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## 100% RAG: Syracuse School of Architecture, Student Newspaper, Volume 2, Number 3

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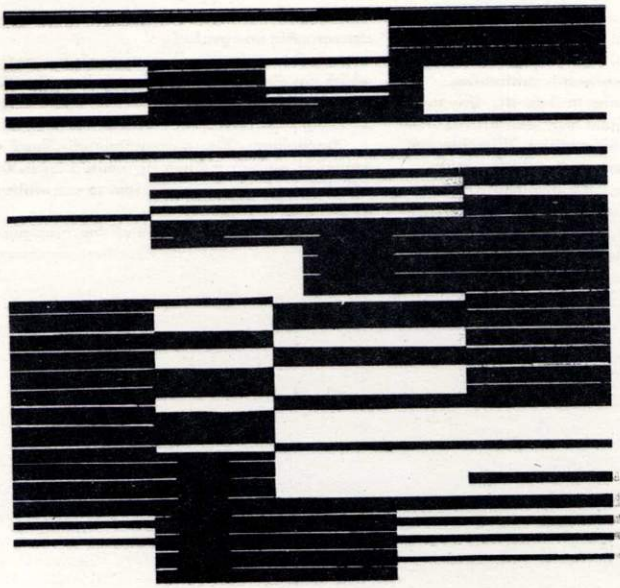
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STUDENT JOURNAL

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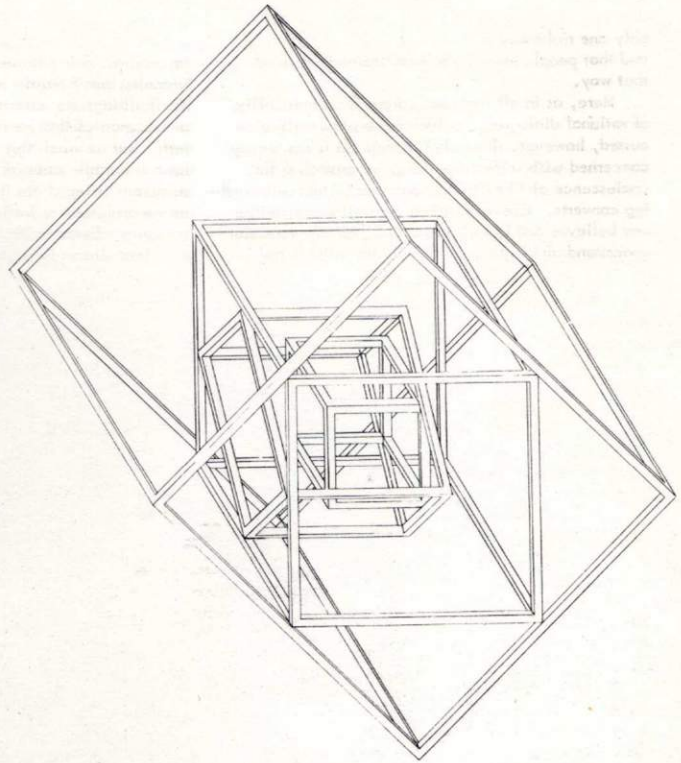
SYRACUSE UNIVERSITY



