

# The Language of Space: The Unwritten Politics of the Theory and Criticism of Architecture

KAZYS VARNELIS  
Cornell University

Theory and criticism have played increasingly important roles in architectural pedagogy and the discipline as a whole. Thus far however their promoters have followed the lead of more tradition-bound architectural historians and have been slow to reflect on the fundamental institutions of the field. In this paper I propose to examine at one of these institutions that has been taken for granted: the way architects think of space.

In contemporary architecture culture it seems second-nature to discuss a project in terms of its basic spatial components such as line, plane, point, volume and their manipulation through transformations such as rotation, shear, compression, collision, tension and so on. Codified in books such as Francis Ching's *Architecture: Form, Space, and Order* and taught in design studios throughout the country, this way of looking at space is nothing less, for many of us and for many of our colleagues, than architectural thought distilled to its timeless, universal essence.

As I hope to show in this article, this language of space is not by any means universal. On the contrary, its status as the product of a specific historical situation and institutional environment has been largely ignored. This lack of self-reflection is quite understandable. If the proponents of a system believe that it is universal, then to historicize it is to make it less than timeless, confront it with the contingent and thereby undermine its validity.

But as I will discuss below, the language of space emerged in architecture during the postwar years, at the same time as under late capitalism the arts became progressively more and more colonized by capital. This movement to mark architecture off as an autonomous realm of aesthetic space production somehow emerged in seeming opposition to contemporary economic changes. To come to an understanding of this paradox, we have to question the complex relationship between the cultural superstructure and the economic base and their mediation in the institutional realm.

I will begin this investigation by returning to the question of the universality and apparent naturalness of this way of perceiving space. While architects see their language of space as universal and natural, they also see it as a language

that is not part of society's everyday structure, it must be acquired. Ching's *Architecture: Form, Space, and Order* notwithstanding, the language of space is not something that can be learned through reading a book, but rather can only be acquired through hands-on training in architectural design.'

This idea of learning through doing, familiar to us since our first encounters with it in kindergarten, is a product of a discourse on education<sup>2</sup> that goes back to the anti-societal first sentence of Jean-Jacques Rousseau's *Émile*, that "God makes all things good; man meddles with them and they become evil."<sup>3</sup> In *Émile* Rousseau imagined that he was in a woodland chateau, raising the orphan after whom the book was named. For the boy's education, Rousseau rejected discipline and learning by rote, contending that those methods produced tyrants and slaves. Instead, he proposed that to teach *Émile* by exposing him to appropriate stimuli that would generate life experiences.

But if Rousseau's idea of a more natural, more humane pedagogy through learning by doing was to have repercussions down to the present day, its subtext is now largely obscured. Rousseau's teacher wound up controlling these stimuli, offering the boy choice but controlling him through the choices available. For Rousseau, the most complete control would come through that which preserved the appearance of the "forms of freedom" for that way "the will itself is taken captive."<sup>4</sup>

Soon after *Émile* was published, the Swiss educator Johann Heinrich Pestalozzi took up Rousseau's ideas of pedagogy and began experimenting with ways of teaching students how to perceive through visual experiences. Rather than force students into drills and disciplinary exercises, Pestalozzi's instructor would devise coherent, nurturing activities in the form of observations of objects for children to engage in. Pestalozzi privileged vision over orality, arguing that by using words to describe an object, the instructor would repeat conventional interpretations that would be divorced from actual perception. In order to perceive the object more clearly, Pestalozzi intended that the student measure and draw it. But in order to learn to **draw**, Pestalozzi believed that the child needed to understand what

he called "the simple elements of the laws of form," an alphabet of geometric forms, such as lines, shapes, and angles in order to learn to observe and represent abstractions. Only once the language of form was mastered and students had learned to draw, Pestalozzi believed, could they begin the study of actual writing.<sup>5</sup>

