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GRAPHICAL SCIENCES, WHAT FUTURE?

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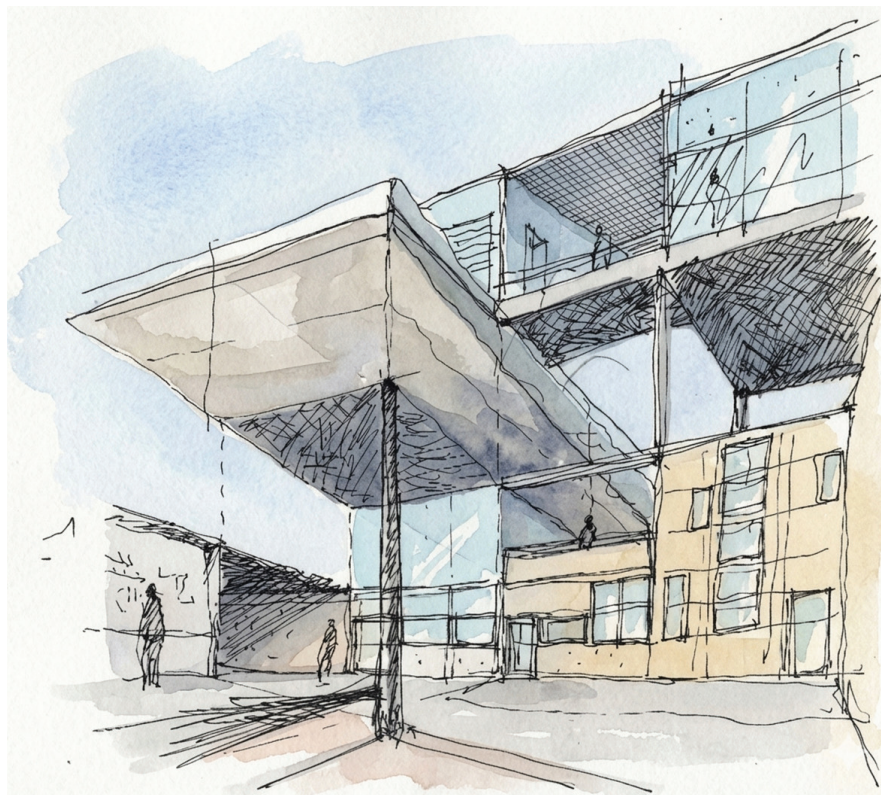
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AI-generated reinterpretation of a drawing by Giancarlo Carnevale

UNIVERSITY OF L'AQUILA



Graphical Sciences, What Future?

Contemporaneity is characterized by continuous and rapid processes of technological, social, environmental and cultural transformation. In particular, in recent years we are witnessing an acceleration that calls into question our daily intellectual, cognitive and communicative practices. In this context, the dimensions of visuality relate to images of a new ontological, semantic, and ultimately anthropological and cultural nature, which involve innovative methods and tools of study and research, and an unprecedented relationship with society. In this way, the relationship between us and the images is redefined, where interpretative and representational models participate in the architecture of observation and in its transformation. This has a profound and concrete impact on our way of understanding the disciplinary experience of representation, forcing us to reflect on the role of graphic sciences, to understand the dynamics in

place and reflect on what is expected. In particular, drawing is constituted as a method and graphic-visual tool of excellence to define our gaze on the reality that surrounds us, to interpret and understand it, and therefore to question ourselves on the relationship with tradition and the future of representation. It is a reflection on the characteristics, potential and criticalities that drawing may manifest in the coming years, and on how the discipline can change, also in relation to other fields of science and knowledge. The call aims to collect papers that highlight eminently critical and cultural issues, referable to a theoretical-methodological reasoning to investigate and prefigure the near tomorrow of graphical sciences, in the field of research, teaching and design; the case studies, if any, are to support a reflection on the trends.



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The main topics are:

- Graphical sciences and the research of tomorrow;
- Graphical sciences and the education of tomorrow;
- Graphical sciences and the relationship with the world of culture of tomorrow;
- Graphical sciences and the relations with the territory and with the society of tomorrow.

Reading the papers in the journal, a first theme that emerges is parametric and procedural modeling, which allows for the management of geometric and construction complexity by integrating fabrication data, material constraints, and assembly logic within a single, coherent generative environment. In parallel, immersive technologies such as Augmented Reality (AR) are redefining architectural pedagogy, reducing the cognitive gap between two-dimensional abstraction and three-dimensional spatial experience. In this context, the graphical interface does not replace the physical world but rather overlays it, enabling forms of situated and collaborative learning that radically change the way we perceive architecture.

Another topic is the image as an epistemic act, as the advent of generative Artificial Intelligence (AI) and automated segmentation processes necessitates a reflection on the role of the designer. Although AI systems vastly accelerate visual production, they generate configurations based on statistical probabilities and visual patterns, not on a genuine tectonic or semantic understanding of the project. The inherent risk in this process is semantic inflation—namely, a saturation of visual signals that flattens the complexity of architecture into an excess of literal codes or clichés.

An emerging theme is the deconstruction of the presumed neutrality of architectural representation, as conventional technical drawing methods—founded on rigid and abstract codes—carry with them cultural matrices. Upon these frameworks, it is possible to promote a pedagogy of difference, useful for accommodating figurative and subjective languages, as well as relationships that describe the lived experience and the needs of those who concretely inhabit the spaces.

Furthermore, representation is called upon to expand beyond the purely visual domain: sensory maps, developed through co-design practices, suggest new codifications for spatial accessibility. They translate invisible environmental barriers—thermal stimuli, acoustic intensity, lighting, and crowding—into graphic tools for orientation and preparation, rendering representation an instrument of care and inclusion. On a broader social scale, data visualization now assumes a clear ethical and political mandate, acting as an agent to make inequalities and global challenges comprehensible, thereby transforming the complex mass of contemporary information into a tool for an informed and democratic visual citizenship.

The convergence of these profound changes compels the disciplines to question their own identity. The definition of 'graphic sciences' or 'visual sciences' emerges as a conceptual reference point to describe a heteronomous, dynamic, and pluralistic discipline.

The future of graphical sciences lies in the ability to cultivate a profound graphic intelligence, one capable of orchestrating new digital tools alongside human sensitivity, geometric rigor, and ethical-social responsibility.

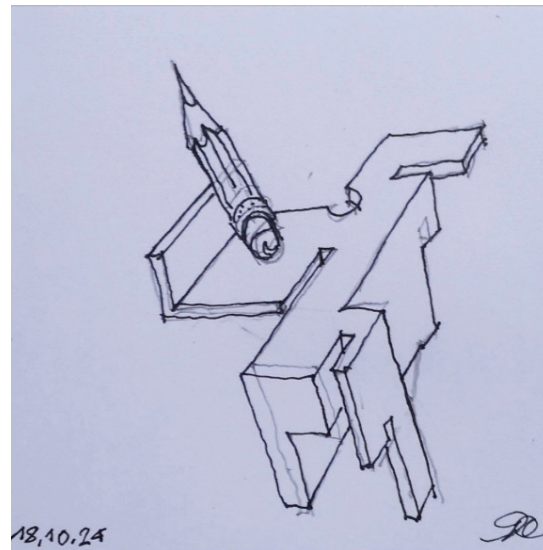


Fig. 1 - The Pencil Stub: A Metaphor for What Is Worn Away Yet Refuses to End. AI-based reinterpretation of a drawing by Giancarlo Carnevale.