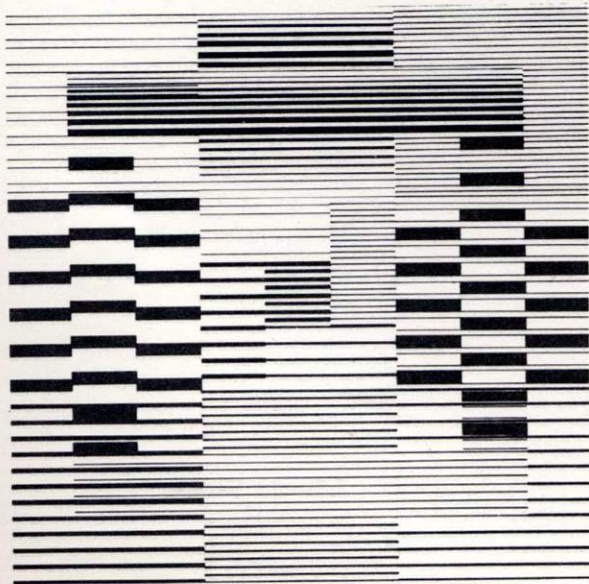
Problem #4, Robert Marr

**Problem 4: Two Dimensional Study**  
 using varying width of line, length of line,  
 and interval of lines in vertical and hori-  
 zontal directions.

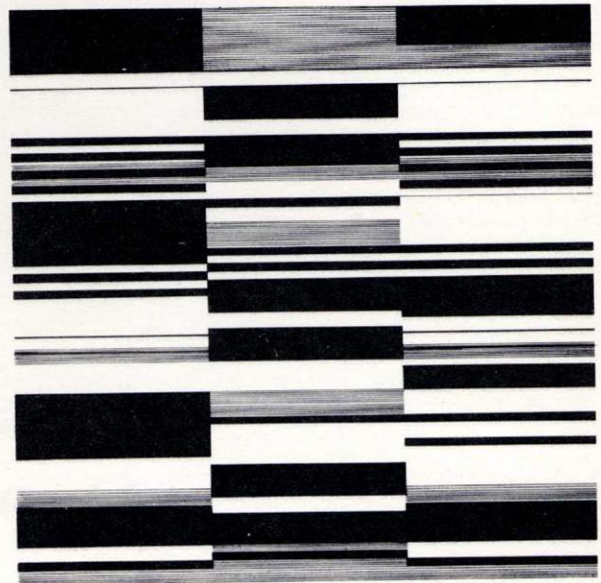
**Problem 5: Three Dimensional Study**  
 using balsa wood strips. The intent was to  
 relate three cubes to each other and to a  
 fourth six-inch cube by a specific similarity.  
 An axonometric drawing of the design was  
 required.



Problem #5, Peter Frothingham



Problem #4, Michael Westcott



Problem #4, Robert Zimmer

"I have no power over my students. They are free to come and go. I have only authority. If they come to me because of my authority, and then do not respect that authority, they have no reason for coming to study and work with me."

--Paolo Soleri

Perhaps we could reassure ourselves that, while this school has not lived up to our expectations, surely it is not as bad as we think it is. And, while everyone seems disgruntled, the substance of each individual complaint varies so wildly with the others that the unrest cannot be serious: what we have here is a healthy pluralism. Unfortunately, there is a problem; the discontent is real. And one need only look beneath the surface arguments to find the cause.

The problem does not reside in white/gray polarities or in any other kind of architectural debate--these are quite irrelevant and serve only as a rhetorical smokescreen. The true source seems to be the departure of the faculty from roles of authority, a complementary tendency for power relationships to be brought to play in the operation of school and studio and a concomitant abdication of any intellectual function in the school by the student body. These trends may be real or merely perceived, but it is something of an issue (at least amongst students) and, as such, must be addressed openly.

Professional schools are in many ways the institutionalization of the puberty rites that we read about in anthropological tracts--the tattooing, circumcision, menarcheal isolation--the wall of pain that separates the new adult from his childhood.

Attending to the initiates is the shaman--the witch doctor--who, often because he or she has survived and surmounted the ordeal of a schizophrenic episode, is the recognized authority on personality transformation. The design instructor's role is shamanistic. He or she serves as the guide through the student's pain and self-loathing and is the one who somehow imparts to him the ineffable sense of being an architect. Neither shaman nor professor has any inherent power: their authority, insofar as it is real, is derived from the respect due one who has wrestled with the angel and who has thereby mastered self-criticism, if not self-knowledge.

