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On Uses and Disadvantages of Architecture for European Projects

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Abstract

Architecture is not present among the thematic taxonomy of the European Commission's Horizon 2020 programme, despite urban matters are key issues within the programme's priorities. With some notable exceptions, the city is addressed through the themes of innovation (the development of smart technologies for the monitoring of urban processes), sustainability or cultural heritage, but never from the point of view of its form and its physical consistency. This does not mean that architects are not actively engaged in EU-funded projects. Within the Horizon 2020 framework architects are assuming a new civic role in the coordination of urban transformations, after the crisis of architectural agency. How can the role of architectural research be defined within the framework of European projects? How is architecture research changing vis-à-vis the necessity to capture research funding? What are the possibilities for a new European urban social pact, and what could be the role of architects in this confrontation after 2020?

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Introduction

The city has been widely recognized as the main driver of economic growth and the epicenter of European and global innovation. At the same time, cities generate the most pressing challenges of our time: pollution, energy consumption and carbon emissions, unemployment, poverty, social and ethnic segregation [1]. It is for this reason that European policies on research and innovation, including European funding programs, take cities and urbanization as the main objects of inquiry and as experimentation sites. Given the strategic role that cities represent for Europe and its governance, it is rather puzzling that architecture is not included among the topics eligible for funding within the European flagship research and innovation program “Horizon 2020” (2014–2020).

Looking up the term “architecture” on CORDIS, the European Union’s research funding portal and search engine, one is confronted by a list of project results and funding calls on the development of IT infrastructures. It seems that today, the only socially relevant architecture is that of computers and their internal organizational logic. This situation is indicative of the crisis that architectural knowledge has faced over the last few decades. While the social sciences and humanities have been recognized—at least formally—as strategic tools to guide and evaluate innovation and in the design of research and innovation priorities, architecture has still failed to prove its capacity to act within the three main domains of innovation that the Horizon 2020 program focuses on: technological, organizational, and social. However, architectural research also seems difficult to fund on the European Union’s highly-competitive, excellence-based “frontier research” program: the European Research Council (ERC). The Horizon Project is constituted by three “pillars”: Societal Challenges, Industrial Leadership and Excellent Science. The ERC program is meant to fund the latter. Contrary to the funding approach of the first two pillars, which is based on call for projects and whose evaluation takes into consideration societal impact and implementation strategies, the ERC program leaves the researchers freedom in the selection of the research theme, and scientific excellence is the only element upon which the funding evaluation is made. This strategy tends to allocate resources to already established researchers and research teams, on the basis of extreme competition over a limited resource availability (there are only 300 ERC grants every year, and ERC’s budget is 17% of the overall Horizon 2020 budget). To date, it seems that only a few projects have been supported by the prestigious program since its inception in 2007: Roberto Gargiani’s *History of Concrete*, Eyal Weizmann’s *Forensic Architecture*, Ann Heylighen’s *Architectural Design in Dialogue with dis-Ability*, and David Wendland’s project on the reverse-engineering of late-Gothic vault construction. Another ERC project that included architecture, however from the point of view of anthropology, was Tim Ingold’s influential *Knowing from the Inside: Anthropology, Art, Architecture and Design*.

If the production of knowledge in architecture is a form of research, then why are architectural researchers still so underrepresented within the main source of research funding in Europe? On the one hand, the issue of the scope for architectural research within an EU framework opens up questions related to the impact of architectural research and its social engagement. At the same, this issue implies a more underlying issue on the possibility for research independence within such programs. What space is left for critical thinking and radically alternative ideas that question already-established mindsets and academic habits? And what could be the contribution of architectural knowledge for a common European program on scientific and social innovation?

Is research possible within H2020?

Since 1984, the European Union has proposed a general framework program dedicated to the allocation of research funding. Until the start of the Seventh Framework Programme (FP7) in 2007, funding had mainly been directed to technological development, following the idea that the European Union was in chronic deficit in terms of technological development compared to its main competitors, the United States, Japan, and later also China. This period—which culminated in the approval of the Lisbon Treaty, the European “constitution”—was marked by the failure of the attempts to democratize EU institutions, and the acceptance of market forces and financial logic as the main drivers behind the development of European society [2]. Nevertheless, from FP5 (1998–2002) onwards, EU funding programs had started to transition “from an industry-focused to a problem-oriented Framework Programme”. In this process, the emphasis on technological development was linked to the need to consider issues of environmental sustainability, social responsibility, and inclusion, in search of renewed integration between societal issues and market development. The focus on environment and society was also motivated by the humanistic project—undertaken at the end of World War II—heralding the construction a new European identity, in the midst of the substantial lack of a common political arena and truly democratic European institutions. The need to promote European inclusion was also motivated by the inclusion of ten new member states in 2004, in particular from East-European countries. The urgency of these issues prompted the European Union to include the “Socio-Economic Sciences and Humanities” theme in FP7. This theme was so successful that it became the most competitive of the program, with success rates under 10% [3].