Pestalozzi's work was extended and popularized in the nineteenth century by Friedrich Froebel, a German educator who developed a series of didactic exercises in which children would learn by playing. The most widely known of these were his Gifts and Occupations, intended to teach a visual language of geometric solids to the child. Froebel had a pervasive influence in late nineteenth and early twentieth century education and many artists and architects, among them Frank Lloyd Wright, Le Corbusier, and Kandinsky were students of his system in childhood.<sup>6</sup> In the United States, the Froebelian kindergarten movement met with some success after being introduced as simultaneously a place for upper-class children to learn the principles of art and as a proper foundation for an industrial education.<sup>7</sup> The Froebelians sought in their method an alternative to the rationalized, dehumanizing industrial civilization, intending to create a resistant subject, well-trained in observation and able to express itself while in this country the Pestalozzian system was advocated by educators attempting to come up with new methods of educating working class children in drawing. But rather than being a source of amusement or of observation, the skill of drawing was directed to teach children to become creators of patterns for the textile industry, artisans capable of endlessly producing new designs for the consumer's desiring eye.<sup>8</sup>

The child art educators had laid the framework for the teaching of a logic of space in an environment of learning by doing, but, as Henri Lefebvre has written the historical "moment of emergence of an awareness of space and its production" would be at the Bauhaus.<sup>9</sup> Yet we have to be careful about just where in the Bauhaus this conception of space formed: rather than in the architecture studios, the language of space that we may most closely realize as our own was developed by Laszlo Moholy-Nagy and Josef Albers in their transdisciplinary course for first-year students.

Later elaborated by Moholy-Nagy and Gyorgy Kepes in their Institute of Design in Chicago, this pedagogical method centered around erasing students' preconceptions and habits of seeing and radically changing their means of perception by inculcating in them a systematic visual grammar based on the construction of statements from elemental units derived from analysis of objects. Believing that the artist as self-present genius was becoming outmoded in the age of mechanical reproduction, Moholy-Nagy, Kepes, and Albers aimed their method not at artists but at graphic designers and even more so at the public in general, arguing that their method would allow students to traverse the difficult terrain of the accelerated modern condition by teaching them to master complex visual and temporal relationships.<sup>10</sup> Believ-

ing the chaos of the 1930s and 40s to be the result of perception having fallen out of step with the times, they maintained that by changing everyday perceptions of space-time the world could be put back into balance again.

In his 1944 book *The Language of Vision*, Kepes described a spatial language based on the purposeful direction of the eye around the visual field. As he explained, vision isn't pure but rather is compromised by both physiological and psychological limits that give rise to the laws of visual organization.<sup>11</sup> The principle of these laws would be that no visual unit could exist by itself but would have to be part of a dynamic visual relationship.<sup>12</sup> These dynamic relationships could be made to lead the eye around through ambiguous meetings and overlappings of shapes in visual space and a visual rhetoric composed of tropes such as transparency, interpenetrating, compression, overlapping, closure, and tension.<sup>13</sup>

The visual language developed at the Bauhaus was translated into architecture in the early 1950s by the Texas Rangers, a group of educators at the University of Texas at Austin. While retaining a faith in modernism, the Rangers felt that although the system elaborated by Gropius at Harvard would teach students to create buildings that would work functionally and structurally, it failed to rigorously address the real essence of architecture: form<sup>14</sup> and the logical means by which formal elements would be combined.<sup>15</sup> Thus Ranger John Hejduk explained his research at Texas as an attempt to develop a "*Basic architectonic construction method*," to reduce architecture to its basic elements: "columns, piers, walls, beams, edges, and so forth" and then put them back together.

In the essay that served as a foundational text for the project of the Rangers, "Transparency: Literal and Phenomenal," Colin Rowe and Robert Slutzky outlined how to put such constituent parts together spatially, basing their theory of architectural composition on Kepes and Moholy-Nagy's ideas about vision and graphic representation and the "pulling to pieces and reassembly of objects" of analytical cubism.<sup>16</sup> Rowe and Slutzky derived a series of processes as essential for a complex and ambiguous, "cerebral" architecture: "Frontality, suppression of depth, contracting of space, definition of light sources, tipping forward of objects, restricted palette, oblique and rectilinear grids, propensities towards peripheric development."<sup>17</sup>

But in making their translation, Rowe and Slutzky virtually eliminated Moholy-Nagy and Kepes's eschatological faith in the power of visual language, converting it into a revelation limited to retinal events. The radical reconfiguration of the sensorium around vision had become abstracted.