The distinction being made between power and authority is real and important: power represents unilateral control by one party of another, while authority is the converse, wherein responsibility is conferred bilaterally or multilaterally upon the one for some purpose.

One answers power with brute power, but authority can be successfully challenged only after its tenets and rules have been thoroughly mastered--and transcended. The Mongols under the Khans had of themselves only power; what authority they had lay in their successful adaptation to a long-standing Chinese culture. The medieval Church, on the other hand, had authority until the logic of its world-view was short-circuited by Luther, where upon it unleashed the Inquisition. Once authority has been recognized, its mandate can be only to maintain equilibrium--not to extend its influence.

Each culture has its equilibrating myths and rituals. The challenge to authority may take the form of a simple joke or assume the ramifications of voluntary exile. The most effective mode of challenge in our culture seems to be the dialectic of ideas, as found, for example, in constitutional law or in scientific debate. Crucial to the success of the dialectic is the potential for opposing arguments to learn from and respond to each other. By this means a continuity of authority can be achieved, even if the grounding of that authority changes over time.

Essential, too, is the recognition of ideas as independent, ownerless entities whose destiny is to be constantly manipulated and transformed.

Perhaps a design instructor's authority stems from the ability to guide the untrained mind towards this transformational mode while itself staying open to the possibility of new revelations. To this extent, a shared sense of wonder must underlie all student-teacher interaction. A feeling for one's present limitations is the only antecedent for growth.

But this requires a tolerance of and a respect for the student's autonomy and an encouragement to the student's assumption of more responsibility for his or her own intellectual growth. And, of course, that is based on the recognition of an architectural education as an inherently intellectual activity (a point which is cause for some debate in this school).

Authority is predicated on these conditions. However, faculty who are placed in a position of trust but who are without authority will respond by assuming power--and will then move to suppress autonomy, dissent and, ultimately, subversion. An artificial equilibrium is imposed on the studio by an act of will and its maintenance is jealously guarded. This happens all too often in professional schools and it happens here.

But the problem in this school is not limited to professional ineptitude; it is compounded by an unwillingness of the student body to assume the significant and constructive role in academic or aesthetic matters on a collective and an individual basis that is implicit in the restructuring of the school that occurred in the 1960's. It is possible that student sensibilities have changed over the years, but it is certain that commitment has fallen. This arises in part from the uncritical reverence for authoritarian figures instilled by the public schools, reinforced by the inability of the educational system to teach how to think and how to mount an effective challenge to an idea. It also has to do with the presence in this school of those who through lack of temperament or ability do not belong here and who more often than not act as an inert mass that inhibits the commerce of ideas and heresies amongst students.

In absence of students' exerting any balancing influence in this school, inexperienced faculty members who may not be naturally attracted to power find themselves acquiring an unwitting dictatorial image: a casual suggestion by the instructor becomes a command in the mind of the uncritical student and a lecture becomes a harangue.

And then there are the faculty members for whom architecture has no clear sense and for whom power games must be the substitute for missing authority. Any intellectual challenges are correctly perceived as threats to pedagogic hegemony in the studio. The situation worsens when the instructor begins to extend uncritical favor towards the work of a few students without providing the studio as a whole with adequate background for independent evaluation of those ideas. Personality conflicts may then arise with those students (talented or not) who discern that there are indeed no operating criteria for the studio and that the standards that are set are arbitrary and shifting. The probing, disorienting techniques of the Zen master are thus perverted to set the studio into permanent disequilibrium and therefore dependence on the instructor's approval to survive. Student is played against student and peer criticism, so vital to the functioning of a studio, loses all substance as each student seeks a safe place to hide until the end of the term.

If the condition takes hold on the larger scale of the school, intellectual interplay degenerates into faculty power politics and pluralistic tolerance is replaced by the cleansing of the hive. As authority wanes and the preoccupation with power grows, the quality and quantity of new ideas decline. Faculty respect for faculty plummets. Critical perception dissolves and opinions become petrified.