However, it was starting from 2014, with the approval of the Eighth Framework Programme (called Horizon 2020), that the issue of responsible research and innovation became the fundamental strategy driving the allocation of research funding. Following the Lund Declaration, seven “societal challenges” were selected which would orient the design of EU industrial strategies as well as the research agendas of higher education institutions. Global challenges were also introduced to foster a multi-disciplinary approach to research and innovation. While in FP7, social sciences and humanities were confined to a specific work program, Horizon 2020 was designed with the idea of introducing a social science and humanities (SSH) perspective to all work programs, giving a central role to social sciences and humanities in the definition of priorities and the evaluation of the societal impact of development. [2] In actual fact—except perhaps for the SSH-specific work program “Europe in a changing world: inclusive, innovative and reflective societies”—the role of researchers in social sciences and humanities was perceived as a marginal one, and the leading roles were those of engineers and scientists [4]. Moreover, the single calls for projects provide already-detailed indications on the themes to be addressed, as well as the tools through which research should be carried out. To be successful, applicants are somehow forced to outline an already-written plot, using already-defined concepts and language, leaving little leeway for the choice of an independent research agenda. The thematic content of the project—which the EU calls “excellence”—constitutes only one of the three evaluation criteria, the others being “quality and efficiency of implementation” and “impact”. The application is evaluated according to the quality of an implementation plan based on a series of “work packages”, “tasks”, and “deliverables”, assigned to each consortium member according to a detailed budget plan and time schedule. If the application is won, then a sizeable part of the workload (and a consistent amount of the budget) is taken up by organization and coordination activities—traveling, reporting, impact measurement, and general administration. Finally, the project’s impact has to be measured

and demonstrated in qualitative as well in quantitative terms, through the definition of a set of “key performance indicators” (KPIs). The validity of impact measurement in social sciences and humanities has become a central issue at a time when research funding and academic careers are subject to constant performance evaluation. The societal impact of research in social sciences and humanities is mainly based on the influence of one’s research on policy-making and organizational practices. This emphasis on demonstrating the immediate applicability of research results penalizes speculative or critical research that is not readily exploitable for policy or product development, aiming to challenge consolidated worldviews and practices and to have an effect on culture and society over the longer term [5].

Even within the excellent science framework, some commentators have pointed out that the very idea of “excellence” in science has impeded good research rather than promoting it. In other words, rather than being an effective way of evaluating the quality of a research proposal or its published outcome, excellence hampers paradigm shifts in science and reinforces already-established ideas, institutions, and academic practices. The rhetoric of excellence then becomes a powerful tool to promote scarcity and austerity policies in research funding, ending up privileging already-established researchers from highly-funded top universities (mainly from Western Europe) who have already published in top journals [6]. Rather than building research capacity, excellence contributes to concentrating resources into a few large centers, further reinforcing the geographical and societal divisions of academic labor which the EU sought to eradicate [7].

Is critical research possible within H2020?

According to the European Commission’s official documents, “critical thinking”, alongside “risk-taking, problem-solving and creativity”, are the “specific attributes of an enterprising self” and fundamental milestones for an “entrepreneurial education” [8]. Critical thinking is a fundamental skill that each individual might develop to survive and have entrepreneurial success in the hostile environment of market competition. This definition is at odds with the critical outlook that Rosi Braidotti summarized as a radical vision for the university, the “dream of producing—through the transformation of humanities in a posthuman world—socially relevant knowledge that is attuned to basic principles of social justice, the respect for human decency and diversity, the rejection of false universalisms; the affirmation of the positivity of difference; the principles of academic freedom, anti-racism, openness to others and conviviality” [9].

