Kong Biennale, where we were working together with the Finnish University of Tampere where we had done a workshop (Fig.1). A Finnish wood manufacturer had approached us because they had a new type of wood available that included plastic inlays. Because of these, you don't need to steam bend the material to deform it. You just need to heat it up to 150 degrees and it will become supple, like leather. This means you can work with it in a much more sustainable way than what you would be able to do with plywood. But they had no immediate architectural use for it, they had not yet extensively experimented with it, so they gave us a pile and asked us to do something. We ended up making this pavilion with it—we called it The Dragon Skin Pavilion. What is important to know is that anything you see on this image, although it looks extremely decorative or very ornamental, that all these qualities are the by-product of an extremely rationalised and efficient fabrication and construction methodology that we had to devise as part of the project.

When we started the workshop, students were working with cardboard which can easily bend in a similar manner. Then, from these little physical models, we moved on to procedural models. Our team took on the concept that they came up with

and digitised it inside our parametrically controlled environments. This is the work flow that we had set up: a normal eight by four feet wood sheet would be panellised and cut in exactly the same squares. Those then had slots CNC (computer numerically controlled) milled inside. Then they would be heated up and bent onto one single mould until all of the shells had exactly the same shape.



Fig.1 Dragon Skin Pavillion, internal view

All the complexity of the geometry lay in the exact precise position of each and every one of the slots. Here you see the milling patterns we used to cut the wood, and you can see that there is hardly any material loss and wastage. Then, these were brought into a little oven as you can see in here, and very quickly, very roughly, because we didn't have much time, they were stamped into these moulds that we had made in the workshop. We did this probably within a few millimetres or centimetres accuracy—we don't really know. The shape of the project was designed in such way that all panels would connect without glue, without screws, without anything, they would just slot into one another. Based on the number of interlocking points and overall equilibrium geometry of the shape, the whole thing would keep shape and come through.

Here you see the assembly. We were just following numbers, not even using plans. We had only one plan on the ground and from there we just puzzled pieces that would be brought together. We needed to figure out a little bit how to do it, so students volunteered to make a human scaffolding. In the end, we managed to basically lock everything into place.

Although this project was extremely "affectual", if that is a word I can even use, it is because of the very simple underlying procedural logic, the computer-controlled process that allowed us to very precisely define every slot and every interconnection, that we arrived at this very beautiful warm

field of panels sliding across the space. Here you have a sense of the scale of it, you get a view from the inside where you can see the light under it playing with the transparency, by opening it up in certain areas and closing it off more towards the back, and here you can see the warm glow that comes out of it at night.

So, ornament can be part of architecture, but in this case here, it came at absolutely no cost. It was actually a by-product of a hyper efficient construction set up where there is no difference between skin, structure, lighting deflector, etc., etc.

The second project scales up from the first quite a bit. This was a year later when we won a competition in Hong Kong. We were asked to do a bigger intervention for the “Mid-Autumn Festival”. I don’t know about Japanese culture, but in Chinese culture this festival is one of the most important events of the year because it is celebrated on the day when families unite again and come together. There is a legend associated with it: the Moon Goddess was banished and only once a year she was allowed to see her husband. We entered the competition basically with a joke saying that when a young couple sees each other only once a year, then, from sheer passion and friction alone, the moon is going to get so hot it would catch fire and burn. We never thought we were going to win, but we did. The client said that we could do it under the condition that we change the moon from Burning Moon to Golden Moon (Fig.2), which was no problem for us. Here you see the competition images, where we just wanted to make a very aggressive statement in the city by creating this planetoid that would contrast heavily with the very generic building fabric surrounding it, all with a very bland pastel coloration. We created this environment where people can go inside and be transported to a different world.



Fig.2 Golden Moon Pavillion, external night view

We submitted exactly these competition drawings, where we said we were going to make a reflection pool on the ground, we’re going to rent a geodesic dome, we’re going to cover it with bamboo, we’re going to cover it with stretch fabric that would have very simple details, we’re going to put some LED lights, and that is it!

When they called us to say that we won, they also said we had to stick with this schedule. We had three weeks for design development before going for a public tender process of a month, in which we didn’t know who we’d be working with. Then, we had three weeks for pre-fabrication, eleven days for construction, six days for the festival, and one day for demolition again. This is a six-storeys building, though, a twenty meters diameter steel structure that had to be built from scratch. Here you see the plan, which is basically a reflection pool and then this pathway that runs through it. From the section it is possible to get a sense of scale. The design was basically a steel platform that, because we couldn’t put any foundations, was held down by a concrete slab. Then, we had a steel bent geodesic dome, that was clad with two kilometres of bamboo, on top of which four hundred and seventy-five different flames were supposed to be placed to create the overall pattern.

For the design of this steel structure: if you want to make a big sphere, there are two ways to do it. One is to make it like a Bucky Dome (Buckminster Fuller’s Montreal Biosphere), where you work with repetitive patterns. This is what footballs are made of. The problem with this geometry is that it doesn’t allow people to enter it without breaking it. We used a different formula which is coming from Fibonacci and is a couple hundreds of years old. The formula basically allows you to throw objects at the sphere and populate it, creating a quasi-symmetry and repetition around the equator and a strong polarity on both ends. That polarity allowed us to basically create an entrance at the bottom left here and an oculus at the top that became a focal point for the geometry as well, as you can see here.

The steel structure fits inside this. We went to manufacture across the border in Guangzhou, where we went to a shipyard where normally per year they build around twenty two-hundred meter-long container ships. The construction drawings we made for them were exactly these. There were only two different types of members, because this is a geodesic dome. We had numbered them all specifically and had mapped where on the steel geodesic dome

the intersections were going to be placed with the bamboo poles that were going to be on the top of it. This was made in the simplest way possible. In the back you can see a little induction coil, just basically a magnified microwave oven through which you squeeze this big metal pipes, and in front we see the rollers that can be manually controlled to bend these pipes into the accurate radius.

In a few days they managed to roll all of these out. Everything was nicely numbered according to our drawings, and all the markings were done on top of it. Then everything was painted black, and then the markings would be done again because of a communication problem. The steel structure was brought to site, and here you see that in a few days the structure was assembled.

Then, the more challenging part came. How do you map a three dimensional diagrid onto a steel structure without having an opportunity for people to read plans onsite? Here, we took the bamboo poles, we unrolled them, marked the intersection points on them. We asked the workers onsite to mark everything manually and use that as a guide to map them onto the steel structure. I don't know if you can see it exactly here, but the diagonal lines that are going up are part of the diagrid. The marks on the steel structure and bamboos will match and the diagrid will eventually appear.

This was done following a very typical Cantonese bamboo scaffolding making technique, where people would just by hand tie certain knots to fix bamboos together. Here you can see how at the very tip culms are coming together and the craftsmen are trying to figure it out how to finish the final tip there.

There was a question of extracting the right amount of information from digital models to allow this to be built.

Then the flames needed to go on top. Originally, we had white lanterns that were going to be coloured by the LED lights itself, but in Chinese culture white lanterns are only used for funerals, so the client demanded that we add colour to it. In the end, we had eight different colours of fabric on top of it. The resulting geometry was resolved by working with a paramorph. The idea of the paramorph is basically that of an object that can morph its geometry depending on which environment it is placed in. We took all the "flame" geometries we had, and we laid them out all next to each other. Then, we digitally grouped them into the eight most common denominators that we had in between them. We designed

a very simple detail for a large stretch fabric flame that would be able to absorb and adopt all geometric forms that are necessary.

The complexity of all these frames was reduced to eight different shapes and eight different colours. Here you see how these were being put together just by using thin bamboo sticks and electrical tubing in order to cut the costs as much as possible and allow us to drill and make them easily on site. Details were done in such a way that in fifteen minutes a team of three or four people would be able to install flames by wrapping edges around and using zip ties and cables to put all things together. Here you see how the bamboo grid got absorbed into the flame geometry. Those lines you see coming down are the LED lights that were installed at the same time as well. Basically, we took a one-megapixel-screen and then wrapped it around our sphere and used data boxes around the equator to send the signals of a video mapping around to the whole structure.

Here is the day before the opening where all of that was still being positioned. All the flames were nicely positioned with simple metal wire coming down from the top. We positioned a few flames together with the contractors. Then, we asked them to just match these as much as possible to get the overall effect.



Fig.3 Golden Moon Pavillion, internal night view

This is the view from the inside (Fig.3). We had an animated light show running over the whole thing creating a sort of pattern going to the top with all these big lanterns hanging and swinging inside the winds. The combination of all of these effects meant you could really not focus your eyes the very minute you entered, because it is a very submersive environment where everything around you was spinning and twirling. It became a big success with about four hundred thousand visitors in six days. We had to cut the show in a half and extend the

queuing area just so that people could get in.

Here you see the top of the scrambling geometry at the upper pole. Here you can see the colours it can get by night. And a very quick little video of it.

Basically, this thing went on, spreading out onto people's Facebook pages.

The final project, which is the ZCB Bamboo Pavilion, is a project we did with the Chinese University of Hong Kong in Hong Kong last year. Here, our client was the construction Industry Council, which is the Government Institute in charge of the construction industry and of the training of workers. They had this building and a square in front of it (Fig.4) (Fig.5). In Hong Kong, all the scaffoldings are made from bamboo and they had this difficulty that the craftsmanship is disappearing. Young people are no longer interested in that kind of industry. So, our job was to make bamboo "sexy" again.



Fig.4 ZCB Bamboo Pavillion, aerial day view



Fig.5 ZCB Bamboo Pavillion, aerial night view

We created an event space where several kinds of events could be held. So, in the wake of this project, I became a little bit specialised in bamboo. There are over twelve hundred species globally. The vast majority is growing in Asia, but this map shows where in the world you find bamboo. It is

basically everywhere, except for Europe, North America and Australia. So, in all the areas where globalization is going on at a fast pace. Although this material is available for construction, it is very rare that people use it. In most countries, building codes do not allow bamboo to be used, which is a pity because it is the greatest carbon absorber that you can find! It grows much faster than wood and its fibre has strength similar to steel, so it's a very useful material. Most architects, if they are at all still using it, do so either for a symbolic cultural value, as we see in the project of Kengo Kuma & Associates made in Beijing. And here, in Brazil, you can see Leiko Motomura using it as a replacement for wood or steel in a normal space frame, using it for its light weight to create these nice triangulating roof structures.

Bamboo stands out because it is most flexible, because of its unique build-up of tubular elements with reinforced segments. Because of that, it becomes one of the strongest flexible materials you can build with. We wanted to work with that material property of bamboo. In Hong Kong, as I mentioned, all the scaffoldings are made by bamboo. Here you see how the craftsmen use body measures like leg lengths or shoulders heights. With very simple knots they can make, in a matter of hours, these massive scaffoldings. In a very short amount of time they can build two hundred meters high skyscrapers' scaffoldings.

This craft is very unique to the Cantonese region. It is not only used for scaffoldings but also for the making of temporary Cantonese Opera buildings that look like this. Every year they make around fifty of these all over the town and they just take them down when finished.

This is a very flexible typology that allows to respond to very different terrains. But it has always similar sections and is always based on similar body measures. So, when we were asked to make an event space, we thought that it could be interesting if we could use the different properties of bamboo and a totally re-invented typology that they haven't been working with.

This is the final product. What we can do with digital techniques nowadays allowed this to become possible. These techniques allow us to perfectly simulate how a curve would behave if the curve itself tries to straighten itself out. We can simulate that physical behaviour and know exactly how the curve would behave when bent, or how a network of curves would behave. With these tools and phys-

ical prototyping at our disposal, we did a workshop with a group of students. The winning project could go through an iterative test processes until we arrived at the final structure—a system that is entirely made based on the material property. This is bamboo, split bamboo. From these physical prototypes we made a whole series of digital models until we arrived at the final construction. Because there are no building codes for building with bent bamboo, since nobody had ever built in a fashion like that, we had to re-invent everything from scratch.

The digital design started from the site. There we started by identifying the location for the foundations. From there, we extracted the diagrid that was fed into a physics simulation engine. Then, after that, we used trial and error to figure out all the parameters that we needed in order to manage to bend it digitally and fold that surface onto itself, aligning all the forces, which are stiffening forces and spring particle forces, to find an equilibrium within its shape. The shape was not drawn, the shape was generated using physical principles related to the material that we were working with. Then, later on, we had to again use a few simulations in order to figure out the installation sequences that would allow people on site to install this thing without the need for drawings or even understand what exactly they were doing at each point in time. Here, we see that all the bamboo poles are always laid up from top and then bent in place. You cannot weave them into one another because they are too strong.

This is the final top view of the design which spans thirty-seven metres. We have a space that 200 people can use. We use a membrane of a glass-fibre reinforced polymer to operate like a lantern screen. The structure's depth underneath basically creates a very nice shadow visible on the outside.

We worked mostly with Mao Zhu (毛竹), which is a type of bamboo, a giant species that is indigenous to China. We had to cross the border to Shaoyang in China where there is a bamboo factory organized in a very primitive way, very different from the nice bamboo forests that we have here in Kyoto, much messier. In a very primitive way, they cut the bamboos and centralised them. We had to quickly treat them, because you cannot use bamboo in permanent architecture if you do not protect it from UV light, water, rain, and biotic attack. We submerged it in a saline solution to prevent biotic attack and, while this was happening, onsite we prepared the tree foundations to be installed. To give a sense of scale, you've probably seen the Volvo Ocean Race where they have these massive boats? One of these

boats is around 30 metres in height, weighs 12 tons and has a downwind sail of 578 square metres. Our structure spans 37 metres, weighs roughly half of the sailing boat, and has twice its size; so the lifting force on this thing is gigantic. One of the challenges was: how can we anchor this thing down to the ground?

The foundations themselves, these three slabs, weigh around 100 tons in total. Everything above them weighs around 6.7 tones. So, this is a hyper-lightweight structure. The air that is underneath the pavilion weighs around four and a half tones, so it is only 70% heavier than the air underneath. That ground connection was essential to hold this thing down. We borrowed a Colombian bamboo detail from Simon Velez, where he is working with rebar cast inside the bamboo. Similar to how we use the ripples on the rebar to anchor it inside of the concrete, here, we're using the interior profile of the bamboo to anchor the concrete inside of it. Thus, these details are supposed to pass on the force onto the concrete. Here you see the installation of the base, using very standard means. The first thing we had to deal with was the issue on how we communicate the exact info needed for. Then how do we bend all these rebars? The only tools available were paper printers, so we just printed triangles extracted directly from the digital models and, using steel pipes, we managed to bend them to roughly where we needed it to be. It was good enough. With all of the start positions in the right angles, we had to make a little plinth at the base to support the bamboo perpendicularly to each axis. We used plastics sewage pipes, cut according to data extracted from our models, to create the little foundation of the plinths; here we see the operation.

Then the bamboo arrived onsite. Everything was nicely cleaned, nicely sorted, and then we had the challenge of turning 473 poles into this doubly curved bending-active structure. Although we could digitally identify every single point of the structure itself, the challenging part was to decide which data we needed to take out and communicate with the people onsite, considering that we don't speak the same language. We started by unrolling each and every one of these members and numbering them. Here you see them taking the poles, following the numbers and dimensions, numbering each pole accurately. We made a 40 metre long table upon which we were tying each and every one of these individual members together using not the plastic wires they traditionally use, but metal wires for fire safety. Just connecting them into one giant

member, and then, if you zoom into the construction drawings, we again marked up all the intersection points between different bamboo members. Using simple sheets of labels, all that the craftsmen needed to do was measuring exactly where the intersection points were and place the sticker on it. Then, since the temporary support scaffolding had gone up, they would hoist up the long interconnected members, bring them up the scaffolding, slide them over the starter bars, and gradually position them at the accurate height with numbers that were projected at the base. Gradually, as they were bringing more members, all they had to do was match the exact corresponding sticker labels. Then, bit by bit, you can see how the bamboo structure starts to emerge. Here are the first six members in place. We just bent parts by hand, so all poles are bent. Here you see how much they were curving. Then you see when they were trying to match the labels as closely as possible and ty them together. Gradually, similar to the physical models, the equilibrium surface started to emerge without any conventional architecture drawing necessary.

This is a view of one of these points. This is the top view, where we start to see that there is a 20 centimetre approximation happening there, so our exact simulation model basically was replaced by a cloud of approximation around each point with 20 centimetre diameter, which was fine. We could absorb all the exact measures of the bamboo. Here we see the foundation at the base where sometimes poles were too short, sometimes too long. We quickly anchored the foundation by squeezing concrete into the pole base until the whole thing was properly anchored.

This is the finished structure. We couldn't 3D scan it because of the scaffolding underneath. The point cloud would be too complex. So, instead of 3D scanning the whole structure, we used a different method for measuring the skin. If you know the software Pepakura (which is a simple software that you can use to make paper models of 3D objects, you just triangulate and fold everything); we did the opposite. Everybody had a smartphone in their pockets, so we shared a Google Doc spreadsheet and measured all the triangle edges onsite and made everybody punch the numbers into the shared spreadsheet. Then, from the spreadsheet, we could reverse engineer the strips that were necessary for the cutting. Then we went across the border into a fabric factory that was usually making circus tents. On this big CNC cutting table that you see here all the triangles were cut one by one. Then, by hand,

using superglue, little edge strips were placed over matching edges and then fused into the fabric until it became one giant sock. That giant sock was lifted over the structure and rolled out and fixed to the bamboo. The whole thing was pulled under tension. Its seams were finished. That was the close-to-being-finished structure that just needed to be stretched. We see the buckles that tensed the whole piece. Then we installed the lights inside; up-lights shining up and reflecting down from the structure (Fig.6).



Fig.6 ZCB Bamboo Pavillion, night view from pedestrian view point

The final piece in this very busy urban context became a shield that kind of blocked away the aggressive lighting that is all around it. Its high arches allowed the green form the park to come in whenever there were events underneath it. This is the view from the top, where you can see the pattern. Here is its use for all kinds of events. Then it was taken down after 9 months because it was a temporary site we could not use any longer.

So, to wrap up: "The future is already here; it is just not evenly distributed." Some labs may have robotic arms and CNC fabrication technology, but for most of the construction sites in parts of the world where most of the construction is happening it may be better to use an A3 printer as strategic choice to make construction documents. There is more computation power in your washing machine then they used to put a man on the moon, and a few years ago, they were selling smartphones in India for 40USD. How can you use that power if anybody has it free at their disposal? I think that there is opportunity for architects to become a 'fusionist'. That means you have control over that power, and if you're open to conversation with all people involved, you can play a central role in trying to make a type of architecture that can be radically different from anything you've seen so far. I'll leave you at that.

Capturing from Human Activities: the Multiscale Formation Mechanisms of Dwelt Environments

Kyota YAMADA

Kyoto University



I have done research on colonial and post-national formation of cities and its dwelt environment in Colombo since 2004. In 2011, I had a chance to join some local dwelt environment's design project which tried to open a local tutoring school. Through this experience I realized that the perspective and the knowledge of practitioners is quite different from that of observers. But the necessity of practitioner's knowledge is rarely recognized and its theorization is rare. Since then, as a part of practitioner's perspective, I began to theorize and model dwelt environments. This is an idea that is being developed and any comments or suggestions are welcome.

First let me explain the context of Colombo (Fig.1). The city has a long colonial history from the XVI century, when Portuguese first arrived there. Later the Dutch and then the British came. The present nation state of Sri Lanka was shaped after that. As a result this city retains two types of modernities: one is an early modernity and the other is a later modernity. At first, the early modernity created groups according to religion, within an ethnically divided settlement. Major groups of dwellers were Christian, Hindu and Muslim. Having several religions at the same time, belonging to several ethnic groups at the same time, and intermarriage crossing ethnicity was quite common. This was the first moment of civil society formation.

Later from the XIX century the situation largely changed. Ethnical and racial idea strongly affected the group formation. People had to belong to only one ethnic group which was supposed to be quite different from other groups. Sinhalese people who were mainly Buddhist became the majority at this stage and they changed the city into a Buddhist city (Fig.2).

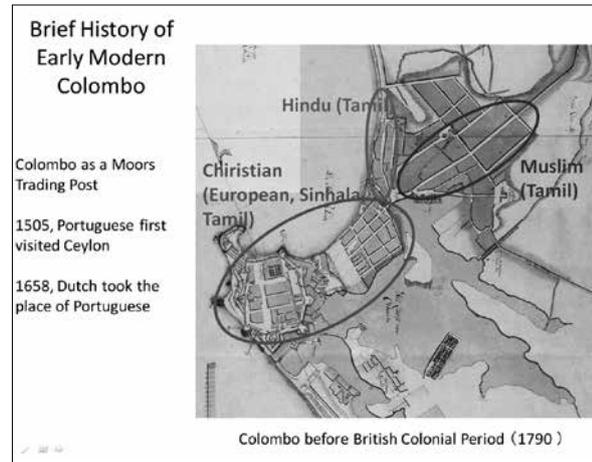


Fig.1 Early Modern Colombo

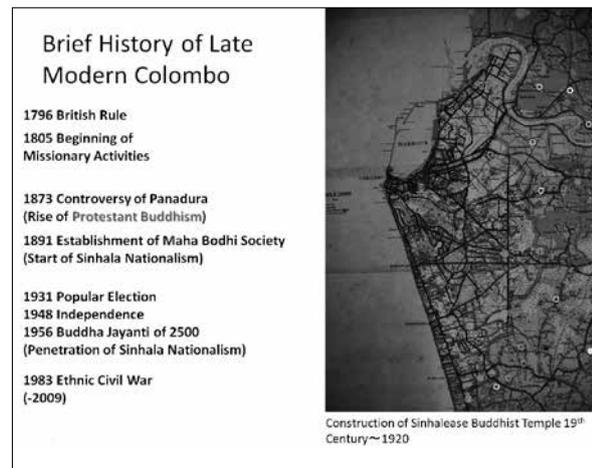


Fig.2 Late Modern Colombo

This early and late modernities coexist in Colombo city today. Early modernity has been maintained through a very broad Indian Ocean network. The historic area which was formed before the XIX century used to be the center of the world during the early modernity period. Late modernity is based on the Nation State power and based on the national territory. The urban area which was newly formed and where the spread of southern words occurred after the XIX century is the domain of the late modernity period.

Late modernity offered the basis for the XX century Nation State building. At pre-independence period, three major ethno-religious groups, Sinhalese (Buddhist), Tamil (Hindu and Catholic), and Moor (Muslim), were shaped and fought each other

for the share of the profit of new Nation State. After independence, conflicts between two major groups, Sinhalese and Tamil escalated and in 1983 led to civil war between these two groups.

But in the historic area of Colombo, people still maintained early modern trans-ethnic relations between the two opposite groups. These relations had to go underground under the officially manifested framework of ethnic collision. Through these underground relationships, trade and some informal activities which were labeled as “smuggling” have flourished in the historic area where I have been doing my fieldwork. These underground relationships offered very good business chances but at same time very risky ones, because through this underground trade arms and drugs have been flowing back into the historic area. As a result, the dwelt environment of the historic area was completely devastated. Under this situation, one dweller and I started this local dwelt environment design project.

To understand, describe and interact with historic area of Colombo, the concept of dwelt environment (also called as dwelling or living environment) which is different from homogeneous universal space is essential. It has a historic and local character and a very concrete shape and dynamism. The dwelt environment is organized through dwellers’ daily activities and at the same time supports dwellers’ daily activities and offers the basis for dwellers’ lives. Turner’s *Urban Dwelling Environments* written in 1969 was a pioneer work about dwelt environments.

But there are also problems. We cannot see the dwellers whose activities make the dynamism of dwelt environment. We cannot see what kind of relations and interactions are there between physical aspects and social aspects which Turner showed as major elements configuring dwelt environment. And Turner only treated dwellings. We have to treat a system of lives of people totally. Then we can find and incorporate adequate activities or facilities into the system. Today we first need to theorize dwelt environment in a contemporary way. Since a human and his/her activities are the organizing and driving force of dwelt environment, we would better situate a human as a basic unit and a starting point of dwelt environment. And we would better go back and start from human environments because the dwelt environment is some specially organized type of human environment. This is my provisional definition of human environment which prepares a path to the definition of dwelt environment. Human environment is a system where human and world’s interaction occurs. It consists of human, things and words (symbols). Krippendorff, 2005 and Latour,

1999 are quite helpful in expanding human environment understanding to dwelt environment.

When we see that one of the needs for thinking about the idea of human environment and dwelt environment came from reflections of urban development practices, we need to put the provisional definition to practice, check its behavior and refine it in comparison with our experience. From now, sharing my field observations and participations, let us see how this interactive system between humans, things and words, namely human environment, can flexibly grip the complexity and dynamism of our world.

When we focus on this human environment which is organized by human activities, in the historic area of Colombo, we can observe specific spatial hotspots where people gather and happenings concentrate. Hereinafter we will call these hotspots “places”. We can observe places of work which are “wholesale markets”, places of belief and prayer which are “mosques”, places of dwelling which are “lanes”, and places of adjustment of various activities which are “teashops” and “sets” which shaped around teashops (Fig.3 and 4). Characteristics of places are different from one to another. Each place has its own historical trail, criterion and function. Places had changed together with changes of dwellers’ activities.

These four kinds of places have their own central activities and criteria. Each kind of place also has its own local, Colombo-wide, Sri Lanka-wide, and Indian Ocean-wide network based pattern. Due to differences of activity, criteria and network pattern, each kind of place has got influences from not the same political, economical, religious, cultural or technological elements in not the same timing and has changed tracing different historical paths. At the same time these four kinds of places are loosely connected and interacting with each other. Assembly of places generates locality of urban landscape. Urban landscape transits with these places’ connections and collective changes.

At places, many persons gather and bring many topics on happenings from various places to converse with each other. We can find that dwellers come and go or stay some time, like in this teashop, and have small conversations. Through a conversation on a topic between persons, different recognitions are exchanged and coordinated. Socialized recognitions appear from conversation, and are brought out to other places. Topics that people bring, converse and bring out differ from one kind of place to another kind of place owing to its activity, and network.

These four kinds of places correspond to ma-

jour activities which comprise dwellers' everyday lives. Adjacent particular places of four kinds are forming one set (Fig.5). Dwellers' everyday lives are maintained by this set of four kinds of places. Persons come and go between places. Each person spends ones all time of the day as a succession of staying at places and movements from one place to another. A set of four kinds of places comes to be interconnected through persons' constant movement and forms a relative stable network between these places. Through this relative stable network of four kinds of places, interconnected transition of different kinds of places occurs. The extent of the network of four kinds of places corresponds to the specific extent of several blocks. This is the extent of the dwelt environment. Among four kinds of places, a teashop has remarkably concentrated numerous coming and going of persons. Additionally, different from other places, all kinds of topics are brought to a teashop. Through dwellers' movement between one teashop and another teashop situated in another dwelt environment, a network of teashops that connects neighboring several dwelt environments is formed. Topics and their recognitions fluctuate through this network.

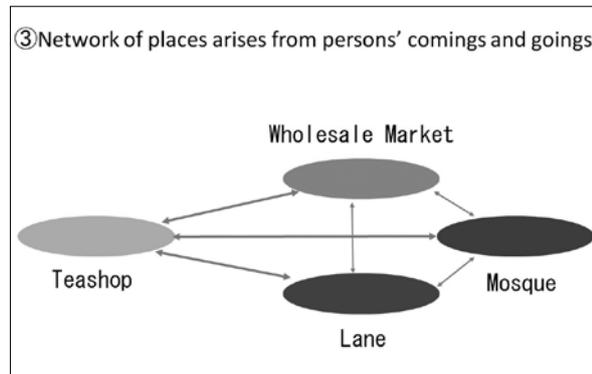


Fig.5 Set of interconnected places

In addition to short-term connections of persons intermediated by places, there also are invisible but more stable network of human relations that arose from personal or family long-term accumulation, selection and enhancement of short-term connections between persons. The term spans several years, decades, lifetime or several generations. For example, this is a genealogical network of one family (Fig.6). Some families keep this kind of genealogical charts called "Paranbalym". This kind of long-term human relations which accumulated inside a person or a family is popular and existing everywhere. Here after, we call this "縁 En".



Fig.3 Places inside dwelt environments

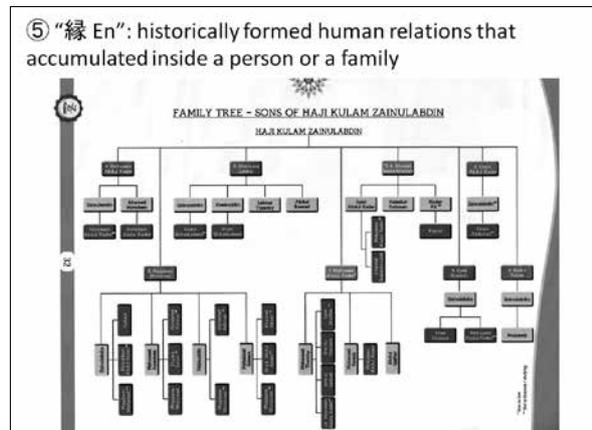


Fig.6 Historical accumulation of human relations



Fig.4 Places inside dwelt environments

Family genealogies emerge from lanes which are the major seats of families but not bonded to particular places. Once shaped, it is rather free from the spatial order.

Not only families but also rather tightly networked organizations such as mosques or business associations are also keeping this kind of stable human relation networks. And this kind of relationship has also been influencing the dwelt environment formation. The expanse of "縁 En" is usually wider than that of gatherings of neighboring dwelt environments and often as wide as South Asia, Indian Ocean, or the globe.

If we consider this understanding that the dwelt

environment is a network of places of mutual influence which is augmented by human relation networks free from specific places, we can imagine that when we add one new place to the environment, a new network, and a new system of places let a new dwelt environment appear (Fig.7). So if we can manage this process we can offer new bases of lives for dwellers. This must be one practical way for influencing local dwelt environment formation.

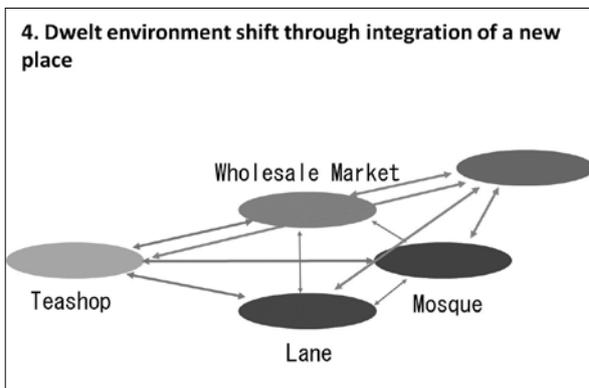


Fig.7 Emergence of new dwelt environments

By happening, I came to start this local dwelt environment design project with one dweller Z.

Once I participate in the area as a practitioner who lives his daily life here, local dwelt environment appears as fluctuating existence which has many possible shapes at one time and dynamically unfolds with practitioner's action and choice. Based on this experience, I will describe intertwined unfolding of design activities and local dwelt environment.

Local dwelt environment history offered an useful starting point for local dwelt environment design. First, based on our research on local dwelt environment history, we extracted resources and problems to verify the present situation and discussed what kind of activities and facilities are desirable for the area. Then we decided to open a local tutoring school which supports children's school education and at the same time transmits the local memories to the next generation.

In 2011, connecting Colombo and my place Kyoto by social media and international calls, we started to discuss the tutoring school project.

Z offered his house in a lane as a site for the project. This lane was formed by squatting. We can see several groups of relative dwellers' houses. These house groups are shaped by matrilineal inheritance. Cooperation between relatives has supported their lives (Fig. 8).

I could use a plan of his house drawn during previous research for starting point. Using the plan,

my work started from checking physical situations which relate to the project.

As the picture, the house where Z lives is a very small brick house with only one floor. Three rooms form a line. Front room faces 2m wide narrow way. Z and his wife Fr and two children lived in a second room and 4 members of family of R who is the elder brother of Fr and C who is the auntie of Fr lived in the front room. The owner of the house was the mother of Fr. As a rule, Fr was the future successor of the house. R family and C who were borrowing a front room would live here again after renovation.

