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How to face the scientific communication today. International challenge and digital technology impact on research outputs dissemination

edited by

Marco Medici

Valentina Modugno

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In ricordo di Romano Del Nord

Primo fra i pari Romano Del Nord ha avviato gli allievi alla comprensione sistemica della Tecnologia dell'Architettura, alla padronanza del metodo della ricerca, li ha incoraggiati nel concepire e progettare i loro studi, a sintetizzare idee nuove e complesse, a comunicarle alla comunità scientifica ed alla società, per promuovere nei diversi contesti i risultati ottenuti. Ha fatto di loro dei ricercatori.

In memory of Romano Del Nord

First among his peers, Romano Del Nord initiated generations of doctoral students to methodical and comprehensive understanding of Tecnologia dell'Architettura, he introduced them to the mastery of the research process, he empowered them to conceive and design ideas, to systematize new complex concepts in order to present them to the scientific community. From each of his students he created a researcher.

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PREFACE

The present book *"How to face the scientific communication today. International challenge and digital technology impact on research outputs dissemination*", a volume of DOTTA series edited by Firenze University Press – FUP, is a collection of critical essays developed and discussed inside the OSDOTTA network. The book is the final work of a systematic collection and synthesis of ideas and feedbacks, that the authors have worked on since the 11th Seminar of the network OSDOTTA "*Publishing strategies and scientific investigations: how to face them today*?", took place in November 2015 at the Department of Architecture of the University of Ferrara. Consequently, the present volume goes deep inside the issue of communication of research results and its instruments, in particular, focusing on the issues of publications and evaluation of the final products.

Starting from reflections on the research of PhD students of the disciplines of Architectural Technology (Academic Disciplines ICAR/12) and Design (Academic Disciplines ICAR/13), part of the macro area 08/C1, the curators have created a path of essays to contribute in the current debate on the communication and dissemination of scientific results, in particular in relation to doctoral thesis and ongoing scientific activities carried on at national and international level, developing a work addressed to PhD students and the whole scientific community.

The book gathers contributions of national and international PhD candidates, PhDs and Professors, in three different sections of the volume. The aim is to investigate the topics of communication and dissemination of research activities and results into appropriate and high-quality products evaluable by the scientific community of reference.

In the first section, edited by Valentina Modugno, the topic is introduced with three essays which investigate the scientific assessment of architecture (Vincenzo Riso), the role of dissemination of research activities (Daniela Bosia) and the importance of network and associations in publication strategies (Valentina Modugno).

The second section, edited by Marco Medici, collects essays by different PhD candidates and new PhD, mainly in relation to their individual researches carried on during their PhD programmes. The

section shows differences and similarities of how dissemination strategies depend on the specific area of study and investigation, which asks for peculiar solutions based on the characteristics of single research. This part of the book aims at offering a scenario of how PhD candidates are aware and prepared to meet the challenges of publication and dissemination requested by scientific community.

The third section, edited by Alessandro Pracucci, collect final considerations emerged by essays and the ongoing discussion, deepening elements of current debate in scientific community. At this aim, the discussion on the issue is enriched by contributions on the central role of architectural technology in anticipating future research scenarios in order to achieve the highest level of originality and compentece in PhD programs and in the scientific evaluation of their products (Theo Zaffagnini), the importance of the protection of research results (Giuseppe Mincolelli), the digitalization developments in publication (Maria Antonietta Esposito) and the characteristics of excellence in scientific products (Maria Chiara Torricelli).

The book aims to offer information and helpful comparison for PhD candidates, but not only, to improve doctoral research training and awareness on these issue. Indeed, insight and promotion of a suitable models and tools of dissemination of research works into the scientific community, is fundamental in PhD programme activtites to acquire communication skills as expected by the Dublin Descriptors. Nowadays more than in the past, in PhD training is crucial a preparation work to acquire skills on dissemination and publication strategies with the goal to spread our own research in the academic world and to final user, as well as to allow the research to be checked and scientific evaluated for quality and scientific validity of its outcomes.

The book is a contribute in the current opened debate in the national and international scientific and academic community on the most effective tools to design specific dissemination strategies, defining detailed and reasoned ways able to highlight and improve qualities and disciplines of each single research.

Marco Medici
Valentina Modugno
Alessandro Pracucci

Part I - Critical Contributions

edited by Valentina Modugno

Architectural Design Research and Scientific Evaluation: two or three things I know about

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The governmental imposition of uniform indicators to be used for performance based funding in any academic field, which happened worldwide during last two decades, led correspondently to an unprecedented growing, at least in terms of quantity, of research in architecture. In parallel it has been (and is to this day) during this period, which architecture as discipline in itself has been severely exposed to cultural, economic, technological and social changes. Then efforts for inside and outside legitimation have been constant and huge for our subject. Furthermore in the consequent attempt to linking theory and practice the research 'for' design has been the immediate path to tread, by adapting research methods from related disciplines; primarily those of the technological and the constructions sectors but then also of the humanities' sectors. But the specificity of architecture meant as the art/discipline of designing remained not comprised by those experiences; then, in the struggle for the affirmation of a own disciplinary definition of research, the exercise of research 'by' or 'through' design lastly appeared to constitute a promising possibility to investigate.

