

Models: Instrumental and Iconic

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"Through the years, a man peoples space with images of provinces, kingdoms, mountains, bays, ships, islands, fishes, rooms, tools, stars, horses, and people. Shortly before his death, he discovers that the patient labyrinth of lines traces the image of his own face." JORGE LUIS BORGES

Modeling is an activity that makes propositions of a possible order of things, real or imaginary. An instrumental model is a reasoned proposition. In its constitution, it is aimed at giving empirical proof of the elements and forces that make up a possible physical reality. It explains the physical limits of the order as an object, fixing the number and kind of its parts and their relative positions, its permanence or change, and its capacity for internal and external movement. In the instrumental sense, when describing the everyday experience of a cosmological reality, I should not say that the sun rises but that the earth turns.

An iconic model is a proposition of a kind of reality that is ordered predominantly, if not exclusively, by the realm of sensations. It is a phenomenon of perception making a direct appeal to our affective consciousness, bypassing the filter of reason. As such, it may yield in consciousness a kind of 'blind affection'; an illusion that may not have a corresponding physical reality. Paradoxically, even though an iconic model may in such case fail to describe a comprehensive 'other reality', when it is given physical description as a stereometric body, or system of bodies, and even more, when materially constructed, it gives proof of at least its own physical reality. Words also allow the proposition of a kind of abstract reality: that is the reality of language, which wraps the physical body in a verbal body, articulating and extending its action upon the world.¹ The propositions in language may also yield simply to the seduction of sensations, bypassing the scrutiny of reason to create psychological illusions. It is inevitable that language, or the memory of language, produces in consciousness its own kind of reality. In

the iconic sense, I may say that the sun [also] rises, as a description of psychological perception, which remains in the language as a remnant of a previous mode of knowledge.

Architecture, as a proposition for construction [or re-construction] of the world, oscillates in the gap between the instrumental and the iconic. For Roland Barthes, architecture is simultaneously function and dream: an instrument of convenience and an icon of cultural mythology.² When fully vested as a practice, it has a double character, it is a mode of feeling as well as a mode of cognition. As feeling (*modus aestheticus*), it turns upon the imagination, and as cognition (*modus logicus*) it is an appeal to judgment:

Now, imagination rather entitles an art to be called an inspired (*geistreiche*) art than a fine art. It is only in respect of judgment that the name of fine art is deserved. Hence it follows that judgment, being the indispensable condition (*conditio sine qua non*), is at least what one must look to as of capital importance informing an estimate of art as fine art.³

When the practice, and the study, of architecture are addressed primarily to the fulfillment of the sensual appetite, in the name of beauty, it satisfies a particular aesthetic: that is, a disposition towards composition, production, and perception of buildings as beautiful things. Under the influence of this aesthetic, the iconic intention becomes dominant, probably turning the architect into what Northrop Frye may call: a beautician.

Without disregard for the beautiful [here I make an appeal to a thorough reading of Kant's "Analytic of the Beautiful"⁴], it is conceivable that I may direct my attention to the culture of an aesthetic based not on the idea of beauty but on that of force. Force, here, must be understood as the introduction of human sensibility and desire as an intentional energy that reforms the substance of matter-that makes what is artificial in counterpoint to what is

natural. The driving force of this mode of action is human sensibility focalized as intelligence, and made efficient as scientific enquiry and technical production. The notion of the instrument is the focal point of this aesthetic: it is born out of an intention to measure and understand the world by rearrangement of materials and condensation of energy into discreet units of construction that intensify and magnify our senses. Requisites for the making of instruments are an intuitive understanding of the nature of materials in their capacity to bear and transmit energy, good judgment of their capacity to embody particular forms with more or less precise functional efficiency, and technical dexterity to bring their construction forth. Within this tectonic transformation, the human force spent in the act of construction is embodied in the work as a double index: as materialized ideas and idealized matter.

An instrument, in itself, may have a double potential: when used as a means of magnification of the senses, to help the acuity of perception of a given physical reality, its net effect is one of input in the cognitive process; but when used as an extension of the body, a kind of prosthesis that replaces a missing or defective part, or adds to the body as a whole, to help it in its project of fabrication, its net effect is one of output in the active process. In either case the instrument is a body, or body-double, of materials assembled in accordance with a specific diagram of intention or extension, of cognition or action. It is a point of condensation and passage between Bergson's two kinds of memory: the sensory-motor memory of the repetitive acts of the human body, and the imaginative memory of the mind's intuition and recognition of the world.⁵

If the practice and the study of architecture are to point towards a unity of consciousness in experience, it demands an instrumental aesthetic, that is a unification of cognition and action, a redoubling of matter and memory. In the end, instruments also have an iconic destiny, they have a physical body that may have a sensual appeal, and as such be the object of affection. But instead of blindness, this affection will bring clarity to the free and ordered play of the imagination, and will be an enticement to further the project of global construction. At that point the architect may be able to say, with Paul Valéry: "by dint of constructing, I have constructed myself."⁶

