Chapter 16

Figuring Out the Interiors through the Geometric Tools of Representation: The Illusory Cast of Design

Giuseppe Amoruso
Politecnico di Milano, Italy

ABSTRACT

Interior design is taught to be an essential tool for envisioning and modeling the environments we live in. Representing interior spaces through drawings and physical models requires a continuous process of imagination. The chapter exploits the projective tools for illusory design describing the processes of representation to design and build interiors but also their perception as a space. Crucial is the role of perspective in designing and building interiors; techniques of perspective, distancing itself from the mathematical problems, become a projective tool to add illusory qualities and creating the perfect tuning among spaces that remind us that designing methods aim to add dimensions to the human sphere, not only in the physical one but also in the creation of material images and allegories. The research highlights the principles of projective-geometric design of illusory spaces. Descriptive geometry and disciplines of representation provide, in the many phases of design, scientific and artistic tools for practical resolutions of geometric and constructive problems.

INTRODUCTION

Interior design is taught to be an essential tool for envisioning and modeling the environments we live in. Representing interior spaces through drawing requires a continuous process of imagination.

These concepts create a very challenging framework in terms of representation because designers are not merely drawing forms but also enlightening space and embodying all the intangible related issues.

The chapter exploits the projective tools for illusory design describing the processes of representation to design and build interiors but also their perception as a space. Crucial is the role of perspective
in designing and building interiors; techniques of perspective, distanced itself from the mathematical problems, become a projective tool to add illusory qualities and creating the perfect tuning among spaces that remind us that designing methods aim to add dimensions to the human sphere, not only in the physical one but also in the creation of material images and allegories.

The interaction of geometry, light and materials allows designers to address the experiential-phenomenological issues where experience shapes spaces and creates visual interfaces. Design of interiors is also based on space-related “landscapes,” less entrenched but also linked to the rapid transformation of emotional pictures.

Descriptive geometry and disciplines of representation provide, in the many phases of design, scientific and artistic tools for practical resolutions of geometric and constructive problems.

**BACKGROUND**

Geometry is a fundamental tool for designers since its reputation grew according to philosophers and religion; a permanent subject in design and architecture and a constitutive part that, according to Evans, is not produced but consumed by architects.

Robin Evans, before his death, completed *The Projective Cast: Architecture and Its Three Geometries* (the MIT Press, 1995). Evans investigates about the relationship between geometry and architecture, drawing on mathematics, engineering, art history, and aesthetics to unveil processes in the imagining and design of architectural form. Geometry does not always play a stolid and dormant role but it is used as a strong tool between thinking and imagination, imagination and drawing, drawing and building. A theory of architecture, according to Evans, that is based on the multiple and possible interactions between architecture and geometry. The *Projective Cast* shortlists the geometry of designers, asking whether they are in fact the stable underpinnings of the creative, intuitive, or rhetorical aspects of architecture. History of architectural projection, intended as the geometry of vision, is granted for the fundamental role in the development of the “pervasive pictorial method of construction and that, until now, has played only a small part in the development of architectural theory”.

Evans describes the ambivalent role that pictures play in architecture and urges resistance to the idea that pictures provide all that architects need, suggesting that there is much more within the scope of the architect’s vision of a project than what can be drawn. Defining the different fields of projective transmission that concern architecture, he investigates the ambiguities of projection and the interaction of imagination with projection and its metaphors.

Geometry gives architecture a reasonable ground but it allows to go out of its rationality leaving space for intuitive judgment. Evans speaks on “dead geometry” as an inoculation against uncertainty and according with this subject, design becomes a creative art supported on the dead certain truth of geometry (Evans, 1995).

Design of illusory space lends itself to some reflections, as well as from the practical point of view, also from a theoretical one. The research represents the principles of projective-geometric design of illusory spaces and proposes a detailed study on the architectural perspectives, “quadratura” and relief-perspective, which featured the applications of science and art to interior decoration and architectural spaces from the sixteenth to the seventeenth century. The fundamental content of each application is the three-dimensional ideation and the extension of architectural surfaces, a veritable figurative spatial palimpsest. The aim of the research is to promote a deeper understanding on the tools for the illusory