Anglo-Saxon schools of architecture were confronted with Research Assessment Exercise since the '90s, and along that decade the *Architectural Research Quarterly* of the Department of Architecture of Cambridge University acted as a comprehensive forum of discussion aimed to bridge research and practice. We find the initial achievements of that debate summarized in the search of broader definitions, than the leading form of discovery research, such as application research and integration research, which could be explored in architecture.[1]

The later memorandum[2] of the Royal Institute of British Architects (RIBA) on architectural research called to professional and academic fields together to offer a basis for "practice-based research", and also prospected a new role for the academia "to link up with practice in order to carry out an 'archaeology' of the process

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of architectural production." In the same document it was then sensibly suggested that founding for research "to shift from sliced areas of knowledge controlled by various sectors of academia, to a more coherent strategy shared by both academics and practitioners." Still with the aim to become a hub for knowledge, innovation, research and debate on the built environment, RIBA lastly published in February 2014 the document *Architects and research based knowledge: a literature review*[3].

Here, while recognizing a growing plurality of possibilities as regards to what constitutes research in architecture, it is nonetheless observed that barriers to deeper collaborations between research and design are persisting. And through a large overview of literature it is also led on a genuine attempt to discern non-productive ideas and habits, that on both sides (academic researchers and professional designers) still hinder the effective development of an effective design and research interplay. That is the attempt to go beyond the simple defense of design as an own research area, while scrutinizing the advantages of design aptitudes to larger research & development practices.

Meanwhile in continental Europe the Bologna Declaration gave rise to similar questions and processes; then the EAAE (European Association for Architectural Education), which 'gathers most of the schools of architecture between the Canary Islands and the Urals'[4], since several years established an open network for collection, exchange and dissemination of knowledge and experience on architectural research. That is the EAAE Research Academy, a platform aimed to collect and discuss existing research positions and new developments on a transnational base. Among their achievements there is the EAAE_ Charter on Architectural Research, which was released in 2012. Here we find a wide yet specific definition of architectural research as the "original investigation undertaken in order to generate knowledge, insights and understanding based on competencies, methods and tools proper to the discipline of architecture. It has its own particular knowledge base, mode, scope, tactics and strategies".

Moreover the effort for understanding research that is undertaken using a design methodology, led to the finally explicit formulation of the 'research by design' practice as follows: "In architecture, design is the essential feature. Any kind of inquiry in which design is the substantial constituent of the research process is referred to as research by design. In research by design, the architectural design process forms the pathway through which new insights, knowledge, practices or products come into being. It generates critical inquiry through design

work. Therefore research results are obtained by, and consistent with experience in practice".[5]

Besides those references a full and in-depth literature review about the concept of 'research by/trough design' can be found in an essay entitled "Positioning Research and Design in Academia and Practice: A Contribution to a Continuing Debate", where a number of significant approach-experiences is also recorded, and which finishes with the affirmation that "Design practice is shown to be well appropriated as an instrument of research, suitable for inquiring into socio-spatial issues with a unique local application and for investigating issues of the built environment in a fundamental, general way. Design practice, we believe, is able to continuously deepen and enrich the gathered data because it can provoke and test emerging concepts. As such, it can be a strong asset for architecture to continuously redefine its position -both in society and in academia".[6]

On the other hand since academy is, within its whole mission, also in charge to promote experimentation in ways that challenge the apparent self-evident certainties and look for alternatives; through the link of advanced research with public engagement and the pursuit of R&D projects in the spirit of a broadly connective inquiry; architecture is still thinkable as possible contribution to many questions that our societies are facing today, in other words to recuperate the relevance of architecture.

To sum up, looking backward to more than two decades of self-questioning events within our discipline, we may observe that some experiences have evolved from an initial apologetic position to a more self-confident and aware one. Surely it was intended that architectural design could earn the title of scientific activity by corresponding to those exacting criteria such as: objectivity, originality, transparency and validity. But there also have been colleagues who, while challenging the academic community to be more accepting of design as an accurate research output, did not want to abdicate from that interpretive flexibility and from that freedom of approach they have been educated to.

