CAMDEN TOWN PROJECT-network analysis

alternative paths at 33-34
(31-35 similar)

NOTE: dotted lines refer to 'jobs'of nil
duration

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Representation beyond Visualization: Simulation as a Cognitive Apparatus

1. Introduction

Architecture's engagement with visual documentation has always been in close proximity with the developments in technology and arts, and in turn it's been problematic but productive. Problematic in terms of appropriating different means of expression and yet to stay within a notational structure that can be communicated among the professionals of the discipline and practice. Productive, as this multifaceted relation to other domains enriched the expressive power of the designers. In that respect, the production of visual documents served two evident purposes for the discipline: internal and external communication; imaginative with its projective capacity, and documentary with its multimedia. In this context, visualization should be addressed with both with its projective and documentary capacities, which can be translated as imaginary and operational considering architectural drawing, for instance.

In addition to that, recent developments in design software call the assumption into question that architectural representation is preoccupied with formal qualities rather than some intangible spatial qualities. (1) The discussions on the "thick" agenda attributed to diagram and its theoretical by-products in architectural design and its intensity in suggesting alternative tracks in form generation or conceptual paths in design thinking should be seen as a response to this. However, this thick agenda of representation should not be solely seen from a perspective of visualization. Rather than simply "encoding a drawing," the focus has shifted to the "encoding of the design" in the form of algorithms, codes, scripts and multidimensional models from which required combinations of data can be extracted. This shift also marks the changing conventions in the design procedures. In this regard, the mediation which circumscribes the domain of representation in architecture should have a new outlook for the design attributes like self-organization, emergence or simulation.

Although these concepts have been familiar to designers for almost a half century long, the implementation of digital tools in design procedures paved the way, so they became versatile tools in the hands of designers. Still, before arguing that the foundation of simulation and its implications in architecture caused a shift in design attitudes, such an outlook necessitates a short historical account how the consequences of diagramming in the design field became one of the prevalent issues. (2) The developments in system theory in 1940's can be mentioned as the

1 For a broader discussion of how simulation became a mode of representation and even replaced the conventions of visualization in architecture, see the collection of essays on simulation and its implications edited by Sean Lally, which provides a good array of thoughts on the issue. See Sean Lally and Jessica Young, eds. Softspace: *From a Represen-tation of from to a Simulation of Space.* London; New York: Routledge, 2007.

2 The breadth of the domain of simulation necessitates a limitation for a thematic framework, in which certain assumptions can be aligned with the concepts of visualization in design discourse. In that respect, visual representation in architecture is conceived as a mode of simulation, as the practice of designer mainly focuses on the prescription of further possibilities by describing its formal outcomes. A broader discussion of simulation in respect to the visual vocabulary in architecture has been reviewed by Thomas Hänsli in his essay "Parrhasius's Curtain: Visual Simulation's Mimesis and Mediality" which is included in *Simulation: Presentation Technique and Cognitive Method.* Gleiniger, A., Vrachliotis, G. (Eds.) Berlin: Birkhäuser, 2008.

origin for the interdisciplinary formation of cybernetics, which in the end influenced other domains of knowledge and in turn reshaped it. With many other disciplines like psychology, control systems, neuroscience or game theory, architecture was also in this league of predictive endeavours yet the entailment of systems theory had to wait until late 1950's so it could infiltrate into the processes of design. In order to single out this relationship between architecture and systems theory, diagramming can be used as a framework to understand how the conceptual mutation in design has happened.

Architectural diagrams are intense tools suggesting alternative possibilities in form generation and, raising new conceptual issues and relationships. Rather than focusing on representation, they help designers avoid early formal fixation in the design process. Yet, sometimes they might also be opaque or at least translucent in conveying the design idea while combining multiple attributes of the design process. Therefore, their thick surface needs an elaborate decoding which requires advanced media literacy in different domains. Necessarily being visual, this paradigm is about to change with the implementation of soft qualities within the software environment, where many requirements of different levels in design procedure can be outlined in highly interactive and responsive datasets. Therefore, it is aimed to probe the current transformations in design practice via the discursive role of architectural representation in the dissemination of the disciplinary knowledge, internally and externally, into the spheres of theory and practice.

2. Cedric Price: Drawings for an Architecture as a Social Automaton

In order to epitomize the analogous thinking in design with respect to the idea of modelling in simulation, the British architect Cedric Price's drawings provide limited but substantial contextual evidence, which helps to see that the drawing becomes a technical mapping of the proposed design solutions. I prefer to call them suggestions because in Price's approach the design solution is meant to provide a playground for further possibilities, which enacts its users in a reflexive way. In this sense, the drawings, themselves become a sort of prescriptive provisions of various probabilities and simulate those controversially in the descriptive medium of drawing. (3) Yet, the characteristics of the drawing easily show that they are not typical elements of an orthographic set or documentary drawings. The internal

3 Bryan Lawson refers to Cedric Price to highlight these complementary binary concepts while discussing guiding principles in design thinking. See Bryan Lawson. *How Designers Think: The Design Process Demystified.* 1980. 4 ed. Amsterdam: Elsevier, 2005.

structuring for the probabilities of design solutions and the user input become a means for drawings' expressive character, and therefore, they mostly resonate with Archigram's projective urban proposals, and yet in a more limited cosmos of architectural elements.