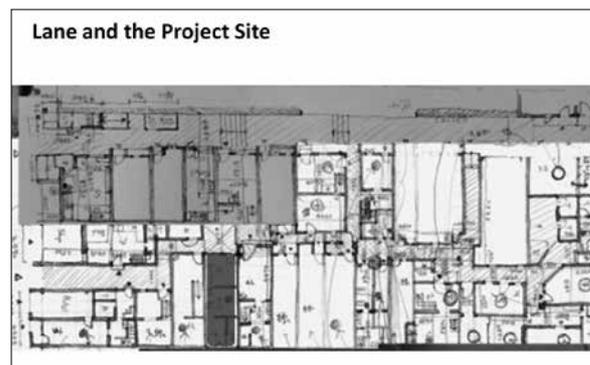


Fig.8 Lane and the project site

We decided to add minimum alteration to existing lives of these three families. So I started to seek ways to add a new upper floor for tutoring school while keeping the ground floor with minimum alternation. For trial, I applied Reinforced Concrete (here after RC) structure which is popular in Colombo for the upper floor. But the plan at this moment had less relation with the actual situation of Colombo. It was no more than a set of tentatively drawn lines.

Next year when I arrived at Colombo, Z and I immediately made complementary researches.

Then, I drew a new plan for the tuition school reflecting the accumulated knowledge from these researches (Fig. 9). In this revised plan, we can see RC pillars standing adjacent to existing walls at intervals of carpenter's usual scale (Type 1, GF Plan of Fig. 9). I also drew other various plans and checked impacts of each plan type on existing activities and upper floor usage (Type 2-A~C of Fig. 9). In parallel, Z and I visited local schools and other places and consulted about our concept, education program, management system, and etc. Possible shape of the tuition school which was connected to certain physical situation, local construction method and educational conditions were made through these works.

I shared the plan with Z and Fr who would be the future owner of the house and exchanged our views on the tutoring school. Through discussion

their dreams participated into and intertwined with the tuition school project. In short, a private toilet and a ventilation void for the kitchen were added (Fig. 10).

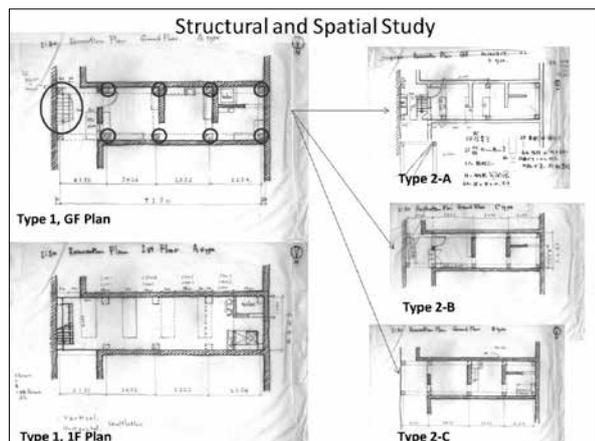


Fig.9 Structural and spatial study of the project

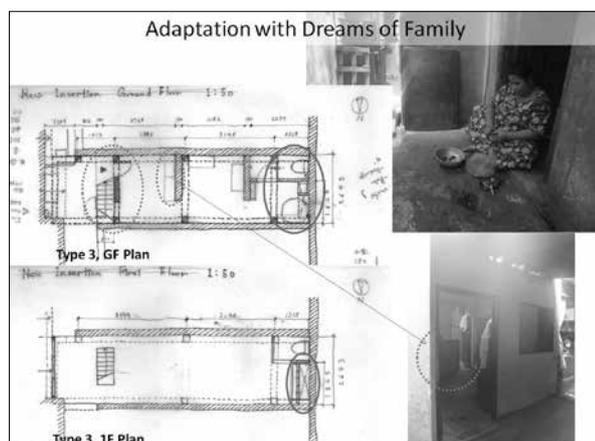


Fig.10 Adaptation of the project after discussion with the related family

I got a quite valuable recognition on dwelt environment here through this design practice. Z said he can move the front wall to inside and put the staircase there in exchange for his cupboard. There was a large cupboard on the backside wall of the front room put by Z family. He said the cupboard's space is belonging to him and is exchangeable. "Occupation" of a place by thing is one of the basic strategies for life in the lane. When we turn our eyes, we can find this occupation everywhere. These are a clothesline on the wall, a roadside chair, stall and etc. Occupation was widely practiced around here for generations. Everything which configures the lane is not mere physical object but it has its own history and tale. Through arrangement and manipulation of things which come together with their own histories and tales, relationships between families are negotiated and adjusted in and around houses. They are physical elements and at the same time

elements which generate local social order.

At this moment, the situation around tuition school became rather clear and only staircase location was left as a withheld matter. We studied several possible positions. At the same time, since it had relation with R family's life and the C's life, we consulted with R family and C.

Z thought that other than the tuition school, installation of private toilet is also profitable for R family and C too. But here emerged one problem. R and his wife A never objected to the tuition school. But on location of the staircase, R and A assigned opposite side of the narrow way as the only one possible site. It was a site where a kitchen put by A existed (Fig.11). Because of the narrowness of the way, putting a staircase was impossible without shifting the kitchen. R and A suggested that to shift the kitchen represented more rewards than the real need of a private toilet.

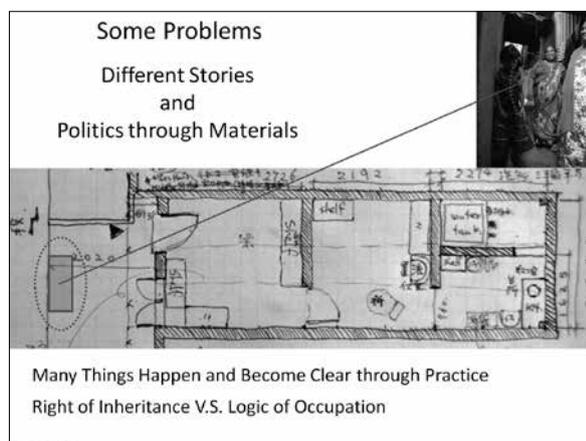


Fig.11 Problems that emerged after negotiation

Z and also I felt it is not reasonable and asked mediation to other relatives, mosques and "savan" where local influential persons gathers and have dishes to maintain long term network. We also visited teashops. But the kitchen matter was never solved. Now, the kitchen and its land became the focal point and a schema in which A's right for occupation and Fr's custom of matrilineal inheritance conflict suddenly emerged. The tutoring school which needs a staircase for the upper floor was wafting in the air. The tuition school project seemed completely got into a blind alley.

At that time, firmly anchored kitchen matter unexpectedly solved. Rz who is the close friend of Z approved the tuition school project and offered to lease upper space of his house for some years (Fig. 12).

Luckily, Rz's house was in front of the Fr and Z's house. Z and I could make a plan which connect upper floor of Rz's house and Fr and Z's house and

situate a staircase at RZ's house side. So now we could physically avoid the Kitchen matter. A physical path also became the path to realize the project (Fig. 13).

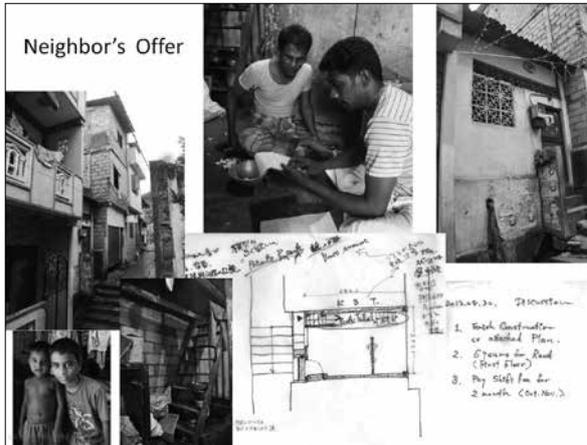


Fig.12 Alternative solution to the original proposal

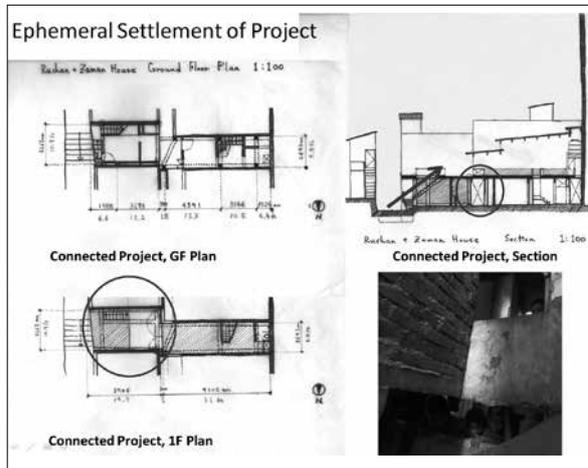


Fig.13 Revised proposal

At this time, dwellers of the lane accept our project and started to say their wishes. Because of the kitchen problem when we had to visit many places the tutoring school idea gained acceptance. Although the tutoring school was still not realized it seems that in the imagination of dwellers as an emerging new place.

In conclusion, this cooperation between RZ and Z and I was not realized. Then we again had to return to the kitchen matter and we suspended the project.

The kitchen matter was solved after more than two years. Z and Fr kept negotiating with R and A and they somehow reached to an agreeable conclusion. So this tutoring school project is still ongoing and from now we are going to start construction work.

Through this experience, I am provisionally assuming that addition of a new place to existing set

of places and integration of the place into existing network of places progress through the five phases as written in my paper.

Then what kinds of relations are there between the plan of the project and dwelt environment? As conversation with dwellers proceeded and the plan of the project was revised, the plan came to be intertwined with dweller's realities. And at some moment, a shareable image of the new dwelt environment emerges. So, this plan is just part of the imagination but we can say it has existence, it is not materialized but exists. From this moment new dwelt environment start to emerge (Fig.14). Transition of the plan and dwelt environment progresses interactively as long as the dwellers' imaginations and practices persist. Not only one but other plans are also keeping possibilities of emerging. During a design process the dwelt environment is fluctuating and having several possible figures.

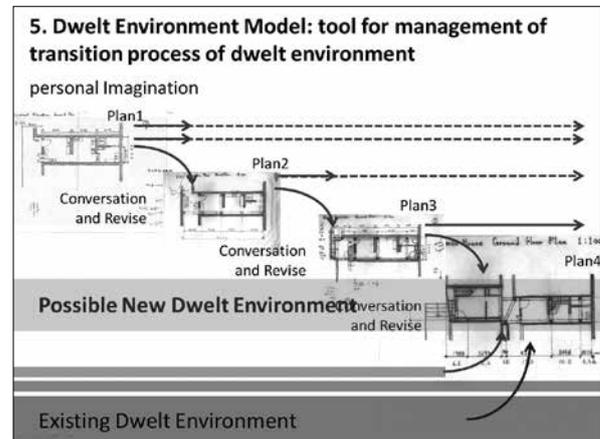


Fig.14 Dwelt environment transition through design activity

In the process of change of a project, there are also influences from and over long term human relation networks.

I would like to clarify the interactions between projects, physical places, network of places, and non physical human relations (Fig. 15). This will offer a transition model of dwelt environment through a design project. The dwelt environment transition model is useful for ongoing dwelt environment design. It is also useful for an assessment of the project. A view point of promoters of the project on dwelt environment transition is one-sided. And in the world of practice, as in my case, some happenings or problems occur without exception. We could have make better relationship with R and A family by other way. No project can be perfect. It must be more so in dense and fluctuating informal condition. Checking the project critically from diverse dwellers viewpoints is needed at every moment. Finally, The model also offers a case

of dwelt environment design from which we can extract transferable methods for environmental design. This should be discussed in trans-disciplinary manner.

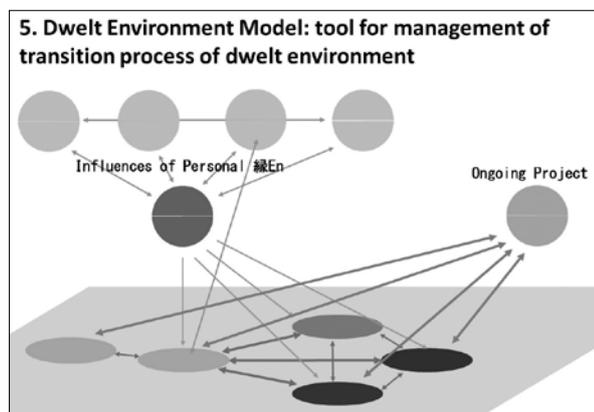


Fig.15 Dwelt environment model

Questions and Comments

(Sacko OUSSOUBY) I have two questions. You were discussing the human relations there with reference to this Japanese word “En”. I think it might be better to use their own words. Because I think that human relations have been already defined in culture, and might be different from what you calling “En”. So what I would like to know is how they call it and how they define it there. The second question, in your presentation you have mentioned in several occasions the mosques. I guess a large number of them are muslim, right? I think in their process of building mutual support, religion has an influential role, even in terms of neighborhood formation. So, among the activities and places you mention, I think the mosque play a very important role. How do you see the role of religion on building these relations?

(Kyota YAMADA) Your first point is very important, and I completely agree with you. In Sri-Lanka, Sinhalese people call it “Karma”, a Buddhist word. I use “En” because this kind of concept is broadly shared in South Asia, Southeast Asia and East Asia, through the historical interactions occurring in that area. I tried to extract a bit more general concept. But I agree with you that it might be better to use the local word from their viewpoint.

About the mosques, indeed they are quite important. Actually the kitchen matter was solved through the Islamic channel in some sense. After many discussions, finally Z, Fr, R and A agreed to close the problem by paying money and removing the kitchen. But they don’t have money because it is not a rich place. At that time, through Islamic relation-

ship and the relationship with relatives working in Gulf countries who kept contact with local people, they have found a channel to collect *Zakat* (donation) that would allow the removal of the kitchen. Mosques are very important for muslims. At the same time there is also a daily muslim or vernacular Islamic world. Through this latter channel this project progressed. Initially, we also tried to consult with some *imam*, an Islamic teacher. But here the situation is complicated because the dwellers mainly came in from South India and they have a custom of matrilineal inheritance. But in Islamic law male inheritance gets more importance than female. We chose the safe side and abandoned this channel. This is a squattered area, thus, there is no official or formal law on the right for land. The rights are historically decided, who came first and occupied the area is important. In the physical organization there exists this one rule. Another rule is that in South India inheritances, female have rights. When conflict between these two rights happens, like this kitchen case, unpredictable negotiations are needed to solve the problem. I don’t know how this type of case progress through formal Islamic channel. But conclusion seems similar. This type of cases that I know all closed by paying money.

(Sacko OUSSOUBY) Thank you. That is why it is very important to use the local word. And it is very interesting what you say that they are using a Buddhist word to define the relationships at the same time that they act like a Muslim community. So as you say of course like, even in my country, a lot of Muslim communities are not mainstream, as you say. I do not know if we can use that word, but so as you say it is vernacular. I don’t know if vernacular Muslims exist but you can perhaps use that expression. But it’s very important to point out the different habit’s rules. For example if you go to Mauritania or even in Mali, in the Tuareg people, women are the center of the house, of the family, because men are considered to be outside people. So the kitchen belong to women. In a lot of societies not only there in Sri Lanka, but even in African societies it is like that. So even in Japan, I don’t know if the kitchen belongs to women, but somehow they control it. Also in your kind of research, as you are saying what is formal or informal? If it is not formal, just an occupied area, as far as they occupied there it is better to leave them administrate that by themselves. But in this kind of context maybe although it might be informal, maybe for the dwellers themselves as far as they are living there they are formal for themselves. And perhaps you could analyze the situation within that context.

(Kyota YAMADA) Yes, I almost agree with you. And I apologize to use that word. I may should consider other word. On informal, I just use the term to describe legal or institutional situation. It has no relation with value judgement. If something is existing inside of the scope of present legal or institutional system, I call it formal. If something is existing outside, I call it informal. Anyway, I think we have to think again back if that decision to move the kitchen was good or not. So for that purpose to make a model of the dwelt environment is very important at this time, as we can trace back how the dwelt environment changed in relation to that project. Some practices are very complicated with good points and problems. If we see the same situation at another time or from another position the good points may change into problems and the problematic points into new possibilities. I want to make another proposition that consider this kind of changes. As a practitioner sometimes we keep only one strong viewpoint but there are many people and viewpoints involved, and many different interests. So my aim is to search for the possibility to have multidimensional viewpoints of dwelt environments.

(Sacko OUSSOUBY) Sorry again, but just a last one. So how do they call kitchen in their language?

(Kyota YAMADA) Um, sorry I cannot remember now.

(Sacko Oussouby) Because I did almost the same. I did research of informal sectors in Mali and then I based my research on the kitchen because the kitchen for them means family establishment. So I started from the kitchen. Once they make two or three kitchens it means that the family split and became a multi-family dwelling. So it is very important to know the name of that kitchen, as far as, you have to remove it. I think you have to see what is that name and which meaning it has for that society.

(Kyota YAMADA) I have to check the name, but one very interesting thing is that we can question: was it a kitchen? I mean it was just a small “cup-board”. But they found the chance on a thing they put there: “Oh it is a very good chance to get some reward”. They started to use that place as kitchen because kitchens are very important. In this society people can not touch other people’s kitchen too. So they turned that into a kitchen, after this discussion began. This situation is very interesting and complicated. That process I also want to record for future learning.

(Sacko OUSSOUBY) It is very important that you define kitchen “maybe it is a kitchen”. That is a very important point because we don’t have to define things in the same way that they want us to learn as modern architects. In Mali I did the same, in my definition once they put things to make food or if they use that space to cook it becomes a kitchen. So it doesn’t matter if it has walls or not but it could be a kitchen.

(Kyota YAMADA) Yes, in the beginning it was not a cooking place, but the place where they kept some cups and plates. But later a gas table came and then they started to make some tea for selling and then suddenly it became a kitchen. This case can be understood as you mentioned. I think there can be another possibility for this case. Dwellers of metropolis Colombo are experienced and tough. Dwellers sometimes use even the most basic thing like kitchen for negotiation. In my case, a series of actions systematically made to construct one of the typical local stories which can derive rewards. This kind of negotiation at semantic level is not uncommon. There is no one who can set a clear and absolute ethical answer. I think we have to create relative and sharable measure of ethics through interactions. I agree that we need to know the name and ordinary position of kitchen in the society. But instead of giving unchanging character to something by giving name, I understand the name, kitchen, as a temporal label for some event whose actual situation is always changing through participants’ practices. By interactions with humans, things and words through participants’ practices, participants find and create many things. Ongoing events are dynamically changing with these new findings and creations.

If we can describe this ongoing transition process of event beyond ordinary meaning of given label, our description will be a reliable starting point for people who live with practice. Even though, practitioner’s view point cannot be sufficient. To comprehend, make shift and evaluate the local dwelt environment, we have to understand A’s own perspective with the same.

(Ana TOSTOES) Concerning the kitchen, I would like to know if you think that kitchen is connected to fire or not? You know in memorial times all around the world the place of cooking was the fire and in the Mediterranean culture, it is related to a God “Lar” (Roman God), which relates to the house, kitchen, home and the place where is the fire. So it means that there is a community around the fire who can survive. I would like to know if in

your research concerning the dwelling in Sri Lanka is there this relationship with fire and with your knowledge also if you have an idea concerning this element?

(Kyota YAMADA) Yes the fire is very important because we have to eat everyday so of course the fire is situated at the center of people's lives. Without fire, you cannot make a house. In the world of occupation, people start from putting small chairs, tables or other private things. After chairs, things which can cover human body like a chicken house or a shed appear. They gradually develop their environment. This is a trial period. They look how the state goes while increasing the use of time and stabilizing the situation. During this trial period, neighbors recognize their occupation. These things are relating to secondary and temporal activities of life so they are sending tacit message for an excuse that period of their occupation is a little while. So these structures are not a house at this moment. But situation drastically change at the time they bring a portable cooking stove into their temporal structure. This activity itself is not noticeable so quietly completed. But this place changes to become their base and a tacit message on the condition of occupation turns to permanent from this moment. So I agree with you that fire is a critical element when we see the transformation of a place that changes into a house.

(Akiko OKABE) We worked in another project together and today I was quite surprised because we have a very similar approach in informal areas. I didn't know that during the five years we were together. Thus, I would like to make only a simple question: you mentioned about teashop, lane, mosque and the wholesale market and about their mutual relation. Is there any hierarchy among these four points? And the location of teashop is related to some kind of specific conditions?

(Kyota YAMADA) They share no hierarchy. Each place is very different, and carries on rather independent activities. People's going and coming are connecting these four places. But when connections become weak those places start to develop their own way and change their direction. Teashop can be mainly found at junctions or some places where people frequently come and go because the flow of people provide a chance, or opportunity to start tea selling business. Then that small business becomes a teashop, so first they read environment to find the best possible place which is good for business. So

yes the teashops have specific locations.

(Akiko OKABE) Is there any relation with the house behind? Because I imagine that the house behind is important or maybe is the origin house of the family?

(Kyota YAMADA) Some places like a lane have many family members. That kind of place frequently have teashops in front of it. In this sense there is a relation. When we see who is doing business or who is owner, the person in the back side building has relation in some cases. But it is not always. Since the right of occupation belongs to the first comer. People who first found a possibility of the land become a occupant. Of course neighbors have advantage because they know their surrounding environment better than others.

1.This topic is first presented at "Islam and Multiculturalism: A Fundamental Research Project for Constructing Symbiosis with Islam", Asia-Europe Institute (University of Malaya) and Organization for Islamic Area Studies (Waseda University), Kuala Lumpur, Malaysia, Dec. 2013 under the title "Connective Architecture Project in Colombo, Sri Lanka: Tution Construction and Dynamisms of Living World". For further reading, please see山田協太 2016. 「コロンボ(スリランカ)下町での地域学習施設開設プロジェクト—日常のデザイン行為から地域居住環境を考える」, 谷川竜一, 原正一郎他編, 『相関地域研究 第3巻 協奏するジャスティス』, 青弓社, pp.186-211. and Kyota, Yamada 2017. Vernacularization of Architecture Planning: Towards Basic Theory for Dwelt Environment Design, in Rajapaksha.Upendra, et al (eds), Proceedings of the 10thInternational Conference of Faculty of Architecture Research Unit (FARU), 2017, University of Moratuwa, Sri Lanka.

2.Caminos, Horacio, John F. C. Turner, John A. Steffian 1969. Urban Dwelling Environments: An Elementary Survey of Design Determinants, M.I.T. Press.

3.Krippendorff, K. 2005 The Semantic Turn: A new foundation for design, CRC Press. and Latour, B. 1999 Pandora's Hope: Essays on the Reality of Science Studies, Harvard University Press.

Mapping the Exchange: Magazines as Platform for Urban Knowledge

Gaia CAMELLINO

Polytechnic University of Milan



I was wondering if I should present the outcome of our research on the residential architecture built for the middle classes in post-war Italy (and, in particular, the project to create a digital platform aimed at collecting “stories of houses”). But at the end I decided to take a different direction that is maybe more risky: to inaugurate the discussion around a recent investigation conducted on the 20th century architectural periodicals, that is linked to an educational experience that I’ve been developing in collaboration with Nicole De Togni, post-doctoral fellow in architectural and urban history, over the last three years. I thought that the symposium could provide an interesting occasion to start to explore the potentialities of IT and digital tools for the historical research, in order to contribute to the ongoing discourse on digital architectural and urban history. This would also be an opportunity to explore the possibilities for creating a digital collection that encourages cross-cultural readings and comparative analyses, which has the potential to facilitate the research on the transnational dimension of architecture and urbanism.

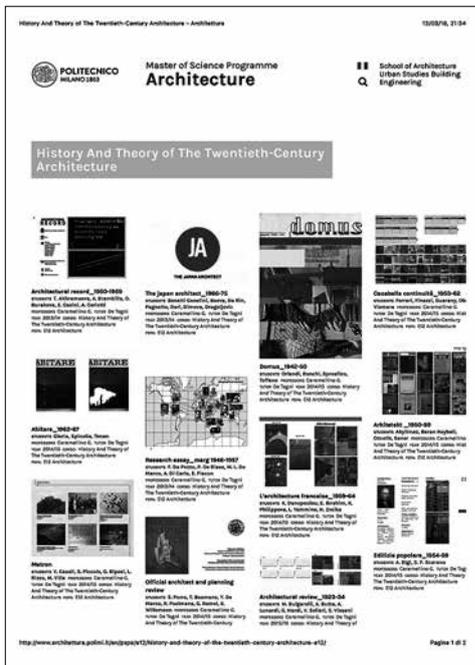
Before starting I would like to highlight that what I’ll show today, at the moment, has just been an educational experience and is not the outcome of a funded research project. All the materials I’ll show are based on analyses and elaborations made with the students, without the support of digital tools.

So I consider this talk today as an opportunity for trying to understand how we can use periodicals - observed as complex sources and sets of data to be analyzed in their interrelations- for the study of “global” architecture and urban knowledge, giving

a general statement on the process. I will address this through three different layers: first, I will illustrate the work conducted with groups of students on the analysis and study of specific journals that resulted in diverse forms of visualization; then I will try to briefly introduce the potentialities of multimedia products based on the collected corpus of sources, as tools that can facilitate cross-readings and encourage the investigation of the aggregation of periodicals as a “system”, focusing on the interrelations between journals, extending beyond national boundaries and stressing the comparative analysis; and finally, I will introduce in a synthetic way some recent research experiences that try to use this corpus of sources in order to trace the fortune of a spectrum of urban notions in the transfer process between North-American and post-war Italian urban culture.

In the last month we started to discuss with some colleagues at the Politecnico di Milano (and in particular in collaboration with Ivo Covic), the idea to create a dynamic digital collection, a platform that we provisionally call “Mapping 20th century periodicals as platform for architectural and urban knowledge”, that could be a powerful teaching and research tool for scholars interested in transnational studies, to investigate the international dissemination of models. The digital platform that we foresee for collecting the first results of this undergoing investigation is based on the study of 20th century architectural periodicals conducted over the last three years within the Master course of History and Theory of Architecture (Politecnico di Milano), that has the aim to create a wider and more structured view on periodicals as complex research and teaching material for the contemporary writing of architectural and urban history.

Addressing specialized periodicals as sites of construction, innovation and production of knowledge, we foresee the future creation of a database, intended as a research and teaching tool, that can host diverse forms of visualization. The idea, as I said before, is to try to observe the process of knowledge production at the global scale, opening up new critical perspectives in the research and teaching of 20th century architectural and urban history and theory.



1. Master Course of History and Theory of the Twentieth-Century Architecture, AUIC, Politecnico di Milano.

In the frame of a recent interest about the relation between architecture and the press, as mirrored by the proliferation of research programs, exhibitions, symposia, conferences and publications that, in the most recent years, try to analyze the role of architectural magazines in producing diverse narratives in the field of architectural and urban histories, many of these projects focused on the history of specialized journals and editorial culture, investigated within their national boundaries.

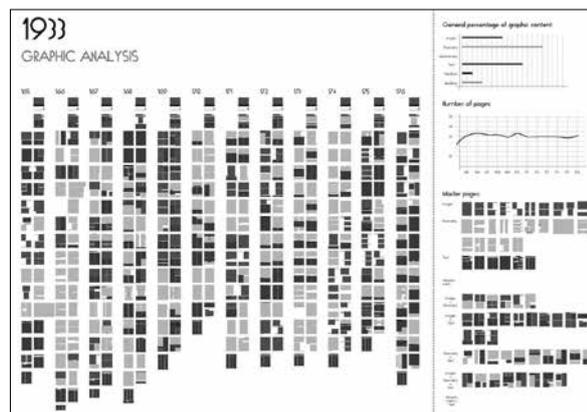
Most of you know the Portuguese research project, titled “The Site of Discourse: Thinking Architecture through Publication”, and I also would like to mention the research program “Mapping Architectural Criticism. 20th-21st Centuries”, led by the French Architectural historian H el ene Janni ere. In the recent years, she was invited to contribute in our course and used to inaugurate the series of talks with her lecture “Architectural magazines in/for Architectural History”. However, our angle is not only on the history of architectural criticism but rather addresses the process of production, reception and discussion of architectural and urban knowledge over the 20th century.

So the idea is to focus in periodicals as objects of historical inquiry and sources: by interweaving the data and putting in relation the diverse geographies; by encouraging the observation of mutual interplays, and by outlining common features. The aim is to document, map and explore the international circulation of architecture and planning

culture, with a focus on the vectors and agents of the transfer and on the interconnection between the different magazines in a network/aggregation of publications considered as an infrastructure of knowledge.

This angle can also help to study the mobility of notions and concepts and the mutation of discourses and models in space and time (now, we only focus at this moment in “time”), across national, cultural, disciplinary and linguistic areas. What is interesting is also to observe the codification of notions in the shifting across linguistic, disciplinary, and institutional frames.

This survey, and then I’ll explain the methodology we used, contributed also to question some consolidated and conventional chronologies and time spans that are proposed by the official narratives, by overcoming monographic and localist approaches that often focus on the analysis of specific journals. As also Ana Maluenda mentioned, we can identify two ways of working on architectural magazines: the first, that use periodicals as main sources for writing history which is an approach that has been challenged in some way in the 1980s with the new interest for archival researches and the availability of primary sources. The second that emerged 1975 to the 1980s, when magazines became objects of historical inquiry, with the emergence of studies that paid less attention to the contents of the magazines, focusing rather on the graphic layout of the journals.

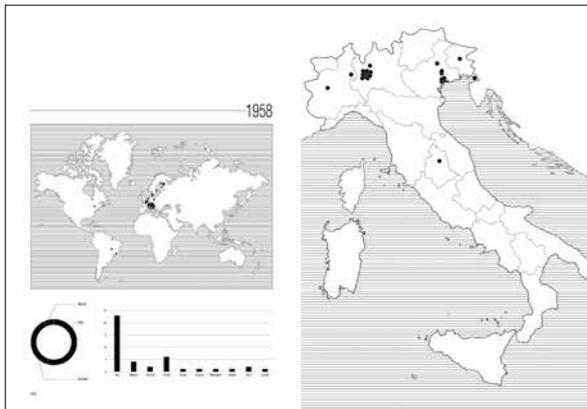


2. Revista de Arquitectura (COAM), 1933. Analysis of the layout of the covers.

In the last decades a third path was pursued by scholars who work on architectural magazines that integrate these two previous approaches, addressing the material, economical, institutional and visual character of magazines (Janni ere 2016).

As I anticipated before, the Seminar on Archi-

tectural Magazines conducted with the students at the Politecnico di Milano, is just a first moment of this research (on the website of the course we have uploaded a selection of the research works that mirror the first outcomes of the course).



3. Casabella-Continuità (1953-62). Geolocation of the projects published during the analyzed period.

I would like to describe the corpus of periodicals we worked on, selected on the base of some critical considerations that served to define the genders and generations of periodicals and the time of publication, in order to create a coherent set of data that can encourage the cross-reading. Over the last three years, the work of indexing was conducted on 46 periodicals, published in 17 different countries between 1920s and 1960s, documenting also all the modifications in titles, structures, layout and composition of the editorial board, and through mapping the presence of the authors over the time. The corpus is quite heterogeneous — as we have been working with international students — and this includes different types of established magazines: from the post-war American trade-commercial journals to technical publications, but also institutional journals linked to official professional organizations. Among them the *Journal of the American Institute of Architects*, the *British Official Architecture and Planning Journal*, the *Royal Australian Institute of Architects Journal*, *Urbanistica*, the official magazine of the Italian Istituto Nazionale di Urbanistica (INU), the *Journal of the Hungarian Construction Workers Új Építészet*. Finally, are also included more “engaged” journals or official platforms of political associations like the Italian magazine, *Architettura: Sindacato Nazionale Fascista Architetti*, or the Spanish one, *Revista Bimestral de la Obra Sindical del Hogar*.

I would like to clarify the reasons for the inclusion and exclusion of certain journals. First, we de-

cide not to include the avant-garde magazines of the 1920s because of their specificities: their short life span, the fact that they are deeply linked with specific figures or groups included in networks built on personal and non-official relations, or manifestos of diverse ideological statements. We started to look at the late 1920s and 1930s in order to analyze this moment of institutionalization of the avant-garde and to observe the shift from the rhetoric of “paper architecture” to a more objective information promoted by established journals more connected to the reality which had lasted for a long time, even with different identities, over the century (*L'Architecture d'Aujourd'hui*, *Casabella*, *Architectural Review* etc).

