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FANI
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On the
conception
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1 On the conception of design knowledge

Why do architects become so obsessed with originality? In the Western system of design knowledge, many architects grow up pseudo-believing in parthenogenesis; a creative process, which upon defining the problem and setting the brief, one comes up with a design concept that equals to the invention of a new idea that hardly existed before. This supports the conception that architecture is the “subject of an imaginative and authored process of inventing”¹, rather than a scientific process of analytic design, which examines how things are. Herbert A. Simon² describes design as an activity of creating the new, looking at how things should be. However, human minds learn and thus act in a constructivist way by building on previous learning³ and architects are not an exception. They learn to design by association of what they have read, seen, heard and experienced throughout the years. Design knowledge is a build up of heuristic knowledge. It progresses through accumulation, caused by an increase in *knowing-how*⁴ and *ideas-to-think-with*⁵.

Ideas-to-think-with Hillier and Hanson⁶ say, are the abstract and non-discursive relational schemes between concrete and discursive elements that we all perceive and understand; for example, the semantics or syntax between words in a language. In design and as a result of their philosophical nature, *ideas-to-think-with* are both extrinsic and intrinsic, shared and individual, pushing for a more complex understanding of design knowledge. When our understanding solely focuses on one of these properties, we pursue a rather narrow conception of originality in design. Scenario one: ideas that have a strong-shared basis may formulate an architectural style, school or theory leading to a wide range of similar visual outcomes by a number of designers for many different functions and contexts. Now, if a specific style, school or theory is regarded as being original, does this mean that every designer following the same style, school or theory is also original? In other words, can architecture be original at an individual basis or is it on a paradigm level?

Scenario two: *ideas-to-think-with* are intrinsic and differ from each individual to another due to the existence of a “primary generator”⁷, which architects set for themselves in the very beginning of a project. If primary generators are based on inherent beliefs and aesthetics, “how individuals seem to fall under the coercive influence of a prevailing style or a predominant ideology”⁸? The problem of the modern design knowledge theory then seems to be more complex. For once, a practicing designer does not necessarily agree with classifying himself within a specific style, school or theory. This means that design decisions are made sometimes intuitively and by combination or association rather than

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Sophia Psarra, Fani Kostourou, Kimon Krenz: *Designed and Emergent Tectonics: Resituating Architectural Knowledge*, The Plan Journal TPJ 0, no. 0 (2016): p.11–28

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Herbert A. Simon: *The sciences of the artificial*, Cambridge, MA: MIT Press, 1969

↘3

Kate Morss, and Rowena Murray: *Teaching at University: A Guide for Postgraduates and Researchers*, London: SAGE Publications, 2006

↘4

Gilbert Ryle: *The Concept of Mind*, London: Hutchinson, 1949

↘5

Bill Hillier: *Space is the machine: a configurational theory of architecture*, Cambridge: Cambridge University Press, 1996

↘6

Bill Hillier, Julienne Hanson: *The Reasoning Art. Proceedings of the 1st Space Syntax Symposium* London, 1997, p.1–5

↘7

Jane Darke: *The Primary Generator and the Design Process*, Design Studies 1, no. 1, 1979, p.36–44

↘8

Mark Gelernter: *Sources of Architectural Form: A critical history of Western design theory*, Manchester: Manchester University Press, 1994, p.18.

consciously and with explicit understanding of their origin. Furthermore, with the extensive use of Internet and the globalization of the discipline, the accurate demarcation of *ideas-to-think-with* becomes blurred. So do the boundaries of architectural authorship. Fatedly, design concepts get hybridized and disseminated, making it even harder for architects to distinguish between what they produce and what they reproduce without acknowledgement.

Although in theory designing is a result of association and reproduction of knowledge, and eventually committed to memory and observation, it is true that in practice architects refuse to acknowledge they have made use of or re-produced other people's ideas. This is not to say that architects tend to be less creative or are to be blamed for plagiarism. The intention here is rather to raise awareness of the complexity behind the desire to be original: a desire to produce and create anew something unique so as to add value to the collective profession and make an individual contribution – as if this would only depend on the degree of their originality. Their desire often becomes an obsession that goes way

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beyond the noble cause of the profession and touches upon issues of ego. Architects in fact enjoy considering themselves – and aspire to be – *revolutionists* in their field rather than *evolutionists*. In the history of 20th century philosophy of science, Thomas S. Kuhn⁹ was the first to support that new knowledge

is produced through revolutions, meaning paradigm shifts from previous theories that have proved to be insufficient or unsuccessful, while Karl R. Popper¹⁰ considered that knowledge evolves linearly through hypothesis and elimination. Both cases refer to scientific knowledge where the existence of the one and only truth may be sound. As this is not the case for design solutions, the two approaches are not directly applicable, yet the reference is useful to explain the difference between wishful thinking and reality in architecture. Kuhn's philosophy of progress through revolution seems to explain well what architects think they do – i.e. the paradigm shift of modernism –, while Popper's empirical falsification explains what architects usually do: trial of decisions and elimination of those that don't work either during the same project or throughout their whole architectural career.

