



## “Draw” Is More

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### *Abstract*

Drawing has played a central role on the most radical experiments of architectural history. The most daring propositions emerged from drawing, however; its understanding as a mere representative tool has seriously damaged its role at present time. In addition, the discipline has dramatically changed, with the irruption of new computational technologies, leading to a progressive disappearance of the 'traditional' drawing from the curriculum of many Schools of Architecture. From our perspective, however, the drawing promotes creativity, expressiveness and a critical approach to reality, regardless the technique. In this article, we describe the methodologies followed by the Graphic Ideation Department of the School of Architecture of Madrid, Spain (ETSAM, UPM), where drawing still prevails. Over the past years, we have implemented a methodology based on drawing as a tool of expression, creation and criticism, to support the design of architecture. The success of the program is unquestionable, and it has been improved through the years. The experience of introducing hybrid techniques (analog-to-digital) into a purely digital environment, was extremely interesting. It provided the students with alternative strategies of conceptualization and expression of their ideas, focusing on the development of a creative process, and not a final product.

### *Keywords*

drawing, hybrid, creativity, expression, criticism.



## Drawing is not dead

When talking about 'drawing' and its current status in contemporary architecture, we must acknowledge the new conditions of drawings' production, display and communication. This discussion must necessarily include a deep reflection on contemporary technologies, emerging practices and the history of drawing itself.

Undoubtedly, the emergence and spread of digital graphic tools in the 1990s, had a great impact on the contemporary architectural context. In this scenario, the role of drawing has been permanently under discussion. In 2012, the Yale School of Architecture held a symposium on the crisis of drawing and its place in architecture. Under the title *Is drawing dead?*, the symposium explored the progress of drawing. In the past, it was considered a 'primary instrument of investigation and expression', however; in recent years, it has been overshadowed by the proliferation of other sophisticated digital tools, such as parametric modeling, computational design, digital design and fabrication, and Building Information Management (BIM). No definitive conclusions were achieved, but the passionate defense of confronted positions delivered by relevant speakers (such as Michael Graves, Peter Cook, Patrik Schumacher, Greg Lynn or Mario Carpo) shows that the question is exceedingly alive. Victor Agran (Yale Faculty member that organized the symposium together with George Knight) noted that "In the profession we find ourselves in an interesting moment: As digital technology increases the capacity of architects and students to study and craft space, the means and methods of delineating that space are expanding exponentially, [...] the rapid proliferation of programs and different methods of operation can be confusing and there is no common standard and language of expression. The drawing conventions and modes of visual communication that held for 500 years have been eroded" [Agran 2012, p. 8].

Other experts, such as David Ross Scheer have directly declared *The death of drawing* [Scheer 2014] due to the eruption of computational drawing as a primary design and communication medium in architecture. The author considers that drawing allows representing ideas in form, whereas computational design can simulate an experience, anticipating the behavior of the building. Nevertheless, the author indicates important issues emerging from this dichotomy: "the dominance of performance criteria in the evaluation of design decisions; the blurring of the separation of design and construction; the undermining of architects' authority over their projects by automated information sharing; the elimination of the human body as the common foundation of design and experience; the transformation of the meaning of geometry when it is performed by computers; the changing nature of design when it requires computation or is done by a digitally-enabled collaboration" [Scheer 2014, p. iii]. He examines the practical consequences of these changes in architecture through the book.

In our opinion, the main obstacle the drawing needs to overcome is the preconception as a mere representative tool. This fact is the main reason for the progressive disappearance of the 'analog' drawing from the curriculum of many schools of architecture around the world. We consider, however; that the drawing means much more than the sole figurative representation and cannot be enclosed in a single technique.