Thus, as Jannièrè highlighted, the main characters of the journals of the 1930s are: the institutionalization of the editorial board that is important in order to understand the professional authority and the intellectual authority of the journals; the inclusion of the technical sections and the “press reviews”, that are powerful vehicles to understand through foreign examples certain political frames of the real statements of authors.

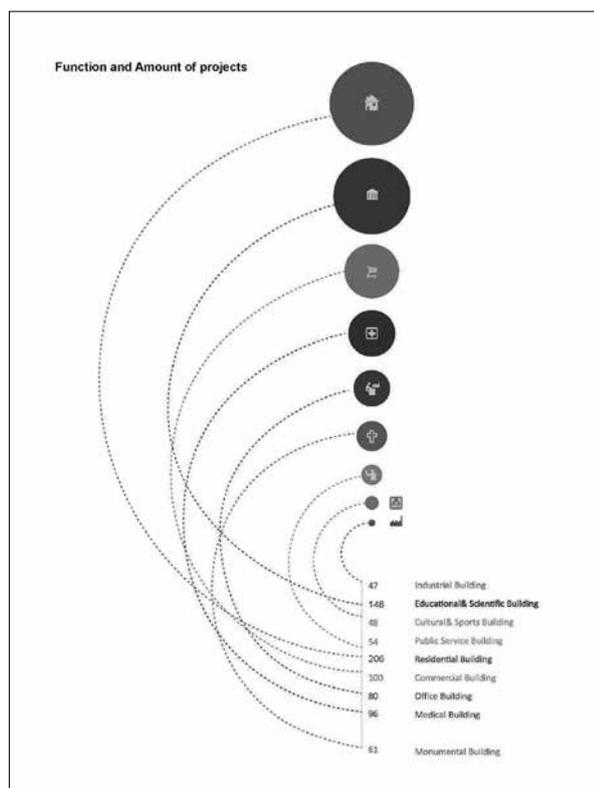
And then we decided to exclude in our exploration periodicals published after the 1980s, when a process of “mediatization” of architecture started, and magazines were purchased by press groups and electronic media that contributed to transform the logics of the production of knowledge. Even within this chronology we excluded two other types of magazines: first, the spectrum of theoretical magazines that developed an autonomous discourse within the departments of architectural theory and history of certain North-American universities in the 1970s. And second, the so called “little magazines”, using the term coined by the architectural historian Beatriz Colomina, that marked the return of the avant-garde, and are really modeled after the image of avant-garde journals.

I would like to explain briefly the methodology that we used. Here you can see the journals that had been processed and analyzed: before you see the years addressed by the work of analyses and the years of publication of the journals.

Moving from the list of the articles, the idea was that students try to “sketch the identity” of the journal, deconstructing and analyzing all the parts of the journal and organizing “groups of objects”. And this is a very important point that I would like to stress, minor parts have quite a crucial role in analysis of the journals: books’ reviews, letters to the

editors, technical sections, or foreign press reviews. These are actual examples of a conceptual grid -grid of configuration- that we used for building an excel data set (including an index of all the sections, titles of all the articles, authors, projects, events, publications, figures and critical statements). However the excel is conceived as a “neutral” static tool.

Then, the composition of the editorial board and the contributors were observed over time, analyzing all the agents involved in the process of conceptual, graphic and material production of the journal over the periods (director, publisher, influential authors, guest editors...). Of course, the students used an heterogeneous spectrum of graphic tools and forms of visualization. Despite this, it was possible to “map”, for instance, the presence of directors and members of the editorial boards over the periods analyzed (this is the case of the Italian magazine *Metron*). Another aim is to observe the changes in the composition of the editorial boards and the network of exchange between editors, authors, critics, professionals and bureaucrats involved in the production of journals.



4. Architectural Forum (1949-1956). Analysis of the projects' typologies.

Then an important part of the analysis was focused on the creation of an archive of digitalized images that included all the covers of the journals that we worked on, investigating the relationship

between texts and images. Covers are the graphic expression of the critical statement of the journals and is a precious source to investigate the circulation of ideas, offering an insight of the centrality of certain topics and discourses in specific moments and geographical frames. And these are diverse examples of analyses conducted on the covers of the Italian magazine *Casabella-Continuità*, the *JAIA*, or *Arquitectura*.

In some cases, students analyzed the layout of the cover and listed the images featured over the period. In other cases, they focused on the structure of the journal looking at specific sections,—like the editorials, themed sections and recurrent columns — or by observing and documenting the main changes over the period through simple graphic analysis. In other cases, they analyzed the advertisements, listing advertisers and analyzing the role that the advertiser had in the structure of the journal. In the case of post-war trade-commercial journals, advertisements were collected and indexed and in some cases we have the complete catalog of the advertisers, the kinds of product, and the firms involved. In the case of certain North-American and British periodicals, the analysis included also the journals' sections devoted to cartoons and comic strips, that enable a very interesting reflection about the public discourse on urban transformation undertaken over the period.

Students tried also to produce — and this I think is a part of the process that we have to re-frame — a synthesis of the contents, examined per single years. For the analysis, we considered four categories: national projects, international projects, national events (and here we include the publication of books, exhibitions, conferences and various types of meetings, and the opening of new university programs), critical statements and articles devoted to specific figures. These analyses were aimed at documenting the history of the journal over the period and was represented through multi-layered timelines that introduce new timeframes and underly the moments of major changes, often originating new narratives and offering a new insight on the historical moment and on its impact on the production of architectural and urban knowledge.

Another phase of the work move from the analysis of the different sections of the journal, observed in their changes and modifications over the period; and these are the forms of management, elaboration and visualization of the output of this analysis. As an example, I can show the diagrams and schemes

proposed by the team working on the issues of the Italian magazine *Metron* in the immediate post-war years: they used the title of different sections of the journal observing the roles occupied in the structure of the journal over the period.

This first quantitative part of the analysis of the contents, that include also the geo-localization of published projects and authors, was communicated also through bi-dimensional forms of visualization that adopted a plurality of diverse graphic tools and tentatives to represent through multi-layered time lines, pie charts, diagrams, histograms, maps, clouds and meta-clouds etc. All the analyses included an investigation based on typological analysis of the published -built- projects, conducted on the single years

These are different attempts to visualize the outcome of the analysis that prepared the ground for the investigation about the emergence, recurrence and fortune of specific types of buildings, after this preliminary process of survey. These two researches of students show, for instance, the analysis conducted on hospitals and schools documenting the recurrence of certain typologies and the emergence of a discourse on the design of health and educational buildings that took shape over the period, including the geo-localization of the featured projects in a map. In some other cases, teams tried to work on the recurrence of key-words and concepts and the frequencies of their use in specific case studies, adopting clouds as the tools to represent the outcome of a research that has been “tested” only on specific sections of the magazines and has not adopted softwares conceived for the textual analysis.

I would like to briefly focus on the use of maps that have been used with diverse purposes. On the one side maps have the aim to investigate the spatial distribution of featured projects and figures (already listed and geo-localized), analyzing first the situation year per year and then through a synthesis of the analysis. This observation is crucial to understand the centrality of certain geographies in precise historical moments and their variations over the period.

As an example, I can show the work conducted on *Casabella*, that through a series of maps show the projects published every year by the magazine (listed and analyzed year per year on the basis of the types of projects), built in the Italian, European and the extra-European contexts, while a synthesis over the period —from 1953 to 1962— is represented by this final map.

On the other hand, the maps have been used also as a powerful tool of analysis and representation, to investigate the trajectories of architects, authors, editors and contributors involved in the production of the magazine and their network of relations, the circulation and fortune of texts and projects and the mobility of ideas, opening up to certain concerns related to the study of the channels of transfer and the occasions of exchange. I show you a number of examples (among them the analysis conducted on the Indian magazine *Marg*), that try to document the presence and contribution of international authors, professionals and models in the Indian context over the period analyzed (1946-59).

So this was the overall methodology that we used to deconstruct and analyze the magazines, —organizing “groups of objects” and originating a data set— showing their potentialities as complex research and teaching material for architectural and urban history.

What we would like to create through this dynamic database?

We can position the research in the framework of a renewed interest for big data, which affected urban and architectural history in the last years. Treating periodicals as Big Data (forerunners of IT platforms), the project intends to create a digital collection —as an advanced research and teaching tool— that will continuously be improved in the future. The collected corpus of sources can allow the creation of data sets that can facilitate the cross-reading and, as I already mentioned, encourage the investigation of the aggregation of journals as systems. And this is the first step of the project that we would like to start.

The creation of the research structure can support new phases of the research in the future. The analytical and methodological tools can be applied to the investigation of other historical moments, using the collection of data and images.

One of the goals will therefore be to increase the complexity of the inquiry and to facilitate it by interweaving the analyses of the data, by moving from a 2D to multidimensional visualizations of the collected data that can allow dynamic representation of spatial and temporal evolution, leading to a subsequent phase of the investigation (mining, mapping, images converted in holograms, text narratives...). The dynamic database would allow to increase the number of outputs through diverse forms of intersection of the data, supporting thematic investigations that adopt a cross-cultural

perspective and producing new narratives on the origins, usage, transformation, fortune, circulation and impact of a set of notions and protagonists operating at global scale. The last goal would be to work in the future on the terminological mobility that crossed national, cultural, disciplinary and linguistic frontiers.

I am aware that what I brought here is an extremely fragmented and heterogeneous collection of data, that will be verified, integrated and implemented in the next years. At the moment the core of this corpus of periodicals is made of Italian and North-American journals, which have been observed on a relatively long period of their production.

The occasions to try to test in some way the use of this corpus of data arrived through a recent research experience that aimed to map, at various levels, the transfer of a spectrum of urban notions, visions, and concepts between America and Italy in the aftermath of WWII. I would like to come back to the idea that Andrea Urushima introduced yesterday about the importance of having Bi-lingual and Bi-cultural translations of terms, notions and models. The case of the Italian planning culture is very interesting because it shows in the incorporation and hybridization of a set of ideas transiting from North-America, not only a misunderstanding of the aims and values that originated certain North-American models, but also the instrumental use of certain imported notions, in order to legitimate undergoing programs, policies and planning decisions. This is, for instance, the history of the reception and revision of the concepts of “neighborhood”, “urban design”, “city region”, and a plurality of experiences that were incorporated into the discourses and the professional practice of planners and architects in Italy in the Post-War period, showing evident misunderstanding, and misreading of certain models.

Thus, starting from the investigation of the transatlantic exchange of urban notions, terms and visions in the 1950s and 1960s we tried to map the transfer of notions between two different cultures, working on a selected number of journals. We tried to examine and map the circulation and the fortune of two notions. In the first case the debate on urban design was observed through the analysis of the issues published by the *Journal of the American Institute of Architects*, between 1960 and 1965, working on the recurrence of the term, on the discourse on its definition, and on its impact on spatial forms

over the five years.

In the second case, the team documented the fortune of neighborhood as a dispositive in the post-war Italian architectural and planning culture (this exploration started with the organization of a seminar at the Politecnico di Milano in 2015, devoted to the multiple interpretations of this urban concept in diverse geopolitical contexts over the 20th century). The main aim was to map, through the analysis of post-war Italian magazines like *Metron*, the presence of the discourse on neighborhood in the Italian press in the immediate post-war years. They documented its various use in public housing projects, in planning policies, in academic circles and in the practice, showing an evident misunderstanding of the original aims of the concept.



5. Architectural Record, Analysis of the “Section_Comics”, 1959.

To conclude I bring an example of data visualization, that can possibly help to understand how a research on the circulation of figures, projects and notions can be addressed, and what is the impact of knowledge circulation on the production of architectural and urban knowledge. The reference that I want to propose is the research database/map “East Art Map. A Re-construction of the History of Contemporary Art in Eastern Europe 1945-2000”, developed by the artists of the IRWIN group in

Ljubljana and funded by the Slovenian Ministry of Culture. This project was developed in two moments. The first moment occurred in a tentative to propose for the first time a map produced through the contribution of 24 art curators, critics and artists that were asked to present ten important art projects from their country. This information was integrated into a map and aimed at showing the impact that these figures had in the process of construction of the Eastern European Art between 1945 and 2000. From this project a book was published by the MIT Press in 2006. Here the questions “who, where and when” framed the analysis of the process of circulation of figures and projects. The second moment, aimed at an objective analysis of the information and a democratic opening of these researches, made publicly available these maps and convert them into an internet open platform, through a process of participative map construction and through the contribution of visitors to the site that have the possibility to change the map by adding examples, projects and figures. This could be an example of how this treatment of a dynamic platform can work to investigate the exchange and transfer of models, figures and ideas.

Questions and Comments

(Hugo SEGAWA) Thank you Gaia. Some years ago, I had to read all the collection of the magazine *Arts & Architecture* to see how many times and which projects of Latin American architects were published in that magazine, because I had to write an article about this. It is interesting to see that there are some key words that recurrently appeared in this searching process, such as transnational, cross-breeding, cross-national, cross-cultural, circulation, and transfer. Thus, I am curious about the practical process of using a database created following the samples you showed. I was wondering, for example, how could we probably map the Latin-American presence through those magazines?

(Gaia CARAMELLINO) That is an important point and this is also why I decided to dedicate only a few sentences to the possibility to host on the platform multidimensional visualizations, even if this could be a useful tool to analyze architectural periodical press in an extended geographical context, crossing perspectives from different local traditions and working on the interrelation of figures, notions, projects and perspectives listed in a reference system. At the moment, the excel data set

and the archive of images was created working over single journals and allow a research on the list of the titles of all the articles (that include all the sections up to the advertisements), organizing groups of objects, according to an unusual way of cataloguing the information contained in magazines. So if the term “Latin America”, or the name of a Latin American architect or project, or the name of a place in Latin America is mentioned in the titles of articles of one of these sections it would be possible to identify them. But I think that this is still a very initial phase of the research. Our future aim will be to understand how to interrogate this data set, in order to analyze the circulation of authors, projects and ideas in different geographies and cultures. Until now we only worked on specific magazines but the interactions with the sciences of representing and processing information and knowledge can open up, from a methodological point of view, new critical perspectives in the research of 20th century architectural and urban history. However, I think that the search has to be “guided” by scholars and researchers. I’ll bring the example of the research on “urban design”, investigated not only through a search of the use of the term but also addressing the pre-history of the notion and its application through diverse design concepts. So, I also find it is still difficult to understand how a pure textual analysis can answer the questions of the research. However, if the aim is to understand when or where an architect or project is mentioned, that could be done quite easily through the complete indexing of all these journals. At the moment, I see the platform as a corpus of sources that can support and simplify the work of the researcher and allow further explorations in the future, but always dependent upon a critical operation of it.

(Hugo SEGAWA) For example, as a practical difficulty that I could identify in that process of research, almost all Latin American architecture will not be described by the word Latin America. So in *Arts & Architecture* I had to identify architects by name, from my own accumulated knowledge about Latin American architecture, or other’s architects by identifying the roots of a name, that could have a Spanish origin, but that could indicate a Spanish architect or a Mexican. So, if I did not know beforehand if it was a Spanish or Mexican, I would need to go through an even longer process of research. Thus, I think it is important to mention this kind of problem that might appear in the research process.

(Gaia CAMELLINO) I absolutely agree with you, and it will be fundamental to consider this kind of questions. I think there are some innovative aspects in this type of digital collection, comparing to other available database: the first is that in this case the work of indexing included all the sections of the journal, analyzing parts that were never taken in consideration in other database. Moreover the intersection of data set of texts and the archive of images can produce diverse types of information. Also we must remember that the work produced by students need to be verified and integrated in a quite systematic way in order to move from an educational experience to the format of a research project.

(Ana TOSTOES) Gaia, congratulations. I think it is a fantastic huge project, and I think everybody was impressed that you could do this work with the students. And I would also like to thank Hugo Segawa, because he was a pioneering in this kind of research concerning Latin America. I would like to mention that there was a publication in 2010, on our conference in Mexico of Docomomo and also in Pamplona, when the Navarra University made a seminar also addressing the research over journals and the circulation of knowledge. And I think there are a lot of inputs on these issues and this kind of research challenges, that we would love to have someone or a group of digital people able to help us to put this into clear and quantitative ways, and in very clear and simple databases. Myself I started my surveys in the end of the 1980s, when I tried to bring to the front the Postwar architecture in Portugal that was not recognized at the time. The first thing I did was to analyze one entire year of journals including the advertisement sections and all other sections. My question now, because we could spend a week here discussing such a stimulating topic, is that I think I understood your difficulty to select the journals to include and the journals to avoid, however when choosing the journals, did you choose it by the importance you think they have for your final goal which was to relate Italy and the USA? I mean, and allow me to be very Portuguese, is there any journal published in Portuguese? It is not because of Portugal, but it is because of the language. What I want to address is the cultural question because you might know that there are languages which are very strong in the world. You know that I have been doing research in former Portuguese colonies in Africa and we can see a very strong

cultural relationship also with Brazil, Colombia, Mexico, or Spain. So there is a kind of an Iberian American culture, something beyond the latin that could be important. For instance, to understand the importance of Brazil, it is also important to look at the Portuguese journals where the Brazilian architecture was largely published. To give you an example, the architecture of Carlo Scarpa was first published in the world in a Portuguese journal, in *Architecture*, a journal published from the 1930s to the 1980s during a long period. And this circulation of knowledge occurred in tight relation with Spain, Mexico and Colombia. So, when you choose the journals is it oriented towards building a worldwide vision that aims to relate Italy to North America?

(Gaia CAMELLINO) You are mentioning a crucial point. Since this seminar has been developed as an educational project conducted with international students, we decided to leave the groups of students free to choose the case studies, if they had the linguistic skills to work on the journals that they wanted to analyze. So, the only journal we were able to analyze in the Portuguese linguistic area was *Acropole* and I guess the reason why they were able to work on that journal was because it is available as an open source digital database coordinated by Hugo Segawa at Sao Paulo University. However, I think that the potentialities of the data collection can be better tested focusing on a precise timeframe and geographical context, as we did in the case of the investigation of the exchange between post-war Italian and North-American journals. Nevertheless, I found very fascinating, since the beginning, the possibility to investigate also less-explored cases, like journals published in non-Western contexts, that provide an interesting ground for the cross-reading of the magazines, to observe the circulation of concepts, models and ideas. The study of these journals allowed to revise certain official narratives, that still have their geographical focus on Western countries and culture and contributed to establish consolidated chronology. Through the cross-reading of the analytical works conducted on this spectrum of magazines and through the study of this network of worldwide relations, it is possible to see that certain canonic narratives can be partially revised and discussed. For instance, it is interesting to observe the changing network of international relations and set of references between the 1950s and 1960s. We strongly encourage the teams working on these journals to

pay a particular attention to the foreign influences and international exchanges, in order to understand how the models and references have been received and hybridized at the local level.

(Ana TOSTOES) If you allow me to finish, I believe Ernesto Nathan Rogers, with his project for *Casa Bella Continuita*, was also very important in Portugal and heavily published there. And he was also in some way part of a group that stood against Oscar Niemeyer and the wave of Brazilian modernism. You could link this, finally, with the other side, with the Eastern European countries, the socialist European architects and Niemeyer. It would be extremely interesting to see how Niemeyer was recaptured in the socialist world. And also it would be interesting to understand why the Italians with Rogers and the CIAMs attempted to give this kind of continuity by using networks and references from the USA and not so much from the UK.

(Gaia CARAMELLINO) It is true that also through this initial survey of post-war Italian and North-American journals, it is possible to enrich the already well-known map of transatlantic relations and professional, institutional and academic networks of exchange (I can just mention the role of Bruno Zevi, but also the presence of figures like Ludovico Quaroni and Ernesto Nathan Rogers in MIT and Harvard during the 1950s). However this survey shows that the “map” of the circulation of figures and texts is definitely more complex and still has to be investigated, also paying attention to less-documented authors and professionals. Our idea would be in the next years to develop this educational project and to create a research structure to convert this experience into a research program. Andrea suggested to consider the idea to start by establishing an international network of research projects.

Comment

Ana TOSTOES

DOCOMOMO / University of Tokyo / University of Lisbon



I would like to present some aspects of the work we are now developing related to South Asia and an example from Cambodia. So very briefly I would like to show this map once again, these are the DOCOMOMO charters in the world, and what I think that is interesting to show are these digital virtual exhibitions which are available which is an application for iPhones and smartphones and so on (Fig.1). And so you can choose the place of the world, you can click and then you'll arrive to this kind of simple page (Fig.2). And the main goal is to address common people and not just researchers or architects, and it has been really a success and is very easy to use it. You may see what is happening in Japan in terms of modern movement. And very briefly just to show you the Brazilian influence (Fig.3). It is very very important in Africa, in the Portuguese speaking countries. But the Brazilian influences also very important in India and South Africa, which we can also see in all this mapping that Gaia showed very briefly concerning the Indian connections, e.g. Otto Koenigsberger.

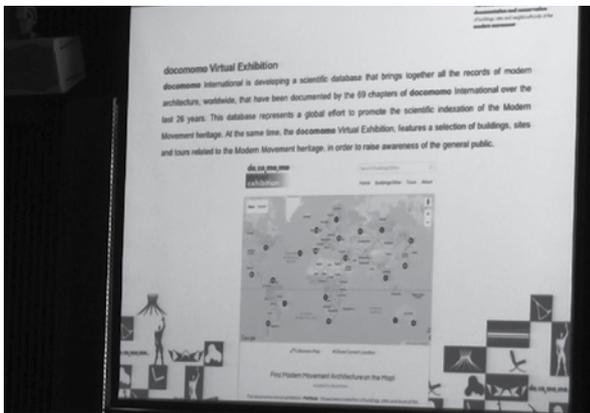


Fig.1 Virtual Exhibition from the DOCOMOMO website

We made a kind of excel and database with all of our 600 places identified there (Fig.4). We re-draw the ones we were able to: open air cinemas, it is an incredible recent huge project that the institute made in Angola with a very beautiful book just about open air cinemas. Amazing this kind of typology: schools also just to give an idea. And I finished. Very very quickly.



Fig.2 Virtual Exhibition sample contents' page from the DOCOMOMO website

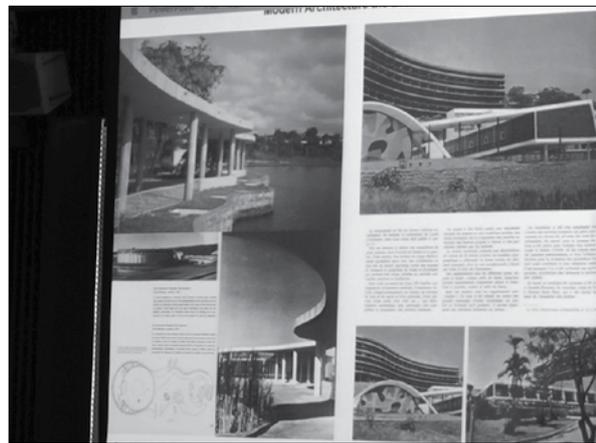


Fig.3 Modern architecture Brazilian influence

So some comments on Kyota Yamada, where are you? Thank you for sharing your research with us the kitchen is a question and the fire and perhaps the water I don't know but I appreciated very much your research, your drawings and all of this. And also thanks to you it is possible to realize that words are really important: that words matter and words finally dwell in the culture of places. So this become really important for when we are doing sur-

veys for us to understand that when we are doing research of places we should really understand the culture and how people express and how people communicate. So I believe you made a huge work with local dwellers in order to understand the management of this transition process.

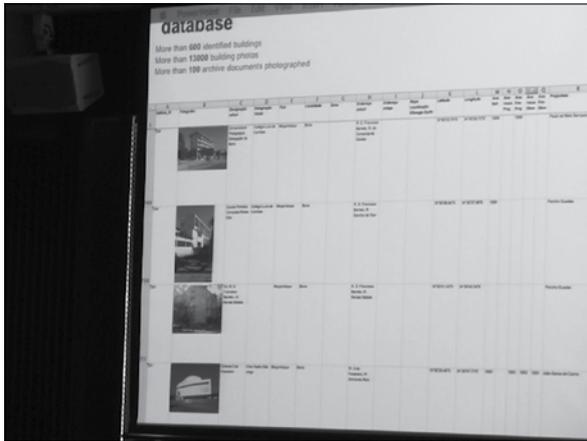


Fig.4 DOCOMOMO Database of modern architecture

Gaia also had a fantastic work, also as an educational work, it serves to show students that it is important to understand the sources and from where can knowledge come. Of course, she is Italian, and in western countries she is the queen of “trataística”. But in fact we realize, that it is important for the East and Asia in general terms to learn more about how the knowledge of classical architecture traveled the world from Italy to other places, starting with Vitruvius and all the others. It is very interesting for instance to understand why Palladio was so impressive and so strong in Nordic countries and in the UK for instance, and then there are other guys who were very important in the Iberian Peninsula, because this is the way how architecture in a way developed. And it is very interesting to observe more about Asia. I think that in Asia the first influences are much more Anglo-Saxon. So, the influence arrives here in the XIX century with the modernization. So, I think that this work and the organizing of this data in order to spread updated information. This updated information has to do with 2017 and 2018, 2019 and 2020 so we are talking about Post-Colonial era, we are talking about gender, new issues, new discussions, are on this data and also the discussion of Post-Modern condition or working in process modernization. It is really very interesting.

An I think that nowadays it is impossible to work without databases and digital supports. For instance, to create that digital exhibition we need-

ed a very good informatician and the we worked with one of the top researchers in physics, but we managed to bring him to help us in making this database.).

Now it is time to make the routes of this knowledge turn more around the world. Hugo has this huge work on Latin-America, Pamplona has also a great work too; and several of my colleagues at Nova University are also conducting this type of research.

And for my conclusion I would like to say that our work is really a really scientific one. Because everyone doubts about which kind of research is done in architectural field, but I always say that it is scientific research and perhaps even more scientific than some other highly recognized fields and these digital tools are absolutely vital for our work.

Comment

Pedro BRANCANTE

Embassy of Brazil in Tokyo



This short presentation is part of an exercise we are doing at the Embassy of Brazil in Tokyo to revise and report on the architecture-related cultural activities we have been putting in place in the last few years. As Andrea said, unfortunately, at the last minute the Ambassador could not come. I am not an Ambassador and I am not an architectural critic as he is, and his comment would certainly be of great interest to this audience, but I hope you will bear with me.

I am the head of cultural affairs at the Embassy and a historian by training. I did some research on urban planning for my master degree, related to Muslim immigration to France in the second half of the XX century. As you all know, the social housing issue has been at the heart of the debates on assimilation and segregation of migrant communities in Europe (and elsewhere).

My job at the embassy is to promote Brazilian culture in Japan, by promoting collaboration and the establishment of ties between Brazilian and Japanese artists and cultural institutions. The main challenge is to diversify and update the current perception on what Brazil is, how Brazilians live and what sort of culture and lifestyle is unique to the country. Japan loves many aspects of the Brazilian culture, notably, music, with Bossa Nova, and many other well known aspects of Brazil, like the passion for football; carnival; nature and the Amazon etc. All of those are genuine features of Brazil and there is a very sympathetic view in general, but it is somehow a very limited understanding of what the Brazilian culture is. This is a common phenomenon happening not only for Brazil in Japan, but for many foreign cultures in different countries (the

same is true for Japan in Brazil). Even today in a hyper connected world the reality is that people still tend to have a very shortsighted vision and knowledge about other cultures.

So one of our main objectives is to establish long lasting partnerships between cultural institutions in Brazil and in Japan aiming that one day our work will become redundant, that there will be no need for cultural offices in Embassies because the artists and cultural institutions themselves will do this job in much better ways.

What we do concretely is to organize exhibitions, concerts and cultural events both at the embassy space and in other venues in Japan. We also share information about events related to Brazilian culture that are taking place in Japan, but which are not directly organized by the embassy. In the last 3 years we put together a broad range of artistic and cultural expressions. This graffiti is in the embassy façade and it was made by a famous Brazilian street artist, Eduardo Kobra (Fig.1). This other image is an open air concert to celebrate in Japan the 100 years of samba. It is very unusual to have open air concerts in Japan, but in Brazil it is a very important feature of our culture and we tried hard to organize this festival in a public space in Tokyo. It might look like a small detail (doing it in a open air format), but it features what we want to show: everyone knows about Brazilian music, but they are listening to it inside a club, and in Brazil we live music everywhere, and we specially enjoy it outdoors. Sometimes we mix everything up and this is a graffiti and music event in front of the embassy, where you are all invited to join if you come to Tokyo.



Fig.1 The graffiti by Eduardo Kobra

Now getting to architecture: through architecture it is possible to show one of the major aspects of what we call Brazilian lifestyle. And this is a concept that we want to promote more. We realized that the modern Brazilian architecture and its masters like Oscar Niemeyer were known by architects and scholars but are mostly unknown by the general public. Maybe people have heard about him but they do not identify him with buildings, with thoughts, specific movements, specific concepts and aesthetics and we went through some basic research about what has happened in relation to the Brazilian architecture in Japan. It was very disappointing to learn that for the last decades we have had very few shows or events related to Brazilian architecture in Japan.

There was mainly one exhibition about Oscar Niemeyer in 1996 at the Toto Gallery which is a very good space dedicated to architecture in Tokyo, but a small one. The exhibition was very good, but had a small impact for the general public. It was still concentrated on the specialized public.

We then decided to organize more architectural exhibitions, and we brought up three major ones. This image is from the first, dedicated to Oscar Niemeyer, since he was the major figure in Brazilian Modern architecture (Fig.2). We teamed up with the Museum of Contemporary Art, Tokyo, and the Niemeyer Foundation, to produce the first-ever large scale exhibition about his work in Asia.

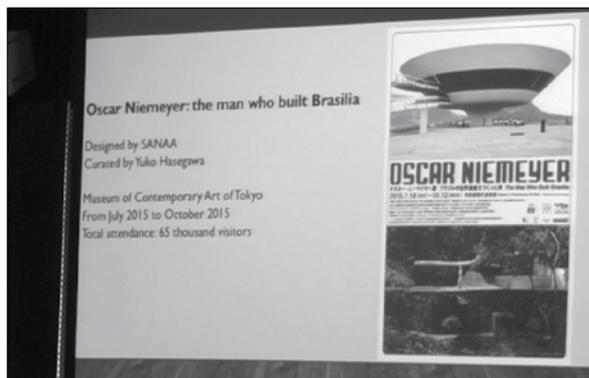


Fig.2 The exhibition of Oscar Niemeyer

One thing that we are always concerned with is how to show Brazil in a way that the Japanese public will relate to it. Because we do not want to come and tell stories that will overdose people with information. We want people to feel comfortable and attached to it, to have an experience of the Brazilian culture while enjoying it and having a good time.

You can see in this short video (2minutes) about the Niemeyer Show in the Museum of Contempo-

rary Art of Tokyo what I'm talking about. Basically as a first ever show in Asia it becomes necessary to go through all of his vast work in a more or less chronological way, highlighting his main works. At the beginning we included very simple presentations with good pictures and good models, and all the models were built in Japan by an amazing architect called Noguchi Naoto. We decided to insert some of the monumentality of Niemeyer's work so this is an almost four meters high model of the Brasília Cathedral. It was very impressive, people could walk around it and really have the feeling of the presence of the building due to the scale of the model. You can see some original drawings; the next room is the most important one: in this 500 square meters room the exhibition designers, the architects Sejima Kazuyo and Nishizawa Ryue from SANAA and the curator Hasegawa Yuko decide to create this giant model of Ibirapuera park, in São Paulo, which features many building by Niemeyer.

In every project that we do, we try to have very good Japanese artists and intellectuals collaborating, curating or translating the Brazilian architecture or the Brazilian arts to the Japanese public. It is a way to establish a better connection between the public and the exhibition contents.

