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Apparatisation in & of Architecture

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Apparatus and apparatisation, the focus of the Cyber-Physical Architecture (CpA) issue #2 of SPOOL, refer to an assemblage of various components, tools, and instruments that in combination produce an exponential surplus beyond the linear sum of parts. On the one hand, apparatus can be seen as a collective of means used to perform certain tasks in order to solve a range of problems. It can contain a series of tools and instruments and produce new rationalities that often translate into pervasive technology, such as, for instance, electricity and, today, Information and Communication Technology (ICT). On the other hand, apparatuses can be found in organisations and institutions that deal with various aspects of a society. For example, the police apparatus, of which rationalities are – rather than being embodied in physical technics – codified in written statutes. The apparatus in this sense is a collection of performative concepts that the subjective members of the apparatus execute in order to serve policies and plans.

In the context of the foregoing views of apparatus, architecture consists of both technics and concepts in design, construction, and use that have accumulated for generations. It has developed its canons through inherited practices (i.e. the conventions that have been established over time, or simply the way it has been done according to the tradition) that conflate the two in relation to the dominant forces (ideological, political, cultural, social, economic, etc.) of the time.

Architecture and its urban conditions result from particular interconnected discourses, attributes, and practices that are conceived, instantiated, and materialised in a given period. Architecture as a discipline consists of relations and agency of its instruments (drawings, models, and specifications), which are directed at determinate configurations and situations, as well as objects.

The substance of a given apparatus of architecture is determined by the relations and trajectories between what is explicit (drawings and notations, specifications and writings of all sorts, which in some manner bracket a given project) and implicit (strategies, intentions concerning desired effects or affectations, preferences, etc.). Given its inevitable public presence and the assumptions of *accommodating* human occupancy and use, architecture is necessarily circumscribed by the relations of institutions, ideologies, politics, economics, personalities, and so forth. This ensemble of relations determines the spatialising and the ordering and organising of social multiplicities.

Apparatisation in and of architecture relates to architects' capability to produce and exercise a new field of rationalities through instructional and notational instruments (digital), rather than remaining in the inherited practice (analogue) of design and construction. The historically entrenched view of architecture as inherited practice indicates that an architect creates an autonomous world and that the participants in the work dwell in that world. Today, our spatial world is situated within the rationalities of the pervasive apparatus that spans and blurs the actual and the virtual.

With the advent and proliferation of digital algorithmic apparatus, architecture has become thoroughly apparatused. The cognitive, intellectual capacity of the architect as author no longer commands the aura the disciplinary tradition has endowed. Its disciplinary rationalities have come to include increasingly transdisciplinary elements, modalities, and attributes. At the same time, it is also highly specialised to the extent that the historical autonomous authorial view of the discipline is neither needed nor tenable.

When considering the dependencies on highly specialised knowledge and skills at the core of such apparatusation, architects are confronted with a new class of skills, expertise, and knowledge. The apparatus-centric systems fundamentally alter the relationship between episteme and techné. The study and practice of architecture is no longer dominated by mastering and applying canonical knowledge, but instead, by apparatus-centric potentials for new rationalities. Such apparatus-centricity should, in principle, encourage alterity and dissent, rather than similitude and conformity, in order to create new commons of knowledge.

The CpA #2 samples various interests afforded by the apparatus and apparatusation in and of architecture and how they open up new potentials and opportunities. The first article, *Building as Apparatus?* (by Leach) addresses the theme of “buildings-as-apparatus” through theoretical and historical discussions on politics, control, agency, and social impact by Foucault, Deleuze, and others. Leach argues that the architectural object in itself has no agency and the term “apparatus” should be understood as an embodiment of a larger system of culture, politics, and practices in which buildings can be a constituent part.

Architecture Machine Revisited (by van Ameijde) summarises a series of experiments organised at the Architectural Association between 2011 and 2017. The experiments investigate the intellectual notion of “the architecture machine” introduced by Nicholas Negroponte and the Architecture Machine Group (AMG) at MIT in 1967. The article focuses on technologies and work-flows that trace human activities and translate them into architectural structures as initiated by the AMG.

Discreet Robotic Assemblies (by Garcia, Retsin, and Soler) questions the acceptance of a continuous paradigm within robotic fabrication and proposes a model based on a discreteness, in which building elements are combined into larger assemblies, rather than being described by the rationalisation of a whole. *Structural Adaptation* (by Hidding et al.) explores the rationalisation aimed at improving structural performances and achieving multi-functionality, focusing on the design and robotic fabrication of a chaise longue that can change shape to function as both a bed and a chair depending on user requirements.

Finally, reflecting on today’s architectural theories and practices, *Dialog #1* (by Bier and Green) discusses how high-technology as an intellectual model impacts architecture. They question the speed of implementation and the pervasiveness of high-technology in architecture in contrast to the continuation of the inherited practice.