In *The Critique of Judgment*, Kant proposes that there are only three kinds of fine art: the art of speech, formative art, and the art of the play of sensations. The formative arts are subdivided into arts that are either of sensuous truth or of sensuous semblance. To the arts of sensuous truth, also called plastic arts, belong sculpture and architecture. Architecture is unique in that it:

...is the art of presenting concepts of things which are possible only through art, and the determining ground of whose form is not nature but an arbitrary end—and of presenting them both with a view to this purpose and yet, at the same time with aesthetic finality. In architecture the chief point is a certain use of the artistic object to which, as the condition, the aesthetic ideas are limited.⁷

The combination of both aesthetic ideas and rational ideas is a necessary condition in architecture. An aesthetic idea is an intuition of the imagination, which in exercise of its free play reaches a subjective accord with the understanding. A rational idea refers to a concept of the understanding, which is regulated by an objective principle of reason with the sole purpose of bringing reason into harmony with itself. Judgment is the faculty faced with the task of bringing imagination and understanding to a free and indeterminate agreement: "This agreement defines a properly aesthetic common sense..."⁸

The appeal of an aesthetic based not on the notion of beauty but rather on that of force is akin to Kant's idea of the sublime. In the judgment of the sublime there is initially an opposition rather than accord between imagination and reason:

The mind feels itself set in motion in the representation of the sublime [in nature]; whereas in the aesthetic judgment of what is beautiful there it is in restful contemplation.⁹

The feeling of the sublime is experienced when, in the presence of force, one is faced with deformation and reformation. It is a dynamic experience that follows the tug of war between imagination and reason. It is as if the imagination were given unlimited power, and forced to strain to its utmost, "in its fruitless effort to extend this limit, recoils upon itself."¹⁰ Even though it may appear that the limitless, the force that sets back the imagination, is a condition of the object, in reality it is a subjective experience. It is reason that pushes imagination to the limit of its power, "forcing it to admit that all its power is nothing in comparison with an Idea...which forces us to unite the immensity of the sensible world into a whole."¹¹ This is a dialectical judgment that is grounded in sensibility. It is a mental movement where reason must prevail in sensibility, by turning imagination itself into an instrument of reason. The aesthetic finality is an intellectual admiration, an astonishment that does not cease when the sensuous novelty wears off.

...poetry is music made with ideas and therefore with words. Imagine what your making music with ideas instead of with emotions would be like. With emotion you make only music. With emotion that tends toward ideas, that accumulates ideas in order to define themselves, you create song. With ideas alone, which contain only that part of emotion that is necessarily in all ideas, you make poetry...The cooler the poetry, the truer it is.¹²

The genuine problem of an aesthetic based on the idea of force, an instrumental aesthetic, is a paradox of seeking an accord by opposition. In this paradox, imagination and reason seek unity as positive contraries. This dialectical unity is the most profound relationship possible. "Paradox is the typical formula of Nature. That's why all truth has a paradoxical form."¹³ If I agree with Kant that architecture is an art of sensuous truth, then I must keep its practice as a paradoxical form. For it is only this possible truth that gives me the grounding of final aesthetic judgment—other than as an expression of taste. But the truth to be found in art is different from the truth of science; it is neither determinable by principles nor verifiable by proof. There can never be an aesthetic science, but only aesthetic judgment.

For, as to the element of science in every art—a matter which turns upon truth in the presentation of the Object of art—while this is, no doubt, the indispensable condition of fine art, it is not itself fine art. Fine art, therefore, has only got a manner (*modus*) and not a method of teaching (*methodus*).¹⁴

Finding a proper manner for the production of architecture—its study and practice—is the critical task for the teacher. To set up a mode of work at the beginning is, in most cases, a scheme that is immediately under suspicion: it may be seen as an attempt to subordinate the spirit of poetry to logic. It is consequent, however, to recognize that preconceptions, routine, and excessive familiarity may already be part of a mode of production, indeed one of reduction and impoverishment. In order to exorcise the demon of routine and mechanical repetition, of sensuous imitation, we may take advice from the work of Novalis, and have it as an aim "to make the familiar strange and to make the strange familiar". Or follow the suggestion of Erik Satie, that "every act is a virgin act, even the repeated one". The pedagogy must not operate by giving precepts, but by culture of sensibility: by making an appeal to the imagination and its transactions with reason, by

eliciting aesthetic and rational judgment, and by giving to precise criticism the positive force that advances the sense of the proposition. It is advisable to avoid setting up examples as prototypes of excellence or models to be imitated without submission to the student's own critical judgment. All of this needs to be done while keeping in mind that (1) no definite rule for production can be given, since it would eliminate the necessary freedom of imagination; instead, the activity must be heuristic, that is, originate its own sense [or meta-logic] in the activity itself. (2) Paradoxically, while the products are not to be derived from imitation, they must in themselves be exemplary, i.e. models that serve as a standard or original meter for judgment. (3) While artistic production, similar to scientific knowledge, is founded on empirical observation and verification, the knowledge of art is eminently practical: it issues from the act of making—which is a mode of free play between mind and matter; in the aesthetic sense, it is the animating force which is set up in the material, and the given back to the imagination—this reciprocating force "sets the mental powers into a swing that is final, i.e. into a play that is self maintaining and which strengthens the powers for such activity."¹⁵