Then, the real issue lies in the distinction between architects' perception of design knowledge and design originality. The idea some architects have – and architectural schools do help perpetuating – is that everything can potentially be a revolutionary piece of architecture; which is absurd. First, most of them believe that authored architectural design is superior to any kind of bottom-up emergent and non-authored spatial production¹¹. They also think that the original design – here it is used to describe the first rather than the authentic – is better than any of its later variances, a concept that has been cultivated since Alberti. When the design is fixed, no further changes are supposed to be made and any building

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Thomas S. Kuhn:
The Structure of Scientific Revolutions, Boston:
MIT Press, 1962

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Karl R. Popper:
Objective Knowledge: An evolutionary approach,
Cambridge:
Cambridge University Press, 1972

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Sophia Psarra,
Fani Kostourou,
Kimon Krenz:
Designed and Emergent Tectonics: Resituating Architectural Knowledge,
The Plan Journal
TPJ 0, no. 0, 2016,
p.11–28

↘12

M. Carpo:
*The Alphabet and
the Algorithm*,
Cambridge Mass:
The MIT Press, 2011

↘13

Sophia Psarra,
Fani Kostourou,
Kimon Krenz:
*Designed and
Emergent Tectonics:
Resituating Archi-
tectural Knowledge*,
The Plan Journal
TPJ 0, no. 0, 2016,
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↘14

Sir Andrew
Derbyshire: *Architec-
ture, Science
and Feedback*, in:
Building Research
& Information 32,
no. 3, 2004,
p.261–263

built based on this design will only constitute an identical copy of the original design^{↘12}.

Setting the superior status of architectural design to buildings and cities as found, because they are mosaics of accidents, adaptations, adjustments, additions, subtractions, revisions and other errors, most significantly by not having an author.^{↘13}

To better illustrate the distinction of perceptions, many architects aim at building architectural masterpieces appraised by the discipline rather than the people. Unique masterpieces that are viewed by few and experienced by even fewer but still serve as proofs of the architects' high intellect and sensitivity. This is the case with expensive private residences custom made to fit for the clients' aspirations, budget and needs and for the specificities of context and climate. I argue that custom-made architecture is a long-lasting myth because it can't help but become obsolete in economically challenged societies. When the urban population is rapidly growing and migrating, when there is a haunting housing crisis, the design of high-quality, architecturally conceived houses exclusively for privileged clients and affluent populations in the peripheries of the cities may sound futile. With low density and big urban sprawl, this architecture is socially, economically and environmentally unsustainable. It also offers very specific solutions in terms of program, context and function that allows for no evolution or alteration of any sort. At the same time, it requires a large amount of investment and size of land. And while custom-made architecture appears to be socially and geographically elitist, yet it is rather popular within the architectural establishment. The main reason for that is again the obsession of originality, creativity and intellectual ownership.

2 Copy/Paste as evolution of design knowledge

The truth is that architects most of the times are no revolutionists but rather evolutionists.

Their work is not done as soon as the building is finished, just as the experiment of scientists is not complete after they have managed to assemble an apparatus^{↘14}. Even though I would disagree with the desire of modernist architects to control everything related to design and built environment, architects do have a responsibility on the evolution of their designs including their hybridisation with other designs – namely what has been designed before. This is already happening: the reproduction of past designs or parts of them that have been proved to be successful and sustainable over a long period of time for different reasons, contexts and

conditions. However, the problem arises when this reproduction is being masked by half-truthful or exaggerated claims of originality, which completely overshadow the – mostly absent – references to previous inspirations, if aforementioned claims even exist.

(Re)producing parts or wholes of existing designs – if the contexts and conditions repeat themselves – is apparently not a new idea to the profession. The provocative and intellectual think tank of *t?f The Why Factory* research institute in Delft has already proposed methods how to copy/paste parts of existing designs in a systematic and open way, and without guilt. They argue that in a conceptual level and with the current dissemination of intellectual and authorial boundaries, architectural designs are being copied all over the world. “Copying is easy and cheap and fast”¹⁵. The financial crisis together with the demands of clients, the abundance of computer-aided design possibilities and the rise of conceptual design competitions with low probabilities of success have all enabled the development of copy/paste. Yet it occurs without architects explicitly admitting to do so or providing proper intellectual credits. The idea of copy/paste no matter how provocative it may sound and for whatever reasons it may have been proposed by *t?f*, it offers an answer to the above-mentioned debate. Mainly because it sheds light to a procedure that has already been happening in disguise.

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Advocating that architectural dissemination through copying is not a taboo, quite the opposite. It helps making the boundaries between design *ideas-to-think-with* clear. Still, its greatest value lies in the fact that the idea has emerged inside a prestigious educational institute where design knowledge is

being contoured, and as an educational project. Hence, the crucial point is that the reformulation of the notion of architectural originality and authorship takes place at this early stage of architects’ professional life.

