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METHOD

GILLES RETSIN

Reflecting on the invitation to contribute to this issue of *AA Files*, I was struck by the request to write about the term 'method' and what this designation might actually mean. Indeed, a fundamental part of my practice and research consists of developing and tinkering with design *methods*, but what might this imply? As a practitioner who also develops computational methods, there may be an assumption that one can only talk about a set of procedures but can't theorise on the how or why of their importance. The fear is that you are an architect that blindly devotes much time to the process and in the end promotes a mediocre design. This is akin to a television cook that is better at explaining recipes than actually using them to cook a meal, or a writer teaching creative writing workshops instead of working on a decent novel.

Architects working with computational methods have often been put in the same category – programming robots, incapable of designing and oblivious to politics, flush with method, but no ideas. In this context, if a historical genealogy is to be constructed of 'method architects', a starting point could be Jacques-François Blondel,[1] moving through to JNL Durand's seminal *Précis des Leçons sur l'Architecture* (1813), which set up a combinatorial, modular grid with a methodical set of rules to teach students attending the École Polytechnique how to churn out Neo-classical buildings. During the mid-twentieth century Christopher Alexander's book, *A Pattern Language: Towns, Buildings, Construction* (1977) can be seen as the pinnacle of 'extremely methodological methods', enabling even non-architects to design fully functional buildings.[2] These are examples that provide easily digestible design methods that can be shared and distributed.

A method is a system, and contemporary systems are intrinsically bound by the mechanisms of computation.

Computational design can be understood as a whole series of programmed methods used for design or analysis. Rather than describing the method through text and diagrams as seen with Durand and Alexander, the method today is immediately coded. It is common to package significant bits of code as a 'plug-in' which can then be applied by any given user. Online, entire libraries of tools are available for all to download. However, users are unaware that each of these plug-ins is not only a device, but also the carrier of a specific method. While the distribution of these tools opens up many possibilities, it creates a certain gap between the tool developer and the user who plays with the code. For method-driven architects this can be particularly problematic, causing a disconnect between the actual subject of intent and the process with which they are working. If the architect is working with tools developed by someone else, this raises questions that are deeper than the issue of authorship: disconnected from a critical framework, the method can just be applied or appropriated by anyone.

For an emerging generation of architects working with digital technologies, it was crucial to develop a critical framework in order to understand the nature of their work beyond 'mere method' alone. These young practitioners, having graduated after the financial crisis of 2008, want to foreground the social and political consequences that are inevitably integrated with design and computation methods. The notions of *digital design* and *digital fabrication* by themselves are mere methods, without any clear implications. However, this perspective changes

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when we replace the term *digital design* with the term 'automation', which directly relates to environmental, economic, and political questions, and enables a discussion around vital societal questions such as work, housing, data and digital economy. Using the term 'automation' also creates a historical connection for the digital in architecture to the term 'mechanisation', which was a defining concept for Modernism. [3] In doing so, it bypasses the post-modern, deconstructivist or parametric decades as points of reference.

This new generation of architects have also picked up on the link between automation and a set of methods that can be described as 'discrete'. [4] These architects advocate that the discrete *part* or *bit* is critical to the creation of an automated, accessible, and scalable architecture that aims at shortening the production chain. Discreteness is a fundamental tool for designers who – disillusioned by expressive but often vacuous forms – are more interested in the relations between *parts*, their production chain, and their ownership. The discrete, as an architectural position, does not seek the largest degree of variability, the most formal complexity or the most heterogeneity. Driven by an interest in the design and construction that questions the social and economic scenarios of ownership, the discrete is not allergic to bulky forms, straight lines and low-resolution.

The interest for discreteness signals an emerging critical attitude towards the deployment of computational design methods in a more political and economic context. However, the architectural consequences of this extreme discretisation are still to be investigated. In 2018 my office collaborated with Stephan Markus Albrecht in a design proposal for the Nuremberg Concert Hall; the project allowing

for a reflection on a 'discrete architecture'. Simple at first glance, and reminiscent of a Modernist glass box sliced by a series of floor slabs, the project appears to support Reinier De Graaf's statement that 'originality and the box are incompatible.' [5] The box is of course the good-old enemy of the computational method which seeks to transform, twist or perforate it until nothing of its original appearance remains.

To make it even worse, this box is punctuated by a series of consistent horizontal slabs, which run across the full length of the proposal. While for potential occupants the floor slab represents a valuable commodity, a horizontal surface that enables inhabitation, for architects slabs are perhaps even more problematic than boxes. The slab is also schizophrenic in nature, being both the floor for one inhabitant and the ceiling for another. Somewhere in the middle runs an imaginary property division, and an ontological shift from floor to ceiling. In architectural discourse, however, the continuous, undifferentiated slab is not a source of debate and controversy, but rather a clear sign of the lack of creativity. This is partly due to its intrinsic link to Le Corbusier's Dom-Ino prototype, a reminder that we are still dealing with this persistent model that just won't go away. Therefore, during the last few decades architects have done everything they can to cover their reliance on this slab, hiding it behind facades, twisting it, split-levelling it up and concealing it under funky suspended ceilings.