To enact the outline of a mode of teaching, as a kind of research, I am proposing a practical laboratory with the aim of reforming raw materials into architectural materials; thereby letting the play of forces involved and the resulting forms be the ground of an architectonic sensibility. The words of Novalis and Satie must be a fundamental credo for this laboratory, where the ideal state of mind should be one of critical innocence: that is to be intentionally ahistorical and atheoretical.¹⁶ The radical proposition of this laboratory is to recognize that the most primitive architectural program, but also a thoroughly modern program, is the programming of materials. That is not being primitive in a chronological and historical sense, but being ontologically primitive:

We learn to see what flows beneath, we learn the prehistory of the visible. We learn to dig deep and to lay bare. To explain, to analyze... We learn the very special kind of progress that leads towards a critical striving backward, towards the earlier on which the later grows.¹⁷

The words of Carlos Fuentes, "We must remember the future, and imagine the past," are the most compelling call for a modern program, that is: finding the sense of the present. They are a call for actuality, as well as a call for action—action being always a mode of definition of the present. The kind

of action required for the practical programming of materials is that of making [material things]. I am selecting glass and metal as the materials for experimentation. I do this, simply, in order to refocus the attention: contrary to the habitual assumptions of the language, glass is a non-crystalline material, and metals are crystalline—in their molecular structure. The immediate task is to activate the materials by the introduction of force, and put the materials 'in tension', making a series of experimental probes. These probes should be taken as discreet units of fabrication that make the force, or forces, discernible from a double index: structural and optical.

The singular aim of each probe, and incremental aim of the series, is that of research and further definition of glass and metal, as building materials, in a threefold sense: first, structural, as that which recognizes the internal constitution and capacity of the materials in reference to internal or external forces. This is focused primarily on two topics: mechanical properties, such as the capacity to resist forces of tension, compression, and shear; and optical properties, which determine the peculiar behavior of materials in reference to light-reflection and absorption, refraction and coloration, transparency and opacity. As a great deal of information is contained in spectral analysis, one might say that matter communicates with us by means of the light that it emits and with which it interacts.

Second, factual, as that which examines the processes of technical production and elaboration of the materials, affecting the ability to work and give form to them by handling, tooling, and machining.

And third, tectonic, as that which represents the dynamic synthesis, or 'double entendre', of the forces employed in fabrication and the resulting forms. Forces and forms are encoded in the work as a transitive agreement between memory and matter. Heuristically, the laboratory must proceed along an experimental axis, being constantly 'on probation', on the look out for signs of artificial intelligence.

NOTES

- ¹ Jean-Paul Sartre, *What is Literature?* Harvard University Press, Cambridge, 1988, p.30
- ² Roland Barthes, *The Eiffel Tower*. Hill and Wang, New York, 1979, p.6
- ³ Immanuel Kant, *The Critique of Judgment*. Clarendon Press, Oxford, 1991, p.182
- ⁴ *ibid.* pp. 41-89
- ⁵ Henri Bergson, *Matter and Memory*. Zone Books, New York, 1988, pp.139-152
- ⁶ Paul Valéry, *Dialogues*. Princeton U. Press, Princeton, 1962, p.

- ⁷ Kant, *The Critique of Judgment*. p.186
- ⁸ Gilles Deleuze, *Kant's Critical Philosophy*. U. of Minnesota Press, Minneapolis, 1990, p.49
- ⁹ Kant, *The Critique of Judgment*. p.107
- ¹⁰ *ibid.* p.100
- ¹¹ Deleuze, *Kant's Critical Philosophy*. pp. 50-51
- ¹² Fernando Pessoa, *Always Astonished*, City Light Books, San Francisco, 1988, p.29
- ¹³ *ibid.* p.30
- ¹⁴ Kant, *The Critique of Judgment*. p.226
- ¹⁵ *ibid.* p.175
- ¹⁶ Paul Valéry, *The Outlook for Intelligence*. Princeton U. Press, Princeton, 1962, p.114
- ¹⁷ Paul Klee, *Notebooks Volume 1: The Thinking Eye*. Lund Humphries, London, 1961, p.69