Receptivity to outside influences ceases and the system closes. Entropy then takes hold and creative energy is dissipated. The products of such a system are closed systems themselves, and the condition is perpetuated.

Most of the above criticism is not specifically addressed to the school; it is possible that Syracuse has no more problems than other schools. The great majority of our faculty are not power-seekers. Not all students are shirkers. Yet there is a feeling especially amongst older students that we are showing signs of decay.

The avant garde, for instance, presents the best opportunity for instructor and student especially those on the fourth and fifth year levels to explore jointly applications of new architectural ideas. Keeping up with the fads, while an admittedly hazardous practice, is invaluable to the education of both groups. In the face of the new, teacher and student are in rough parity and are best in a position to get a fix on one another. Challenges are not so easily dismissed and old vocabularies cannot serve so readily as camouflage for a weak grasp on a subject.

For the power-oriented, however, the avant garde is a serious threat, because it is here that one's control over others' ideas is weakest and that one's imposed dicta are least tenable. Furthermore, any sign of wavering in that control is viewed by all as a breakdown in the studio power structure. Power thus dispersed is difficult to recollect.

Who in this school has taken a hard look at what form McLuhanesque architecture might take? How many here really understand Eisenman? How many can incorporate Donald Judd, the Krier brothers or Luis Barragan into their work?

All this has resulted in the basic inability and disinclination of many, if not most, people in their last years in this school to take an idea, examine it on its merits and come to a judgment on it without arriving instead at polemical or rote conclusions. Rhetoric and ideas are, after all, only tools--means towards an end. When the end, viz., explication, gets lost in the verbiage, the minds of the faculty become flaccid and the students' are reduced to nihilism, or, worse, know-nothing-ism. Since so much of this perverse symbiotic relationship is bound up in human psychology and in the nature of institutions, there is probably no simple, certain remedy. But there should be methods to mitigate the situation; some suggestions to that end will be forthcoming in the next installment.



Editor's Note: In the interest of promoting discussion of this nature, along with the second installment of Phil Persinger's commentary on the School of Architecture, the RAG will publish student and faculty comment and viewpoint in next semester's edition.

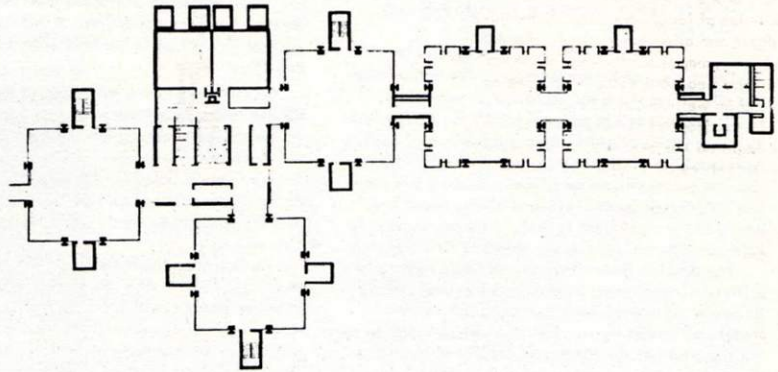
The theme of this lecture, Structuralism, is an attempt to bring you up to date with an important movement in Dutch Architecture: important, from the standpoint of the ideology of the movement speaking to political and social aspects of humanity in such a way as to render the architectural, cum aesthetic, reasons and attitudes for being powerless.

Arnulf Luchinger, writing in "Bauen und Wohnen" Magazine (1), said that the ideology was of an anthropological as well as directly social connotation; he tries to form a technical means to implementation of structures, and even further than this, tries to make clearly patterned systems, structures, as it were, within which social and collective attitudes may be constructed.

Luchinger says that primitive man is taken as the datum or model for the activity of the Structuralists. An attempt was made to include their culture, or better still, aspects of their culture that share a type of continuity with our own. This is an idea prevalent in the work of Claude Lévi-Strauss: "That the problems of today's alienation cannot be solved or eliminated with perfect structures only."