People might question why we did not invite a Brazilian curator to do the exhibition, but we thought it was very important to work with Japanese curators and designers so that they can translate Niemeyer's work over the XX century to current Japanese public, specially the young. For example, in this room people can experience a Niemeyer building and feel cozy, thus it is very important to take your shoes off. In Brazil it is basically the opposite, if people take their shoes off in an exhibition they will get embarrassed, not like it and probably gonna have a bad time. But here in Japan we really dive into a more sensorial experience because you normally take your shoes off. That is true even for restaurants and everywhere else. For this model of the Ibirapuera Park we printed high-resolution google earth images in the carpet as in an aerial view of the park, then you have the models built over it, and people could walk, lay down on the floor, read a book – just as if they were in the real Ibirapuera park! (Fig.3)

The exhibition was visited by 65 thousands people between July and October 2015, it was a record breaking number of visitors for architecture and design related shows in the Museum of Contemporary Art, Tokyo.



Fig.3 The model of the Ibirapuera Park

Then we had the exhibition on Lina Bo Bardi in a smaller but great contemporary art Museum in Tokyo, the Watari-um. I was, though, a much more artistic exhibition again with the collaboration of Sejima Kazuyo and the museum curator Watari Etsuko. This exhibition has been touring universities in southern Japan since it finished in March 2016. It actually came to Kyoto for a very short period at the Kyoto Art and Design University, to Nagoya and it is now in Okayama. These are some pictures of the exhibition.

The most recent one was about Paulo Mendes da Rocha, this one not so artistic, it's more like a pure architecture exhibition, that happened at the GA Gallery (Tokyo). I selected this image to show the importance of this type of activity: this is the Brazilian pavilion at the Osaka 70 Expo; it was designed by Paulo Mendes da Rocha, he had won a national competition and came to Japan to build it. At that time it was a very impressive pavilion and Paulo stayed in Japan for a month and a half. There were some videos at the exhibition talking about this experience and how this dialogue between his work and Japanese construction companies was interesting for his career. But also it is part of a historical recovery, because this is the first time that a model of that building was ever done after the original one. And this happened at the same time that he won the Praemium Imperiale, which is the most prestigious award in architecture in Japan. While preparing for this exhibition he was also awarded the Venice Biennale Golden Lion. Later he was announced to receive this year's RIBA Award, that together with his Pritzker Prize received a few years before, this collection of prizes made him one of the three most prized architects in the world, the other two being Rem Koolhaas and Alvaro Siza.

We were impressed because he is now one of the most prized architects in the world, but frankly

speaking very few people know about him in Japan. He is still alive and active, but talking to his office during the preparation for this exhibition his assistants were saying something related to the work that prof. Maluenda and Caramelino are doing. They said the first ever monograph produced about Mendes da Rocha outside of Brazil was published in the 1980s. At that time he was already almost 60 years old. He has done most of his interesting works in Brazil and he is still pretty much a very national architect somehow. He has been recognized and highly recognized in Brazilian architecture academic environment but there was a general lack of international recognition. And there are many theories about why this happened but the question is, as prof. Segawa was saying that there was and there is a general lack of publications. And this is also relevant in the discussion related to the creation of databases etc... But nowadays not only we have much more information available, but also we have better ways to show it and an expedite knowledge about what has been done elsewhere around the world. So to finalize this talk I would like to announce that we are now preparing a fourth one starting in May at Archi-Depot Museum about Brazilian modern architecture, reuniting the models from the three previous exhibitions.

In the future we have plans to show other architects also, but we are now discussing the idea to make this material digitalized and make it available to the public because it was tailor made for the Japanese public. We have all the texts and information in Japanese and this is not common. We are having discussions on how to do it. Basically there are three main challenges: first it was not meant from the beginning to become digital, there are some blind spots in order to really make it like a virtual exhibition that you can run through. The second challenge, the resources for culture in Brazil were never high and specially now it is getting harder and harder to find funds to do it. Moreover, there is a resistance from the part of institutions that fund cultural activities for funding online or database type of projects because normally culture used to be presented in a more physical way and that is a relevant challenge. And the third one is something we've been discussing from sometime now in this symposium that is how to make people actually make use of these digital databases and digital exhibitions, in a context when you have too much information available online and so many sources that can be consulted through your smartphone.

Final Discussion

(Andrea URUSHIMA) Now it is difficult because we had so many different types of presentations during these two days but the idea of this symposium was to delineate a panorama of what is possible to do when we cross disciplinary borders. But not only! Of course there was also the challenging effort to put together different regions to dialogue. And this kind of dialogue becomes possible exactly because nowadays we have new types of technical support and tools. As Pedro Brancante was saying, this was the first time that Oscar Niemeyer was ever exhibited in Asia. This has an important meaning because it shows that indeed the exchange between Brazil and Asia is still extremely limited.

In Brazil there is a tendency towards looking a lot on transatlantic exchanges but very few people will do the effort to look at the transpacific exchanges, and this is a new route of knowledge production that I believe is really important to develop and think about in the future. Because we know that most of the Japanese researchers in history and theory of architecture or urban planning, have mostly focused on Asia. Which is understandable. I mean, we have most of the Brazilians researching about Latin-America, we have Italians or other Europeans researching about Europe and then we have Japanese researching in Asia. But the point here is to debate are there means that could facilitate in exchanging further? In amplifying? This is a bit of the challenge we have tried to propose here.

(Ana TOSTOES) Allow me to interrupt you because here, you know I am staying in Tokyo University and I have lectured about Brazil, Portugal, Africa and Japan.

(Andrea URUSHIMA) This is a new trend that Japanese universities are now trying to reinforce. There is now in Japanese universities this interest “to internationalize”. But still it is rare to find Japanese researchers who do research about regions outside Asia, Europe and North America. But I know that there is the linguistic problem always. I know from my experience that is hard to bring some Brazilian scholars who have an excellent research inside Brazil, but they are reluctant to use

English. I know that doing things in another language requires more time and energy. Hugo Segawa is great, he can speak many languages, even a little bit of Japanese, but it is not so common. And it happens the same with Japanese scholars, not all of them are willing to spend this amount of time and energy to do research about other regions. So the idea of developing digital tools is connected also to the idea of facilitating research at the larger scale in order to allow the world to become more accessible. So by keeping this in mind I would like to open the discussion now.

(Kristof CROLLA) Thank you. I am a bit out of my comfort zone in terms of research but I enjoyed the presentations this morning and I have a question related a bit with Gaia’s presentation and picking on the VR presentation that we saw last night. If we look at the contemporary media and how these are becoming transnational very quickly, as things can go viral across the borders, even and often if it is only image based, without any text since it is only image based, which is not specific to any language, they can migrate from platform to platform. Through that image basis the impacts of an image can be much quicker and much bigger than the impact of texts. How do you think the historical research and the type of work that is happening nowadays, how do you think is it going to fundamentally change with that? Because as part of it we will have a flattening of the reasoning behind it, of the theories that are written down and the fact that words become second tier because of their viral nature. Which is very different from the work you were doing back in time. The few things that were printed before photograph they became the basis for a lot of the dialogues that is happening even nowadays. How do you think this will change in the next moment?

(Gaia CARAMELLINO) That is one of the reasons why we decided to frame this chronology, because of course the research practice needs to work with this. We are collaborating, and maybe it will become interesting, with other two small other projects in the Politecnico di Milano one has only

a focus on journals immediately before and after 1989 to observe the transition in the Post-Socialist Eastern European Journals, and it has a totally different way to approach the theme. If we look at the contemporary production it is quite interesting to see that in many of these platforms sometimes the text basically disappears. You have an entire platform that strongly focuses on the autonomy of the theory which heavily contrasts to the practice in architecture where the image is the starting point for the construction of narratives. So to work on critical statements in this case can be quite difficult. What I saw as few examples of projects that try to observe different platforms in this moment are really catalogues of a series of data which I think is very difficult to work with. It is totally different from the idea of carrying on a transnational or international dimension to the knowledge production. So I never worked on these, but I think that a research project would be totally different it would need another kind of perspective. I am thinking of researches that map contemporary platforms, such as blogs and websites of architecture, but I don't know if there are researches about these. It would be interesting to have a research on it.

(Ana TOSTOES) I must ask my students to do it. I already started on.

(Kristof CROLLA) For example, *ArchDaily* has its international websites, and I think that they have created a specific China page and a Brazilian page. And I think it could be very interesting to see how they are different, how they are specifically oriented to, how the contents are communicated and which projects make to the borders.

(Gaia CARAMELLINO) What could also be very interesting I think in this research about the press is not necessarily just to look at the specialized press, but also the role of architecture in the non specialized press. We invited for a series of lectures, Cathleen McGuigan, who is the editor of the *Architectural Record* right now and it was very interesting to see that she was before, for more than 20 years, in the *Newsweek* curating the section in architecture and then she became director of *Architectural Record*. So the space of architecture was so limited in the *Newsweek*, that it was interesting to know about the strategies of selection in North America for foreign experiences to legitimate the undergoing discourses. So I think that an observation larger

than just architecture in specialized press would be very of contemporary interest.

(Hugo SEGAWA) I came to Japan 10 years ago for my first experience as lecturer at the Tokyo University of Science, it was my first experience as a latin-american in Japan, although I have this face features that look so Asiatic, and I went to an old book store where they had a display showing old books and one of these books was Papadakis on Oscar Niemeyer in Japanese. A book of 1952, before Kitagawa, so there is a kind of connection but we don't know why or what it was. We must do a self-criticism as academics, because we are always looking at ourselves. That is a difficult thing to do: to face this fact. I am around latin america, but in Brazil most of the people look at Brazil, and my colleagues at the faculty of architecture are mostly looking at Sao Paulo. So this is a big difficulty, we tend to always specialize more and more to the point that we are looking with a microscope. Not with big lens. The scaling in academia is a challenge, and yesterday prof. Okabe was discussing about scales. We tend to become very specialized people looking with microscopes to subjects. And to have this scope of transnational, transcultural and cross-cultural maybe is very difficult, and sometimes in turning to this transnational scale of research funding becomes very difficult. And budget is a central point here, all people who presented since yesterday they have mentioned the limitations imposed by budget. So there is a gap between this cross-cultural and transnational way to analyze the world and local resources or budgets. And now we are entering a very confusing moment: we have Brexit, we have Trump, we have a rise of nationalistic points of view, and the world is once again becoming provincial countries or places, without interest for what is happening outside one's neighbourhood. And maybe DOCOMOMO and other institutions can be places to open our eyes. I found it enlightening to see the presentations that try to bring this international scope, and perhaps we can apply, for example, Ana's methodology to research about the circulation of knowledge about Latin America in international reviews. I learnt a lot from your presentations, and I also enjoyed the presentation about Sri Lanka, where he demonstrates this effort to really understand and approximate to a different culture, which is absolutely different from mine. How do you look to this culture? And perhaps I could try to do the same when trying to look

at Latin America. I would love to have access to a database on Southeast Asia, and try to figure out how my research group could learn from that. We have been talking a lot about networks and how they can help the learning from each other.

(Akiko OKABE) I enjoyed a lot these two days of transpacific exchange in transpacific discussions! I heard Hugo, Ana and Gaia's presentation which are on the side of the providers of database. And I would like to comment from the side of users of database. You are providing information in databases in a systematic way. At the same way, as users of information technology we can access information without having a necessarily systematic approach. For example, we search the word museum in Google, and will come out several different museums from across the world. That is the users side approach. As we are talking about information technology here I think it is important to receive the feedback from the user side. Hugo was discussing about budgets, and as a provider the budget is quite important. But now with information technologies we have a lot of possibilities to provide databases without budgets. In these two days, we had discussions about informal settlements, about informalities. There is a book titled *Globalization from below*, maybe you have heard about that. And this informality is something without a frontier. There is no systematic order and it is globalized. I think we can learn a lot on how we can provide information from these informalities. And these informalities are directly connected to these information technologies at the same time. Maybe this is a comment I can give as a researcher of informality and as a user of database.

(Gaia CARAMELLINO) What I think about the limits of budget, and the fact that in our field, let us say architectural history, I can see that these limits to transnational studies are harder to break in our field. Because I see the emergence in many other fields of this global observation, or the tentative to trace experiences that are not looking at the national experiences or single figures, but the emergence and fortune of certain discourses observed at the wider scale. I think that histories of architecture still remain a collection of national experiences or related to single figures. Maybe I am dreaming, I don't know. But the idea would be to write a history, to understand a history that is born from this transnational perspective and which is not focused on the

analysis of these single contexts. Maybe the observation of this kind of database can be the source to look at the sources, emergences, the chronological gaps, on the apparition of certain discourses in a plurality of different contexts. In particular, in architectural history, there is a large gap, compared to urban studies and other perspectives.

(Ana TOSTOES) Very quickly just to say that in the last DOCOMOMO conference, that is why we made the effort to make one thousand pages of proceedings and we made it into an ebook. And we are really doing incredible efforts with not so much money. We are very lucky because we are in the midst of a digital revolution, we can speak to each other even if we cannot use proper English, but we can communicate, and this is fantastic.

(Hugo SEGAWA) Why do we organize a three national joint research group? Because we Brazilians would like to understand what is Latin America in a way that Brazilians understand it. And the Colombians also want to understand what is Latin America from their point of view. But not from a distant point of view, we would like to merge our different point of views and reach to a common definition. That is why it is important to create multinational research groups.

(Ana TOSTOES) Don't call this a multinational research it is better to call it multicultural then!

(Andrea URUSHIMA) Yes, culture has no frontiers, you are right Ana!

‘ArchiteXt Mining’ project: Developments and Adjustments since the 2017 Symposium in Kyoto

Ana ESTEBAN-MALUENDA¹

Technical University of Madrid

Luis SAN PABLO MORENO²

ArchiteXt Mining Project (MINECO-ERDF)

Francisco FERNÁNDEZ RODRÍGUEZ³

ArchiteXt Mining Project (MINECO-ERDF)

Abstract

A little less than a year ago, we went to Kyoto to present the ‘ArchiteXt Mining’ project in the International Symposium ‘Architectural and Planning Cultures across Regions. Digital Humanities Collaboration Towards Knowledge Integration’, organized by the Center for Integrated Area Studies of the Kyoto University. We lived a few intense days in which we were able not only to explain our work and listen to the doubts and suggestions that it provoked, but also to listen to the presentations of other interesting works, with different approaches from ours and always oriented to the improvement of humanities studies.

In December 2017, we had another opportunity to expose our research in another seminar organized by the Dipartimento di Architettura e Studi Urbani of the Politecnico di Milano under the title ‘Mapping visions, discourses and theories. Journals as platform for architectural and urban Knowledge. A network of projects’. There we presented the project again, adding some of the adjustments we had made since Kyoto.

This paper aims to relate some of the reflections – and the consequent changes or improvements - that have derived from these meetings and the acquired experience from the last year. First of all, a more technical approach than the one carried on the encounters and the final definition of the methodology that is being used to calculate the similarity between texts will be described. After that, it will be developed a reflection that intends to deepen some of the main questions that were formulated in both meetings. As a final point, it will be shown the advances we have done in order to establish the basic structure of the website that will host the definitive online tool.

Keywords: Architectural Periodicals, Text Mining, Spanish Modern Architecture, Data Analysis.

‘ArchiteXt Mining. Spanish modern architecture through its texts (1939-1975)’ is a research project funded by the Government of Spain through the 2015 Call for ‘Excellence Projects’ of the Ministry of Economy and Competitiveness. ArchiteXt Mining started in 2016 and is scheduled to be completed by the end of 2018, although a one-year extension may be requested if we needed.

This project aims to explore a new viewpoint and look into the special features of Spanish modern architecture. Despite the success of the development of data analysis as a tool in different disciplines, the research on architectural theory has never made an efficient use of these technologies. The Spanish and international circumstances of the development of the Modern Architecture has been scrutinized through qualitative research which established a shared theoretical ground. It is time to face a new in-depth research based on the collection and analysis of objective data. In order to ob-

tain this, we propose the application of text mining techniques to take advantage of the best data source in the field: architectural magazines.

Most of the scholars from the field of architectural history resort to magazines as a relevant source for research. But we continue to do it exactly as we did fifty years ago, that is, we go to the archives and revise page by page every issue in search of data. In the last few decades hundreds of partial indexes have been created in which the basic bibliographic data of the main articles are included, but they are incomplete and do not usually contain data referring to smaller sections, like the ‘news’ or ‘letters’. In any case, the vast amount of informa-

1. Tenured Associate Professor. Universidad Politécnica de Madrid (Spain). Principal investigator. ArchiteXt Mining project.

2. Data Scientist. BNP Paribas Spain. Data Scientist. ArchiteXt Mining project.

3. Data Scientist. BNP Paribas Spain. Data Scientist. ArchiteXt Mining project.

tion they contain makes them incomprehensible to the human mind. We need to develop better methods of collection and analysis of data, and there is a way to transform that enormous ‘database’ into a readable format that will allow machines to support us in assimilating everything they have.

ArchiteXt Mining (that is the acronym of Architectural Text Mining) proposes to use the most advanced techniques of data analysis for the creation of a new tool. This facilitates the work of all the researchers who use architectural magazines as a source of information. The current computer engineering possibilities allow us to raise something that was impossible up until now: to perform a global analysis of the contents of architectural magazines. We aim at creating a powerful database hosted in a public website accessible for the global scientific community. In this context, this project fulfills some e-Research objectives:

- An increase in the computerization degree of research processes, taking advantage of networking. In this way, the collaboration among researchers will increase not only from within a national sphere, but also internationally, through the implementation of a collaborative environment that will provide information to users while they will provide feedback through their proposals and their particular searches.

- The development of a tool that support every stage of the research process, from the data gathering, its processing and analysis, to the dissemination of the results.

- And what is of no less importance: the use of information visualization tools that give meaning to the large volumes of data that will be managed.

As a first step, this project focuses on the Spanish case as a pilot experience that foresees to reach a larger worldwide scale of research. In particular, this stage begins with the Spanish architecture magazines published during the dictatorship period (1939-1975). The Spanish architecture and its media are a well-known research field for the project team. Therefore, the evolution and the changes that the architecture and the architectural thought have passed throughout the decades that Francisco Franco ruled provide immense possibilities for contrasting the first and last moments of the studied period.

Regarding the magazines, we have already digitized the journals of the Institute of Architects of Madrid (*Revista Nacional de Arquitectura and Arquitectura*) and the one of the Institute of Architects of Barcelona (*Cuadernos de Arquitectura*). Apart

from these, we proposed to complete this material with other important Spanish periodicals, like *Hogar y Arquitectura* and *Nueva Forma*. The initial aim was also to scan and digitize some European periodicals: *L’Architecture d’Aujourd’hui* (from France), *The Architectural Review*, *Architectural Design* (from Great Britain), and *Domus* and *Casabella* (from Italy). But due to the reduced budget of the project –compared to what we have applied for– these European sources will not be included in the first phase. Following budgetary definitions, we will only focus on the journals of the institutes of architects of Madrid and Barcelona. Despite this obligatory and drastic reduction, we believe that these sources will allow to cover a reasonably complete framework of the Spanish architectural panorama of the time.

With the general objective to develop new research methods for the architectural studies, this project aims at creating a database of the modern architecture information published in the Spanish media, open to the academic sphere that exceeds the traditional bibliographic data and contents additional values. This biblio-thematic database follows an initial classification according to the traditional formula, done by the members of the research group. However, it provides a lot of information that is not included in traditional bibliographic indexes. In addition to the bibliographic data of the text (title, author, journal, issue, year and pages), we have been recording another important data in terms of the text type (article, review, new...), a brief description of its topic, the description of the section where the text is included, data about the building, personality or event that is dedicated to, and so on. Getting access to this information is already a big step forward and provides the researchers a powerful tool to engage in the first quantitative analysis and searches that would help them to begin their studies. In this moment, we have four people engaged in the process of building the biblio-thematic database: two undergraduate students, who are writing down the data as well as doing all the digitalization and the processing related to the optical character recognition work, and two PhD junior researchers, who validate and review their work. The columns of data entry in the database have been created by the eight senior researchers of the project. They are professors affiliated to four Spanish universities: Universidad Politécnica de Madrid, Universidad de Salamanca, Universidad de Navarra and Universidad de Alicante. Besides

them, the research team includes also a professor of Politecnico di Milano, expert in architectural periodicals.

Just with the creation of this database, the project has been justified. But, in addition we aim to bring additional values. Here is where the text mining techniques come into play to apply different statistics techniques, and to obtain another kind of information from all the texts stored in our database. To do this, we count with two data scientists who are testing the possibilities of application of text mining techniques over the data collected at this database.

ArchiteXt Mining methodologies

Envisaging the automatization of printed text requires several steps of preparation. Generally, scanning physical documents is one of the most difficult tasks that we have to face. Magazines are stored in libraries and archives and we need to work right there in order to obtain the digitalized material that will become our final source of data.

In order to get a high-quality scanning of documents, periodicals, and magazines, specific scanner devices are required. For that, this project is counting with the support of the Library of the School of Architecture of the Universidad Politécnica de Madrid (ETSA-UPM). On the one hand, the ETSA-UPM Library maintains the collection of all the issues of the main Spanish architectural periodicals, but, in addition, they allow us to use their professional scanner to engage in the digitalization of materials. This device is a Metis EDS Alpha which provides us with superior quality images, easier use and high productivity (about 30 full scans per minute). This has allowed us to store the entire scanned collections of the following three magazines: *Revista Nacional de Arquitectura* (from 1941 to 1958, issues 1-204), *Arquitectura* (from 1959 to 1975, issues 1-197) and *Cuadernos de Arquitectura* (from 1944 to 1975, issues 1-111).

On the other hand, we have started the process of optical recognition character of every text with the Abby Finereader 14 software, that allow us for the automation of the digitalization process. In short, with the digitalization of the periodicals and the processing of optical character recognition we have obtained a significant extra for our bibliographic database, one important more step to be differentiated from the traditional ones. Once we have this material in an electronic format (txt, doc, rtf...) we will become able to compute this data.

The first task is to obtain the so-called DNA of the different texts and automatize our work with them. A Text Matrix Document (TMD, the text's DNA) is the text essence, a matrix that serves to analyze the presence and distribution of words in a text. For this purpose, it is necessary to remove the words without significance when they stand alone by themselves, these are denominated stop-words. Stop-words are articles, prepositions, conjunctions and those words that are irrelevant for the purposes of our analysis. These words are very important for connecting phrases and paragraphs in language, but they have a reduced impact in the analysis of the meaning of texts.

The basic unit of analysis is the magazine article, which is a text that can be associated to a particular title. In that sense, we consider that a long text, a brief news report or a book review are similar in order to obtain the TMD. This is one of the fundamental steps that we need to add to each metadata record. Having this info available in a standard format in relation to the rest of the metadata, we can propose searches, comparisons and other data treatments which processing is an impossible task for the human brain.

The basic task is to calculate a ranking of frequencies of words. This is an interesting exercise by itself because it provides the most frequent terms that appear in the text and therefore some clues about the significance and sense of the text. But the ranking of frequencies not only serves to obtain a comprehensive view of the text contents. It can be stored in our database and used for automatic treatment of the information, as the study of similarities between texts. Once the process of clarification of the DNA of two texts is completed, we can compare them and calculate a certain similarity percentage (SIM). This percentage provides us with objective criteria to find similar text series before reading them. Of course, it is not an exact science and it could lead to little mistakes. In any case, it helps us to reduce radically our search framework.

Regarding in deep the different methods that statistics provide for this exercise, we have tried to use three different techniques to calculate SIMs which, however, share a unique starting point: the TDMs. Overlapping them two by two, we can calculate some indicators already defined in the statistical literature⁴.

The first one is the *summation of products of pondered frequencies range*, which is a sort of terms based on a scalar product of frequencies of

common words between two texts [d1 and d2]. All of them are pondered by the total number of words they have.

$$\text{SIM}(d1,d2) = \sum x_i y_i = x_1 y_1 + x_2 y_2 + x_3 y_3 + \dots + x_n y_n$$

In the previous formula, x_i and y_i are the pondered frequencies of the i -word [w_i] in the documents $d1$ and $d2$, respectively. The pondered frequency of a certain word [w_i] in one text is obtained by the quotient between the frequency of that word [$c(w_i,d1)$] and the total number of words in the document $|d1|$.

$$x_i = c(w_i,d1)/|d1|$$

$$y_i = c(w_i,d2)/|d2|$$

The second indicator is the *product of summations of pondered frequencies range*. In fact, this indicator and the previous one looks at similar calculus in terms of statistics and use the same pondered frequencies. We need to notice the importance of pondering the results. It is also remarkable that most frequent words in these two indexes have more weight in the calculus.

$$\text{SIM}(d1,d2) = \sum x_i \sum y_i = (x_1 + x_2 + x_3 + \dots + x_n) \times (y_1 + y_2 + y_3 + \dots + y_n)$$

On the contrary, the Jaccard Index works with the simple appearance of words, without a special focus on how many times the word occurs in the text. This index shows the cardinality of the intersection of both texts ($d1$ and $d2$) divided by the cardinality of their union. Here, it doesn't matter how frequent certain terms are, but their presence in an absolute ratio. We give less importance to how many times a word appears in a text giving chance to the fact that the words have been mentioned at least once.

$$\text{SIM}(d1,d2) = |d1 \cap d2| / |d1 \cup d2|$$

After calculating these three indexes in many couples of texts, we have concluded that they tend to maintain a similar organization between them. But balancing the results we have chosen Jaccard Index as the optimal index for various reasons. First of all, this one usually remains in the middle of the three indexes in terms of values. The second

reason is that Jaccard only uses concepts of union and intersection of word sets, that is very easy to understand even for beginners in statistics. Finally, we prefer this index because it doesn't beneficiate high words frequencies' in opposition to those with low frequencies.

Values obtained with this method have been analyzed by the two data scientists of the project who have established a criterion that conclude the acceptable index values between two texts: beyond 20-25 per cent of similarity, we can consider they talk about similar topics.

Some questions solved in 2017

The International Symposium 'Architectural and Planning Cultures across Regions', organized by the Center for Southeast Asia and Area Studies of the Kyoto University in March 2017, was the first occasion that we had to present the methodology of analysis to an academic audience. From that discussion, there were three basic questions formulated to us:

1. How languages and translations can affect the SIM indexes calculus?
2. Under what aspects do we want to observe the distribution of a certain concept in a text?
3. How can we consider the existence of synonyms, polysemy words and dictionary occurrences?

Curiously, in every meeting we have attended in since Kyoto, these questions have been reoccurred in one way or another. Therefore, we have strived to answer them.

The first one alludes to the future difficulties that could arise when we try to reach across the Spanish borders and *compare texts written in different languages*. Practicing this possible situation, we have done several experiments of similarity between two texts written in the original language – in our case, in Spanish - and its translation in English. Using automatic translators (Google Translator or similar), the results of similarity reproduce a common pattern: the SIM index is higher with the texts translated into English than in the original language in Spanish. In addition, this rule is followed by the three different methods exposed before.

Our theory explaining this increase in similarity is that automatic translators simplify the collection of words used in texts, having a standard language to express the same idea. Probably in the original texts the presence of synonyms, polysemic words and other aspects of language give more wealth in

4. Feldman, Ronen; Sanger, James. *The Text Mining Handbook: Advanced Approaches in Analyzing Unstructured Data*. Cambridge: Cambridge Univ. Press, 2007.
Colas, Fabrice; Brazdil, Pavel. On the Behavior of SVM and Some Older Algorithms in Binary Text Classification Tasks. In: Sojka, Petr; Kopeček, Ivan; Pala, Karel. (eds) *Text, Speech and Dialogue* [9th International Conference, TSD 2006, Brno, Czech Republic, September 11-15, 2006. Proceedings]. Part of the Lecture Notes in Computer Science book series, vol 4188. Berlin, Heidelberg: Springer, 2006, pp. 45-52.

terms of lexicon, but this is interpreted by this tool decreasing the value of coincidence, and consequently the index value.

So, comparing texts written in several languages into a standard language, like English, must be considered carefully. We need to quantify the SIM decrease that is involved in the process of automatic translation of texts. In this moment, we have estimated that automatic translation processing forces the reduction of this SIM index by a 10-15 per cent. In this relation, we still have a long way to go, until we become able to answer questions related to rather the indexes suffer the same reduction in processes of translating into English from any language. Other question is which is the best method for comparing a text translated into English with another text originally written in that language. But, we are paving the way of this work in progress.

The second aspect which has been frequently addressed to us regards the definition of parameters that we have considered to observe the presence of word or ideas in a text and how can these parameters can be shown to the site users⁵. The first parameter we are going to consider is the *global frequency of a word* in a text. This is the basic approach we can use to evaluate the significance of words in a text, and is the main approach used by the graphic tools that we can use to show the *global frequency of a word* and which are very popular in the contemporary media. We are speaking about the classic bar graphs or the much more effective word-clouds, from which we can capture the main ideas in a blink of an eye.

Other parameters that we have taken into account is the *correlation between words*, that express which words are distributed positioned near to others, showing the strength of certain conceptual links. Graphically, we can express these relations by network maps or link graphs.

But usually the presence of a certain word is not continuous throughout a text. In that sense, *space and time* concepts have been revealed as fundamental parameters. We shall agree that it is not the same word that appears with constant presence but rather with intermittent presence, as it just appears in a certain moment of the text but with a high rate of repetition. We can visualize the distribution of a word throughout a text, by marking its position and frequency in a bubble-line. If we place in parallel the bubble-lines of the most frequent words, we can deduce in which of the three classical parts of the text (beginning, development and conclusion) a

single word or a group of words appears. This is one of the tools which we are prouder of, because the visual impact of the concepts' organization gives a lot of information to the user in just a few seconds.

Finally, some of the symposium attendants inquired if the different writing styles of authors could affect the calculus of the similarity index between texts and asked how can computers detect the phenomena of synonyms or polysemic words. In order to solve this, we can store in our database lists of synonyms or polysemic words by establishing groups of words related in terms of significance. Usually, a language like Spanish, English or French has no more than 90.000 entries in a dictionary, so these lists represent a very short collection for a database. Obviously, we are not studying the writing style of the authors, but looking for similar concepts in the texts. By this reason, we do not care for the words themselves, but the significance of them.

Drawing the ArchiteXt Mining web site

The last task we were faced with during this year was the design of the web site where the tool is going to be hosted in. For the moment, we have just sketched the sections that it would be able to contain and which prior tools must be developed in order to implement it. Our aim is to create a simple interface, a Flat Web Design where the users can navigate and find the sections intuitively. At least for now, it consists of three sections: Project, Results and Contact.

We'll start by the easiest. Obviously, the 'Contact' section allows for users the possibility of contact with the research team. More interestingly, the 'Project' section contains information about the objectives of the project, the research team, the partner institutions and the financing entities. Also, we pretend to include information and links to other research projects in Digital Humanities from within the Architecture field that is the focus of interest of the research team.

But, the main section is 'Results', which hosts a tool that allows for Boolean searches in the biblio-thematic database. A powerful search tool that will provide the title and bibliographic data of the articles that meet the criteria requested by users, who can search a certain word, a group of words or a syntagm that can be combined with operators

5. Yau, Nathan. Visualize this. The FlowingData Guide to Design, Visualization and Statistics. Indianapolis: Wiley, 2001.
Sinclair, Stéfan; Rockwell, Geoffrey. Voyant Tools. 2016. Available in: <http://voyant-tools.org/>

(or modifiers) as AND, NOT and OR to further produce more relevant results. The search will be done inside the biblio-thematic database as much as in the full text of the articles.

Once the articles have been selected, the web user will be able to list and print them or enter in each article to see more particular data. Also, we want to provide a bar graphs that show the word (or group of words) distribution over the years, the quantity of articles by year, and the position where a certain term appears. If the users access one particular article's page, besides the bibliographic data it can be obtained a word-cloud of the content and a bubble-line graph of the more frequent words in the article. The most remarkable search feature will be the similarity index with other articles stored in the database.

Besides the search tool, the 'Results' section will include a part devoted to show specific studies' development by the research team using the ArchiteXt Mining techniques. We intend to establish several patterns and differences not only between the magazines, but also between decades and between the topics of interest within the Spanish architecture or within foreign architecture. Another target of this project is to supply an objective list of texts that have set influential trends in Spanish architecture and those that, on the contrary, have been a mere reflection and continuation of the same. It is considered that this is a goal of great importance for the advancement of future research. On the other hand, we aim to establish rankings that indicate the importance of architects, buildings, critics and a considerable number of interests' variables for the researchers. This part will evolve in parallel to the research group access and use of the search engine.