In tandem with their reduction of the messianic force of the language of space, Rowe and Slutzky limited its role to a disciplinary one: while the art educators had been interested in a professionalization and instrumentalization of the aesthetic, Rowe and Slutzky were interested only in purifying architecture in a Greenbergian way, reducing architecture's scope of research to what they saw as its purest

condition: the manipulation of shallow space. No longer was the object a fetish by which transformation would take place. The pleasure of the object was an end in itself.

Reducing the domain of architecture to elaborations within a language of space could also serve another disciplinary role. When the Rangers began their work, twenty to thirty years had passed since the "heroic" era of modern architecture. To return to the forms of that period would seem to go against the common proscription against thinking of modern architecture as nothing more than another style. By restricting architecture to a spatial vocabulary however, the Rangers were able to turn to the architecture of "heroic" modernism as well as other architecture of the past as a mine for principles of architectural composition without historically undermining their own work.

In the conservative climate of 1950s Austin however, reaction to the Rangers' program was negative and by 1956 they all left to go their separate ways and spread their teaching method both in the United States and abroad. Rowe and a number of the Rangers eventually settled at Cornell and had a decisive influence on the school while John Hejduk and Robert Slutzky wound up in Cooper Union by the mid-sixties.<sup>18</sup> Both schools in turn were major teaching institutions during the subsequent years and their graduates populated faculties of architecture throughout the country.

Hejduk and Slutzky's work at Cooper Union was documented in the November 1971 exhibition and catalog for the Museum of Modern Art entitled *Education of An Architect: A Point of View*.<sup>19</sup> Presenting a convincing model of formal architectural education based on the language of space developed by Moholy-Nagy, Kepes, and Albers and translated into architecture by the Texas Rangers, the catalog had a substantial impact on the teaching of architecture in this country and many of the projects contained within it are still assigned at architecture schools today.

In the introduction, architect Ulrich Franzen wrote that, led by Hejduk, the educators at Cooper were unique for their commitment to "a trained eye without recourse to irrelevant 'meaning.'" Franzen continued by quoting Harold Rosenberg, who wrote that the new forms of visual perception established by Cubism and Futurism were necessary to comprehend the rhythms of the big city life. Franzen implied that the educators at Cooper Union were able to get their students out of the unrest of the late sixties — which had hit home in New York City at the student takeover of the architecture building at Columbia University — by giving them a new way of seeing. This "reawakened connection between eye and mind acted as nothing less than an eye in the storm of radicalism and attempts to make architecture socially responsible during the late sixties and early seventies."<sup>20</sup>

The popularity of *The Education of an Architect* in the 1970s and the accompanying spread of the language of space in architectural schools was an institutional response to the sense of crisis in architectural education that existed in the late 1960s. The problems with architectural pedagogy were summed up in a 1967 "Princeton Report" prepared for the

AIA by Robert Geddes, the dean of architecture at Princeton, in which he indicted architectural education as unable to prepare students for a successful career. But rather than calling for a new language of space, Geddes argued that the basic structural problem with the profession was that architectural education was training its students to be artistic geniuses instead of draftsmen and specialists in technology-based or social science-based subfields.<sup>21</sup> The Princeton Report wasn't alone. A contemporary survey of architectural educators by *Progressive Architecture* found that architectural education was failing. Within the three years prior to the Princeton Report, twenty-three new department heads were appointed and eighty-one percent of schools had instituted or were planning to institute significant changes in their curricula. Many architecture schools renamed themselves schools of Environmental Design and moved away from the art of building toward the social science of constructing spaces.<sup>22</sup> Coupled with the sometimes allied threat to the discipline from the student counterculture and advocacy planning, these critiques put architecture at risk, explicitly raising the possibility that it might be done away with, or at least have to abandon its role as art.

As a renewed formalism, the language of space succeeded in the academy not because it answered questions that the previous modernist paradigm did not, but because it changed the questions so it would no longer have to answer them. Architecture could be reclaimed as art simply by rejecting its claims to influence society. A sense of renewal, even of a new *avant-garde* ensued and persists to this day. By restricting their domain to formal research, the new architectural *avant-garde* could represent precisely what would distinguish and legitimate architecture as a discipline: notions of genius, singularity and presence.