Further clues to this movement came from the distinctions made by Kenzo Tange (2) between the modern movement of from 1920-1960 which he calls the Functionalist Period and Architecture since 1960 as the Structuralist Period. From this viewpoint, which I will refer to later, he comes into some of the credit for the establishment of the Structuralist School.

Historically, if the definitions of geometry, combinations of cellular systems concatenate with simple, redundant spaces are to apply, both Le Corbusier and Louis Kahn must be given credit for the theoretical foundations in what we shall see is not really a new tenet in Architecture, either Modern or Contemporary (see Richards Memorial Laboratories, 1957-61, Louis Kahn; La Sainte-Baum Housing Project, 1948, Le Corbusier; Trenton Community Center, 1954, Louis Kahn; Hospital Venice, Le Corbusier and Julian de la Fuente).



Richards Memorial Laboratories, 1957-61, Louis Kahn

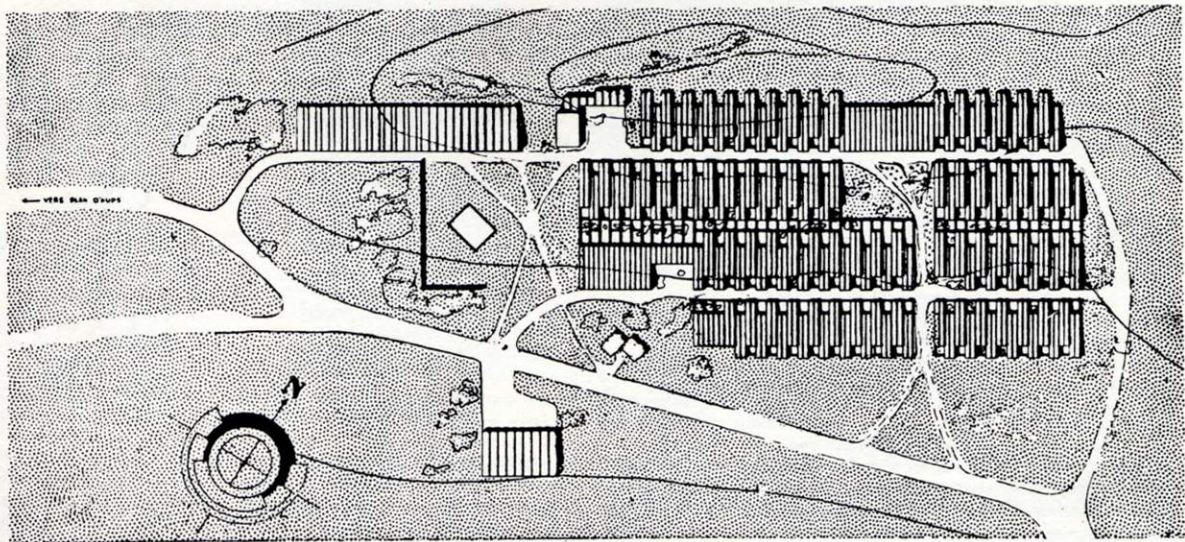
Within buildings or urban forms that structurally take identity through repetition of particular spatial elements or by other means are related to "Structuralism," the formal identity would be dangling or left incomplete without the communication or circulation network. This lends the stronger element of community and continuity to the compositions than does the simple device of repetitive elements. This linkage system helps to complete an easily readable geometric pattern (roster, grid) which subordinates (but) organizes the placement of larger nodes within the same envelope. The leitmotiv comes from the rather simple organization of these parts into a whole pattern, not unlike the substantiating form brought about by a universal matrix or even Christopher Alexander's Universal Set, G (M,L). The Children's Home at Amsterdam, by Aldo van Eyck from 1957-60 is credited with being the premium original work within this typology -- but one should keep

in mind the orthogonal exactitude and simplicity of structures by Le Corbusier for the endless Museum Projects, and city plans, from the office of Ernst May (ca. 1930-1936) as station points of similarity.