However, right now it is possible to display other results that are been producing by the research team while the search tool is been refined, as articles, book chapters, reviews and so on. Among the most significant contributions are two book chapters of the Principal investigator directly related with the analysis and research in architectural periodicals, which are "Arquitectura y lo demás, Mexican periodical", included in Gutiérrez, Ramón; Gutiérrez Viñuales, Rodrigo (eds.). *Patrimonio y modernidad en Latinoamérica. Revistas de Arte y Arquitectura* (1940-1960). Bogota: Asociación de Amigos del Instituto Caro y Cuervo, 2017, and, much more related to this project, the book chapter entitled "Periodicals and the return to modernity after the Spanish Civil War", included in Peckham,

Andrew; Schmiedeknecht, Torsten (eds.) *Modernism and the Professional Architecture Journal: Reporting, editing and reconstructing in post-war Europe*. London: Taylor&Francis/Routledge, 2018. Furthermore, the research team has produced a significant number of articles and congress papers. Also, three doctoral thesis of research group's member have been defended based on the architectural periodicals' research: *Mexico exports. Modern architecture in European and American periodicals (1950-1970)*, by Vanessa Nagel; *Exported Architectures. The diffusion of Spanish architectural production in the international panorama throughout the foreign periodicals (1949-1986)*, by Pablo Arza Garaloces, and *Ads&Arts&Architecture. Arts&Architecture advertising and the building of the South California architectures image (1938-1967)*, by Daniel Díez Martínez, who has just been award with the UPM PhD Special Prize. In 2018, we expect that two more doctoral thesis defenses from our research team. In any case, the contents of this section will expand throughout time.

Apparently, 2017 has been a year without significant results for the ArchiteXt Mining. However, it has been key to lay the foundations of the project's methodology. We still have a long way to go and we are almost sure that a one-year extension will be necessary. At present, we can affirm that we are ready to start the creation of the research tool and its testing phase. We do not yet know how long it should take. But, at least, at present we already know what we want and how to implement it.

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

Gaia CAMELLINO¹

Polytechnic University of Milan

Nicole DE TOGNI²

Polytechnic University of Milan

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 Tos-toes, 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 Bio-engineering (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,

1. G. Caramellino is Assistant Professor in Architectural and Urban History at the Politecnico di Milano, Department of Architecture and Urban Studies and Associate Partner in the Research Project “Mapping Architectural Criticism. 20th-21st centuries”.

2. N. De Togni is Research Fellow and TA in the Seminar on 20th century Architectural Magazines, Master course in Architecture, Politecnico di Milano.

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 Janni re, 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 from 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

3. The Scientific Committee included researchers and professors based at the Department of Architecture and Urban Studies of the Politecnico di Milano: Bertrando Bonfantini, Federico Bucci, Alessandro De Magistris, Hartmut Frank, Christophe Grafe, Ingrid Paoletti, Gennaro Postiglione, Alessandro Rocca.

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 Maximilian 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 Sturm* 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 Janniére, 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.

Qasbah Cube

地域学習施設を核とするコロombo歴史地区の居住環境の継承と創造

山田 協太 Kyota YAMADA

京都大学 *Kyoto University*

対象地: コロンボの歴史地区 (Wolvendaal, Colombo 12)

プロジェクトの背景: コロンボの歴史地区は、17世紀に形成された市街地で、都市中心部に位置する。プロジェクトの対象地は歴史的にムスリムの居住地となってきた。イギリス植民地期の1880年代から高密居住地となり、1947年のセイロン独立以降、スラムと認識されるようになった。人間主義の開発が力を持った1970年代から80年代の一時期を除き、市民、コロombo市政府、あるいは国際社会の関心がこの地域に向かうことはなかった。薬物取引の中心地として知られ、外部の居住者は関与することを避けてきた経緯から、都心に位置しながら地域の実情はコロomboでもほとんど知られていない。

いわゆる貧困層の住むこの地域では、人びとの集まるティーショップ、路地とそこに並ぶ小規模住居のセットとなった居住地であるレーンをはじめ、日常の種々の活動のおこなわれる多様な場所が歴史的に継承されており（本Working Paper所収拙著Fig.3および4）、そうした一揃いの場所が緩やかに結びついて居住環境を形成し（同Fig.5）、住まい手の生活を支えてきた。こうしたムスリムの自律的な居住地は、カスバQasbahと呼ばれた。カスバでは、場所を基礎とする自治の仕組みが成立しており、それによって居住環境は存続してきた。

カスバは、住まい手の生活の基盤となってきたが、1980年代以降、一方では経済成長によって、他方では紛争によって大きく傷つき、存続の危機にある。経済成長では一部の富裕化した住民によって、貧困者の住まいとなってきたレーンと呼ばれる長屋型居住地の解体と再開発がおこなわれた。紛争時には薬物取引グループ間で抗争があり、多くの若者の命が失われた。現在、世代交代と共に薬物取引は下火となり、地域の居住環境には再構成の機会が訪れている。同地域で著者がこれまでおこなってきた研究から生まれた縁を背景として、居住

者有志と協働で、地域居住環境再生のデザインプロジェクトをおこなうこととなった（図1）。



図1 居住者Z

プロジェクトの目的: コロンボ歴史地区の居住環境としてのカスバは、住まい手の生活の貴重な基盤であるが、万能ではない。また、経済成長と紛争によって大きく姿を変え、今日、社会と自然環境の両面でいくつかの問題を生じている。紛争の終結した2009年以降の新たな経済成長の中、歴史的に継承されてきた場所のいくつかは再開発によって失われつつあり、生活基盤としてのカスバの存続は曲がり角にある。本プロジェクトQasbah Cubeでは、住民の生活基盤となってきたカスバを継承しながら、その欠点を補完し問題を解消するとともに、住まい手の自治能力を向上させることで、地域居住環境を持続可能で今日的な姿に更新する。



図2 住居に挟まれた暗い路地

具体的手法: カスバを構成する主要要素であるレーンを対象とし、欠点を補完する新たな活動とそれがおこなわれる場所をレーンに埋め込むことで、居住環境に新たな場所を組み入れ、活力ある居住環境へ更新する(同 Fig.7)。これまでの住まい手との議論をつうじて、抗争で悪化した近隣関係を修復することが、住まい手自身によって地域社会の主要な問題として対象化されている。居住環境を更新する核として、本プロジェクトでレーンに埋め込む新たな場所は、地域学習塾である。地域学習塾では、地域の来歴を伝えるとともに地域の未来を志向して子供の教育支援活動をおこなう。この活動を介して、対立関係にあった親たちが子供の送り迎えで集まる契機と場所をつくり、次世代を育成すると同時に住民間の新たな関係を形成することが地域学習塾の眼目である。また、コロンボ歴史地区の居住環境は家族を構成単位としており、レーンの解体などの事情で家族を失った子供には生活の基盤を提供しない。家族を失った子供たちを受入れてその生活基盤となることで、居住環境に、家族にとらわれない共用の場を形成することも、地域学習施設の目的である。レーンには、自然環境面での問題もある。1980年代以降の経済成長で得た資金によって、個々の住まい手がプライベート空間を最大化するかたちで住居を増築したことから、レーンの共用空間となってきた路

地が圧縮されて、通風、日照が悪化した(図2)。また、増築後の鉄筋コンクリート造の屋根の蓄熱とブロックの壁による通風の遮断によって、室内は暑く住みにくい。

地上面は既に建て詰まっているため、地域学習塾は既存の住宅の上に増築し地上3階に建設する(図3)。良好な日当たりと風通し残る上階が、住まい手の集まる新たな場所となる。その際に、前面路地に日当たりのよい小広場を新たに整備し、上昇気流を生む垂直の吹き抜けとすることで、吹き抜けの小広場には、陰になった周囲の路地から涼しい空気が流れ込む。こうして路地全体をパッシブな空気循環を生む仕掛けとすることで、レーンの自然環境を再生する(図4)。地域学習塾へ登る階段とテラスは、垂直方向の新たな路地となる。Qasbah Cubeは、地域学習塾と、路地を空気循環の軸とする仕掛けによって、路地、レーン、カスバを社会、自然環境の両面で共有財産として再生し、三次元(Cube)化されたカスバへ更新する。

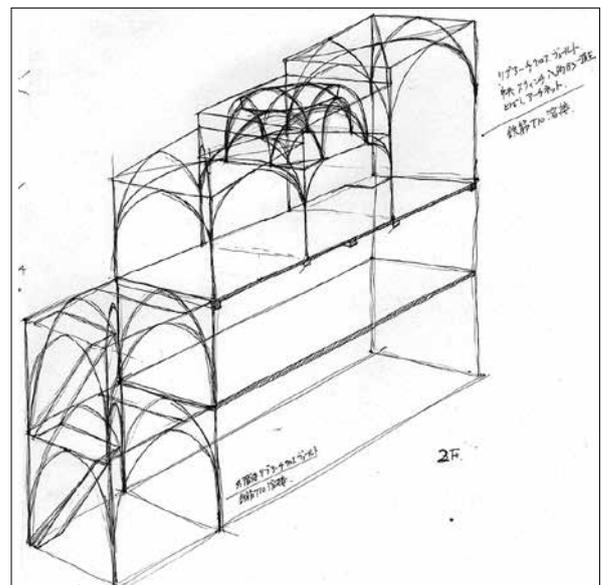


図3 地域学習施設案(3階)

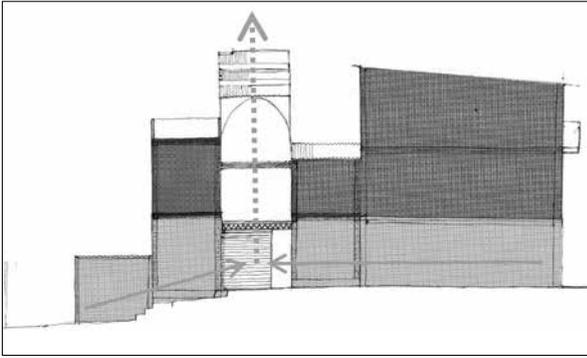


図4 垂直ヴォイドを持つ小広場

プロジェクトの経過:当初は、両隣の親族の住居の構造体を借り、その間に複数のパタンの梁でつなぎ上階を増築する設計だった(図5)。しかし、着工直前に隣家の一方が構造体の貸与に不安を示したため、現場で設計を変更し、構造体の貸与に不安を示した家との戸境には、推奨される強度を持つ標準的構法によるRC柱列を建てることとした。そこからもう一方の家へ間口方向の梁をかけて構造体を一体化する。接合部の配筋と柱梁の組みあわせ方を構造デザイナー、地元大工と共同でデザインし、建築より小さなスケールの柱、梁とその接合法のパターンを開発した(図6)。標準的構法によるRC柱列はレーンの共有財産となる。各戸がこのRC柱列を建設し、そこから梁を出して隣接する住居の構造体と接続する構法を繰り返すことで、総体としてレーン全体で不完全なラーメン構造の形成を目指す、「オープン・グリッド」を提案する(図7, 8, 9)。

あらかじめ定まった形や規模を必要とする建築をデザインの単位とせず、その構成要素である柱や梁と、要素間の接合方法をパターン化することで、オープン・グリッドは、完結した完成形を持たず、隣接世帯が必要に応じて柱梁を接合することで拡大し、物的コモンズとしてレーンに蓄積される。

構造体を新規に建設する世帯は、隣接する構造体を借用し、独立した構造体よりも3割は安価での建設が可能であることから、既に複数の世帯で実施された(図10)。住まい手を建設主体とし漸次建設するオープン・グリッドは、ハブラーケンの論じた生活を支える構造体「サポート」を、インフォーマル状況において実現する解となる。室、宅地割寸法の共通性から、コロボ歴史地区一帯で実用可能な居住環境形成手法である。インフォーマルな居住環境のデザインでは、通常的设计と異なり、完成

像は常に変化する暫定的メージである。現場と当事者との関係を出発点として、生活の変化や建設プロセスの進行とともに完成像を随時更新するアクティブ・プランニング(O.ケーニヒスベルガー)が、プロジェクトの実施を支えている。2017年8-9月の第1期工事で構造体が完成した。2018年3月に第2期工事をおこない階段と屋根を架ける。2018年中に第3期工事として内部仕上げをおこない、地域学習塾の運営を開始する見込みである。

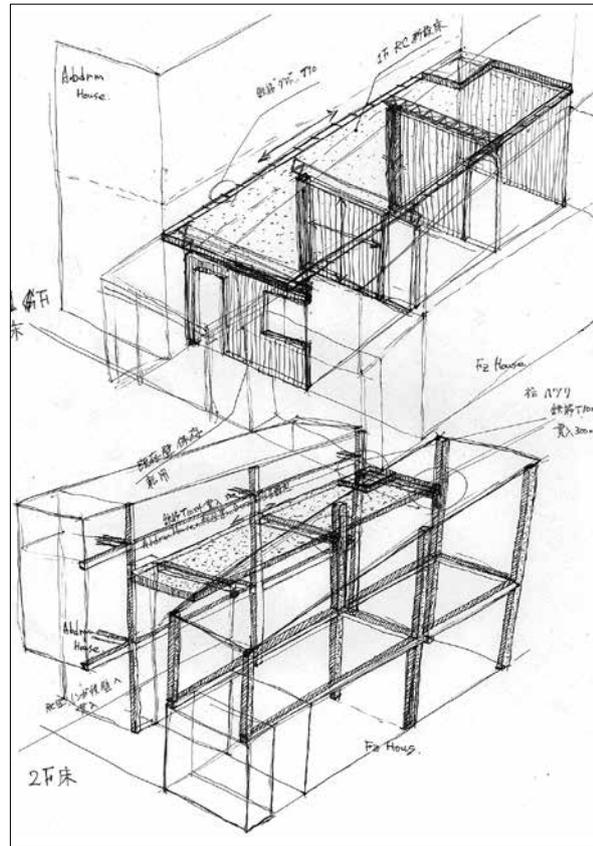


図5 事前に検討した改修案

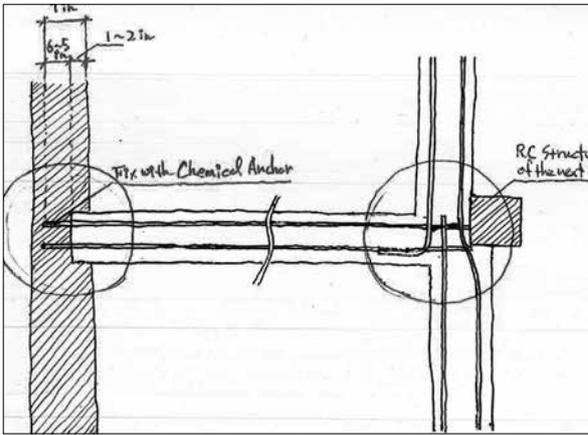


図6 柱と梁の接合部の配筋のパタン化



図9 完成した構造体

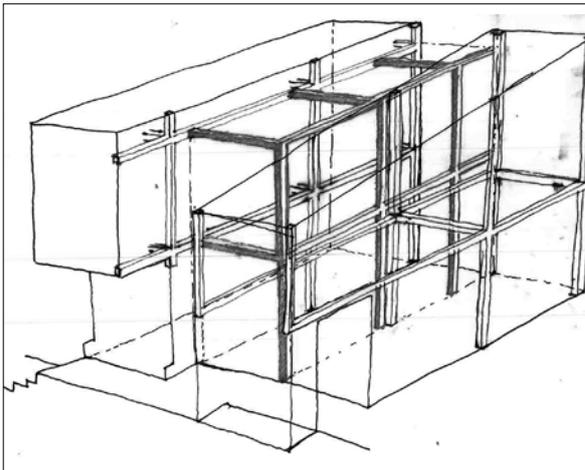


図7 RC柱列による隣接住居の接続

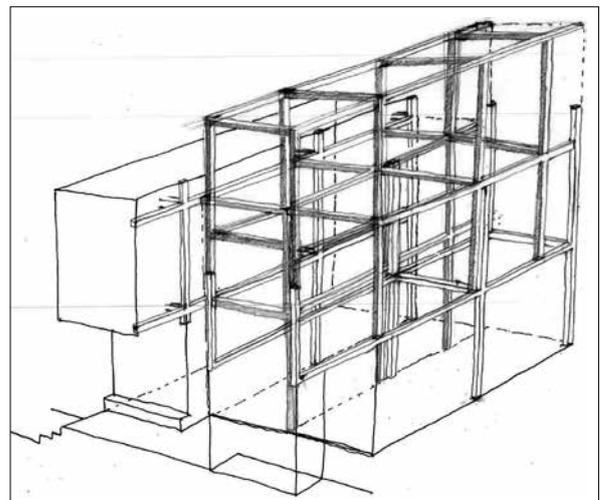


図10 その後の増築によるRCグリッドの拡大



図8 RC柱列の建設

International Symposium “Architectural and Planning Cultures across Regions: Digital Humanities Collaboration towards Knowledge Integration”

Co-organization: Unit of Academic Knowledge Integration Studies of Kyoto University Research Coordination Alliance (KURCA)

Date and Time: 26 March, 10~18:30hs / 27 March, 9:30~12hs

Place: Kyoto University, Inamori Foundation Memorial Building, Room 333, Third Floor

Invited Lecturers:

Hugo SEGAWA

*Faculdade de Arquitetura e Urbanismo,
Universidade de São Paulo - FAU USP*

Corinne TIRY-ONO

*École Nationale Supérieure d'Architecture
Paris-Val de Seine - ENSA PVS*

Ana ESTEBAN MALUENDA

*Escuela Técnica Superior de Arquitectura de
Madrid, Universidad Politécnica de Madrid
- ETSAM UPM*

Luis SAN PABLO MORENO

ArchiteXt Mining Project - MINECO ERDF

Roberta FONTAN PEREIRA

*Instituto de Energia e Ambiente, Universidade de
São Paulo - IEE USP*

Adriana PICCININI HIGASHINO

*National Institute of Technology, Akashi College
Kyota YAMADA*

*Center for Southeast Asia and Area Studies,
Kyoto University - CSEAS KU*

Gaia CAMELLINO

*Dipartimento di Architettura e Studi Urbani,
Politecnico di Milano - DASTU POLIMI*

Kristof CROLLA

*School of Architecture,
The Chinese University of Hong Kong*

Discussants:

Shōichirō HARA

*Center for Southeast Asia and Area Studies,
Kyoto University - CSEAS KU*

*André CORREA DO LAGO

Embassy of Brazil in Tokyo

Akiko OKABE

*Graduate School of Frontier Sciences,
the University of Tokyo*

Shoichi OTA

*School of Science and Technology,
Kyoto Institute of Technology - KIT*

Ana TOSTOES

Docomomo International Chair;

Invited Professor at the University of Tokyo

Moderator:

Andrea FLORES URUSHIMA

*Center for Southeast Asia and Area Studies,
Kyoto University - CSEAS KU*

*An urgent diplomatic matter impeded the participation of André Correa do Lago, who was replaced by Pedro BRANCANTE (Head of Cultural Affairs of the Embassy of Brazil in Tokyo)

国際シンポジウム

「地域を超える建築・都市計画文化: デジタル・ヒューマニティーズから 学知創生へ」

共催: 京都大学研究連携基盤・学知創生ユニット

日時: 2017年3月26、午前10時~午後6時半・3月27日、午前9時半~午後12時

会場: 京都大学稲盛財団記念館3階333号室(京都市左京区吉田下阿達町46)

発表者: ウゴ・セガワ(サンパウロ大学建築都市計画学部・教授)、ティリ小野コリンヌ(パリ・ヴァル・ドゥ・セーヌ国立高等建築学校・教授)、ホベルト・フォンタン(サンパウロ大学エネルギー環境学研究所・博士課程)、山田協太(京都大学東南アジア地域研究研究所・特任助教)、ピチニニ東野アドリアナ(明石工業高等専門学校建築学科・准教授)、アナ・マルエンダ(マドリッド工科大学建築高等専門学校・教授)、ルイス・サン・パブロ・モレノ(ArchiteXt Mining Project (MINECO-ERDF))、ガイア・カラメリーノ(ミラノ工科大学高等建築土木都市計画学校・助教)、クリストフ・クロラ(高仕業)(香港中文大学)

挨拶とコメント: 原正一郎(京都大学東南アジア地域研究研究所・教授・副所長)、*アンドレ・コヘーア・ド・ラーゴ(駐日ブラジル大使)、岡部明子(東京大学大学院新領域創成科学研究科・教授)アナ・トストーイス(ドコモモインターナショナル・会長、東京大学・客員教授)、大田省一(京都工芸繊維大学工芸科学部・准教授)

司会者: アンドレア・フロレス・ウルシマ(京都大学東南アジア地域研究研究所・特定助教)

*アンドレ・コヘーア・ド・ラーゴ大使は外務上の急務のため出席が叶わず、ペドロ・ブランカンテ氏(駐日ブラジル大使館文化事業部長)が代理を務めた。

Program

(26 March, Sunday)

- 10:00 ~ 10:10** Greetings (Shōichirō HARA)
10:10 ~ 10:40 Theme explanation (Andrea FLORES URUSHIMA)
10:40 ~ 11:15 Presentation 1:
Twentieth Century Latin American Architecture: a Network and a Digital Exhibition
(Hugo SEGAWA)
11:15 ~ 11:30 Questions
11:30 ~ 11:45 Coffee Break
11:45 ~ 12:20 Presentation 2:
Japanese Spatial Culture from a Cross-Disciplinary Approach. JAPARCHI:
From a Network to a Collaborative Tool for Innovative Research (Corinne TIRY-ONO)
12:20 ~ 12:30 Questions
12:30 ~ 14:00 (Lunch) Preliminary Discussion on Methodology
14:00 ~ 14:35 Presentation 3:
ArchiteXt Mining: Taking advantage of Periodicals as an Architectural Data Base
(Ana ESTEBAN MALUENDA)
14:35 ~ 14:45 Questions
14:45 ~ 15:20 Presentation 4:
GIS Thematic Mapping as an Instrument of Analysis for the Identification
of the Rural in Complex Territories (Roberta FONTAN)
15:20 ~ 15:30 Questions
15:30 ~ 16:05 Presentation 5:
Global Architect's Education: Tearoom Database of Interactive Online Workshops
(Adriana PICCININI HIGASHINO)
16:05 ~ 16:15 Questions
16:15 ~ 16:30 Coffee Break
16:30 ~ 17:10 Comments: Shoichi OTA , Akiko OKABE
17:10 ~ 17:40 Special Talk: Beyond Architecture:
How Computation empowers the 21st Century Master Builder (Kristof CROLLA)
17:40 ~ 18:30 General Discussion / Evaluation of Proposals' Frameworks

(27 March, Monday)

- 9:30 ~ 10:05** Presentation 6:
Capturing from Human Activities the Multiscale Formation Mechanisms
of Dwelt Environments (Kyota YAMADA)
10:05 ~ 10:15 Questions
10:15 ~ 10:50 Presentation 7:
Mapping the Exchange: Magazines as Platform for Urban Criticism
(Gaia CARAMELLINO)
10:50 ~ 11:00 Questions
11:00 ~ 11:30 Comments: Pedro BRANCANTE, Ana TOSTOES
11:30 ~ 12:00 General Discussion/ Evaluation of Proposals' Frameworks

Profile of lectures

Hugo SEGAWA is architect and Professor at the History of Architecture Department of the Faculdade de Arquitetura e Urbanismo, Universidade de São Paulo (FAU-USP). He delivered graduate lectures in Argentina, Colombia, Mexico, Portugal, Spain, and undergraduate lectures in Panamá and Japan. He is the Brazilian coordinator of the ODALC – Observatório de Arquitetura Latinoamericana Contemporânea (Contemporary Latin America Architecture Observatory), a research joint network between University of São Paulo (Brazil), Universidad Nacional (Colombia) and Universidad Autónoma Metropolitana (Mexico). He has published several articles in national and international journals, and authored and co-edited various books, including among the international publications, *Architecture in Brazil 1900-1990* (New York: Springer, 2013) and *Arquitetura Contemporânea Latinoamericana* (Barcelona: Gustavo Gili, 2005). He was the coordinator of the project of website creation that discloses in digital format, with indexed access, the complete collection of the Brazilian architectural magazine *Acrópole* (1938 -1971) <<http://www.acropole.fau.usp.br>>.

Corinne TIRY-ONO graduated as an architect (French national diploma, École d'architecture Paris-La Villette) in 1991, holds a doctorate in contemporary history from the École pratique des hautes études (Paris), and is a professor in urban theory and design at the École nationale supérieure d'architecture Paris-Val de Seine. She also teaches at the École des ponts et chaussées (ENPC/Advanced Master in Urban Planning and Development / International Workshop in Tokyo), and gives a master class in Hiroshima University every year (Advanced Lecture for Architectural Landscape Design). She is a permanent researcher at the Centre de recherche sur les civilisations de l'Asie orientale (CRCAO/Japan team, CNRS, Paris), and co-director with Sylvie Brosseau (Waseda University, Tokyo) of JAPARCHI, a French-Japanese research network supported by the French Ministry of Culture and Communication.

Ana ESTEBAN-MALUENDA is Lecturer at the Technical School of Architecture in Madrid. Architect and PhD Summa Cum Laude of 'Theory and History of Architecture' (Technical University of Madrid, 2008), won the UPM Doctoral Extraordinary Award 2007-2008 and Special Mention in the XXII Awards 'Urbanism, Architecture and Public Works' for her doctoral thesis, entitled *The Imported Modernity. Madrid 1949-1969: Diffusion Channels of Foreign Architecture*. She has widely published articles and participated in international conferences. She has given lectures in European and South American universities and is involved in different research projects funded

by governmental, institutional and private sources. She is currently a member of four research groups in three countries: Spain, Portugal and Brazil. Curator of the exhibition 'Three magazines in Madrid. The international glance in the local context (1949-1968)', organized by the library of the School of Architecture (UPM) in 2011, she was also involved in research for international cultural events such as the Shanghai International Exhibition 2010 and the Spanish Pavilion of the XIV Venice Architecture Biennale 2014.

Roberta FONTAN GALVÃO Architect and Urbanist titled from the Federal University of Pernambuco, she is a Doctoral student in the Environmental Science Graduate Program at the University of São Paulo (Procam/USP/Capes), and research assistant at the Metropolis Laboratory of Faculdade de Arquitetura e Urbanismo, Universidade de São Paulo (Lume/FAU/USP). She is specialized in economic geography and finished in 2011, a Master program in history and theory of Architecture and Urbanism with funding from the Brazilian Ministry of Education at University of São Paulo (FAU/USP-Capes). Before that she was geoprocessing specialist at the University of Campinas-Unicamp.

Adriana PICCININI HIGASHINO got a bachelor title in Architecture at the Kyoto Institute of Technology in 1999. She graduated and received a PhD in Japanese traditional architecture from the University of Tokyo in 2004. She has contributed to internationally published compilations in Portuguese and English about the history of Japanese architecture and Architectural educational, worked as guest research at Universidade Nova de Lisboa in 2013-2014, and is currently an associate professor at the National Institute of Technology, Akashi college, Department of Architecture.

Kyota YAMADA received his PhD in dwelt environments of South Asian colonial cities from the Graduate School of Architecture and Environmental Design of Kyoto University in 2006. He served as assistant professor of Environmental Studies at Tottori University from 2005 to 2009, and at the Graduate School of Asian and African Area Studies, Kyoto University from 2009 to 2015. He is currently Affiliated Assistant Professor at the Center for Southeast Asian Area Studies, Kyoto University. He has also worked for the Research Institute for Humanity and Nature in the research project "Mega cities and Global Environment" which results have recently been published as *Mega City Series 2: Evolution and Diversity of Mega Cities* (2016).

Gaia CARAMELLINO is Assistant Professor in History of Architecture at the Politecnico di Milano, and received her PhD in History of Architecture and Town Planning from the Politecnico di Torino. Between 2010 and 2014, she was the coordinator of the research project "Architectures for the Middle-Class

in Italy, 1950s–1970s”, funded by the Italian government. She has lectured abroad in various occasions, and was visiting scholar at the Canadian Centre for Architecture in Montreal (2011) and visiting faculty member at Kyoto University (2015). She has received several grants and fellowships for her research, including from the Graham Foundation, Radcliffe Institute for Advanced Studies, and the Rockefeller Foundation. She has served as guest editor of several journal issues and her publications include *Europe meets America: William Lescaze, Architect of Modern Housing* (2016), *Housing the 40,000: Explorations in the Middle-Class City: Turin, 1945–1980* (with F. De Pieri and C. Renzoni, 2015), *William Lescaze: Un architetto europeo nel New Deal* (2010). Since 2016 she is a member of the PhD committee in Architecture, History and Project of the Politecnico di Torino.

Kristof CROLLA is a Belgian architect who combines, since 2010, his architectural practice Laboratory for Explorative Architecture & Design (LEAD) with an Assistant Professorship in Computational Design at the Chinese University of Hong Kong, School of Architecture (CUHK). After graduating Magna Cum Laude as Civil Architectural Engineer at Ghent University (2003), he practiced in Belgium at Bureau Buildings & Techniques. Since 2005, he attended the Master Program at the London Architectural Association School of Architecture (AA), from where his student work was exhibited at the 2006 Venice Architecture Biennale. He then worked for several years as Lead Architect for the Pritzker prize winning Zaha Hadid Architects, while teaching at AA. He has been invited as a jury critic, lecturer, and tutor in numerous international institutions. He is best known for projects such as Golden Moon (Hong Kong, 2012) and ZCB Bamboo Pavilion (Hong Kong, 2015), which internationally received over two dozen design awards and accolades, including the G-Mark (Japan), Architect A+ (USA), and most recently the World Architectural Festival Award - Small Project of the Year 2016.

Profile of Discussants

Shoichi OTA is architect, and Associate Professor at the School of Science and Technology of the Kyoto Institute of Technology. He received the Phd in the history of Asian architecture and cities from the Faculty of Engineering, The University of Tokyo (1993). He was assistant professor at The University of Tokyo, lecturer at the Vietnam National Hanoi Construction University and visiting scholar at Yale University. Among his publications are *The urban history of Japan viewed from Asia* (2013) and *The architecture of Hanoi* (2006)

Akiko OKABE is architect, and Professor at the Graduate School of Frontier Sciences, the University

of Tokyo. She received a Phd in Environmental Studies at the University of Tokyo (2005), was assistant professor at the University of Tokyo and associate professor Chiba University. She has researched about public spaces in Barcelona, European urban and regional strategies, and engaged in architectural interventions in urban and rural areas of Japan, and Indonesia. Among her publications are *Mega City 6: High Densification of Megacities* (2017) and *Barcelona: History and Culture of a Mediterranean City* (2010). **Ana TOSTOES** is Full Professor at Técnico - University of Lisbon, where she is in charge of the PhD Programme in Architecture, and at the University of Tokyo. She is architect, architectural critic and historian, Chair of Docomomo International and co-editor of Docomomo Journal. She has been invited professor at FAUP, EPFL, ETHZ, UTSOA, RSA, ETSAB, ETSAUN. Her research field is the theory and history of architecture and city of the 20th century, focusing on the worldwide cultural transfers. On these topics she has published books and scientific articles, curate exhibitions, organised scientific events, taken part in juries and acted as peer referee of scientific journals, supervised PhD and MSc thesis and given lectures worldwide. She was awarded with the title of Commander of the Order of Infante Dom Henrique (2006), with the Gulbenkian Prize (2014, for the publication Ana Tostões (ed.), *Modern Architecture in Africa: Angola and Mozambique, Casal de Cambra, Caleidoscópio*, 2014) and with the X Bienal Ibero-Americana de Arquitectura y Urbanismo BIAU Prize (2016, for the publication Ana Tostões, *Idade Maior. Cultura e Tecnologia da Arquitectura Moderna Portuguesa*, Porto, FAUP Edições, 2015).