Environmental issues, gender, inclusion, and pluralism are indeed central not only in Horizon 2020 calls under SC6 but are cross-cutting priorities. However, the universalism of the “societal challenges”, and the urge to join all societal forces against ecological and other impending catastrophes, might be interpreted as an instrument that has the capacity to de-politicize radical approaches in research and action. Erik Swyngendouw, among others, points out the antinomies of the narratives of unity, capable of neutralizing dissent and the rise of radically different practices that question consolidated habits, modes of organization and the existing economic and social relations. On the contrary, innovation has to be seen as the better management of existing resources, the optimization of organizational processes and a more effective policy-making. “Policing” substitutes “politics” as the main form of decision-making [10]. The post-political device has the capacity to neutralize radical claims and desires—such as those of gender equality, political ecology, and individual freedom—into everyday governance. In this way, feminism becomes gender mainstreaming [11],

political ecology climate mitigation [12], direct democracy participation [13], and so on. In this situation, we may still acknowledge that researchers are adopting micro-resistance strategies in the attempt to exploit EU funding opportunities to carry out independent research, alongside the development of new tools, technologies, and policies. In the case of the project GAMING HORIZONS, dedicated to outlining policy strategies for the development of serious gaming tools, the project explicitly implemented a critical discourse analysis of Horizon 2020 policies, signaling a contradiction between its market-oriented strategy and its appeal to responsible innovation [14]. Likewise, the project PLOTINA, which aimed to produce a toolkit for gender equality in science and industry, produced research that critically examines gender mainstreaming policies in academia [15].

In any case, the topics released under SC6 offer in some cases space for critical approaches, despite the fact that the main project efforts should be devoted to entrepreneurship and innovation. This is the case, for example, of the PLUS project (Platform Labour in Urban Spaces), responding to the “TRANSFORMATIONS-01-2018 – Research for inclusive growth: addressing the socioeconomic effects of technological transformations” call. This project analyzes the disruptive effect of digital platforms on labor, considering the development of new forms of welfare, including that of basic income [16]. The issue of new forms of welfare is also dealt with in the project COMMONFARE, which aims to exploit disruptive technologies such as blockchains and digital platforms to support new forms of existential precariousness and poverty [17]. The municipalist movement and the so-called “rebel cities” network has made use of EU funding in order to develop digital technologies to support direct democracy, as well as to democratize the “smart city” model in order to allow for the fair management of data while respecting the privacy of citizens and inhabitants (see, for examples the FP7 project D-CENT [18] and the Horizon 2020 project DECODE [19], funded under the Industrial Leadership pillar). It is still too early to tell how these experiments will impact the actual democratization of cities, provide new forms of welfare and limit the pervasive role that private corporations and platform on the life of individuals and in the development of cities. In fact, some code that was developed under the DECODE project was used by Facebook to develop its own digital currency based on blockchain [20]. In any case, these projects are bringing radical political discourse close to the EU policy frameworks, or at least, putting them on the desks of EU functionaries. Will this produce actual change, or a more pervasive subsumption and neutralization of radical social claims?

Is architectural research possible within H2020?

How about architecture? Jeremy Till, in an oft-cited memorandum he wrote while head of the Royal Institute of British Architects (RIBA), introduced the idea that architectural research should avoid falling into one of the following three fallacies. First, considering architecture to be only architecture (as an autonomous domain with no relationship to other domains of knowledge). Conversely, one should not fall into the fallacy of thinking that architecture is not a form of research, and therefore needs to borrow methods from other domains—sociology, anthropology, or art criticism, etc. The third and final fallacy is that erecting a building is not a form of research. Instead, he proposed architectural research as the *archeology* of the production of the built environment; in other words, understanding, mapping, and changing the ways in which the environment has been transformed over time and space through the tools of design and space-making [21].

Unlike structural programs such as the Urban Innovative actions, Horizon 2020 funds do not allow for the construction or preservation of actual buildings. For this reason, it would be impossible to carry out architectural research by designing buildings. The option of following the disciplinary autonomy of architecture, therefore, does not seem to be a viable strategy by which to acquire European research funding, due to the fact that the projects must be impact-oriented and easily communicable. On the contrary, many architectural researchers resorting to carrying out research *about* architecture and the city through other means, in particular methods loaned from the social sciences.