In certain contemporary structures, e.g. Central Beheer by Herman Hertzberger, Roncorn by James Stirling, the structural network or matrix is supported through repetition and begins to make commentaries on or mediate between the formal infrastructure of the building and the collective infrastructure of the larger, urban-connected grid or communications network. Often these networks are used or intended to introduce utopian notions -- as in Tange's plan for Tokyo Bay (1960) realized in the Press Centre Building at Kofu, Japan (1964-67).

From Tange's original article cited earlier (my translation):

The physical form of modern society



La Sainte-Baum Housing Project, 1948, Le Corbusier

continually shifts in larger aspects and in most details. Organizational and communicational theories have effected spatial patterning more and more, and to such an extent where the public or the user/client has had disproportionately greater extension of possibilities in taste, hearing, seeing, and feeling ...practically infinitely so.

This greater dynamic activity, according to Kenzo Tange, can no longer be contained by the architecture of the Functionalist School in its "traditional mode of static and deterministic space -- where a specific function is identified with a specific space". Now, according to Tange, again, this type of thought or planning process also led to the urban-scaled errors of land use based on the relationship of certain functional entities and the city (3).

Sometime later, and apparently through the solutions of certain problems in isolated and in collective form, by the later Functionalists, it became necessary to replace these static design principles with concepts which allowed the functional space and its linkage system of corridors, passages, etc., to work more flexibly as an entity or whole system. Many of the wholistic properties of the relativity of space and functional order seem to be paraphrases of Norbert Wiener (4) rather than Levi-Strauss.

The importance in this new posture "structuralism", comes not from the identification of spaces or rooms within an envelope as isolated or unique typologies, somewhat frozen both in space and in time, but the necessity to outline or delineate each space within a definite active confine or context. This structure means a generating as well as an organizational order, a network, pattern, or orthogonal grid.

The Structuralists encourage the notion that the communicational fix or the energy producing systems within a structure move in a visual way during the delivery of people, goods, and services, and even when they are vacant must form an essential part of the reading of the form.

Kenzo Tange also noted that "communication canals of various types belong as basic generators in buildings of moderate to high complexity, and, of course, to the layout of cities". (5)

His own plan for Tokyo Bay had an orthogonal grid in three dimensions which was generated by the ordinal width of the old city core and, ostensibly, was to be construed as the structure of the new city addition, and would contain people, goods, services and movement systems. At the juncture of the functional spaces or rooms with the communications network, there would be a series of vertical shafts, each one differentiating a specific movement system. While the plan has yet to be realized, the Press Centre Building at Kufu was a microcosmic sample of the same idea.

By the establishment of the Dutch "Forum" Group, ca. 1959, the reaction against what might be construed as the inhuman and non-scalar characteristics of Tange's executed philosophy was put into action. A manifesto which proclaimed ethnological and anthropological relationship with the ancient people of Africa, Asia, America and Oceania was published, with the significant passage, "...that the typical European intellectual should rid himself of his superiority, his pride, and re-recognize the loss significance of creativity". (6) (My translation).

"Forum" was the name of a magazine published by the Architects who were to be recognized as belonging within the Structuralist Movement (D. C. Apon, J. B. Bakema, G. Boor, A. van Eyck, J. Hardy, H. Hertzberger, and J. Schreder). The purpose of its publication was to recenter attention to the efficacy of ordinary things: Day/Night, Summer/Winter, Rain and

Sun... and that such areas were entirely within the expressive realm of Architecture.