***André CORREDO LAGO** is Ambassador of Brazil to Japan, and a prolific author of several articles and books on Brazilian modern architecture and about the work of Brazilian architects, including Oscar Niemeyer, Paulo Mendes da Rocha, Sergio Bernardes, Aurelio Martins Flores, Claudio Bernardes and Paulo Jacobsen. Mr. Lago was a member of the Architecture and Design Committee of the Museum of Modern Art in New York (MoMA) for 10 years and is currently a board member of the Oscar Niemeyer Foundation. He was the curator of the exhibition “Modernity as Tradition” at the Brazilian Pavillion of the 14th Venice Architecture Biennale. As a diplomat since 1983 Mr. Lago has served at the Brazilian Embassies in Madrid, Prague, Washington DC, Buenos Aires and at the Mission to the European Union, in Brussels. He has also held functions in Brasília in areas such as sustainable development, energy and climate change, having being his country chief negotiator to Rio+20 Conference in 2012.

*An urgent diplomatic matter impeded the participation of André do Lago, who was replaced by Pedro BRANCANTE (Head of Cultural Affairs of the Brazilian Embassy in Tokyo)

Global Architect's Education —Tea Room Database of Interactive Online Workshops—

Adriana PICCININI HIGASHINO¹

¹ Associate Professor, National Institute of Technology, Akashi College

Abstract

Educating architects with a global perspective is a challenge that all institutions across the world are now facing. At Akashi College, in the department of architecture we have developed several programs that receive foreign students or send our students abroad to give them a global perspective to architectural training. Among those programs the Tea Room Workshop, where Japanese and Brazilian students work together on the design for a tearoom, was the most successful. As we have experienced during the Tea Room Workshop, working with typical elements of Japanese culture is a good method to instigate international exchange and global education. However, the cost of coming to Japan or going abroad limited the number of students that can participate in these workshops. We expect that by using new information technologies we will be able to develop tools that would permit the realization of workshops online, through which several students could work together on the design for a tearoom. The workshops would take place at an online interactive platform, which would also store tutorials about Japanese traditional architecture and the material produced by the students, such as videos or drawings.

Keywords: International Exchange; Design Workshop; Tea Room; Interactive Interface

Introduction

Due to the globalization of the working market it became very important to train students to work with people from different cultural background. The Japanese Ministry of Education has encouraged the globalization of education through scholarships programs, which receive foreign students at Japanese schools and send Japanese students to study abroad.

Tea drinking is a current practice in several countries and in different cultural context. The kind of tea and the way of drinking it changes according to the cultural context, but the use of the action of drinking tea as a tool for socializing resembles. Therefore, drinking tea as means of socializing is a global concept. However, among the tea drinking country Japan is the only culture that created a space, the Tea Room, specially and only for drinking tea. We chose the Tea Room as main theme for workshops because drinking tea is a global concept but Tearoom is something unique to Japanese Culture. At Akashi College we held several programs to receive foreign students and to send our students abroad. Among those programs the tearoom design workshops with international students had results much better than expected, and our students after participating in these activities have not only increased their communication skills but also showed a wider view and opinion about the world. Unfor-

tunately, the number of scholarships are not enough and the cost of coming to Japan or going abroad limits the participation to few wealthy students.

Here we propose an interactive platform to allow the participation of a bigger number of students to participate in international exchange activities. The platform will permit students to works together in the design of a tearoom. In this proposal we will first briefly explain the characteristics of Japanese the tearoom, and later, based on our experience with Tea Room Design Workshops, we will propose the necessary elements of the interactive platform, its working system and preview its impact in our college.

What is a Japanese Tea Room?

Tea was introduced in Japan in the 8th Century but only became popular after the 16th Century. The concept of the tea room is very simple: a beautifully designed space for drinking tea. The idea is that the practice of drinking tea inside this special space makes the tea taste better than, for example, drinking tea on a paper cup at the franchised coffee shop. Yet the design of a tearoom also involves complex

Contact Author 1: Adriana Piccinini Higashino,
Associate Professor, National Institute of Technology, Akashi College
679-3 Nishioka, Uozumicho, Akashi, Hyogo, 674-8501 Japan
Tel: +81-78-946-6221 Fax: +81-78-946-6221

concepts, such as Wabi-Sabi, and as the Meiji period (1868-1915) Scholar Okakura explained in his Book of Tea, the design of tearooms and tea related objects, tea ceremony in a whole synthesizes Japanese aesthetics values. Along the history there were several tea masters of strong influence on the development of the tearoom as an architectural style. Sen no Rikyū is the most famous tea master. In his tea rooms Rikyū eliminated not only unnecessary decoration but also unnecessary space, the tearooms had the minimum necessary size. The ultimate minimum tearoom, Taian, had only a two tatami mats size.

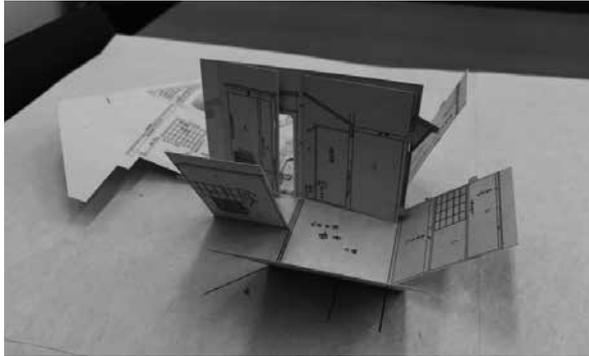


Fig.1. Example of okoshi-e, (1965) Horiguchi Sutemi

Tea Rooms were designed by tea masters and not carpenters, therefore it became necessary to create means for explaining the design of the structure that tea masters conceived and had to be constructed by carpenters. For that the tea masters created the okoshi-e, a set of drawings, including floor plan and elevations that can be pulled up and assembled as a paper model of the structure. (fig.1)

Tea Room: a tool for instigating international Exchange

The use of tearoom as theme for design workshops and international exchange was developed through experience, from various workshops realized at Akashi College. The first time we used “Tea Room” as a workshop theme was in July 2015 when we were asked to interact for one week with 16 Griffith University architecture students coming from. Later the theme was developed into a longer Japanese Architecture course taught for students from Brazil. We also held open lectures and international workshops using the okoshi-e as main theme.

Based on students’ surveys evaluating the workshops, all students affirmed that the theme “Tea Room” was very interesting. Therefore, we can say that tearoom has proved to be an excellent theme for international exchange design workshops.

Tea Room Interactive Online Workshops

Design workshops, using tearoom as theme had worked greatly but due to financial restrictions the participation in these workshops is limited to a few number of students. Here we propose a platform that allows more students to experience these international design workshops. The purpose is to develop an interactive platform, which allows students from all around the world to work together on the design of a Tea Room. The platform should also include general information on tearooms and Japanese Traditional Architecture.

We propose a platform composed of three different levels of interactions (table1).

The first level of interaction with the platform is what we named as “passive user”. Here are exposed information about tearooms and Japanese Traditional Architecture. The access to this level is open to the public in general and the information contained here is fed by students, who are expected to upload their tearoom designs and information they have researched on traditional Japanese architecture. The second level of interaction with the platform is called “semi-active”. This level is also open to the public in general, but here the user can participate more. The platform would include quizzes about Japanese traditional architecture, where the user can check how much he or she has learned. It would also include sets of okoshi-e to be downloaded. The user can print out the okoshi-e sets and build paper models of famous tearooms and Japanese traditional architecture buildings. The information in this module is also fed by the students. Based on their research about tearooms the students elaborate okoshi-e drawings sets (Fig 2) that can be downloaded and printed.

The third level of interaction with the platform we called the “active” level and here only registered users can participate. This is the design workshop level and it would include an interactive chat window, something similar to SNS applications such as Line or Whats app, together with a sketch pad window, were students can add hand drawings and discuss about their design project (fig 3).

Types of Users	Level of Engagement	Evaluation	Participation Certificate	Who Can Participate	Upload Materials
Passive		NO	NO	All	NO
Semi-active		YES	NO	All	NO
Active		YES	YES	Associated Schools	YES

Table.1. Levels of interaction and accessibility to the platform

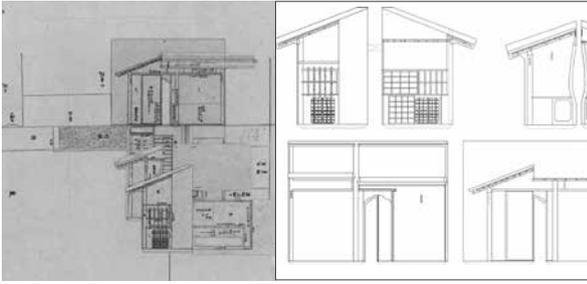


Fig.2. Elaborations of downloadable okoshi-e drawings

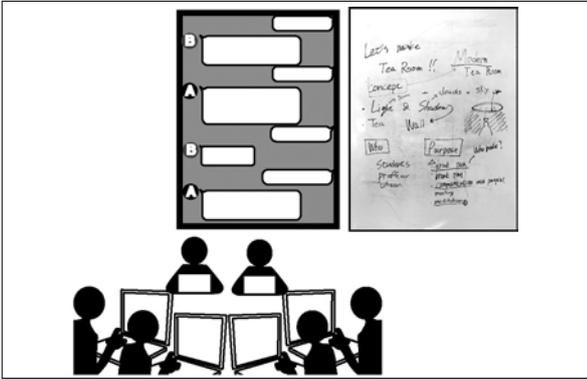


Fig.3. Image of the Online Design workshop

In the workshop level the students work in groups under the orientation of their design teacher. The platform should allow several groups to work at the same time. The students would have to elaborate drawings, build models or 3G representation of their tearoom design. Using as reference the workshop we realized in the past years we estimate the necessity of eight workshops sections, with approximately 60 min. duration each, to finish the design of a tearoom. We also observed that after the students decide about their design, they divided the drawings and the work that must be prepared. In addition, according to our experience long periods of engagements tend to demotivate the students, so we suggest intense and short workshops. The workshop could be realized twice or three times a week, and the project should be finished in less than two weeks.

Finally, the students should gather and organize the information about their tearoom design in an explanatory video. The teachers in charge will evaluate the workshop results (video) and the students' engagement (upload of researched material). The students may receive a participation certification or course credits for their participation. The online workshop can be included in design studio activities.

Conclusions

As we have seen tearoom is a great subject for short-term international design workshops. By combining new IT technologies and mounting an inter-

active platform we can create a space for students to work on design projects with students from abroad, and bring international experience to a larger number of participants.

References

- Scholarships for visiting students are sponsored by the students' country or JASSO. Scholarships for studying abroad are all sponsored by the Japanese Government: JASSO and the Tobitate program from the Ministry of Education.
- "Wabi" means sober refinement and is associated to the idea of simplicity. It is expressed by the elimination of everything that is unnecessary, a concept similar to Mies van der Rohe's "Less is more". "Sabi" incorporates the idea that beauty can only be achieved through the passage of time, which explains why tearooms always incorporate materials from older structures.
- Okakura Kakuzō (1862-1913), *Book of Tea* first ed. 1906 <http://www.gutenberg.org/ebooks/769>
- Sen no Rikyū (1522-1591) is famous for his Soan style tearooms that incorporate the concept of wabi-sabi, and because he worked for famous historical figures, such as Oda Nobunaga (1534-1582) and Toyotomi Hideyoshi (1537-1598).
- Tearooms were the first structures in Japanese traditional architecture that were not designed by carpenters. Since antiquity the buildings in Japan were planned and constructed by carpenters, and the elaboration of drawings or anything similar to transmit information about how the building should be built was not necessary. The family of carpenters had their secret treaties, which explained the proportional system they used, but those did not contain more than floor plan drawings.
- A.P.Higashino, K.Kudoh, *International Exchange x Architectural Design Education: Akashi College and UFRGS Tearoom Project Workshop Case Study*, Proceedings of the 11th ISAIA, Sept.20-23, 2016, Miyagi, Japan
- Drawings executed based on Horiguchi Sutemi (1963-1967) *Okoshie Zushu* (Vol. 1-12) Bokusui Shobo. 茶室おこし絵図集 堀口捨己監修 墨水書房 全12集1963~1967年刊

ArchiteXt Mining —Taking advantage of Periodicals as an Architectural Data Base—

Ana ESTEBAN-MALUENDA¹

¹Professor, Technical University of Madrid

Luis SAN PABLO MORENO²

²Data Scientist, BNP Paribas Spain

Abstract

‘ArchiteXt Mining. Spanish modern architecture through its texts (1939-1975)’ is a research project funded by the Government of Spain through the 2015 Call for ‘Excellence Projects’ of the Ministry of Economy and Competitiveness.

This project aims to explore a new view point and look into the special features of Spanish Modern Architecture. Despite the success of the development of data analysis as a tool in different disciplines, the research on architectural theory has never made the most efficient use of these technologies. The Spanish and International circumstances of the development of the Modern Architecture has been scrutinized through qualitative research which established a shared theoretical ground. It is time to face a new in-depth research based on objective data. In order to obtain this, we propose the application of text mining techniques to take advantage of the best data source in the field: architectural magazines. Our objective is to offer a new vision of the transformation of the architectural production and how it is divulged through texts published on these magazines. In addition to this, we aim at creating a powerful database hosted in a public website for the scientific community. In this context, this project fulfills e-Research objectives: to make the computerization of research data easier, to support every stage of the data collection, and to contribute to the use of tools that allows big amount of data analysis.

As a first step, this project focuses on the Spanish case as a pilot for a bigger worldwide scale research. In particular, this stage will begin with the Spanish architecture magazines published during the Dictatorship period (1939-1975), when the cultural relations of the country at an international level were more difficult. We will be able to compare the important issues to Spanish architects with the other subjects of interest in European, American and Asian magazines, which will provide a new interpretation of the Spanish Architecture regarding the international panorama.

Keywords: Architectural Periodicals, Text Mining, Spanish Modern Architecture, Data Analysis.

Introduction

In the twenty-first century, it is scarcely possible to think about scientific research without considering the digital aspect. The world that we are living now is more and more reliant on data, in which we can find valuable information, identify patterns of behaviors and visualize information on a big scale. Some analytical tools, like Data Warehousing and Data Mining, have reached very important results in terms of the massive treatment of information.

Text Mining is a more specific technique that looks for patterns and tendencies in texts. It can discover hidden knowledge; so that it is possible to answer certain questions previously asked (descriptive models) or discover hidden patterns in a group of texts (predictive models).

These kinds of analytic processes have been largely used in many scientific and humanistic disciplines, with positive results. For example, let’s think about the Jesuit priest Roberto Busa, who in 1946 began to

build the Thomistic Index; a tool for performing text searches within the Corpus of Aquinas’s works.¹

More recently, many other projects have been applied to Text Mining. There are well-known projects that supported the work of authorship identification.² Especially, the analysis of William Shakespeare’s texts has given remarkable results. Text Mining has demonstrated that certain texts attributed to Shakespeare, are far from resembling any other text written by him.

In architecture, there were also several pioneers in digital analysis, like Juan Pablo Bonta. He wrote the book, *American Architect and Texts*,³ published in 1996. In his research, Bonta worked with data cited in 380 texts about American architecture since 1815.

Contact Author 1: Ana Esteban-Maluenda, Professor, Escuela Técnica Superior de Arquitectura, Universidad Politécnica de Madrid, Avda. Juan de Herrera, 4. 28040-Madrid.
Tel: +34 913 364 232 Fax: +34 913 366 496
e-mail: ana.esteban.maluenda[a]upm.es

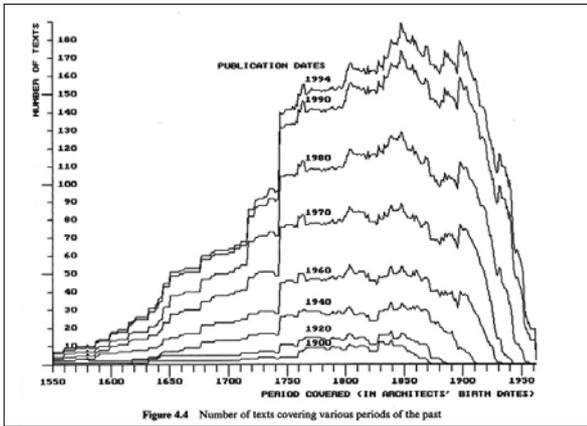


Fig. 1. Bonta studies. Number of text covering various periods of the past (Source: Bonta (1996), p. 53)

Today the vast work of Bonta that quantifies the cites of all those architects have been overtaken by tools like the Ngram Viewer by Google Books.⁴ Google Books allows us to visualize in a few seconds huge amounts of cites about a certain author included in books written during the nineteenth and twentieth centuries.

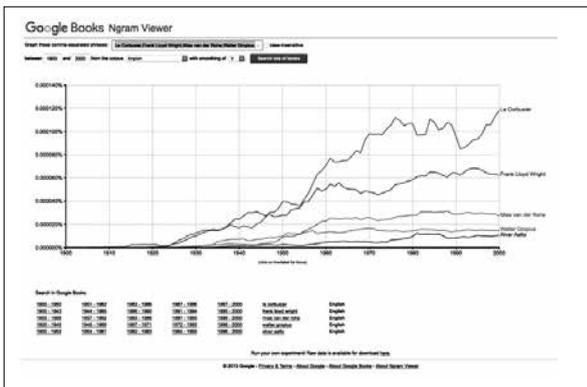


Fig. 2. Ngram Viewer. Number of cites: Le Corbusier, Frank Lloyd Wright, Mies van der Rohe, Walter Gropius and Alvar Aalto. (Source: <https://books.google.com/ngrams>)

With exceptions, the cites are growing with time due to the fact that nowadays the publishing market is much more developed than in the past.

So, if the development of the publishing industry ‘contaminates’ the quantifying of cites and makes this kind of analysis invalid, where can we obtain information about the evolution of Modern Architecture without accumulating these mistakes? Is it possible to use databases that can provide information about Modern Architecture at a certain point in time?

The architecture of twentieth and twenty-first centuries has an extraordinary database where the most important concepts, events and buildings have been registered: the architectural periodicals. Most researchers who are specialized in architecture use

them as a source. Unfortunately, we are still doing this work the same way it has been done for the last fifty years. Meaning that we still need to go to libraries and review page by page all the issues.

In last decades, many architectural periodicals indexes have been built in order to help researchers. But those indexes are incomplete and usually they do not include records about the minor texts (i.e. news sections). The big quantity of information in periodicals hinders the researchers’ understanding. It is necessary the support from computers in order to transform this large database into a readable format which can be easily computed.

ArchiteXt Mining

The ArchiteXt Mining project (which is the acronym of Architectural Text Mining) proposes the use of advanced techniques in data analysis for building tools for researchers that uses periodicals for their work. Also, ArchiteXt Mining (AM) aims to be a collaborative tool which provides information at the same time as receiving it from users and researchers.

Another aspect to highlight is that ArchiteXt Mining is a pilot project which hopes to explore a new way of carrying out research. AM was born in Spain with the focus on Spanish architectural periodicals, but with the aspiration to grow into something larger. But before, we need to explore the tool’s possibilities in a limited area by the research team: the Spanish architectural periodicals of the 1940s, 1950s, 1960s and 1970s. AM will study the period of General Franco’s govern (1939-1975) in depth. It’s well-known that changes in Spanish architecture happened during these years giving a wide range of possibilities to explore.

At that time, the most important periodicals belonged to the Institutes of Architects of Madrid and Barcelona (Revista Nacional de Arquitectura and Cuadernos de Arquitectura). We have already scanned and digitalized both publications between 1939 and 1975. Apart from this, we intend to complete this material with other important Spanish periodicals, like Nueva Forma and Hogar y Arquitectura. The initial aim was also to scan and digitalize some European periodicals from the three most important spreading nodes of architectural news from that time: L’Architecture d’Aujourd’hui (France), The Architectural Review, Architectural Design (Great Britain), Domus and Casabella (Italy). Due to the reduced budget of the project, probably these European sources will not be included in the first

phase. But, this project thinks big and wants to branch out internationally, sharing information and tendencies with other countries.

One issue that we like to highlight is that this project is not a simple magazine digitization. The digitization projects are very important since they bring the magazines closer to the researchers, but in fact they do not change the need to looking up information found in journals, page by page. We want to provide researchers with something more: a tool that not only helps them to save time, but it even serves as a source of inspiration.

In short, we propose the creation of a database on Modern Architecture published in the Spanish periodicals which will be accessible to the academic world. This will be more than the basic bibliographic information contained in the indexes which are already available.

At the same time, we will start making in-depth analysis of the contents of the articles applying the methodologies of Text Mining. We intend to establish several patterns and differences not only between the magazines, but also between different decades and between Spanish and foreign architecture. The quantitative analysis of the trends will be fundamental, as well as the location of the main nodes of reception and emission of news.

Another target of this project is to supply an objective list of texts that have set trends in Spanish architecture and those that, on the contrary, have been a mere reflection and continuation of the same. It is considered that this is a goal of great importance in the elaboration of future researches.

On the other hand, we aim to establish rankings that indicate the importance of architects, buildings, critics and a considerable number of variables of interest for the researchers.

But one of the strongest goals of this project is its potential for growth: we wish to be the starting point of a worldwide project in which Text Mining becomes a really powerful analytical tool.

Our first task is the elaboration of a biblio-thematic database. This is an initial classification according to the traditional formula. The research group covers the contents of the journals. However, it provides added value including sections that are not usually in traditional bibliographic indexes. The objective of this biblio-thematic database is to make this search easier and quicker. A web portal will allow the researchers to do cross-searching on all the articles, so that they will be able to look for certain terms simultaneously in all fields and re-

cords of the database.

Trying to understand the power of this tool, we will perform a very simple search in the two magazines of the Institute of Architects of Madrid and Barcelona: the term 'Japan'.

The results are the following:

1. Two very brief mentions in *Revista Nacional de Arquitectura* in 1956 and 1957.

2. Nineteen references in *Arquitectura* between the years 1960 and 1969.

The first conclusion that can deduce is the very different interests of the two architectural nodes of the moment in Spain (Madrid and Barcelona). The magazine of the Institute of Architects of Barcelona did not publish anything referring to Japan during those twenty years, compared with the twenty-one mentions that were made from Madrid.

On the other hand, we could see how these articles are distributed over time: the Spanish architects became interested in Japanese architecture since the sixties, particularly since 1963. That year a Spanish architecture exhibition was shown in Tokyo and that circumstance lead the Japanese journal *Kokusai Kenchiku* to publish a monographic issue about Spanish architecture.

Most pages devoted to Japan in Spanish periodicals were written by Antonio Fernández Alba and Mariano Bayón; and the most popular Japanese architects were Kenzo Tange and Koji Kawashima. In terms of cities, it was Tokyo which captured the Spaniard's attention throughout the whole decade.

In short, looking up the biblio-thematic database the researchers could have a global idea about the Spanish architects' interest for Japan. But, in addition to the usual bibliographic data (date, title, author, journal, volume) and the thematic fields added by the research team, we aim to bring an additional value to the database: the searches by means of the study of the DNA strand of the text. We add the TMD (Text Matrix Document) to each article register, giving a statistical appearance to the traditional metadata.

For example, we can provide the most frequent words to the researcher. This is a very easy process, and it works really well, especially if those words are displayed in the form of word clouds.



Fig. 3. Word cloud of the article: Antonio Fernández Alba, (1963) 'Kenzo Tange', *Arquitectura*, no. 60, December, p. 29-43. (Source: prepared by the authors)

The aim is to squeeze this information and be able to cross them between different papers obtaining new data, like term frequencies, similarity coefficients and correlational analysis.

Applications of Text Mining

Text similarity studies

Statistical methods allow us to overlap the digital footprint of two different texts if we have the corresponding TDMs from both of them stored in a database.

The information of two different texts can be crossed to obtain the similarity coefficient. Basically, is a frequency scalar product pondered from all the common words in both compared texts.

The coefficients for the articles can be calculated, the TDMs stored in our database and provide this information rapidly in real time, when the users are asking for words and specific terms on the website.

The first task is scanning them to transform the printed text into digital text.

Next, the texts are stored in a worksheet, placing each word in a cell. With this operation, we are able to work automatically with the texts and make operations with it, such as counting rows, words, aggregating values, measuring frequencies, etc.

Right after it is necessary to remove the stop-words, that is those words with no specific significance and elements that create background noise and interference in our analysis.

With the clean text, it is possible to build the

TDM (Text Document Matrix) and store it in the data base, that now includes more information than the classical metadata of an article. Stored the TDM information by article, we can overlap them and make calculations. One of them is the similarity index (SIM), which provide us a quantitate value of how near two texts are in terms of significance. This indicator is directly proportional to the specific similarity between the two texts. The SIM coefficient has values between 0 (no coincidence) and 1 (total identity between texts).

Even more, it is possible to calculate - via TDM - the different SIMs of all articles stored in our database, what constitute a powerful tool to indicate how close two texts are in terms of significance.

This praxis saves researchers a lot of time, and puts them rapidly in the picture, selecting what they are only interested on.

Word correlation studies

This technique establishes word association patterns that commonly appear together and validate previous hypothesis. This skill gives the opportunity to make word associations, but much faster than we were able to in the past and giving new analytical components to our study.

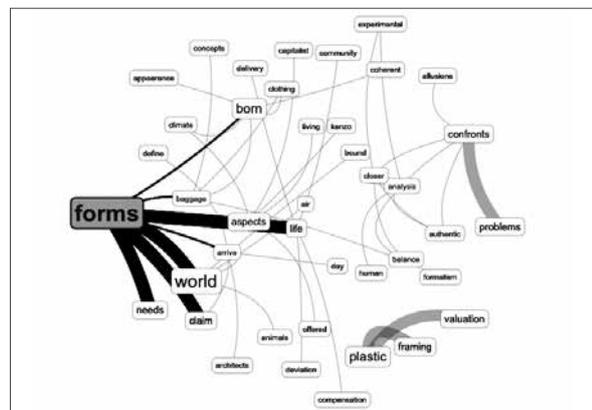


Fig. 4. Correlation study of 'forms', one of the most frequent words included in Fernández Alba (1963). (Source: prepared by the authors)

Studies of frequency

Delimiting the perimeter in advance is always beneficial. The database could be remarkable for researchers in terms of obtaining high word frequencies. With this first request, a list of principal articles can be obtained on a first approach. Completing this with coefficients of similarity - already stored in the database - the selection criteria will be stronger.

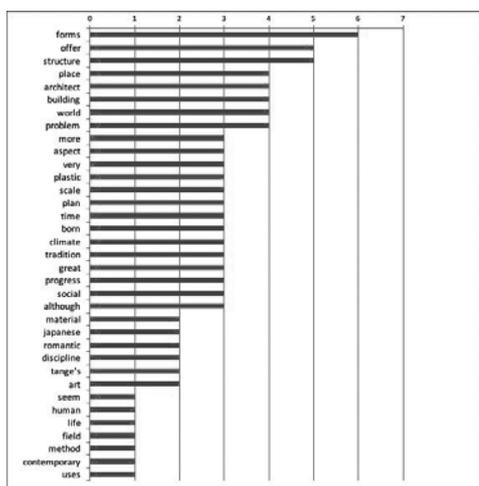


Fig. 5. Frequencies graph of the words included in Fernández Alba (1963). (Source: prepared by the authors)

national Conference on, IEEE Xplore Digital Library (<http://ieeexplore.ieee.org/abstract/document/4530518/>, search date: 03/10/2017).

3) Juan Pablo Bonta, (1996) *American Architects and Texts: A Computer-Aided Analysis of the Literature*, The MIT Press, Cambridge (Mass).

4) <https://books.google.com/ngrams>.

Conclusions

Architectural periodicals include a great proportion of the events that occurred in the twentieth century and can therefore be considered the best database of Modern Architecture. However, the human brain cannot assimilate such information. To exploit it we need to digitalize it.

Text Mining techniques is unable to resolve the entire research process, but it can help in saving a lot of time. They can definitely contribute in locating new topics. If we add statistic treatment of information and string characters to the general data we have collected from the papers and articles and have included in a database, we can create a high-performance tool for text analysis.

ArchiteXt Mining is going to test this technology in the field of architecture but doesn't want to restrict itself to Spain or the decades of the fifties or sixties. It prefers to grow and turn into a global tool that will make easier the studies about the dissemination of the architectural trends and the exchange between countries and continents.

Acknowledgments

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References

- 1) <http://www.corpusthomicum.org/it/index.age>.
- 2) Philip Sallis, Subana Shanmuganathan, (2008) 'A Blended Text Mining Method for Authorship Authentication', in *Analysis, Modelling & Simulation*, 2008. AICMS 08. Second Asia Inter-

Understanding the Japanese culture of space from a cross-disciplinary approach. —JAPARCHI: From a network to a collaborative tool for innovative research—

Corinne TIRY-ONO¹

¹ Professor, National School of Architecture Paris Val de Seine

Abstract

The French-Japanese research network Japarchi has produced in 2014 a “Vocabulary of Japanese spatial concepts” published as a book in French. Its purpose consists of approaching the question of space in the Japanese culture through its notions, as material or conceptual devices, bringing together in a specific form diversified knowledge, using written and visual materials. Japarchi’s next project for 2018-2020 aims at developing its network research system into a digital collaborative tool for its community as well as a dynamic online database open to the public, while keeping the same frame and format principles. In particular, the chosen format is a dictionary entry through a term, rather than a category for instance, inasmuch as it offers the possibility to build a cross-disciplinary approach. Among several advantages, a digital collaborative platform would provide the possibility to review, update, interconnect and geo-localize the written and visual materials, enhancing and facilitating the research production as well as the multiplicity of its information layers. In other words, it should respond to the idea of an information research network, at the same time enriching the research process and giving access to its results in different ways.

Keywords: Japanese spatial culture; encyclopaedia; collaborative research tool; digital knowledge platform; interdisciplinary

Introduction

Considering space as a cultural tool to understand a society and its environment—past, present and future—, we consider that identifying and sharing fundamental knowledge is becoming more and more crucial in the context of a rapidly changing world. Research has indeed an important role to play in this context, such as revealing the sometimes hidden, lost or forgotten spatial structure of a specific culture, clarifying its meaning and complexity, looking at its formation or regeneration through various influences, borrowings, adaptations, etc. In other words, it helps to better understand changes in progress and cultural differences, aiming at bringing closer different cultures in order to temper the conventional on-going discourse on cultural homogenization due to our globalized world. Spatial notions and their built-up devices constitute a visible and material expression of such dynamics. The dispersed range of knowledge it requires formed the first motivation to establish the Japarchi research network.

What is the Japarchi research network?

Japarchi is a French-Japanese research network founded in 2006 by a group of French architects and scholars teaching and doing research in the French National Graduate schools of Architecture. It is fund-

ed by the French Ministry of Culture and Communication—among nine Thematic Academic Networks— as a part of its policy to develop research in the field of architecture, urban and landscape theory, history and design, and to encourage cross-disciplinary and international approaches.

It gathers now nearly one hundred French and French-speaking Japanese members involved in research and education, from an undergraduate to a doctoral level, in the disciplines of space focusing on Japan’s spatial culture studies. The members belong to various disciplines such as architecture, urban planning, landscape design, geography, history, philosophy, anthropology, aesthetics, etc.

The original tasks of the network are:

- to link scientific productions, pedagogical practices and professional stakes, in the thematic area, between France and Japan but also at an international level;
- to capitalize and disseminate the results of scientific research in the thematic area;
- to make knowledge and information available to

Contact Author 1: Corinne Tiry-Ono, Professor
École nationale supérieure Paris-Val de Seine
3, quai Panhard et Levassor – 75013 Paris (France)
France: +33.(0)6.9512.8879 Japan: +81.(0)80.4293.5541
e-mail: corinne.tiry.ono[at]gmail.com

architecture students who are engaged in this thematic area from the Master level (in order to build, in the thematic area under consideration, an innovative doctoral logic);

- to foster scientific activities such as research seminars, symposiums and collective publications, by the members of the network.

More than a network, Japarchi is a knowledge and information platform to facilitate and promote cross-cultural studies between France and Japan in the fields of architecture, urban and landscape history, theory and design. It is not a research laboratory specialized in one specific discipline but a platform where specialists of the Japanese culture of space coming from different institutions and disciplines can meet, exchange, and collaborate.

Its organization is a guaranty of its scientific level, most of its members being confirmed researchers involved in official research laboratories. Its structure comprises:

- a double head Direction (one in France, one in Japan);
- a French-Japanese Scientific Committee (8 members): it gives scientific orientations, evaluates the proposals;
- a Reading Committee: its composition changes according to the research project.