Drawing has played a central role on the most radical experiments in the history of architecture, as it promotes creativity, expressiveness and, more importantly, a critical view of reality. Early in the Renaissance, the inclusion of perspective modified the conception of the space in architecture. The book *Drawing Futures* by L. Allen, explains that "Drawing soon became a technical tool, an instrument of codification that organized proportion and order; and such norms were reproduced again and again in manuals throughout the following centuries. The idea of a 'creative architecture', of an experimental architectural aesthetic that privileges drawing as an expressive tool, emerged less than a century ago. [...] The various movements of the modern avant-garde sought to make the drawing an instrument both critical and creative" [Allen 2016, p. 3].

The Twentieth century represented a breakthrough in the history of architecture and drawing. The revolutionary socio-political movements that emerged during the decades of

the 60s, 70s and 80s, were accompanied by a period of an incredible creativity explosion in the architectural panorama.

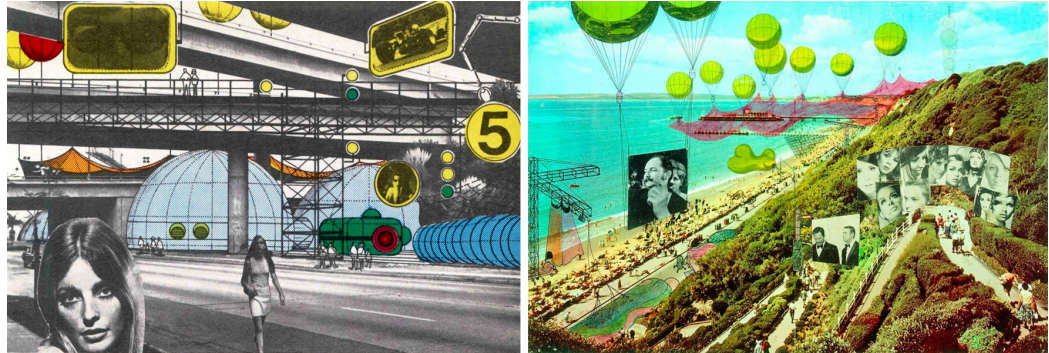


Fig. 1. Ron Herron, *Instant City*, 1968.

The graphic proposals developed by utopian groups such as Archigram (fig. 1) or Superstudio, together with the productions of authors such as Stanley Tigerman, Hans Hollein or Nils Ole Lund, represented a great example of the expressive capacity of drawing and its potential as a tool of criticism (fig. 2).



Fig. 2. Haus-Rucker-Co, *14-metre inflatable index finger by the motorway to Nuremberg Airport*, 1971 (on the left). Hans Hollein, *Superstructure over Manhattan*, 1963 (on the right).

They also enabled the emergence of innovative and open pedagogies in some of the most progressive schools of architecture on earth. In her project *Radical Pedagogies* (2012 - nowadays), Beatriz Colomina and a team of PhD students of the School of Architecture at Princeton University, explore a "series of intense but short-lived experiments in architectural education that profoundly transformed the landscape, methods and politics of the discipline in the post-WWII years. [...] They constructed a new space for redefinition of the discipline, launching a series of pedagogical experiments that shared a strong belief in architectural education as a tool towards political change" [Colombina 2012].

Our focus on these convulse periods comes from their creative discourse to express and communicate their theoretical approaches. The success of these open pedagogies was determined by two fundamental factors: the students' motivation and their predisposition to embrace uncertainty. These experiments proved that drawing in architecture comprises analysis, ideation, content development, communication, transformation and encouragement. It implements creativity, imagination and criticism, and enables a fundamental concept for the evolution of architecture: the 'creative thinking'.

## Creative thinking

As educators, we believe that our mission is to help the students find their own path, their own design strategies, when they develop a creative graphic process linked to the design of an architectural element. To achieve that goal, they first need to acquire certain skills and, most importantly, a 'critical thinking' that allow them to substantiate their decisions on solid criteria.