However, Jeremy Till's definition of architectural research as the study of design and building processes may be viewed as an operative tool to understand a possible role for architecture within European funding. Many Horizon 2020 calls ask for inquiries and innovations in technologies and organizational processes that deal with the construction, transformation, and management of the built environment. For instance, under the SC3 "secure, clean, and efficient energy", several projects, such as TRANSITION ZERO and many others, deal with technical and organizational solutions in order to reduce the carbon emissions of the existing building stock [22]. Other calls instead focus on the preservation of information and data in digital models of buildings. Projects such as DURAARK (Durable Architectural Knowledge, funded under FP7) [23], and most recently, INCEPTION [24] developed a general framework for the use of BIM for historical buildings and monuments, attaching any kind of historical, artistic, and technical information to three-dimensional digital models and their various components. In particular, INCEPTION standardized a general semantic vocabulary for the description and archiving of historical architecture and their building elements [25]. These efforts to produce semantic ontologies of architecture and the historical building stock are comparable to Renaissance architects' urge to travel to Rome, survey classical ruins and measure the proportions of their columns and capitals. However, contemporary surveying is not directed to the education of architects or human architecture commissioners, but rather architectural pedagogy revolves around the use of machines and algorithms. Are we getting closer to Nicholas Negroponte's dream of an automatic architectural design machine [26]? In any case, these projects are designed to optimize processes and produce technical innovation, in particular pursuing the integration between information technologies and architecture. Is the architecture of the city being translated into computer architecture?

Another set of Horizon 2020 projects focus on urban regeneration. Unlike structural programs such as URBAN, URBACT, or the Urban Innovative Action (UIA) which are meant to finance urban regeneration through direct interventions on buildings and urban spaces, the Horizon 2020 project focuses instead on the production of tools and services promoting innovative forms of urban organization or production. These projects view specific actions such as climate change mitigation (proGREG), [27] energy and transportation efficiency (CLEVER), [28] culture and creative industries (ROCK, CLIC) [29,30], or sustainable tourism (RURITAGE) [31] as potential drivers for urban regeneration. These types of projects tend to exploit the architectural researcher's skills as a spatial agent [32], as the manager of complex projects, and as the mediator between various economic and political interests. These projects constitute onsite, real-world test cases of new forms of spatial agency, participation, and innovative forms of decision-making. At the same time, the role of the architectural researcher is also reduced to the definition of more efficient forms of urban organization and management, often under pressure from city councils and other regional bodies that usually coordinate such projects.

Challenges, missions and projects

Horizon 2020 research and innovation efforts were based on a response to global societal challenges. In this framework, the research and industrial plan is designed to respond to problems and issues that are threatening our existence and the reproduction of our lifestyles. In this way, research and innovation do not drive future development; they only have a negative function, impeding—or at least slowing down—ongoing decline.

The next framework program, Horizon Europe, will be based instead on a positive paradigm. Instead of challenges, the program will be based on the idea of the mission. A mission is a common goal—landing humans on the Moon between 1969 and 1972, as in the case of the Apollo mission—to which each one has to contribute with their own capacities and means. In this way, while the goal is set once and for all, research and industry can contribute to the achievement of this goal in different terms and with independent research agenda [33,34].

The approaches of Horizon 2020 and Horizon Europe refer to two modes of reality: while the challenge-based approach responds to *real* issues, mission-based programming deal with the *possible* future, a future that has already been achieved because it is presupposed as such by the present. Both these approaches, however, deal with the realm of necessity, not with that of freedom. The future envisioned by plans and missions is a future which has already been decided upon [35].

Architecture is based on the idea of the plan: in it, the present, past, and future dimensions coincide. Architecture is of course a design discipline. It prefigures possible futures, channeling materials and means towards the solution of problems. At the same time, however, architecture is also the art of the project: a project is not a design because it does not solve existing problems, or it is meant to achieve predetermined goals and missions. A project does not respond to the past, nor does it prepare for a predetermined future, but it draws on past and future as a *virtual* presence—a reality that it is no longer, but at the same time not yet underway. The project dwells in that part of reality that does not deal with empirical data, yet it organizes our lives and constitutes new ideas, new modes of interaction, and forms of life [36]. A project influences the future as much as it changes the past, reappraising past realities and past ideas for present uses, ready in turn to be used and engender unexpected future uses.

The present tools of research evaluation and allocation cannot deal with the virtual domain of project-based research practice. How can we measure the impact of a project that has no direct influence on our tangible reality? How to evaluate qualities rather than quantities? How should we monitor the impact of a project on the way it changes our perception of the past, and how it shapes our present idea of the future? Ideas of success and failure no longer make sense when we discover the plan of virtuality that is unfolded when we think through projects. A project-based funding program would then require the development of a new grammar of conceptual instruments and a new value system.

Right now, what is left to architectural researchers is their capacity to adapt to different situations and languages, to exploit the small possibilities of research freedom that can be found between the lines of the prescriptive logic of funding calls, and the pressures to immediately and measurably make an impact on society, policy-making, and the city. In the meantime, architectural knowledge will be preserved and digitized as cultural heritage, a precious yet no longer understandable code passed down from past eras, waiting for the appropriate moment for it to be deciphered and made socially relevant once again.

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