An helpful contribution to manage such tension between thinking precision and thinking openness has been given by a recent essay entitled "On Kairos, Agape and Hecate".[7] Aiming to provide complementary notions to avoid the risk of too-shallow attitude, its authors addressed those valuable advices –below partially transcribed as regards to their total number and specific argumentations– to whom is dealing with architectural research in academic environment:

- "As a supplement to the classic attitudes of a researcher –being (self-)critical, rigorous, communicative etc. – it could be suggested to abandon the desire to control the limits, in which the research takes place (literally and figuratively)". (…) "Research by design may use intuition, that is evaluate choices on a non-strictly rational plan" It is allowable because "The reflective nature of research by design provides possibilities rather than answers. Moreover because a 'creative leap' is required".
- "We have to dare to think against the grain, outside the box, welcoming any possible solution, even if it is of an unexpected or associative nature (…) a solution from the past can return in a contemporary context, just as a future invention can be anticipated in a current design." (…) "it just requires a kind of confidence, a kind of generosity, which means being inclusive rather than exclusive (it does not mean being uncritical) allowing for as many parameters as necessary." (…) "Faithful to the holistic character of architecture, research by design should be able to include qualitative parameters and became a mediating environment for producing empathic advice – rather than qualitative results".
- "Essays are products of personal thought, like sketches –they start from a heterogenic, formless mass that gradually reveals a certain figure–". (…) "Like an essay, research by design is not anti-methodical, but rather unmethodical, it uses methodology, but it does not entirely depend on it". (…) It is possible to follow surreptitious routes that do not care for the neat fences, That divide the different disciplines and to cross uncharted lands". (…) This is not a claim that research by design should be against method and that 'anything goes' it is rather an appeal to discover and follow more roads than those that are just visible on our maps".
- "We should not lose connection with the muddy nature of reality of life itself, and not get lost in the sterile, virtual space of computer renderings of theoretical schemes. Architectural research has to deal with the actual presence of real humans and real nature; it does not operate in the vacuum: it has to take into account all aspects of human nature".

Moreover the possibility to disseminate the insights uncovered through 'research by design practice' may ultimately lead to the formulation of a set of thinking instruments to deal with the insensibility

of the standardization of the procedure and other unsatisfactory features of the very system of performance-informed evaluation, which are now perceived in other parts of the research community. And with regards to the drawbacks of the so called ex-post evaluation and its inherent rhetoric of excellence, that academic-architects have been suffering, it is noteworthy to observe how a whole wish for openness (non-dissimilar to that imbuing the essay "On Kairos, Agape and Hecate") appears too in the reasoning of those scholars, who are advocating, in all scientific areas, the rhetoric of research soundness as alternative to the rhetoric of research excellence. [8]

Notes

1. More in detail, "Here architecture has much to contribute. Our field may not discover much new knowledge, but we do apply existing knowledge every time we build. And if Boyer (in his book Scholarship Reconsidered) is right - that research into the consequences of knowledge has as much value as its discovery – then this evaluation of the built environment becomes centrally important, a way of gauging the meaning and value of ideas of all sorts, beyond those strictly architectural. Likewise, architects have a role to play in the scholarship of integration. To make buildings, we synthetize knowledge from many disciplines, so much so that we almost take process for granted. A more concerted effort to analyzing how we think and what value that bring to the world would benefit not just our own profession, but many others in search of integrative methods in a time of hyper-specialization." The editors' note presenting arq, volume 3, number 1, 1999, p. 5.
2. Jeremy Till, Architectural Research: Three Myths and One Model (London: Royal Institute of British Architects, 2008) That is a position paper the author wrote on behalf and approved by the RIBA Research Committee. Available at:https://www.architecture.com/files/ribaprofessionalservices/researchanddevelopment/whatisarchitecturalresearch.pdf
3. Available at: https://www.architecture.com/Files/RIBAProfessionalServices/ResearchAndDevelopment/Publications/Architectsandresearch-basedknowledgealiteraturereview.pdf
4. See http://www.eaae.be/ Translation by the author.

5. Full text available at: http://www.eaae.be/wp-content/uploads/2014/05/2012-09-03_EAAE-Charter-on-Architectural-Research.pdf
6. De Weijer, M., Van Cleempoel, K. and Heynen, H., "Positioning Research and Design in Academia and Practice: A Contribution to a Continuing Debate", in DesignIssues: Volume 30, Number 2 Spring 2014, MIT Press, 2014, pp. 17-28.
7. Van Cleempoel, K. and Pint, K., "On Kairos, Agape and Hecate" in Ellefsen, K.O.; Van Cleempoel, K.; Harder, E. (Eds.). Research by Design, EAAE publication, 2015, p. 8-21
8. See for instance Baccini, A., "Collaborazionisti o resistenti. L'accademia ai tempi della valutazione della ricerca", published in the blog ROARS (Return on Academic Research) and available at: http://www.roars.it/online/collaborazionisti-o-resistenti-laccademia-ai-tempi-della-valutazione-della-ricerca/#more-52117