Professor Jose A. Marina defines talent as "the triumphant intelligence" [Marina 1994]. From his perspective, discovering hidden talent implies a part of knowledge, a part of feeling, and a part related to the executive brain function. Creativity necessarily means innovation, understood as the ability to implement new solutions for old problems. That is exactly our approach when starting a design process in architecture.

The classic preconception of creativity as a random process emerging solely from inspiration has been proven completely wrong. In fact, the strategies that trigger the creative process, are usually systematic and based on an intense previous work process.

One of the keys of creative learning is its uniqueness, as the success relies on the self-formation ability of each individual. Designing and creating are not fully conscious actions; they imply fast decision-making, responding both to rational and emotional impulses. Objective and measurable data are combined with personal experiences, expectations and desires that can hardly be standardized. This is one of the most complex topics when teaching creative subjects.

We strongly consider that the act of drawing works as an operational trigger and a comprehensive / productive tool. It has the quality to operate as a link between the 'rational' (analytic drawing) and the 'emotional' (expressive drawing) thinking, as a single process. Drawing involves the learning of a graphic language, but also the assimilation of other skills linked to the creative and productive discourse.

## Architectural Graphic Ideation

This text describes the methodologies followed at the Architectural Graphic Ideation Department of the School of Architecture of Madrid, Spain (ETSAM, UPM), during the first and second semester of Bachelor's Degree in Architecture, at the *Drawing, Analysis and Ideation Workshop*.

As in most schools, the design process is being progressively computerized. We understand this transitional period as an opportunity to explore new fields of creativity. Digital systems have proven to be a powerful tool for precision, simulation and speed but, from our perspective, they present three main weakness: the loss of relationship between the human body and architecture, the difficulty to follow alternative/parallel processes (it necessary leads to linear processes), the lack of stimulation of critical thinking and, therefore, creativity. Those three issues are coincidentally the strengths of drawing. Therefore, we believe that the use of hybrid processes (analog-to-digital) exploits the full potential of drawing.

'Drawing architecture', as well as 'designing architecture' are researching processes based of graphic operations that pretend to build observable realities. We need to deal with a certain level of uncertainty necessary for creativity to arise, focusing on the process and not on the results, as above mentioned. The milestone is to provide the students with the optimal tools to complete three basic learning stages: 'learn to see', to promote a graphic research on the project; 'learn to do', experimenting with various graphic techniques that enhance their imaginary capacities and, finally, 'learn to communicate' to implement the interaction of the design with different agents (clients, corporations, administrations, colleagues etc.).

### Drawing in an accredited analog-based academic program

The ultimate goal of our teaching approach is to provide the students with strategies to trigger the design process. We understand drawing as a 'thinking tool'. 'Thinking while drawing' implies not only a continuous movement of action-reflection on the previous production, but also a permanent learning, that helps to cross the bridge from intuition to reflection.

This kind of pedagogies rely on a proactive attitude from the students, as a great effort and dedication is required. The emergence of talent is directly related with these qualities, together with the ability to evolve along the creative process. The concept of 'talent' is, therefore linked to the ability to build a creative thinking, which implies curiosity, intuition, emotion, language, memory, and experience. In addition, it is fundamental to develop a high level of self-criticism.

In order to be internalized, these procedures need to be practiced thoughtfully. First, the students need to learn to deal with uncertainty and vagueness, two fundamental ingredients of creativity.

The semester counts on three projects, with an increasing level of complexity and detail. The main goals are: improvement of drawing skills, acquisition of a basic visual culture and immersion in a creative process (fig. 3).



Fig. 3. Students' work, DAI I, Core First Year Studio. ETSAM, UPM. 2017-2018.

The 'academic' (or traditional) instruction of drawing was based on repetition to get a true representation of the model. Today, we use references not as a model but as reliable triggers of the creative processes, through analogy and comparison. Another difference is the collaborative condition of the work as the way to encourage the flourishing of individual talents. The third difference is the concept of research-based learning, followed at the different stages of the process.