This platform offers tools and a methodology allowing to link the diversity of the members and knowledge:

- a Website (see reference): as a communication tool, open to the public. It is a showcase of the members' activities and production, as well as an information database about universities, research centres, cultural institutions and exchange programs involved in French-Japanese academic relationships in those fields;

- a Steering group: it links the members, the members and the public, feeds the website and diffuses information, organizes events;

- a Shared research frame & format: to approach the question of space through its notions, as material or conceptual devices, bringing together in a specific form diversified knowledge, using written and visual materials.

Japarchi editorial production in 2014

The "Frame" is a common research project based on the definition of the spatial concepts of the Japanese culture through its own words or vocabulary, and its translation into spatial devices.

It has been implemented regarding four specific dimensions of "space" as a research object—our purpose being to use them into a dynamic research process rather than compartments or separated categories:

- 1- the question of scale (from micro to macro) as a specificity of our fields: to establish links rather than differences;

- 2- the question of time (historical and present): to identify dynamic relationships between times revealing permanence and mutations;

- 3- the diversity of fields and disciplines: to create interaction rather than partition;

- 4- the dual source of knowledge: to reinforce the dialogue between researchers and practitioners.

The "Format" is a dictionary entry based on quantitative and qualitative specifications or guidelines that reflect those complementary dimensions. Each entry is a term that can be a notion, a toponym, an architectural or urban type, a spatial phenomenon, etc. considered as significant of the Japanese spatial culture. The advantage of using terms, rather than categories for instance, offers the possibility to build an interdisciplinary approach.

Each entry starts with a focus on the genealogy of the term and its meaning(s), from its origin to its present usage. It then develops a dynamic definition through explanations of the former spatial device(s) to the current situation, bringing light to its transformation process as well as its permanence. It contains references to other entries of the dictionary when appropriate. Visual materials such as drawings and photographs illustrate a historical stage or a specific representation the device has introduced.

The most important research production of Japarchi is the publication in French of a collective book in 2014 that takes the form of a "Vocabulary of Japanese spatial concepts" (see reference, Fig.1&2). It encompasses topics stretching from gardens, the wider landscape, urban spaces down to intimate spaces such as the Japanese house. The book's aim is to let the reader freely discover Japan's spatial culture, through a series of entries encompassing the fundamentals of the Japanese culture of gardens, tea pavilions, architecture, nature and the city. It is accompanied by a rich iconography (photos, drawings, paintings, maps), and is accessible to an interested public as well as a guide for the students. 64 members contributed to the book, which comprises 190 entries. It has been re-printed five times so far due to success in the bookstores, and received the prize of the French Academy of Architecture in 2014.

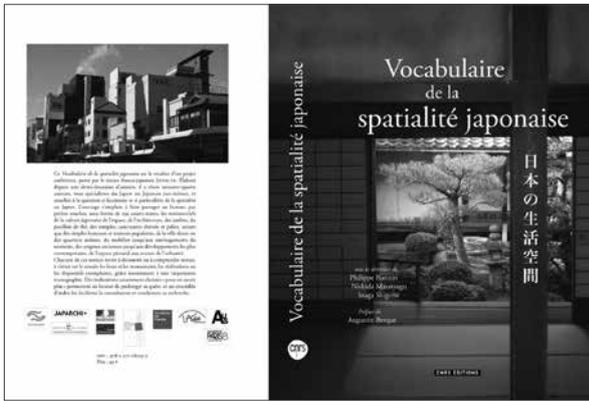


Fig.1. Japarchi collective publication in 2014 (back and front cover).

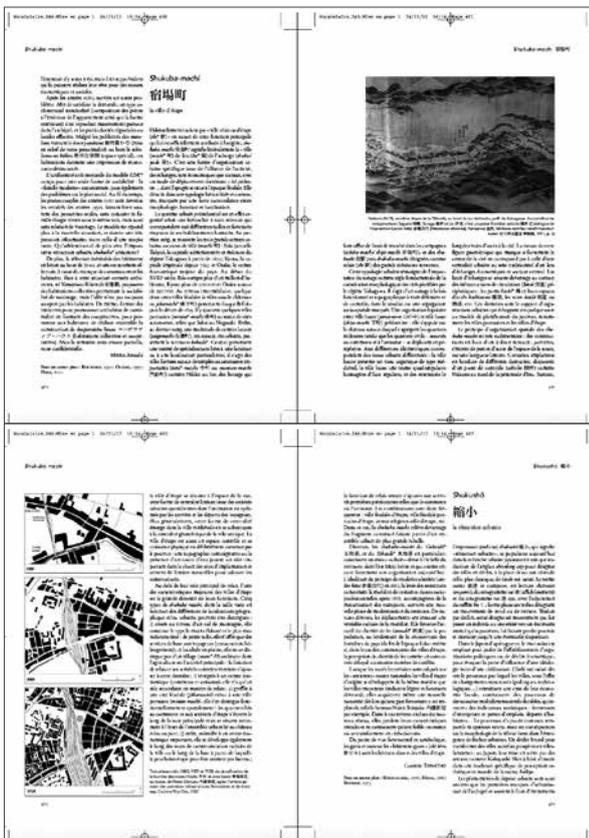


Fig.2. Example of one entry using an urban type to describe a large scale spatial organisation, from its original meaning to its current definition ("shukuba-machi/宿場町/la ville d'étape", op. cit., p.460-463)

From a book to a collaborative tool?

Japarchi's next project for 2018-2020 is to develop the network or platform system into a collaborative tool in order to create a dynamic online database (the traditional publication system remaining static and limited, it is a result rather than a process) while keeping the same frame and format principles. About 100 entries that have been selected by the Scientific Committee, are not integrated in the book nor completed so far.

Its impact on the production of knowledge would be:

- to increase the complementary dynamic between fields, disciplines, times, scales, etc. as a potential to upgrade the production of knowledge in terms of quality and innovation;
- to stimulate the reactivity of the research community (making comments on, or reviews of the new online published entries, for instance);
- to update the production, and make it available in other languages (mainly Japanese and English);
- to make more visual materials available;
- to geo-localize the examples the authors are mentioning or describing;
- to interconnect the written and visual materials in order to create multiple layers of information;
- to create hyperlinks with other Japanese studies' institutions and research centres and their online productions (open edition scientific magazines, for instance) as knowledge extensions.

One example we are now studying as a reference is the Archipédie collaborative digital platform opened to the public in 2017 in its first stage completion (see reference). Archipédie is a collaborative digital encyclopaedia on modern and contemporary architecture conceived by the Cité de l'Architecture et du patrimoine (French National Centre for Architecture and Preservation, Ministry of Culture and Communication) based in Paris-France. In a few words: Archipédie is an editorial project with educational and experimental dimensions, a place for sharing and diffusing knowledge on modern and contemporary architecture. Its focus is the history of men and women who make architecture—therefore each entry of the Archipédie encyclopaedia is the name of an architect and its content a monograph.

In many aspects, the purpose, the architecture and the functionality of the Archipédie collaborative digital platform seem suitable regarding the new Japarchi project. In both cases, some obstacles like the visual materials' copyrights for instance can be surpassed thanks to the links the digital tools now bring to the researchers community and the public. In other words, it could respond to the idea of an information research network, allowing a research process as well as an access to its results.

Présentation • Actualités • Actés du réseau • Annuaire • liens • Contact **JAPARCHI**

Accueil • Outils • **Index alphabétique en français du « Vocabulaire de la spatialité japonaise »**

Outil complémentaire de consultation de l'ouvrage « Vocabulaire de la spatialité japonaise »
Télécharger le document au format pdf au excel

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A

acteurs de la construction	Zemiten / seikai jimbudo	ゼンティン / 設計事務所	P543
alignement	Machinami	まちなみ	P299
aménagement du territoire	Kokuso kaitaku	国土計画	P276
apartment	Jichonai	住棟	P192
apartment type	LDK (living/dining/ kitchen)	エス・ブローラー	P203
architecture	Kenchiku	建築	P247

B

bains	Furo	風呂	P135
barrière	Koga	峠	P266
barriques	Baraku	バラック	P46
balcon	Konkurito	コンクリート	P276
biens culturels	Bunka zai	文化財	P63

Fig.3. One intermediate tool: the book's online index according to the French alphabetical order (<http://japarchi.fr/outils/index-alphabetique-francais-du-vocabulaire-de-la-spatialite-japonaise/>)

References

- 1) Philippe Bonnin, Nishida Masatsugu, Inaga Shigemi, (eds), (2014) *Vocabulaire de la spatialité japonaise*, CNRS, Paris, 605p.
- 2) Japarchi, réseau scientifique thématique des chercheurs francophones sur l'architecture, la ville et le paysage japonais / www.japarchi.archi.fr or <http://japarchi.fr/>
- 3) Cité de l'architecture et du patrimoine (CAPA), (ed.), (2017) *Archipédie*, CAPA, Paris, <http://archipédie.citedelarchitecture.fr>

Reading the Exchange —Mapping Journals as Platform for Urban Knowledge—

Gaia CAMELLINO¹

¹ Assistant Professor, Polytechnic University of Milan

Abstract

Mapping the Transfer (1920s-1970s): Magazines as Platforms for Architecture and Urban Knowledge (resp. Gaia Caramellino and Nicole De Togni) is a project inaugurated in 2014 and developed over the last three years with the contribution of the Master students of the course in History and Theory of Architecture, at the Politecnico di Milano. It is based on the inquiry conducted on forty-six periodicals published in seventeen diverse countries between the 1920s and the 1970s. The presentation will discuss the creation of a database aimed at facilitating the study of the international circulation of models, persons and discourses in areas of diverse cultural and linguistic background. A powerful tool/source for the research in the field of transnational studies, the database will not be used to address the history of periodicals and the editorial culture – observed within their national boundaries –, but will rather encourage a cross-national and cross-cultural reading, aimed at investigating the international dimension of the process of production and discussion of architectural and planning knowledge over the 20th century. As a testing ground, the database will be used for the investigation of the transfer of urban notions and visions between US and Italy, after WWII. The main goal will be to map the exchange, but also to analyze the forms of reception and adaptation at local level, by questioning their impact on the urban environment.

Keywords: Mapping; architectural periodicals; transfer; urban criticism

Introduction

The paper attempts to envisage the creation of the database Mapping the Reading: Architecture and Urban Criticism Over the 20th Century, a digital platform conceived as a research tool and a source for scholars interested in transnational architecture and urbanism.

The database will collect the first results of the ongoing research project Mapping the Transfer (1920s-1970s): Magazines as Platforms for Architecture and Urban Criticism (resp. Gaia Caramellino and Nicole De Togni), inaugurated in 2014 and conducted over the last three years with the contribution of the students of the Master course in History and Theory of Architecture, at the Politecnico di Milano.

Addressing specialized periodicals as sites of construction (Colomina, 2012) and production of knowledge, as well as platforms for criticism –the forerunner of the contemporary blogs – the database aims at facilitating the research on architecture and urban knowledge at global scale, offering a transversal tool to read the international exchange and document the circulation of projects, persons, networks, discourses, notions and visions, in diverse national and cultural areas over the 20th century, as well as their forms of reception and adaptation at local level and by national professional cultures and bureaucracies.

In the most recent years, a set of research networks addressed the history of the specialized journals and of the editorial culture, observed within their national boundaries (as for example the project Thesiteofdiscourse). Our project looks rather at periodicals as objects of enquiry and sources to construct new narratives, putting in relation diverse geographies, encouraging the observation of their mutual interplay, with the aim of documenting and mapping the migration of architecture and planning cultures across regions, and focusing on the vectors and agents of the transfer.

This angle allows a critical reflection on the mobility of discourses and models in space and time, bringing to the light general features and local specificities, that contribute to a deeper understanding of the transnational production of architectural and urban knowledge, observing the process of codification of certain notions in their shifting across linguistic, disciplinary and institutional frames, as well as their fortune and crisis over the 20th century. The survey on the magazines also contributed to question some conventional chronologies proposed by canonic narratives and overcome monographic and “localistic” approaches.

Contact Author 1: Gaia Caramellino
Assistant Professor, Politecnico di Milano
Department of Architecture and Urban Studies
Via Bonardi 3, 20133 Milan, Italy

Over the last three years, the research has investigated 46 periodicals, published in 17 different countries (Argentina, Australia, Brazil, France, Greece, Hungary, India, Iran, Italy, Japan, Mexico, Poland, Russia, Spain, Turkey, United Kingdom and United States) between 1923 and 1975, documenting also all modifications in the title, structure, layout and composition of the editorial board over the time. The corpus of periodicals includes diverse types of magazines (Jannièrè, 2016: *XXth Century Architectural Magazines in/for Architectural History: a Critical Survey*): institutional journals linked to official professional organizations (among them JAIA, OAP, *Revista de arquitectura y Urbanismo COAM*, AIA_Royal Australian Institute of Architects, *Urbanistica*, *Rivista bimestrale dell'INU*, *Új Építészeti*, the journal of the Union of Hungarian Construction Workers), official vehicles of political associations (like the Italian *Architettura/Sindacato Nazionale Fascista Architetti*, the Spanish *Hogar y Arquitectura*, *Revista bimestral de la obra sindical del hogar*), “small magazines” (Colomina, 2011), as well as academic, technical and commercial periodicals

Moving from the list of articles – the excel is conceived as a static tool – students’ elaborations provided a first attempt to create bi-dimensional visualizations (variable in time and space) of the collected data. A brief description of the initial input and output will help to understand the methodology adopted for the work of analysis conducted on the contents of the journals.

After compiling the listing of the articles through the use of a conceptual grid, the different parts of the journals were analyzed: the table of contents, the colophon, the covers, the advertisements and, in some cases, also the sections dedicated to the comic strips. The first quantitative and qualitative elaboration of all these data (like the synthesis of the contents per year, the analysis of the editorial board and of the recurrence of influential authors, or the typologies and distribution of projects and events) produced a series of bi-dimensional visualizations that adopted a wide variety of graphic tools: multilayered timelines, pie charts, histograms, maps, clouds. On the one side the maps, with the geolocalization of the projects, were used to document the centrality of certain geographies and their variation, discourses and projects in precise historical moments; on the other, they are a powerful tool to visualize the trajectories of certain authors and architects, but also the mobility of models and ideas over the years. Clouds have been used in some cases

to document the recurrence of concepts and notions over the analyzed period.

The project of the database can be positioned within a recent interest for big data in the field of architecture, urban history and historiography (e.g. the recent dedicated session *Big Data in Architectural Historiography* in EAHN 2016). Treating periodicals as big data (the forerunners of IT platforms), the project has the purpose to use the collected corpus of sources, with all its potentialities, as the starting point for the construction of a digital tool (the database) that can facilitate transversal readings of the periodicals. The goal of the project is therefore to increase the complexity of the inquiry and facilitate the cross-reading and analysis of the data, by moving from a static to a dynamic platform that allows bi- and three-dimensional visualizations.

This database can provide the tool for a plurality of thematic investigations that adopt this transnational perspective. The shift from a bi-dimensional visualization to a three-dimensional visualization will allow to increase and enrich the number of outputs through diverse forms of intersection of data, to trace a multitude of new narratives on the apparition, circulation and impact of a set of architectural and urban notions, ideas and protagonists operating in a global scale.

A main goal of the proposed database will be the exploration of the terminological mobility across national, cultural, disciplinary and linguistic areas. The investigation of the migration and mutation of certain terms can help to understand also how to treat the critical statements and, more in general, the theoretical discourses. Clouds and meta-clouds can provide an extremely powerful tool to verify the recurrence of a set of notions, while theoretical maps can be a helpful support to investigate and document the terminological mobility. The international dimension, the comparative approach and the attempts to put in relation forms of knowledge produced in diverse contexts, will be made possible by shifting from the excel compilation to a dynamic visualization of the data.

Mapping the Transatlantic Exchange: Periodicals as Platform for Urban Criticism

The undergoing comparative project on the transfer of urban notions and visions, planning cultures and tools between Italy and America during the second half of the 20th century, could provide a testing ground for the creation of the digital platform. The challenge is to document the migration

and mutation of a set of urban concepts (neighborhood, townscape, urban design, urban renewal, city-region...) which had a particular fortune and informed the discourses and practices of architects and planners between the 1940s and the 1970s, often generating several misunderstandings.

The inquiry conducted on Italian and American magazines, rooted in a critical selection of database results, will allow a first assessment of the multiple occasions, platforms and vectors of the transfer and of the forms of reception and hybridization. It will provide a multifaceted and more nuanced narrative of the global history of urban criticism, leading to a deeper understanding of the process of mutual exchange and local reception in these cultural geographies. Journals will constitute a complex source to observe the places of knowledge production and its dissemination, and the paths of specific concepts from the academy to the practice to their codification in the forms of regulation and planning policies across linguistic, disciplinary and cultural frames.

The investigation will explore the appearance of certain terminologies and notions, their reception, recurrence and fortune, in order to document the process of progressive appropriation and mutation on diverse geo-cultural grounds. The inquiry conducted on the multiple use of notions such as “neighborhood” or “urban design” can provide an interesting occasion to explore the potentialities of the platform.

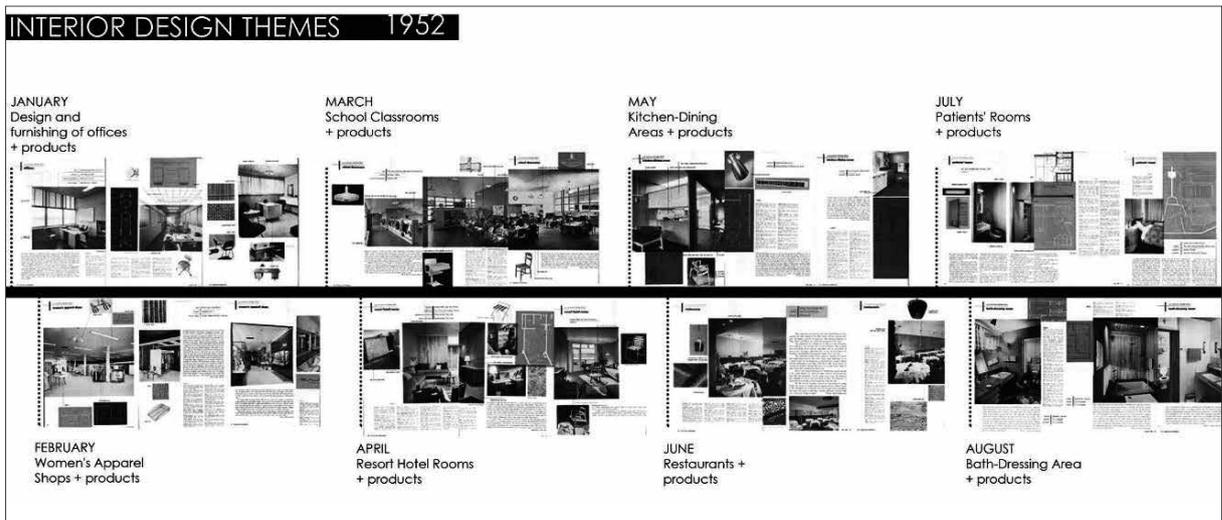
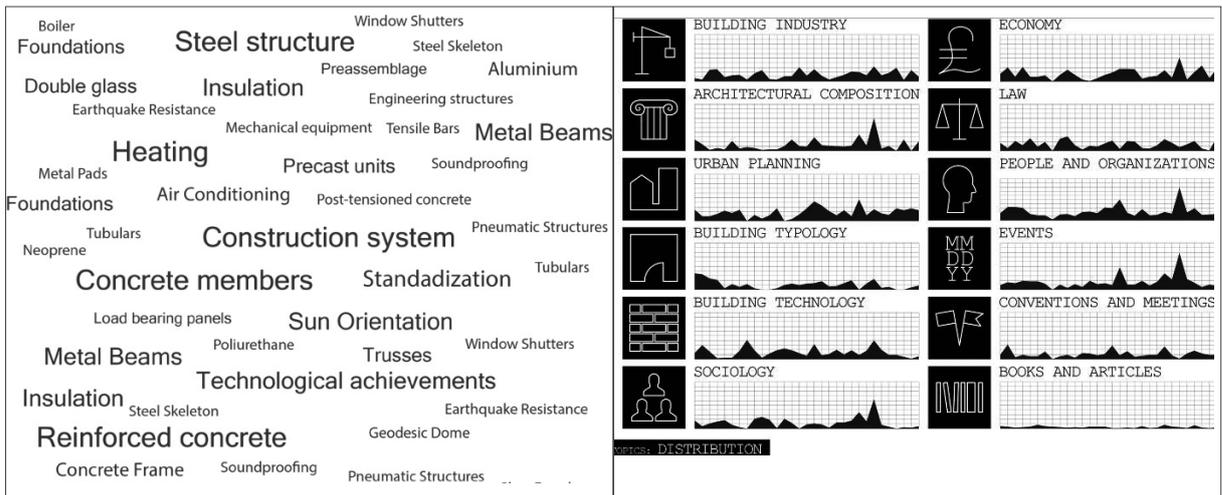
The creation of the database will allow the development of a dynamic platform that will continuously be implemented in the future, through the analysis of new magazines. The project will benefit also from the collaboration with other research networks and scholars. Beyond the already established collaboration with H el ene Janniere, the team could benefit of the relationship with the ongoing research project East Arch Pub (conducted by professor Ivo Covic at the Politecnico di Milano), based on the survey of a corpus of Eastern European periodicals published in the post-socialism years.

References

- 1) The site of discourse ([sitediscourse.org/the project](http://sitediscourse.org/the-project))
- 2) Mapping. Crit. Arch: Architectural Criticism XXth and XXIst centuries, a cartography (<http://mac.hypotheses.org>)
- 3) The printed and the built. Architecture and Public Debate in Modern Europe (Oslo School of Architecture, Oslo Center for Critical Architectural Study <https://theprintedandthebuilt.wordpress.com/>)
- 4) Beatriz Colomina. Craig Buckley (eds), *Climp, Stamp, Fold: the Radical Architecture of Little Magazines 196X to 197X*, Barcelona, Actar, 2011.
- 5) Beatriz Colomina, *Architectural Magazines (1900-1975), Chronicles, Manifestos, Propaganda*, Pamplona, 2012.

6) H el ene Janniere, Alexis Sornin (eds), *Architectural periodicals in the 1960s and 1970s: Towards a Factual, Intellectual and Material History*, Montreal, IRHA, 2008.

7) H el ene Janniere, *Politiques  ditoriales et architecture moderne : l' mergence des nouvelles revues en France et en Italie, 1923-1939*, Paris, Editions Arguments, 2002.



20th Century Latin American Architecture: a network and an exhibition

Hugo SEGAWA¹

¹ Professor, University of Sao Paulo

Abstract

The Observatório de Arquitetura Latinoamericana Contemporânea – ODALC (Observatory of Contemporary Latin American Architecture) is a network of researchers of the University of São Paulo (Brazil), Universidad Nacional (Colombia) and Universidad Autónoma Metropolitana (Mexico) dedicated to the study of contemporary Latin American architecture and cities. As a joint research based in three different countries, with a yearly program of activities, distances and travel costs hinder a more flowing integration, although the existing availability of many IT communication and database facilities. These are diversionary set of tools, for their operational complexity, somewhat beyond real research needs in Humanities. This is a presentation that aims at showing some current *modus operandi* of the network, their limitation, and the present challenge of building a database and/or system that facilitates remote exchanges and also to discuss together the conception of a virtual/digital exhibition on the 20th century Latin American Architecture.

Keywords: Latin American architecture; Architecture research networking; Architecture exhibition; Online exhibition; IT solutions for exhibitions

Introduction

Latin American architecture and urbanism is a relevant subject of study throughout the American continent, with several centers of excellence in Latin America and in the United States, as well as, in other regions such as Portugal and Spain.

As of 2009, groups of researchers located in three of these centers of excellence, at the University of São Paulo (São Paulo, Brazil), Universidad Nacional (Bogotá, Colombia) and Universidad Autónoma Metropolitana – Xochimilco (México D.F., México), following scientific exchanges carried out in previous years, decided to organize a joint research focusing on contemporary architecture in Latin America. The Observatório de Arquitetura Latinoamericana Contemporânea – ODALC, or Observatory of Latin American Contemporary Architecture, is a network aiming at the systematic process of knowledge production, international academic integration and education, involving senior researchers, young researchers, doctoral, master and undergraduate students.

Almost yearly meetings, held in Bogotá (2009), São Paulo (2011), México D.F. (2012), Bogotá (2014), Recife (2015), Oaxaca (2016), have been the forums for discussion of research results. Notwithstanding the importance of the exchange of information, debates and the dialectic of personal meetings, the record of results lacks satisfactory documentation, since the proceedings of these meetings usually lack the richness of post-presen-

tation reflections.

The format of these meetings replicates a traditional practice of presenting results. However, considering the speed of the contemporary world, one wonders whether an international collaboration, as desired within the ODALC, would rather benefit from the use of more dynamic platforms of work. Through a new platform of work the collaboration would be achieved through interaction not in large meetings format, but in micro-meetings, and the sharing of works or co-works in progress within localized and timely exchanges.

As a trilateral joint effort, distances and travel costs hinder a more flowing integration between the members of the network.

Of course, there are tools available for virtual modes of co-working research and development: video conferencing, Skype, cloud computing, webpages, blogs, Facebook, Mendeley, Endnote, Zotero, Google devices, etc. However, this set of tools can be as useful as diversionary, for their operational complexity somewhat stands beyond real research needs in Humanities.

In addition, a structure of researchers that involves different generations results in the disparity of opinions about the use of new technological

Contact Author 1: Hugo Segawa, Professor, Department of History of Architecture and Aesthetics of Project, Faculdade de Arquitetura e Urbanismo, University of São Paulo. Rua do Lago, 876-05508-080 São Paulo SP Brazil. Tel: +55-11-3091.4553
e-mail: segawahg[a]usp.br

tools, between senior researchers who do not always dominate the IT tools, and young people with computer dominance but still immature experience in the scientific contents and methodology. Even the young generations end up using information technology as a limited tool of work, not as a resource to support the analysis of ideas about architectural design, city and urban planning. More friendly interfaces which will allow for digital inclusion is still a challenge to be overcome in order to fully incorporate new technologies in effective processes of collection, analysis and output of information of specialized scientific value.

We agree with the theme explanation of the Symposium:

Nowadays, historians, theoreticians and critics of architecture, urban design and planning have access to a huge quantity and diversity of information. They are impelled to engage into the disclosure of the knowledge produced at a local level for a larger global audience. At the same time, they need to think about how certain criteria and standards permit or impede the comparison and the sharing of this knowledge being produced in varied contexts.

These are important challenges of the 21st century that they have now to tackle in order to produce an architectural and planning culture that is critical, updated and global in scope.

The diversity of information handled in architecture and urban studies results from the diversity of approaches to the wide complexity of subjects in research. This is an important point of entanglement for projects of collective driving, which must also include individual doctorates, master's degrees researchers and undergraduate participation, integrated to the scope of the ODALC purposes.

The most usual type of information and documentation managed in architectural and urban researches deal with drawings (technical plans, sketches, mappings), photography, audio, movies and videos, digital files (of 2D or 3D modeling softwares such as AutoCAD, ArchiCAD, Sketch-Up, GIS software, Power Point, etc.) written material, articles and publications in general (printed or digital) and databases which collect materials in free format (individual annotations, sketches, observations, fiches).

This implies the designing and application of databases, datasets, data collection systems, and other potential resources that IT could offer, sur-

passing traditional and limited ways of data collection, archiving, processing and analysis.

Among the various aims proposed during the regular meetings, two issues emerged as challenges related to potentialities of IT:

1. Build a more specific database according to the network's research needs, exploiting IT resources to allow the circulation of internal documentation (of no public access due to the recording and use of copyrighted material). The system should allow for a more intense interactivity among the members of the three countries. Data feeds, information exchange and sharing of work development should be done from and to any research center, with a more user friendly unfragmented platform than those available in international research software systems.
2. The design of a virtual/online exhibition on the 20th century Architecture in Latin America. The exhibition would be organized with flexible contents, multilingual, shaped according to the occasion and the desired focus of users. It would be possible to select segments of the totality, according to chronological, thematic, typological, geographical or any other convenient criteria. It could be exhibited in museums, cultural centers and schools by means of large-format projections or in monitors, or presented in the form of lectures. It would be constantly remodeled and updated, according to the advances of the research and improvement of the available material for the show.

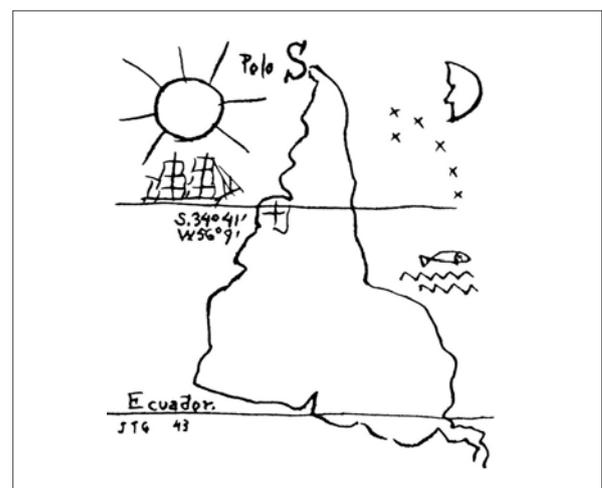


Fig.1. Joaquín Torres-García (1874-1949), America inverted, 1943.

GIS Thematic Mapping as an Instrument of Analysis for Identifying Rural Areas in Complex Territories

Roberta Fontan P. GALVÃO¹

¹ Doctoral Student, University of Sao Paulo

Marta Dora GROSTEIN²

² Professor, University of Sao Paulo

Abstract

Currently, new economic and population dynamics formed in metropolitan areas – such as the case of the Macrometrópole Paulista (MMP), “macro-metropolitan region of São Paulo” – have established territorial, socio-economic and environmental transformations that impact urban and rural spaces.

Over the years, the productive activities in this enormous network of cities – the MMP – has gone through important physical and functional changes in which many activities lost their regional economic importance as can be seen in the decrease of population engaged in agricultural activities of rural areas. In this context, spaces have become quite heterogeneous, where the highly developed agro-industry exists alongside low-density areas with local agricultural production that does not participate in larger production chains. This diversity in the MMP makes it difficult to define and distinguish between rural and urban spaces, and requires new cartography resources capable of adjusting to and representing such phenomena in which the boundaries between these spaces can be definitively settled.

The Brazilian official territorial classification adopted by the Brazilian Institute of Geography and Statistics (IBGE) is based on an administrative definition of district and urban perimeter. The lack of a single national criterion in Brazil has resulted in arbitrary boundaries of rural and urban spaces.

This article aims to present the differences between the current Brazilian classification of urban and rural spaces with the research findings in “The rural in the São Paulo urbanization in a macro-metropolitan context”, beginning with an exploration of the concept of rural and the variables that characterize these areas.

Research has shown that in order to grasp the different aspects of the land it is necessary to find tools that can combine and integrate immense volumes of data on different scales and that came from various sources. The multivariate analysis of data associated with Geographic Information System (GIS) tools consists of a powerful set of instruments that can enhance the representations and analyzes so that further research can be developed on rural and urban boundaries in the context of intense urbanization. The cartography tools, presented in this article as a territorial feature on different scales and with varied complexity, allow research on public policies’ definitions and also as a way of disseminating the results and its applicability through the use of GIS in the digital environment.

Keywords: rural areas; metropolitan region; São Paulo; GIS tools.

Introduction

The definition of the term rural involves many different points of view and depends on economic, social, and cultural contexts, among other issues.

Most authors understand that the concept of rural is associated with the presence of agricultural and livestock production in a given region; low density populations, and the predominance of natural landscapes.

However, in the context of intense urbanization, the last few decades have shown that technological transformations, especially concerning transport and communications, will no longer admit that these parameters are sufficient to define rural spaces.