If the Princeton Report was a key text for the 60s, *Five Architects* would be the text for the 1970s. In the preface the director of MoMA's department of architecture and design, Arthur Drexler, would state that "An alternative to political romance is to be an architect, for those who actually have the necessary talent for architecture."<sup>23</sup> While I have already suggested a particular political context for the emergence of the language of space, Drexler's opposition between politics and architecture raises the question of whether there might be a politic behind to the language of space.

By turning to sociologist Pierre Bourdieu's analysis of aesthetic perception we can narrow in on that question. According to Bourdieu, to perceive a work of art is "an act of deciphering, decoding, which presupposes practical or explicit mastery of a cipher or code."<sup>24</sup> The cultural competence needed to perform this act of deciphering is the result of our upbringing and functions as an indirect marker of class (not all capitalists go to museums and not all proletarians don't, but you are more likely to run into a member of the upper bourgeoisie in a museum than a proletarian). Those privileged to encounter art at an early age tend to have an advantage over those who do not and the amount of time spent in contact with such objects in one's youth is a function of one's class, the

upper classes spending far more time in museums than the lower.<sup>25</sup> Those educated at the right school, possessing the right class background to be able to facilitate trips abroad and familiar with contemporary art and architecture will best be able to make the successful transformation into the cultural aristocracy. At the same time, the successful understanding of the visual language of architecture ensures that a student leave out materialist questions. There's not much relevance for gender, race, or class in the world of beam, column, wall, compression, shear, and rotation.

But the political content to the language of space is not just exclusionary. Lefebvre has described the development of a consciousness of space in the Bauhaus as the concretization and aesthetic self-knowledge of the space of capitalism. The Froebelian teaching of formal desire and the Pestalozzian reduction of the subject into a switching machine to create patterns were but early moments of what Lefebvre has identified as *abstract space*, the space of capitalism. Lefebvre explains:

Abstract space functions 'objectally,' as a set of things/signs and their formal relationships: glass and stone, concrete and steel, angles and curves, full and empty. Formal and quantitative, it erases distinctions, as much those which derive from nature and (historical) time as those which originate in the body (age, sex, ethnicity). The signification of this ensemble refers back to a sort of super-signification which escapes meaning's net: the functioning of capitalism, which contrives to be blatant and covert at one and the same time.<sup>26</sup>

Indeed, the success of the language of space was not a simple question of victory in an aesthetic arena. Rather, the language of space succeeded because it fulfilled a specific disciplinary function for architecture, at the same making it more representative of capitalism. By eliminating extraformal meaning, the autonomy of the architectural formalism in the 1970s manifested capitalism's abstract space even better than the instrumentalism of postwar functionalist architecture.

Space, Lefebvre reminds us is not abstracted but rather is *social*. Can a language of space that ignores social relations still be used innocently or not so innocently? While as I stated at the outset of this paper, I do not intend to point to a mythic new, and authentic architectural language, isn't it time to call this one — and with it the wish to maintain architecture as an autonomous discipline in the late twentieth century — into question?

## NOTES

<sup>1</sup> Indeed, while Ching's book is extremely popular among undergraduate architecture students, its role is often as a secret document to be hidden from the instructor's view. While both the students and teacher know that reading the book will give them a better knowledge of the language of space, to acknowledge that is to challenge the role of studio

as a site of oral and visual knowledge that cannot be communicated through writing and illustration. The Ching book, thus becomes Pharmakon for students: something that is both part of their education, but also something to be hidden away as a dangerous drug.