The network diagram for the programmatic development of the Fun Palace (1961-72) conceived by Cedric Price for the Theatre Workshop of Joan Littlewood, as a peculiar architectural drawing, suddenly becomes a model in itself: A structured network that simulates the causal modalities which build up the overall programme that should not be definite in the end. In this regard, this drawing seems to be much more successful in conveying the logical structure of the decision making procedure. Gordon Pask, a psychologist and one of the leading figures in cybernetics, who was also involved in the Fun Palace project with the architect Cedric Price (1934-2003), claims that systems oriented thinking then became apparent in the techniques of design.(4) This is also highlighted by Georg Vrachliotis with respect to architecture, as follows:

Cybernetics has altered technical thinking in architecture. Its emergence was followed by a period in which architects dreamt of automated design processes, intelligent calculating machines, global telecommunications engineering, and spaceship design… The underlying conceptualisation of nature has also been subjected to changes in the course of Modernity, often coinciding with technological, natural-scientific, artistic, and other cultural-technical developments. It is not the original, undisturbed image of nature that has served architecture as a referential system since the advent of classical Modernism, but the analytical and constructive model of the natural sciences, an "antropogenetic nature". Given the increasing dependence of the sciences on calculation, this image seems self evident." (5)

Thanks to the political and social climate of the period in sixties and seventies, the approach to design with a focus on user participation coincided with the interests of architects in self-organized solutions for design problems. Cedric Price was one of the most influential architects of the period. His critical approach to the conception of architectural practice and design notions also influenced other architects and groups of designers, whose practice displayed that impact through forthcoming decades, like in the proposals of Archigram, Bernard Tschumi and Rem Kool-haas. Koolhaas started his introduction in the collection of essays on Cedric Price, Re: CP, saying that "nobody has ever changed
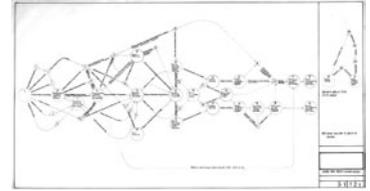

Figure 1: Network diagram produced for Fun Palace's programmatic relationships by Cedric Price.

4 John H. Frazer. "The Cybernetics of Architecture: A Tribute to the Contribution of Gordon Pask." *Kybernetes* 30.5-6, 2001: 641-51.

5 Georg Vrachliotis. "Vlusser's Leap: Simulation and Technical Thought in Architecture," in Andrea Gleiniger and Georg Vrachliotis, eds. *Simulation: Presentation Technique and Cognitive Method*. Berlin: Birkhäuser, 2008: 64-5.

6 Rem Koolhaas. "Introduction," in Hans Ulrich Obrist, ed. Re:CP by Cedric Price. Berlin: Birkhäuser, 2003.

Figure 2: Cedric Price, Presentation Panel, Fun Palace: perspective for the Lea River site between 1961 and 1965

7 The dilemma between tangible and intangible qualities and their role in design practice are discussed by Sean Lally in his article "Energies, Matter and the Gradients of Space" in Sean Lally and Jessica Young, eds. Softspace: *From a Representation of from to a Simulation of Space*. London; New York: Routledge, 2007: 1-9.

architecture more with fewer means than Cedric Price". (6) Obviously, this claim addresses Price's programmatic emphasis over physical requirements, which sometimes even caused him to decline projects by questioning the necessity of a building. In this context, the aim in this paper is not to rely on Price's negation of formal baggage of an architect as a designer. On the contrary, by delineating probably in a more naïve way of illustration, it is argued here that the fundamental task for architecture should be re-aligning this task with the overwhelming applications of formal emergence by appropriating novel digital tools. Price's approach to space was in lineage with the theory of systems that was put forward in late fifties. Its gravitating impact on architecture, however, showed itself in sixties and Price and his contemporaries were convinced by its prescriptive power. With a focus on Price's architectural endeavour, my aim is not to revisit the arguments on user participation raised by his generation in a political climate when architecture was seen as an agency in realizing a substitute utopia for the city. Rather, by focusing on the diagrammatic almost non-representational drawings and schemes produced by Price, the aim is to outline the impact of the cybernetic mode of thinking that was already apparent in a period when the sole medium of design depended on analogous modes of representation. This way, it might provide a frame for understanding the cognitive foundation of diagrammatic/cybernetic thinking in architecture, which actually gave way to the recent debate on the use of diagrams in architecture.

The appropriation of digital tools in architectural design is still preoccupied with form generation. Even the most liberal generative procedures focus on shape-geometry articulation and physical qualities rather than the intrinsic forces and tensions that build up the spatial qualities. The architect's authority has been reflected by her expertise in controlling the qualitative values within the space by the boundary conditions itself. Namely the envelope and its creation has always been the denominator for spatial practice. (7) In that respect, the enrichment of the content and the context of the design object should be taken into consideration with a delicate balance between its material and programmatic components. The diagrammatic approach to architectural problems can be seen as a response to this dilemma, for diagrams usually provide the designer with both a symbolical structure of meanings in which the theme of design can be communicated and also a graphical expression over which the physical outcome could be initiated.