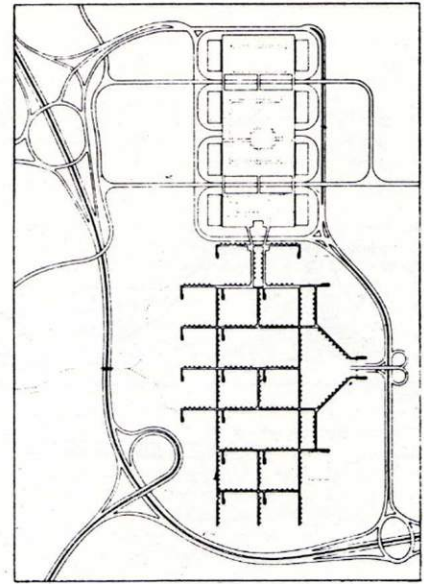
(My comment... This movement to resurrect the generic roots of architecture means a direct transformation of sociological roles, that is, a shift or a reversal from the Gesellschaft of urban society to the Gemeinschaft of rural and agrarian society. Within this shift there is the need to re-discover non-sophisticated root forms or innocence, as it were... (7))

True, Aldo van Eyck had already given currency to the appropriate studies of Dogan Villages (8), and had stated that the world neither began or ended at Europe... and the Structuralists began to make studies of Pueblo villages in New Mexico, Dogan Villages in North Africa, the population of the built over Palace of Diocletian in Split, and lived-in areas from Artes to Lucca.

It would appear, then, that the philosophical tendencies of the avowed Structuralist Group want to be related to anthropological form through Aldo van Eyck, and to earlier studies that raised primitive man as simulation models for spatial form and the Claude Levi-Strauss, rather than the larger scaled collective form investigations of Metabolists, Kenzo Tange, and the statements of Norbert Wiener.

(Now, my closing commentary, which will have to be continued in a later issue).

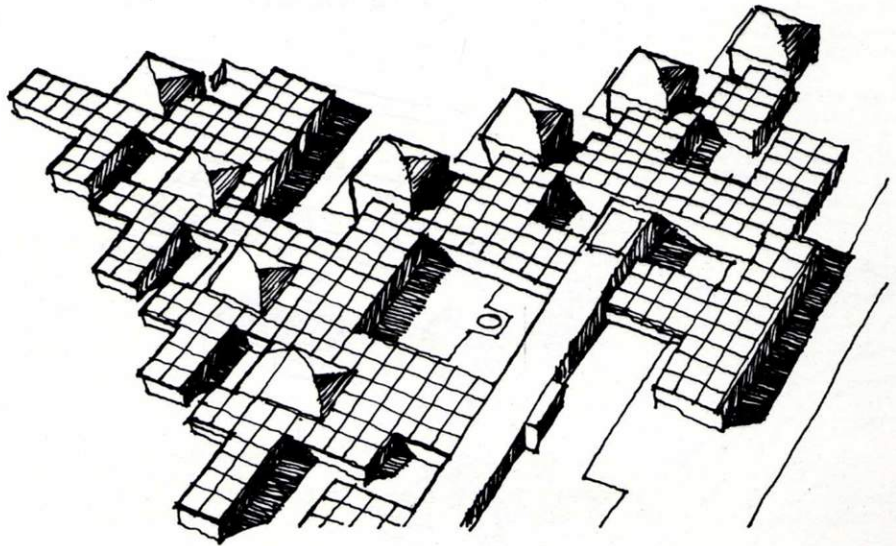
It appears hard to justify the humanistic references that might be a part of a person's serious concern and intent, when one views the pattern and evocative geometry of the Structuralist plans. One can prove that Man sees himself in a three-dimensional framework that relates obviously to a larger perceptual system, and can either relate himself to his surroundings or adjust the surroundings, over a longer period of time, to respond to his life style situations. This period of time, to adjust, actually builds in a transformation cycle where the adjustments either to man or to context become much less severe -- a growing together, as it were. The system of circulation tightly wound into functional space or the geometric pattern made by gliding, redundancy, repetition, and rotating certain elementary forms accomplishes this adjust-



