Art and Instrument in Architectural Theory

by Anne M. de Fort-Menares

Figure 1. Badenburg pavilion at Nymphenburg Palace, Munich by Karl Effner, 1719-21. (Photo: A. M. de Fort-Menares)

*T*hat we are able to speak at all of the interrelationship of art and architecture presupposes that a distinction is understood. Well-known texts influential in shaping modernist sensibilities defined specific capacities for ornament in the service of design: John Ruskin's *Seven Lamps of Architecture*

of 1854 and Adolf Loos' *Ornament and Crime* of 1908 represent just two positions staked in the contentious field of architectural theory. The present age is one dominated by an acceptance of technology and pragmatism in building, and a tacit acknowledgement that ornament or style is not necessarily integral to construction (**figure 2**).

It is possible to base modern architectural design on an understanding of form, purpose, material, and technique, which in simplicity and intellectual poverty are complemented by unprecedented complexity in formalization.[1] Formalism promotes the repetition or variation of forms for their own sake, irrespective of their literary, associative, or poetic meanings, and without regard for mythical origins. Thus, design has been reduced to a series of tasks organized to meet the objectives of production, of economics, and of basic controls pertaining to building codes and official plans. Positivist training, hyperbolic promotion, and a despondent, uninformed public have generated a tradition of mute, empty building. A tradition, in fact, "refreshingly mute in the chatty new age of *architecture parlante*," as *DBR* editor Richard Ingersoll remarks. Public architecture has become very much an additive process of decoration, not from any ideological position (*cf.* Venturi) but from a failure of essential values. The solutions to urbanizing anti-urban buildings of the 1960s and 70s, or to renovating industrial sheds, provide acute demonstrations of this phenomenon. It is one of the struggles of our time to unite structure with ornament–as Richard Rogers claims to attempt–or at least to achieve an integration of design and construction. From a historical perspective, however, these efforts are doomed to failure by the very nature of modern culture.

The problem lies in our perception and understanding of architecture, an extension of the way we see ourselves through the application of the modern concept of method to the human sciences.[2]

The effect of science-based positivism has been to de-mystify, rationalize, and ultimately trivialize contemporary expectations of architecture by assuming fundamental analogies with other disciplines which essentially reduces architecture to a sophisticated formal exercise in construction technique. At an even more

Figure 2. Adolf Loos, detail of upper window, Looshaus, originally the tailoring firm of Goldman & Salatsch, Vienna, 1909. (Photo: A. M. de Fort-Menares)

basic level, architecture may be merely the product of economic equation. Either way, the function of architecture as a representational device is neither expected nor understood. There is, in fact, no clear consensus as to what, if anything, architecture should represent other than itself. But the histories of architecture and civilization are too heavily saturated with buildings and complexes of profound meaning and significance for us to blithely accept and dismiss the vapid content of our normal contemporary architectural experiences.

Scholars have postulated that the source of contemporary confusion and nihilism may lie in our inability to reconcile the conflict between two incompatible forms of representation: the symbolic and the instrumental.[3] This conflict is evident in a comparison of ecclesiastical art with secular urbanism, or with the banality of most commercial architecture. When instrumentality is deemed good enough, subtler and more complex issues are abandoned.

The division of symbolic from instrumental representation reflects a way of looking at and understanding knowledge and experience. Ultimately it is a category, or system of categories, by which we order and systematize the universe as it relates to man, and is therefore an arbitrary and artificial construct; but our understanding of what these things–symbol and instrument–mean came about through language.

Instrumentality is identified with the Greek *techne*, which is the

knowledge or skill to do something, such as a craft. Yet *techne* has often confusingly been translated as *ars,* which is art or practice. "Art" itself has a double meaning, being both a tactic, or method, and a work of art, as a poem or a painting. The knowledge, *techne,* of an artisan does not make that person an artist. But *techne* was understood in a context of perception that included consideration of what we would now call form, content, material, model, allegory, intention, and so on. Most importantly, *techne* was understood as a subset of *poiesis*: to bring into being, the creative process that "makes the way from Non-being to Being" (Plato, *Symposium*).[4] The two were interrelated and interdependent, but *poiesis* allowed for the larger reality of symbolic representation.[5]

The severing of their reciprocity and the simplification of their meaning evolved first through interpretation and retranslation of the Greek philosophers, and second through developments of science and philosophy. The relationship of *techne* to *poiesis* was that of art to architecture; their decline into straitened autonomy occurred slowly, beginning in the 16th century with the devaluation of the significance of numbers and geometry.