This can be best highlighted by Villém Flusser's (1920-1991) definition of "technical images", which are products or by-products of apparatuses. (8) Since the apparatuses with their internal programming replaced the tools, the output of this change from tools to apparatuses also caused a change in the conception of the images. Technical images are reflections of the internal programming of an apparatus, the internal diagram in a sense. (9) So, how a totally analogous drawing on a sheet of paper can be used to epitomize logical programming?

What Flusser calls the internal program of the apparatus is not tightly bound to some functional features of the machinery of that apparatus. On the contrary, the program intrinsic to the apparatus is the soft machine that also conditions the users' state of mind. In the end, the product becomes a snapshot of a combination of a cybernetic system itself. In fact, this can best be highlighted by the anecdote by Herbert Simon when they were trying to simulate the computer by hand. (10) Simon clearly explains it as follows:

"Simulation, as a technique for achieving understanding and predicting the behaviour of systems, predates of course the digital computer. The model basin and the wind tunnel are valued means for studying the behaviour of large systems by modelling them in the small, and it is quite certain that Ohm's law was suggested to its discoverer by its analogy with simple hydraulic phenomena… Simulation may even take the form of a thought experiment, never actually implemented dynamically. " (11)

In this respect, the significance of modelling and its expression either in visual or symbolic language of representation becomes a crucial issue in architecture, which is conventionally dominated by visual media. The significance of the discussion with a focus on Price's network diagram lies here. In his effort to reach a performative architecture, drawings become simulation of the functions for the proposed program. In his case, the program encoded into the diagram becomes the essential dataset required for modelling. Architecture becomes an apparatus, an automaton par excellence.

However, his negation of the physical edifice, and instead, focus on the prescriptive effort in the instance of Fun Palace reflects another problematic in itself that was highly criticized because of his oversimplification of architecture to functionalism and in the end negation of architecture. One of those critiques is expressed by Peter Eisenman:

8 Villém Flusser. "The Technical Image" in *Towards a Philosophy of Photography*. London: Reaktion Books, 2000: 14-20.

9 Although at first this seems a bit paradoxical, an analogy to simulation might be helpful in displaying its potential. Herbert Simon, similarly, discusses the role of computer in simulation as a source of new knowledge, where he puts two propositions: 1. A simulation is no better than the assumptions built into it. 2. A computer can do only what it is programmed to do. He claims that "there are two related ways in which simulation can provide new knowledge – one of them obvious, the other perhaps a bit subtle." So, the apparatus's function as an agent in the simulation provides a new frame to look at the phenomena that has to be contemplated on. In this respect, it can be argues that simulation helps us understand phenomena and theorize up on it. See Herbert A. Simon. The Sciences of the Artificial. Cambridge: The MIT Press, 1996.

10 Quoted in Nills Röller. Scientia Media – Simulation between Cultures in Andrea Gleiniger and Georg Vrachliotis, eds. Simulation: Presentation Technique and Cognitive Method. Berlin: Birkhäuser, 2008: 52.

11 Herbert A. Simon. *The Sciences of the Artificial*. Cambridge: The MIT Press, 1996.

"This shift in balance has produced a situation whereby, for the past fifty years, architects have understood design as the product of some oversimplified form-follows-function formula. … [A]s late as the end of the 1960s, it was still thought that the polemics and theories of the early Modern Movement could sustain architecture. The major thesis of this attitude was articulated in what could be called the English Revisionist Functionalism of Reyner Banham, Cedric Price, and Archigram. …

However, the continued substitution of moral criteria for those of a more formal nature produced a situation which now can be seen to have created a functionalist predicament, precisely because the primary theoretical justification given to formal arrangements was a moral imperative that is no longer operative within contemporary experience. This sense of displaced positivism characterizes certain current perceptions of the failure of humanism within a broader cultural context." (12)

12 Peter Eisenman. "Post-Functionalism" in Hays, K. Michael, ed. <u>Architecture Theory since 1968</u>. Cambridge, MA: The MIT Press, 1998: 237.

The bold tone of the critique in Eisenman's reconsideration of the functionalist approach is significant. However, Price and his fellows' design agenda should not be underpriced simply just because their effort was in a sense to overturn the practice of architecture into a ghost of self-organized functional relation-ships. The indispensible problem of formal complexity in architecture where the classic Modernists left out and, which has been also pursued by the digital media for several decades, should also be questioned in this framework. The reconfiguration of our spatial dilemma with the aid of the digital technologies should have rather lead to reconsideration of the content rather than its formal aspects. In that sense, the cognitive path they followed in outlining the requirements of a spatial configuration with a more prescriptive sensitivity should be aligned with the indigenous search for formal originality and complexity in architecture.

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