During the Spring semester we introduce the concept of 'architectural thinking', once the students have acquired certain drawing skills, based on the drawing as a thinking tool: 'action drawing' (fig. 4).

The students are exposed to different hybrid techniques that combine analog and digital tools along the design process. The work is developed in three successive approximations, corresponding to a progressive zooming from the urban scale to the human scale. We understand the contemporary practice of design in architecture essentially as an interdisciplinary endeavor, where audio-visual media and digital technologies play a crucial role in the development of spatial experiences.

Throughout our teaching career, we could conclude that, while digital processes are capable of generating complex results, they don't foster critical thinking or a full comprehension of the spatial qualities of the element, especially in first-year students. Our pedagogical approach tries to overcome the duality of 'representation versus expression', and 'analog versus digital'.



Fig. 4. Students' work, DAI 2, Core First Year Studio. ETSAM, UPM. 2017-2018.

## Conclusions

As above-mentioned, we have witnessed the dramatic changes that have taken place around architectural drawing, both in academic and professional environments, especially since the inclusion of digital media in architectural production.

Mastering analogic drawing techniques allows the students to gain a great graphic experimentation capacity. Its instrumental component is not comparable to any digital media. Besides, the materiality of the act of drawing enables a real and deep understanding of the space and the relationship with the human scale. The consolidation of a personal graphic language in the students stimulates their imagination and the experimentation with other instrumental techniques, such as modeling, photography, collage, digital tools ... to maximize their propositional capacity.

Ultimately, drawing means expressing and communicating, without any code restriction. We don't understand the irruption of the digital media as threat. On the contrary, it provides us with new tools to improve the fundamental purpose of drawing as a thinking tool.

The whole discipline of architecture has dramatically changed in the last years. The role of the architect in our society has changed. The traditional figure of the architect as an individual 'craftsman' clashes with the complexity of the new time. Architecture has become a collaborative discipline, that requires the dominance of multiple skills and abilities. This way of working requires an early learning, educating in respect and the adaptation to the different ways of thinking [Sennett 2009].

In our opinion, the contemporary practice of design in architecture is, undoubtedly, a multidisciplinary task, in which audio-visual media and digital technologies play a preponderant role. The inclusion of drawing in its broadest sense, facilitates the development of critical creative processes, exponentially increasing our imaginary capacity.

## References

- Allen Laura, Pearson Luke (2016). *Drawing futures: Speculations in contemporary drawing for art and architecture*. London: UCL Press, University College London.
- Belardi Paolo (2014). *Why architects still draw. Two lectures on architectural drawing*. Cambridge: The MIT Press.
- Bench David (2012). Is drawing dead?, In *Metropolis magazine*: <<https://www.metropolismag.com/uncategorized/is-drawing-dead/>>.
- Berger John (2011). *Sobre el Dibujo*. Gustavo Gili. Barcelona.
- Claxon Guy (1999). *Aprender: El reto del aprendizaje continuo*. Paidós Transiciones.
- Colomina Beatriz (2012). Radical Pedagogies in Architectural Education. In *The Architectural Review*: <<http://www.architectural-review.com/education/radical-pedagogies-in-architectural-education/8636066.article>>.
- Eisenman Peter (1999). *Diagram Diaries*. London: Thames&Hudson.
- García Escudero Daniel, Bardí Milà Berta (2017). Liquid learning: learning from uncertainty. In *JIDA'17*. Proceedings V Jornadas sobre Innovación Docente en Arquitectura, 16-17 Noviembre 2017. Barcelona: IDP UPC GILDA.
- Hayes Richard (2012). Is drawing dead? In *Constructs Yale Architecture*, Fall 2012, pp. 8-9.
- Marina José Antonio (1994). *Teoría de la inteligencia creadora*. Anagrama. Barcelona.
- Sheer David Ross (2014). *The Death of Drawing: Architecture in the Age of Simulation*. Milton Park: Routledge.

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