Since antiquity, numbers had held the status of divine revelation as the means by which the universe could be explained, known, and reconciled to man. Platonists considered the number "one" a principle like God or Idea because of its importance as the first cube.[6] The
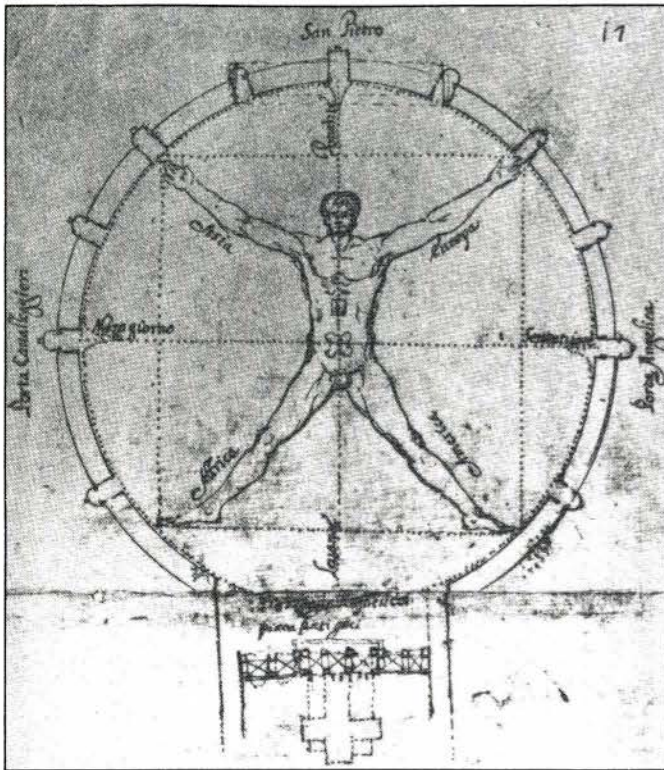
Figure 3. A counter-project to Bernini's Piazza S. Pietro: the ideal man representing Asia, Europe, America, and Africa aligned on the four points of the compass, S. Pietro at the top. (From Wittkower, Studies in the Italian Baroque)

perfection of the number one is discussed in Plato's *Timaeus*, where Timaeus explains the origins of creation:

In order therefore that our universe should resemble the perfect living creature in being unique, the maker did not make two universes of an infinite number, but our universe was and is and will continue to be his only creation. (31)

In assigning geometric solids to the four elements, Plato described a universe of mathematical relations:

and we must assume that the god duly adjusted the proportions between their number, their movements, and their other qualities and brought them in every way to the exactest perfection permitted by the willing consent of necessity. (56)

Pythagoras discovered the diatonic scale, based on a succession of fifths, and Pythagoreans applied these proportional relationships to a theory of universal harmonics. The assumption of the absolute value of mathematical proportion underlying the theories of all "classical" architecture, including medieval, was based on the evidence of fixed tonal differences that could be sounded from lengths of cord, for example, or from fluid-filled vessels.[7] A proportion of 1:2 results in an octave difference, 2:3 gives a fifth, 2:5 a major tenth, and so on.[8] Musical consonances, numerically defined, were the audible proof of a universal harmony which extended through all the arts: the text of Vitruvius confirmed the parallels between harmony of the cosmos, musical harmony, social harmony, and moral architectonic harmony based on numerical relations.[9] Alberti codified Vitruvius in finding the first of cubes, the number one, the source for all good proportions.[10] Serlio practically equated the square with God, the most perfect and

divine form.[11] The figure of man–in antique philosophy a microcosm of the universe, in Christian the earthly image of divine perfection–was also attributed proportions in harmony with universal perfection. In a long tradition from Vitruvius through Leonardo and Cesariano (1521), the unification of man, reconciling square and circle, passed into common imagery and understanding (**figure 3**).[12]

The consequence of so elaborate a mathematical tradition was the codification, in theory, of proportional relationships, exemplified by Palladio's writing and practice (*I Quattro Libri*, 1570) and discussed in a considerable body of cinquecento architectural theory.