The rural spaces have become heterogeneous in terms of the activities developed in them and the commuting movements of its population, intensifying the relationship between city and countryside. The great diversity seen in these spaces made it difficult to distinguish between rural and urban spaces, imposing on cartography the challenge of finding resources that are capable of accurately representing such phenomena. Furthermore, it is necessary to consider new economic and commerce

Contact Author 1: Roberta Fontan P. Galvão, Doctoral Student, Procam/IEE/USP, Rua Dr. Augusto de Miranda, 907 apto. 115, Vila Pompeia, CEP 05026-000, São Paulo/SP.
Tel: 55 11 97652-8962 Fax: 55 11 3812-8892
e-mail: robertafontan[a]gmail.com; rfontan[a]jusp.br

development in and between territories, both urban and rural, in order to reassess variables and parameters which are the criteria taken into consideration during the process of defining rural and urban areas.

Since the mid-1960s, Brazil has become a predominantly urban nation mainly due to the migratory movements from the countryside to the city stimulated by employment opportunities. Above Fig. 1 shows demographic evolution and the points at which this change occurs.

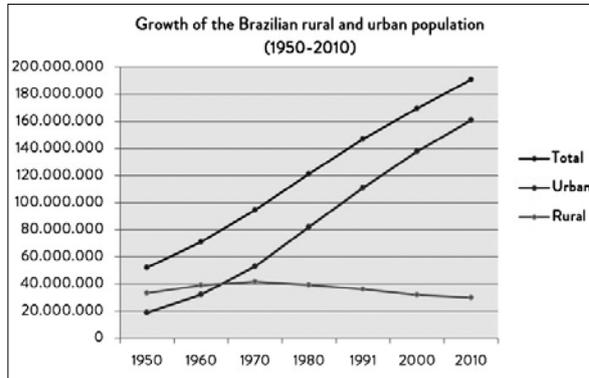


Fig.1. Growth of the Brazilian rural and urban population

How the division of land into rural and urban spaces in Brazil's case is defined adopts the following logic. There are no national criterion to how city management defines district and urban perimeters and in general it is intimately related to financial benefits these definitions may incur. This division is also used to classify households in official Brazilian surveys and is adopted by the Brazilian Institute of Geography and Statistics (IBGE). The problem with this classification is that it is based on a definition of "city" as the head office of a municipality and it was established in a 1938 law. In addition, the municipality defines their official limits between urban and rural areas through the Urban Perimeter Law or its Master Plans according to different criteria and based on the interests of each locality.

Therefore, this article aims to present the differences in the current Brazilian classification of "urban" and "rural" spaces with the results found in the doctoral research entitled "The rural in São Paulo urbanization in a macro-metropolitan context". It considers the boundaries for rural and urban areas as concepts under construction because of their constant transformation and because it requires multiple lenses – spatial, demographic, socioeconomic, cultural and environmental – which are encompassed in space and time.

metropolises, a fact which, to a certain extent,

has contributed to the development of some rural areas.

The Macrometropolitan Region of São Paulo is the large territory situated in the eastern region of the state of São Paulo. It is composed of 174 municipalities and it was established as a result of important economic and demographic dynamics that occur throughout the five (5) metropolitan regions in São Paulo State: the São Paulo Metropolitan Region (RMSP); Campinas Metropolitan Region (RMC); Baixada Santista Metropolitan Region (RMB); Vale do Paraíba e Litoral Norte Metropolitan Region (MRVPLN) and Sorocaba Metropolitan Region (RMS). There are still two (2) relevant urban agglomerations (Jundiaí e Piracicaba) and one (1) regional unit (Bragantina)¹, as can be seen in Fig. 1 below.

The MMP is 53,000 km² in area and there are approximately 31 million people living in this region according to the Brazilian Institute of Geography and Statistics (2010). It corresponds to approximately 75% of São Paulo State's population. The demographic density of the region varies between 7.33 hab./km² (in the São José do Barreiro municipality) and 13,534.82 hab./km² (in the Taboão da Serra municipality). Moreover, it concentrates about 83.7% of the State of São Paulo's Gross Domestic Product (GDP).

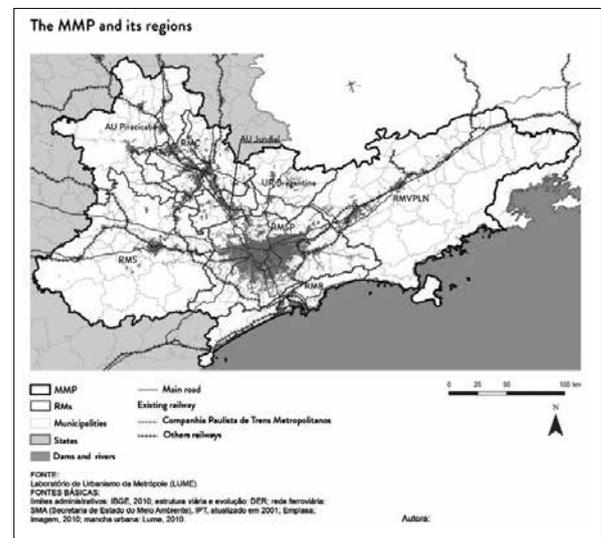


Fig.2. The MMP and its regions

New economic and population dynamics produced in metropolitan areas – such as the case of the Macrometropole Paulista (MMP) – impose ter-

1. The state of São Paulo has in its territory: metropolitan regions, urban agglomerations and regional units that have been defined by state laws.

ritorial, socio-economic and environmental transformations that impact urban and rural spaces.

Over the years, the production activities in this enormous network of cities underwent important geographical and functional changes in which many activities lost its regional economic importance. This can be observed in rural areas where beginning in the 1970's, the Brazilian government gave industrial companies, incentives to move to the hinterlands of São Paulo State promoting changes in rural areas.

Heterogeneous rural-urban spaces have been consolidated, in which both the highly-developed, industry-driven agro-industry coexist with low-density populations that have less-developed economies, which in turn has shown low productivity in larger agricultural chains.

Despite the intense urbanization process in the MMP, there are many natural areas such as protected forests and water sources with great relevance to the region's development and its population. On the other hand, agricultural activities have played an important role that range from recreational areas, income generation, environmental education to nature preservation and food production.

Thus, when thinking about land use in a macro-metropolitan context and the configuration of its urbanization dynamics, as is the case of MMP, it is necessary to incorporate new instruments that are capable of encapsulating the various dimensions of these spaces in their metamorphoses. Moreover it is necessary to assess the impact these metamorphoses have on the land over time as well as to review the current criteria from which the boundaries between these spaces – rural and urban – were determined.

These tools should allow the combination and integration of large volumes of data at different scales from different sources and can be represented in different contexts. Given the multiplicity of spatial data, Geographic Information Systems (GIS) and its analysis tools allow for the production, organization and complex combinations of data in varied scales, as well as map design and thematic cartography. GIS, together with the thematic cartography produced by it, are the tools of analysis included in the characterization of MMP spaces and indication of their rural areas.

The various sources of data used during the research from which this article is derived include demographic and agricultural censuses and detailed farming data from Lupa/CATI/IEA, among others.

In the Fig. 2 and 3 are included maps that demonstrate Brazil's classification of urban and rural in the MMP. In the maps of Fig. 2, the first map (top left) is the official MMP classification that distinguishes between rural and urban spaces; second (top right) is the "urban spot," meaning the urbanization of this territory; the third (bottom left) illustrates the merge of the first and second maps; and fourth (bottom right) is the result. It is noted, as shown in the last map, that some municipalities are wholly classified as urban spaces.

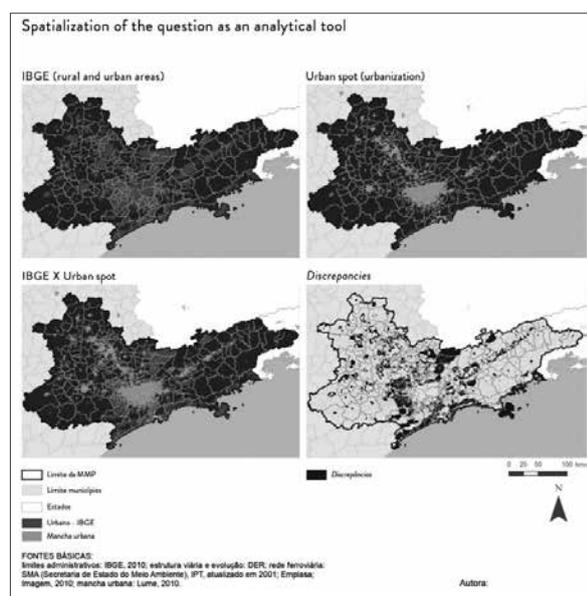


Fig.3 Spatialization of the question as an analytical tool

Among some of the differences found between the official Brazilian classification and the urbanized areas identified through the urban spot, three (3) examples were selected and characterized with regard to social and economic aspects in order to confirm or refute the boundaries of their rural and urban areas: São Paulo, Piracaia and Joanópolis.

Even though new rural zones of São Paulo city defined by the PDE 2014, to some extent, correspond to what the Brazilian Institute of Geography and Statistics (IBGE) classify as rural areas of this territory (like the north of the municipality), the IBGE defines this area to the north as clearly urban areas. It is true that there is intense urbanization pressure in these areas, but it has not yet been totally occupied by urban sprawl as suggested by IBGE classification and still preserves fragments of the Atlantic forest, as shown in Fig. 3, that are protected by law.

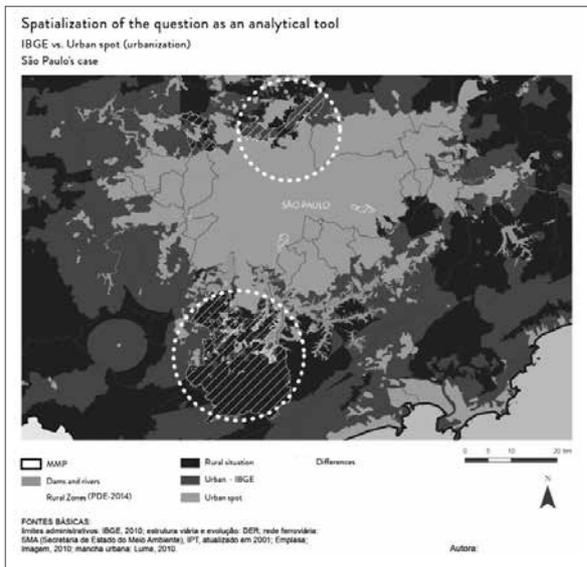


Fig. 4 Spatialization of the question as an analytical tool – IBGE vs. Urban spot (urbanization). São Paulo's case.

There was a decline in the number of establishments and employed persons in agricultural activities between the latest Agricultural Census (1996 and 2006) despite the area has been growing, while in the Lupa/CATI/IEA (2007-2008) survey there are 253 Agricultural Production Units (APUs) in the municipality of São Paulo and they occupy 2,936 hectares, which is approximately 2% of its territory. In these units, in addition to agricultural activities, there are also commercial activities and services such as restaurants and other leisure activities. It is also important to note that the population of the São Paulo municipality in 2010 was 11,253,503 inhabitants and it has an average population density of approximately 7,398.26 inhab./km². That is, a big population with high density levels is attributed to urban areas.

Another and different situation is observed in the Piracaia and Joanópolis municipalities. These two municipalities have small population low densities and are predominately occupied by agricultural activities.

Piracaia is a municipality with 25,116 inhabitants and a demographic density with roughly 65.15 inhab./km² (IBGE, 2010). Even more, there are 951 APUs with farmer activities like animal husbandry and agriculture, but also rural-touristic activities, artisanal production, and restaurants. However, the IBGE classification had defined this municipality as completely “urban” space as can be observed in Fig 5.

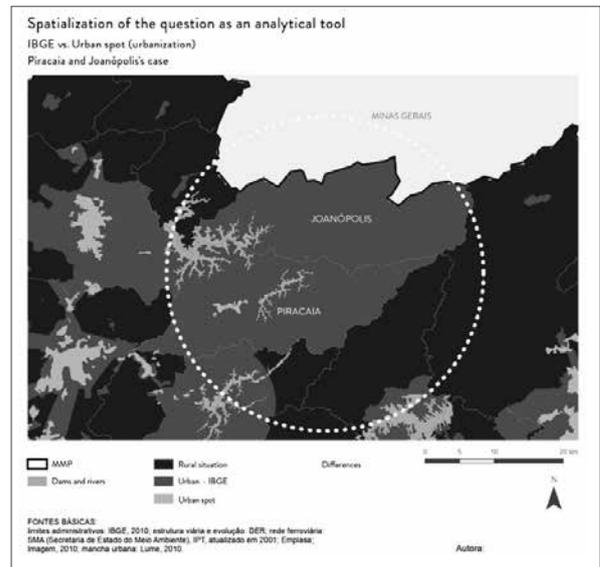


Fig. 5 Spatialization of the question as an analytical tool – IBGE vs. Urban spot (urbanization). Piracaia and Joanópolis's

The graphic in Fig. 6 shows the different types of occupation in non-urban areas of Piracaia municipality. As can be seen, approximately 77% of its territory is agricultural spaces.

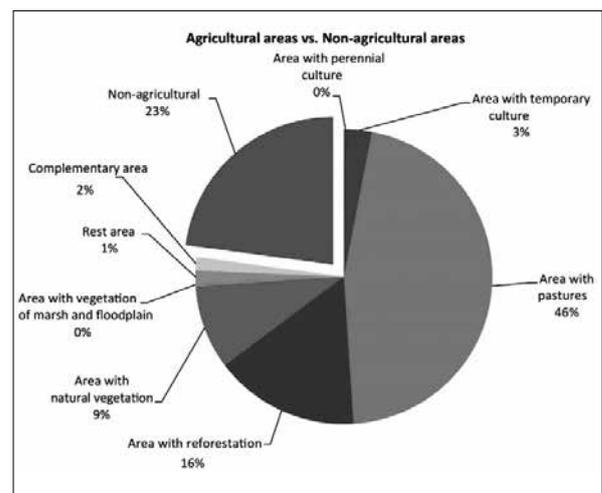


Fig.6 Agricultural and non-agricultural areas from Piracaia

Similarly, in Joanópolis' case the population is approximately 11,768 and the demographic density is 31.44 inhab./km², according to IBGE (2010). There are 1,041 APUs, according to Lupa/CATI/IEA (2007-2008). In addition to the previously mentioned activities for Piracaia include country hotels, hostels, restaurants and snack bars, also contribute to the local economy found in these units. Only 7% of this territory is considered non-agricultural area according to Lupa/CATI/IEA (2007-2008), and the agricultural areas are predominately occupied by pasturelands, as can be seen above (Fig. 6).

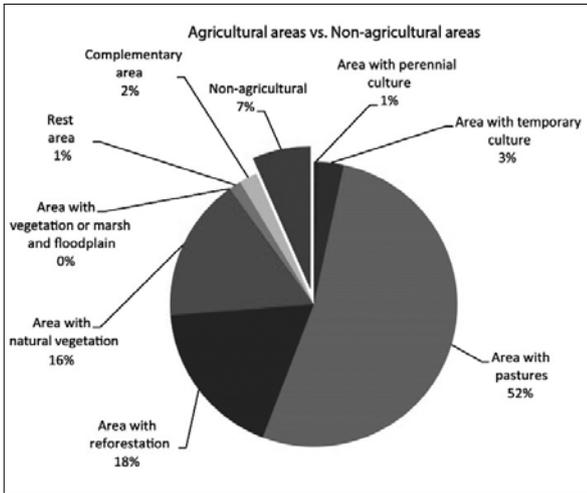


Fig.7 Agricultural and non-agricultural areas from Joanópolis

Other data that can help the analyses over the MMP territory about rural spaces is the number of working-age population and the Gross Domestic Product (GDP). It is possible to observe in Fig 8 that Piracaia and Joanópolis are found in the lower ranges of values which mean less relevance to the greater economy.

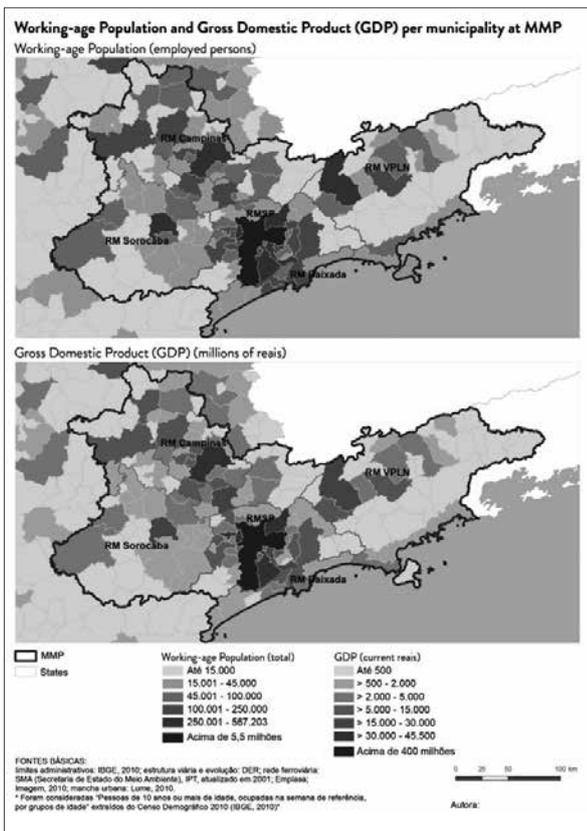


Fig.8 Working-age Population and Gross Domestic Product (GDP) per municipality at MMP

The variables analyzed in this article and the corresponding research are concerned with different types of institutional sources and consequently are frequently linked with incompatible territorial

divisions that demand efforts for possible comparisons and collaboration in the future. The GIS tools offer several resources that can help to organize and manage a great volume of data. The results demonstrate the relevant contribution of these analysis tools as a territory learning feature on different scales and complexity that reveal the relationship established between different and multiple aspects on studies and research in public policy definitions.

Despite this problem, it is possible to introduce many others tools such as the Self-Organizing Map (SOM), which is based on a neural network algorithm capable of working with many variables in many different territorial divisions that can build a map as a gradient from rural to urban and as a hypothesis through which the rigidity of the delimitation of rural-urban could be dissolved.

In this sense, an important challenge when thinking about cross-country research such as in view of the cultural and socioeconomic differences between Brazil and Japan, refers to understand and making database compatible in both contexts to be studied.

Furthermore, these tools and its products have also been used in the dissemination of these results and in the experience of its applicability in diverse territories through the use of Geographic Information Systems on the internet, which can assist in the collective construction of maps and data sharing, debates and analyzes on them and dissemination of results.

References

- 1)IBGE, Brazilian Institute of Geography and Statistics (2006) Agricultural Census. Brazil. In <http://www.ibge.gov.br/home/estatistica/economia/agropecuaria/censoagro/>
- 2)IBGE, Brazilian Institute of Geography and Statistics (2010) Demographic Census. Brazil. In <http://www.ibge.gov.br/home/estatistica/populacao/censo2010/>
- 3)LUPA/CATI/IEA, Institute of Agricultural Economics (2007/2008) In <http://www.iea.agricultura.sp.gov.br/out/index.php>

Capturing from Human Activities: the Multiscale Dynamisms of Dwelt Environment

Kyota YAMADA¹

¹ *Affiliated Assistant Professor, Kyoto University*

Abstract

Focusing on South Asian colonial cities as frontiers of hybridization of modern elements and local elements, the author has made a study on historical transformation of their dwelt environment for getting a better understanding on contemporary dwelt environment. Colombo, Sri Lanka's major city and at the same time the Indian Ocean's hub city, has been the major target of the study since 2004. In recent years, the author has participated as an architect in a project to find a local tutoring school in the historic area of Colombo to regenerate its local dwelt environment. A chat with a local dweller and the author at a teashop on the street during a field study spans off the project.

Establishment of an effective method for local dwelt environment consists of three phases as 1. Understanding of the present local dwelt environment and its development path through dwelt environment formation history, 2. Abstraction of possibility and problem of concrete and micro local dwelt environment based on the understanding of dwelt environment formation history, and 3. Co-design and co-creation of a new dwelt environment which copes with the possibilities and problems of local dweller, is the final objective of this study.

This paper especially has relation to the phase 3 of the above mentioned three phases. Based on the experience on practices of local tutoring school foundation project in Colombo, this paper ①analyzes dwelt environment as a complex system consisting of places, network of places and “縁 En” with attention to human activities, ②considers transition process of dwelt environment through design activities, and ③finally presents an idea on Dwelt Environment Model as a tool for management of transition process of dwelt environment.

Keywords: place, network of places, 縁 En, Dwelt Environment Model, science for design

1. Local Tutoring School in Historic Area of Colombo

Local tutoring school is a local cultural center that aims to hand down local history and support children's elementary learning. Regeneration of local dwelt environment which was devastated under the civil war that ended in 2009 is an urgent problem in Sri Lanka.

Historic areas of Colombo experienced conflicts between youth groups under disordered situation caused by the civil war. Lives of many youths were lost, and many dwellers fled to avoid the conflicts. Youth groups called “team” came to suppress dwellers by force, and day to day communications between dwellers were broken up. Teams were dismantled by the police with the end of the civil war. But relation between the families whose youth members' lives were lost in the conflicts and the families whose youth members deprived of lives of others are not restored until today, and this makes regeneration of devastated local dwelt environment of the historic area difficult. Education of children who carry the future of the area at the local cultur-

al center became a rare practice that people who opposed each other during the civil war can share.

2. Dwelt Environment

Dwelt environment, the environment that people formed around their body through their dwelling activities, is the basis of the life of people. The significance of dwelt environment was accepted during the late 1960s through practice and writing of Turner and came to be received globally (Turner et.al. 1969). In the 1960s, physical developments of cities by uniform and top-down ways which were globally carried for the sake of the internationally shared objectives and economic developments at that time, somewhat led to destruction of the lives of local dwellers. Through this experience, awareness of that there is a concrete dwelt environment with distinctive historical trail and culture as the

Contact Author 1: Kyota YAMADA, Affiliated Assistant Professor, Center for Southeast Asian Area Studies, Kyoto University
address: Inamori Foundation Memorial Building, 46 Yoshida Shimoadachi Cho, Sakyo Ku, Kyoto Japan
e-mail: yamadak[a]cseas.kyoto-u.ac.jp

basis of people's lives became popular.

Turner showed dwelt environment as a complex of physical and social elements. But in the 1970s, it became clear that if people do not care about natural environment, sustainability of dwelt environment will be undermined by dwelling activities themselves (村松, 深見, 山田, 内山, 2016). It is necessary to understand physical, social and natural environmental aspects of dwelt environment at the same time as of today.

More importantly, Turner did not show the way dwellers and elements of dwelt environment interact. To approach interaction between dwellers and elements of dwelt environment, this paper defines dwelt environment in reference to ideas of human – environment relations which have their basis on human activities. This paper treats environment of a person as a complex of humans, things and words (or symbols) as Varela et.al.(1992), Latour (1999) or Krippendorff (2005) mentioned.

A Human has a body that acts, senses and recognizes (or connects). Through the experiences of happenings, humans, things and words, a connected progress of actions, senses and recognition of the body is interlinked. Environment of a person is a system that humans, things and words are interlinked. The Interlink between humans, things and words, can be named as the environment of a person, where changes that occur due to new happenings would bring changes in person's actions, senses or recognitions.

Dwelt Environment is a part of human environment which came to be organized through dwelling activities. Many dwelling activities are not activities that are completed by one person but are activities that involve many other people. Interactions between people through words occur during dwelling activities. Interactions between people through words also bring changes in peoples' actions, senses or recognitions that lead to changes of personal environment and then to the changes of the dwelt environment.

Dwelt environment is fluctuating through both the personal experiences that are happening through one's body and through interactions between people and words.

3. History and Locality of Dwelt Environment and Its Dynamic nature

Dwelt environment has a specific order that has been formed through local situations and historical trails, as already mentioned. From the observation

of transformation of dwelt environment in historic areas of Colombo, following components which spread over different spatiotemporal scales come out as sources of history and locality of dwelt environment and its dynamism.

① A set of places that covers major activities of everyday life

In historic areas of Colombo, one can observe specific spatial hotspots where people gather and movements concentrate (hereinafter called “places”). One can observe places of work (Wholesale markets), places of beliefs and prayers (Mosques), places of dwelling (Lanes), or places of adjustment of various activities (Teashops and Sets that are shaped around teashops). Characteristics of places are different from one to another. Each place has its own historical trail, criterion and function. Dwelt environment includes one set of places that covers major activities of everyday life. Dwellers' everyday lives are maintained through this set of places. A set of places falls into special extent of several blocks.

② places as centers of gathering and conversation

At some places, many people gather and bring many topics on current events from various places as converse topics with each other. Topics that people bring and converse differ owing to historical trails, criteria or functions of different places. Through a conversation on a certain topic between people, different recognitions are exchanged and coordinated. Socialized recognitions appear from conversation, and then those socialized recognitions are brought out to other places. Conversation itself is one happening that comes to connect people at places.

③ Network of places arises from visits of people

People come and go between places. Each person spends one's own time of the day as a succession of staying at different places and movements from one place to another.

A set of places come to be neatly interconnected through peoples' constant movements and accompanying movements of topics and things, and form a stable network of places. The extent of the network of places corresponds to the extent of the dwelt environment. Among places that get categorized in to one set such as, wholesale markets, mosques and teashops, where non-dwellers can freely visit and join conversations are entrances for dwelt environment which are situating in the space.

④ Network of teashops that connects several neighboring dwelt environments.

A network of one set of places forms a dwelt environment. Another set of places also exists around this dwelt environment and forms other neighboring dwelt environments. Among that set of places, teashops have remarkably higher number of visits by people. Additionally, different from other places, all kinds of topics are brought into highlight in them. These topics are conversed along different criteria that a set of different places have. And then different topics and their social recognitions are brought out through the movements of people of other places relevant to both the inside and the outside of the dwelt environment. Through this movement between one teashop and another teashop situated in another dwelt environment, a network of teashops is set up and that connects several neighboring dwelt environments. The topics and their recognition differ from one neighborhood to another and they become stable by other topics involved and their recognition is brought into teashops of other dwelt environments.

◎「縁 En」: historically formed human relationships that are accumulated inside a person or a family

In addition to short-term connections of people intermediated by places, there are also more stable networks of human relationships that arise from personal or family based long-term accumulations, selection and enhancement of short-term connections of people intermediated by places. We call this long-term network of human relationships that accumulated inside a person or a family as, “縁 En”. “En” is not bonded to particular places but is rather free from the spatial order. Spatial extent of “En” as a network does not fall into that of dwelt environment and has a wider expand. The expanse of “En” is usually wider than that of gatherings of neighboring dwelt environments and often is wide as South Asia, Indian Ocean, or the globe. “En” is another route of visits of topics and recognitions rather than a physical network of adjoining places.

Frequently intermediated by cell phones, topics and their recognitions brought in and brought out from distant places, which are parts of the dwelt environments, ones’ “En” is connected to acquaintances of the dwell. From person to person the connection which forms a certain part of “En” has its own historical trail, criterion and function. Topics and those recognitions formed at certain dwelt environment changes through other topics and those recognitions are brought from distant through other people or families’ “En”.

These places, network of places, and “En” con-

figure dwelt environment as a spatiotemporal system which has a loose structure and behavioral characteristics.

Places, network of places, and “En” can be observed at any place on the earth as primal bases of peoples’ lives according to the author’s observation.

4. Dwelt environment shift through integration of a new place

Dwelt environment, as a basis of lives of dwellers, is a network of a set of places. If one new place is added to the existing set of places and integrated into existing network of places, the former network of places as a whole becomes a new system. Through this process, existing dwelt environments shift to new dwelt environments that offer a new basis of lives for dwellers. This section discusses the methods of dwelt environment transition from existing ones to new ones through addition of new places to existing set of places and integration of a place into an existing network of places, as one practical way for local dwelt environment formations in architectural projects.

This section first refers to the experiences of local tutoring school project that is ongoing in historic area of Colombo, and then shows the temporary prospect on the process of shift of existing dwelt environment into a new one, based on comprehensions on the process of the local tutoring school project. Lastly, a means for the transition process management is discussed.

It was several interested people who started the local tutoring school foundation.

After drawing a draft program for the local tutoring school, those interested people visited places in and around their dwelt environment. They used plans, sketches and management concepts brought with them as communication mediums and conversed with people at other places about tentative ideas and programs. From conversations, new recognitions possibilities and problems were identified among the participants. New plans, sketches and management concepts were made to reflect outcome of the conversations. Ideas, programs and recognitions on the local tutoring school circulated around the dwelt environment as participants moved to other places.

Through conversations at places, the local tutoring school project, though it was still ongoing and not yet recognized, was gradually accepted by dwellers as an emerging event that might be

acknowledged in the future. As the local tutoring school project got accepted, dwellers brought new requests and showed will of joining. The local tutoring school was still not materialized but came to be an imagined new place where dwellers gather and enjoy new activities.

Based on the observations on the process of the local tutoring school project, the author is provisionally assuming that an addition of a new place to the existing set of places and integration of the places into existing network of places would progress through the following five phases.

1. Wish and concept on new activities and facilities for the activities of a few dwellers would arise as the first step.
2. As the concept and recognition on the new activities and facilities come to be accepted by the dwellers, the new activities and facilities, though still not been materialized, come to be an imagined quasi-existing place and that is added to the existing set of places that consist the dwelt environment.
3. The concept and recognition on the new activities and facilities are revised and updated to adjust themselves to various lives, social and natural environmental elements. Dwellers deepen their recognition on the new activities and facilities, and the degree of substantiality increases at every revise and update.
4. Through institutionalized procedures for starting the actual activities and materialization of a building through construction, the concept which got substantiality among dwellers proceeds to anchor into the dwelt environment as a new substantial place.
5. Once the actual activities start and the building is materialized, new problems and possibilities in relation to the interaction between the activities, the buildings and the dwellers would start to emerge. Coping with these problems and possibilities, the new substantial place should be firmly integrated into the dwelt environment. At present, the local tutoring school project is going to pass phase 1.-3 and is proceeding into phase 4.

Management of transition process of dwelt environment from phase 1 to phase 5 is critical to form a new dwelt environment through addition of a new place to existing set of places and integration of the place into existing network of places.

At phase 1 the new dwelt environment formation project collapses when the link between the

concept on new activities, institutions and dwellers broke. At phase 2 and 3 the project collapses when the link between the new imagined place and the existing places broke. At phase 4 and 5 the project may collapse when the link between the actual activities, materialized institutions and the dwellers breaks.

As long as the link between the elements appearing in each phase keeps connected, the new dwelt environment formation project can progress into substantiation.

5. Dwelt Environment Model: tool for management of transition process of dwelt environment

If there is a tool that enables designers and dwellers to grasp dynamism and state of dwelt environment, it would be helpful to manage the link between the elements that appear in each phase to be controlled in transition process of dwelt environment. As this tool, the author is trying to compose a visual model of dwelt environment (Dwelt Environment Model) as a system of places, linkages between places aroused from personal activities, and “En” namely linkages between people. Dwelt Environment Model is expected to have effects on discovery of risks of breaking up the links which may lead to the collapse of the project, and on the discovery of transition pass which can avoid these risks.

References

- 1) Caminos, Horacio, John Turner and John Steffian, (1969) *Urban Dwelling Environments: An Elementary Survey of Settlements for the Study of Design Determinants*, The MIT Press
- 2) Maturana, Humberto R. and Francisco J. Varela, (1992) *The Tree of Knowledge: The Biological Roots of Human Understanding*, Shambhala
- 3) Krippendorff, Klaus, (2005) *The Semantic Turn: A New Foundation for Design*, CRC Press
- 4) Latour, Bruno, (1999) *Pandora's Hope: Essays on the Reality of Science Studies*, Harvard University Press
- 5) 村松伸, 深見奈緒子, 山田協太, 内山倫太編著, (2016) 『シリーズ メガシティ 第2巻メガシティの進化と多様性』, 東京大学出版会
- 6) 山田協太, 「コロombo(スリランカ)下町での地域学習施設開設プロジェクトー日常のデザイン行為から地域居住環境を考える」, 谷川竜一, 原正一郎編, (2016) 『相関地域研究 第3巻 協奏するジャスティス』, 青弓社, 186-211

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発行者 京都大学東南アジア地域研究研究所
京都市左京区吉田下阿達町46 〒606-8501

電話: 075-753-7302

FAX: 075-753-9602

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