- <sup>2</sup> This link has been pointed out in a number of texts on art history. For a recent example see J. Abbott Miller, "Elementary School," in Ellen Lupton and J. Abbott Miller, ed., *The ABC's of [triangle][square][circle]* (Princeton, New Jersey: Princeton Architectural Press, 1991).
- <sup>3</sup> Jean-Jacques Rousseau, *Emile*, (New York: Dutton, 1974; Everyman's Library edition first published in 1911, first published in French in 1762), 5. For Rousseau's impact on the child art educators see Stuart MacDonald, *History and Philosophy of Art Education*, (London: University of London, 1970), 5.
- <sup>4</sup> Rousseau, 84-85.
- <sup>5</sup> S. J. Curtis, *A Short History of Educational Ideas*, (Slough, England: University Tutorial Press, 1977, fifth edition; first published 1953), 341-345.
- <sup>6</sup> Lupton and Miller, 18.
- <sup>7</sup> Arthur D. Efland, *A History of Art Education: Intellectual and Social Currents in Teaching the Visual Arts*, (New York: Teachers College Press, Columbia University, 1990), 126-7.
- <sup>8</sup> Efland, 94-114.
- <sup>9</sup> Henri Lefebvre, *The Production of Space*, (Cambridge, Ma.: Basil Blackwell Ltd., 1991) 123-134.
- <sup>10</sup> Peter Galison, "Aufbau/Bauhaus: Logical Positivism and Architectural Modernism," *Critical Inquiry* Summer 1990, 709-752.
- <sup>11</sup> Gyorgy Kepes, *Language of Vision*, (Chicago: Paul Theobald, 1944), 34-45.
- <sup>12</sup> Kepes, 51.
- <sup>13</sup> Kepes, 60.
- <sup>14</sup> For Gropius's program, see Walter Gropius, "Blueprint for An Architect's Education," *L'Architecture d'Aujourd'hui* February 1950, 68-74. For comments by Colin Rowe and Bernard Hoesli on Gropius at Harvard, the Bauhaus, and the Ecole system, see "Comments of Harwell Hamilton Harris to the Faculty" in Colin Rowe, *As I Was Saying: Recollections and Miscellaneous Essays*, (Cambridge, Ma: The MIT Press, 1996), 25-40.
- <sup>15</sup> James Warren, "Colin Rowe and the Butterfly Effect," *Progressive Architecture* vol. 71 no. 7 (1990), 98. I should also note that the Texas Rangers were by no means a unified group and that their own work — most notably Rowe's — was not simply arrested in the early 1950s but rather continued to develop and in many cases became more complex. For more on the Texas Rangers see Alexander Caragone, *Notes from an Architectural Underground*, (Cambridge, Ma.: The MIT Press, 1995). On Rowe vs. the Texas Rangers see Colin Rowe, "Texas and Mrs. Harris" in *As I Was Saying*, 25-40.
- <sup>16</sup> Colin Rowe and Robert Slutzky, "Transparency: Literal and Phenomenal," *The Mathematics of the Ideal Villa and Other Essays*, (Cambridge, Massachusetts: MIT Press, 1976), 162.
- <sup>17</sup> Rowe and Slutzky, 163.
- <sup>18</sup> John Hejduk, *Mask of Medusa: Works 1947-1983*, (New York: Rizzoli, 1985) 35.
- <sup>19</sup> John Hejduk, *Education of An Architect: A Point of View*, (New York: The Cooper Union for the Advancement of Science and Art, 1971). For some discussion of the book and its relation to its successor, also of the same title, and the possibility (or impossibility) of reading a book produced by a school of architecture about itself see Val K. Warke, "Education of an Architect and Tadao Ando: The Yale Studio & Current Works," *The Journal of Architectural Education*, vol. 43 no.4 (Summer 1990), 45-50.

- <sup>20</sup> Ulrich Franzen, *Introduction to Hejduk, Education of An Architect: A Point of View*, 5.
- <sup>21</sup> Robert L. Geddes and Bernard P. Spring, *Final Report. A Study of Education Sponsored by the American Institute of Architects*, (Princeton University: December 1967).
- <sup>22</sup> "Revolution in Architectural Education," *Progressive Architecture* March 1967: 136.
- <sup>23</sup> Arthur Drexler, preface to Peter Eisenman, Michael Graves, Charles Gwathmey, John Hejduk, Richard Meier, Colin Rowe and Kenneth Frampton, *Five Architects*, (New York: Wittenborn & Company, 1972), 1.
- <sup>24</sup> Pierre Bourdieu, *The Field of Cultural Production. Essays on Art and Literature, European Perspectives*, (New York: Columbia University Press, 1993), 2.
- <sup>25</sup> Pierre Bourdieu and Alain Darbel, *The Love of Art. European Art Museums and Their Public*, (Cambridge UK: Polity Press, 1991), 44.
- <sup>26</sup> Lefebvre, 49.