In writing the first Italian translation of Vitruvius in 1521, Cesare Cesariano compared architectural proportions to music, echoing the discourse of his century and describing the Renaissance concepts of the preeminence of one part, the unification of all, and their integration into a whole:[13]

sapendo de le musicale proportione eurythmiate non solum la corporatura de ogni magna aedificatione ma ogni sua membratura particulare, principale e subsequente sapera collocare, dopoi in epse anchora collocare ogni altri membriculi minor facti per epsa distributa e communicante symmetria . . .[14]

For our purposes, the significance of this tradition was the value it imparted to architectural design. The architect had the tools to build in harmony and full participation with the universe as it was known through an understanding of numeric relations. The microcosm of man and his works corresponded beautifully to the structure of all creation. The embellishment of a building under this grand system might reinforce and reproduce the proportional order and refer to the ideals of antique precedent simultaneously. In a recent study, Hersey proposes another approach to understanding the survival of the classical orders, which he posits as a complicated philological interplay between the name of a detail, associations to historical fact, and the function and symbolism of the building or element.[15] Hence Vitruvius cited the capture of Caryaean women as the origin of Caryatid columns: the realistic form of matrons carried heavy weight as punishment for treason, while the word "Caryatid" had aural associations for Greeks to a shrine where blood sacrifices occurred. There are also links to diverse legends, including involvement of the goddess Artemis, an individual princess named Carya, a ritual caryatis dance, and so on, to trace the intimate cultural links through literature, language, legend, and history embodied in the architecture of the Greeks.[16] In service of his argument Hersey provides parallels for the three Greek orders and a selective analysis of Renaissance treatises. This brief example does little to clarify his hypothesis, but introduces an alternate basis for symbol and meaning.

As stated, cubic and proportional theories were principally a methodology applied in teaching; the philological investigations explored by Hersey were not overtly discussed in literature, although he offers convincing examples which demonstrate some understanding of the concepts in the 18th century. Even as the treatises of the 16th century were being written, actual buildings exhibited newer and more complex forms of geometric and numerical structure, and the theoretical position with respect to the inviolability of canon began to break down.[17]

Until the Renaissance, the primacy of perception as the ultimate evidence of knowledge had been unquestioned; accordingly, the correspondence between the idea or perceptions of the subject and the

Figure 4. John M. Lyle, doors to safety deposit vaults, Bank of Nova Scotia head office in Halifax. (Photo: Bank of Nova Scotia Archives)

The shift in the concept of progress required the physical, psychical, and scientific discoveries, significant inventions (printing, gunpowder, navigational aids), and wider inquiry of the late 16th century. Unfettered progress was conceivable only after religious reformation and new defenses liberated free will from the doctrine of undisputed Providence.[20] Comparisons of the ancients to the moderns became an obsessive vogue which tyrannized discourse of the 17th century, just as the authority of Greek and Rome had formerly tyrannized culture. The entire phenomenon, the *Querelle des Anciens et Modernes,* permeated the philosophy of the 18th century and affected literati in all fields.

In France, Charles Perrault's four-part *Parallèle des Anciens et des Modernes* of 1688-96 summarized the modernist argument that knowledge could, and had, advanced with time and experience, and perfection was not uniquely limited to the ancients ("our age has, in some sort, arrived at the summit of perfection . . .").[21]

In England, George Hakewell refuted the doctrine of degeneration in his 1627 *An Apologia or Declaration of the Power and Providence of God . . .,* concluding that his contemporaries equalled the ancients in poetry, and excelled them in all else![22]

The acceptance of the idea of progress was necessarily conditioned by the popularization of science. In this milieu, Charles Perrault's *Ordonnance des Cinque Espèces de Colonnes* of 1683 fractured completely and decisively any lingering influence of *a priori* beautiful or appropriate mathematical ratios. In demystifying traditional proportions as possessing beauty on the mere basis of familiarity, he advocated the relativity of aesthetic judgement and, radically, denied the possibility of translating musical consonance into visual proportion.[23] He flatly opposed any microcosmic relationship between man and universe: "man has no proportion and no relation with the heavenly bodies." (Vol. 4, 46-59.) Perrault's questioning and dismissal of traditional theory was the precondition to his advocacy of the modern position, but it must be stressed that he did not wholly abandon the perceptions of his time: Roman prototypes were still instructive, and those qualities of antique splendour were still worthy of emulation.[24] The disruptive rift had been made, however, and henceforth the "rules" of architectural design were open to the influence of the relativism of empirical instrumentalism.

Such rules, always subject to modification, lost their authority. The impasse of the after-modern present, removed from classical and modernist canons, is rooted in the very problem of representation poised on the question of ornament, whose banishment leads often to emptiness, whose trivialization results in banality. Thoughtful efforts to counter this tendency have taken roughly two separate approaches, which may be called figural and abstract. In the realm of the figural can be classed the revival stylists who, by association of form, hoped to impart borrowed recollections and significance to a structure that might in itself be contemporary. This group includes symbolists like John Lyle, who promulgated a theory of ornament and meaning (**figure 4**). It even includes the post-modernists, whose identifiable use of motif, however papery, overwhelms any more interesting developments of plan and space.