3 The evolution of Copy/Paste

Copy/paste is not simply a response to the conception of design knowledge. It also constitutes a solution to the current deficiencies of the building industry combining customisation with industrialisation. This opens up new perspectives in the discipline by re-imagining architecture as a manufacturing field. At an advanced level, original historic and contemporary buildings will constitute an index of successful responses to specific questions forming a public database accessible to every architect. Their designs will be categorised in different themes, contexts and attributes. Additionally, there will be information on their aesthetics,

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Copy/Paste,
TU Delft.
Accessed May 06,
2016. [http://
thewhyfactory.com/
project/copy-paste/](http://thewhyfactory.com/project/copy-paste/)

materials, building and land size, construction cost, spatial capacity, accommodated functions, density and logic of growth. Similar to other manufacturing industries like fashion, the catalogue will provide access to ready-made designs available to be copied/pasted for a greater number of people, the same way *haut-couture* is being available to the wider public in a *pret-a-porter* mode of production.

Bart Goldhoorn, a specialist in post-Communist architecture and director of Block City Institute, has argued sharply about such a scenario¹⁶. He explains the specifics of this combination of industrialisation with architecture as a possibility to merge mass production with customisation, speed and economy with quality, developers with architects and finally, the generic with the specific. His idea is to massively (re)produce existing customised designs, which have already been built in the past and proved to be successful. Famous buildings that epitomise years of architectural experience: well-appraised solutions by prestigious architects responding to a series of different criteria. He calls us to imagine the twenty best Dutch housing projects built in recent years applied in different places around the world like the canal houses in Borneo-Sporenburg. Similarly, we can imagine one Villa Savoye in Paris, two more in Brazil and three in United States. Or a couple of pre-fab Farnsworth houses in regions with similar natural circumstances, more *Unités d'Habitation*, than those in France and Germany and a ready-made Landtong block to build elsewhere than Rotterdam. What he suggests are replicas of the original designs in different contexts with similar climate conditions and functional demands. These original designs will include buildings that have been tested, reviewed and appropriated, standing as diachronic laboratories of architects' decisions and designs. Thus, instead of having architects developing new solutions for diachronic problems, they can simply replicate and reproduce other architects' solutions that have already received the blessing of the architectural community. Without any taboo or disguise.

It seems however that the two visions have not adequately explored the full potentiality of the copy/paste practice; at least not beyond the simple desire to provoke, describe and criticize the current *modus operandi* of architectural design and "urbanism as a product of repetition"¹⁷. On one hand, Goldhoorn envisions this idea to inform future designs of private developers in emerging economies and make architects' presence in the production of mass housing actually needful. At the same time though he argues that architects "will no longer work directly for clients, [but] start to compete in a market for ready-made projects", which fully saps sociality from the profession. On the other hand, the end product of the *t?f's* project is the production of fast architectural designs from a library of selected elements from different buildings using Photoshop or CAD softwares. So, the whole concept ends up being either a consumption and redistribution of ready-made objects in dispersed locations

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Bart Goldhoorn:
Block City, Archis
Volume 21, October
2009, p.82–94

↘17

Fani Kostourou:
Urbanism as a Product of Repetition, in:
LOBBY No.1
Un/Spectacle,
September 2014,
p.110–111

↘18

Sophia Psarra,
Fani Kostourou,
Kimon Krenz:
Designed and Emergent Tectonics: Resituating Architectural Knowledge,
The Plan Journal
TPJ 0, no. 0, 2016,
p.11–28

(to avoid uniformity) or a visual patchwork that combines bits and bites of architecture glam, for instance MVRDV and Herzog & de Meuron together with Steven Holl, all in one hybrid conceptual design outcome.

What I believe this idea has to offer at a shortsighted scale is the revision of famous projects into new contexts, allowing for new opportunities within the architectural field to emerge. This has been already too common amongst old masterpieces of theatre, art, music and cinema. Different artists in different eras are revisiting famous pieces of work, breathing new life into the original creations.

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Unique pieces of domestic architecture don't need to be turned into museums, losing their original purpose. Successful existing designs can be reborn or reconstructed with the same or alternate perspective testing

the functionality of earlier architectural solutions or their adaptive reuse. This idea aims towards an evolutionary progress of design and design knowledge instead of a revolutionary one. Of course, one might question this idea on the basis of whether a revised work can actually be considered less architected piece of work than the original. However, a copy of a building is not less authentic than the original one or its original design, the same way Warhol's prints do not carry less of an artistic value than the original works themselves.

Last, I argue that this idea may constitute a possible response to the deeper questions of the discipline and the philosophical problem of architectural originality and authorship. When questions such as "who authors a work?", "what is the source of the architect's design ideas?", "what is the origin and what is the structure of the architect's knowledge?" and "how does authorship work?"¹⁸ are being addressed, the conscious and legitimate reproduction of design knowledge appears essential. As part of this, architects are pushed into observing how things are, discovering new ways that these things could be and using their own experience to evolve knowledge. At the same time, they become more aware of the process of architectural conception for there is no such thing as parthenogenesis. But above all, they learn how to openly acknowledge and provide attributes for others' *ideas-to-think-with*. Here, architecture is given the opportunity to become properly *author-ful* integrating all kinds of knowledge production: the one produced top-down by human minds and the one that emerges bottom-up from the aggregation of unrelated, unarchitected and found designs.