Although the proposal for the Concert Hall appears to be a box divided by slabs, the project is conceptually agnostic towards these two dead-pan formal architectural moments. This design cannot be understood through the lens of the Dom-Ino paradigm: as everything is discretized

the box is not a box, and those horizontal slab-like structures are not slabs. In fact, there is no notion of column, ceiling, floor, or façade either.

The design method is based on radical discreteness. We conceived the design as a three-dimensional grid; a voxel[6] space where every voxel contains a virtual v shaped element. These elements are digitally assembled together into larger components, building features or spatial transitions, all constructed from repeating CLT-sheets cut by robots in an automated production chain. The components are arranged in a v-shape, the same horizontally as vertically, making no distinction between the wall and the ceiling. There are no slabs as such, and people merely walk from one element to another allowing the space to be read through a repetition of elements. Due to its serialised material organisation and continuous logic, the proposal can be conceived of as a monolith. Architecturally, this assembled monolith is more closely linked to Stonehenge than to the Dom-Ino, in that the same material is used to create the monolithic whole. However, in the megalithic structure material is sourced directly from nature, whilst in the Age of Automation, material is extracted from a capitalist mega-system of production. The forest is part of the production chain, a territorial system in which trees are specifically planted and monitored over time to then be logged, sawn and glued together into standardised sheets that can be re-assembled into building elements computed, packaged, sold and insured. Both the forest and the architecture share the same property: they have been discretised and have become part of a fully automated production chain.

Despite the formal appearance of the box and the slab, nothing in this building is familiar. There are no elements that can reconducted to conventional architecture. The huge, over-scaled parts are more reminiscent of ancient times than of anything we know today. Its logic aims to invert modernism's rationale – to minimise everything and avoid wasting material – by doing the exact opposite. The proposal is chunky and fat, but this apparent inefficiency allows it to store CO_2 in its body and retain heat with its mass. In light of the current climate crisis, the future might appear sub-optimal.

Programmatically, nothing proposed in this design is particular to any given use or occupation. Anything that makes it functional for inhabitation, and anything that caters for the human body is added afterwards. For example, it was proposed that the central staircase would be outsourced to an external designer, Isaie Bloch, and have nothing to do with either the logic of the structure or its material production systems. This is again a reversal of Modernist principles and fitting for the digital era, in which buildings slowly lose their relation to function. We work from home and play at work. We eat in our bedroom or in front of a computer. The clear distinction of spaces according to programme has been dissolved, so why design a building only fit for one function? Wouldn't it be better to just design a generic space that can allow specific and yet temporary programmes?

Indeed the Nuremberg Concert Hall proposal does everything that the digital generation of architects were taught not to do: work with a box, work with a slab, work in low-resolution, work with a framework which is first and foremost political and economic. This should be part of the *method* – the polemic.

But beyond political and social agendas, and beyond computational systems, method should also be a critical tool of investigation for the discipline, challenging our conventional lexicon of slabs, columns, syntax and composition. Through discretising architecture, through chopping it up in small pieces, the working method exemplified by the Nuremberg Concert Hall proposal ultimately attempts to understand how we design and recalibrate the underlying properties of our discipline in the digital condition.

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1   Blondel was not only an influential educator, but also the author of the hugely successful *Architecture française, ou Recueil des plans, élévations, coupes et profils des églises, maisons royales, palais, hôtels & édifices les plus considérables de Paris* (Paris: Jombert, 1752–56), a publication that would be used and copied as pattern book well into the following century.

2   Christopher Alexander, Sara Ishikawa, Murray Silverstein, *A Pattern Language: Towns, Buildings, Constructions* (Oxford: Oxford University Press, 1977).

3   See for instance Sigfried Giedion, *Mechanization Takes Command: A Contribution to Anonymous History* (New York: Oxford University Press, 1948).

4   *Discrete: Reappraising the Digital in Architecture,* edited by Gilles Retsin, *Architectural Design,* March 2019.

5   Reinier De Graaf, 'The Inevitable Box', in *The Architectural Review,* 18 October 2017. www.architectural-review.com/essays/campaigns/notopia/the-inevitable-box-architectures-main-achievement-and-its-main-trauma/10024071.article.

6   A voxel is a volumetric pixel, that is to say a value in a three-dimensional grid.

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