Practitioners of the abstract, on the other hand, have concentrated on the inner significance and relationships of architecture. They have, in a radical departure from tradition, drawn new criteria and means of expression from within the discipline. At its most conceptual, moder-
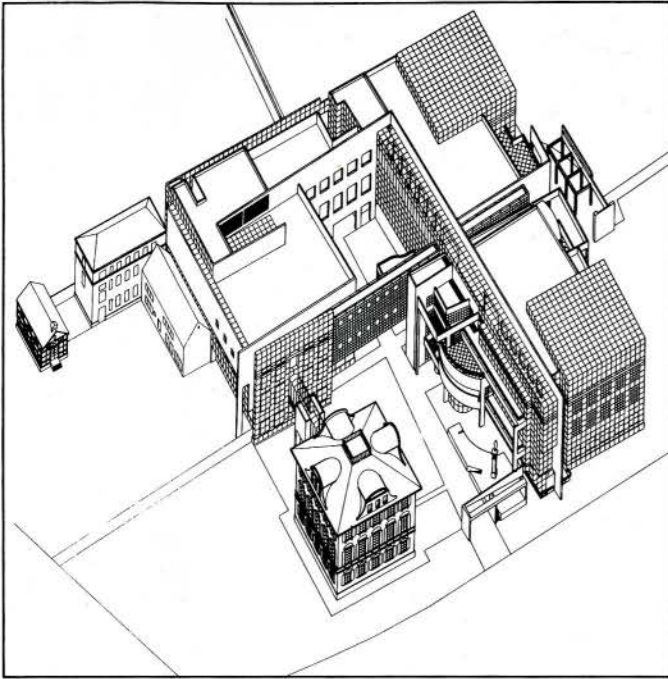
reality of the object were guaranteed by the order inherent to the universe.[18] This synthesis crumbled under the onslaught of new scientific discoveries, which harshly revealed the subjectivity of humanist thought and exposed a distinction between perceptual, factual "reality" and empirical, conceptual "truth."

It can be rather difficult to comprehend the break from a visible reality that at least had the potential to include mystery and unseen forces, if not be governed by them, to a scientific reality at once more abstract but mathematically predictable. For architecture, the revolution hinged not on the nature of scientific discovery but on progress.

The Florentine humanists of the quattrocento felt keenly that their age was unable to match the ancients in any attainment, while also believing as ardently that the Florentine republic was the rightful heir to resume the work begun in antiquity.[19] The prevalent view of historical development was of degeneration. The future was not a concept which held openness or scope for improvement. In *De fato e fortuna* (1396-98) Coluccio Salutati observed,

For in whatever we say concerning God, although according to the capacity of our intelligence, we distinguish the future from the past or present time, it must be reduced to the present in so far as it is God who makes all eternity, though what he makes is in time.

Figure 5. Richard Meier, Museum für Kunsthandwerk, Frankfurt, 1980-85. ". . . a claim of functionality that is convincing by virtue of its optimum of aesthetic content, a criterion in which Adorno has recognized the reconciliation of purpose-oriented rationality with man's sensual needs"–a work of art lacking in "ornament." (From the City of Frankfurt publication on the museum)

nism sprang from a concern to reflect the dramatically changed structure and possibilities of contemporary life; a line of descendants continues to design cool architecture that similarly embraces and mediates with social, political, and architectural issues beyond the focus of pure structure.

The position of "ornament," however, which throughout I have substituted for the question of art in order to focus on the architectural principle, is unresolved and in fact not addressed. "Ornament" is a term associated with antimacassars, redolent of the self-conscious historicist stylizing from which the modernists fled in horror, suggestive of gilt dolphins and rococo excrescences deforming otherwise useful objects. But the refutation of ornament is not a 20th-century phenomenon;

useless ornament was condemned in the 1750s by Carlo Lodoli, and Napoleon turned ornament into a value commodity, a frill devised by architects to decorate the robust works of engineers. Industrialization established the balance-sheet approach to design. Architecture, already devastated by rationalism, has never fully recovered.

Ornament has become so closely linked to taste that there seems little hope of rescuing architecture from the morass of dilettantism with respect to "art." Even prominent philosopher Hans-Georg Gadamer has prescribed a dangerously discreet role for ornament, while noting the difference between ornament and a unique work of art:

Certainly it should not invite the attention to linger and be itself noticed as a decorative motif, but have merely an accompanying effect ... But on the other hand it should not have a dead or monotonous effect, for as an accompaniment it should have an enlivening effect and in this way must, to some extent, draw attention to itself.[25]

This attitude treats ornament in the Ruskinian sense of an additive, whereas we know from the examples of early modernism and De Stijl that an ornament and an art integral to the architecture was possible and, sporadically, obtainable. But the challenge of redefining our culture continues. Technology and communications shape our lives and (it seems) values in ways almost impossible to fully discern, and the impact of "technoscience" has been to blur the lines between what were once polarities: life and death, for instance, or nature and contaminated, un-natural nature.

Is the generation of new architectural meaning possible, as Hersey advocates? Is there a technological scene that can be symbolically seized? Critic Hal Foster proposes articulating the contradictions between technosocial paradigms, whereby each conflict exposed would reveal a spectra of "positions," but he admits bitterly to "a reality of machines producing machines, in which the social is marginal .... Thus Star Wars is the answer to the question of how to 'resolve' the contradiction between industrial and post-industrial modes of production."[26]

If the generation of new architectural meaning is possible, is such a thing desirable?

Endnotes

1 Dalibor Vesely, "Architecture and the Conflict of Representation," *AA Files* 8 (January 1985), p. 24.

2 Hans-Georg Gadamer, *Truth and Method* (London: Sheed & Ward, 1975), p. 23. [German original 1965; English transl. of 2nd edition by W. Glen-Doepel]

3 Vesely, p. 36.

4 E. Grassi, *Kunst und Mythos* (Hamburg: Rowholt, 1957), p. 54.

5 Vesely, pp. 21-24.

6 G. L. Hersey, *Pythagorean Palaces: Magic and Architecture in the Italian Renaissance* (Ithaca: Cornell University Press, 1976), p. 21.

7 Joseph Rykwert, *The First Moderns* (Cambridge: MIT Press, 1980), pp. 12-13.

8 Elaborated more fully in Rudolf Wittkower, *Architectural Principles in the Age of Humanism* (London: Academy Editions, 1973) p. 133. [reprint of 1949 edition]

9 Vitruvius, *The Ten Books of Architecture*, III ch. 6, V ch. 4, 5.
Manfredo Tafuri, "Discordant Harmony from Alberti to Zuccari," in J. Rykwert, ed., *Leonis Baptiste Alberti, AD 21* (London, 1986), p. 39.

10 Hersey, p. 28.

11 Ibid., pp. 51, 193.

12 Rudolf Wittkower, "A Counter-Project to Bernini's Piazza S. Pietro," in *Studies in the Italian Baroque* (London: Thames & Hudson, 1975), passim.

13 Emil Kaufmann, "Italian Theories from Alberti to Lodoli," in *Architecture in the Age of Reason* (New York: Dover, 1968). [reprint of 1955 edition]
Richard F. Purdy, "Corpus Christi Plans of Fra Lucio Palaccio da Lucca," in *Rampike* 6:1, 1988.

14 Cited in Tafuri, p. 41. A free translation reads:
Knowing of the musical eurythmic proportions, [the architect] will know not only how to place the body of any major building, but each of its particular members, principle and subsequent, also how to place in them each of its small members made by that distributing and communicating symmetry.

15 G. L. Hersey, *The Lost Meaning of Classical Architecture* (Cambridge: MIT Press, 1988).

16 Ibid., pp. 71, 72.

17 Ibid., p. 150, and Hersey, *Pythagorean Palaces*, p. 164.

18 Alberto Pérez-Gómez, *Architecture and the Crisis of Modern Science* (Cambridge: MIT Press, 1983), pp. 9, 22.

19 Hans Baron, *The Crisis of the Early Italian Renaissance* (Princeton: Princeton University Press, 1955), pp. 257-58.

20 Salutati quoted in Charles Trinkhaus, *In Our Image and Likeness* (London: Constable, 1970), p. 22. On other concepts of progress, see Karl Loewith, *Meaning in History: The Theological Implications of the Philosophy of History* (Chicago: University of Chicago Press, 1949), pp. 60, 112, 160.

21 J. B. Bury, *The Idea of Progress* (New York: Dover, 1955), p. 85. [reprint of 1932 edition]

22 Ibid., p. 88.

23 Wittkower, *Principles*, pp. 144, 145.

24 Pérez-Gómez, pp. 25ff.

25 Gadamer, p. 140.

26 Hal Foster, "Neo-Futurism: Architecture and Technology," in *AA Files* 14 (Spring 1987), p. 27.