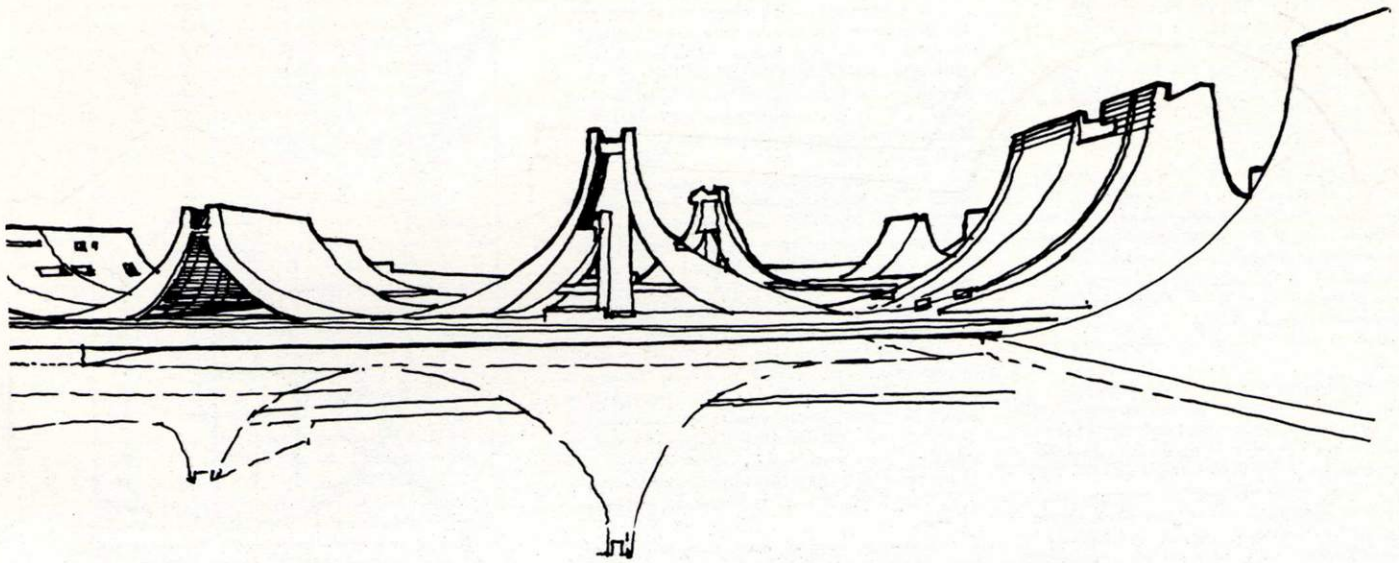
Roncorn Housing, 1974-75, James Stirling

ment or transformation. But, the relationships that are formed, in the words of Hertzberger, between collective pattern and individual interpretation is the underlying basis for this Architecture. The mini-transformations which take place within the larger collective form become the meaningful Architecture.

This suggests that small scale of homogeneous systems of function, occupancy, etc., would become the métier of this group. There are, in the buildings themselves (9), overlaps (spatial), layers of intrusion, and a primitive friendliness which corresponds to the loss of innocence in the adaptations that need to be made both in life style and in geometry to foster a closer connection between perception of space analogous to life style.



The Children's Home at Amsterdam, 1957-60, Aldo van Eyck



Neighborhood, Tokyo Bay, 1960, Kenzo Tange

Footnotes

<sup>1</sup>"Strukturalismus—eine neue Stromung in der Architektur", by Arnulf Luchinger, "Bauen and Wohnen", January 1976, (Zurich).

<sup>2</sup>Kenzo Tange, "Funktion, Struktur, und Symbol, 1966", in "Bauen and Wohnen", Zurich 1970.

<sup>3</sup>See also "Koingsberg Bridges", "Wells and Neighbors", network problems in: The Geometry of Environment; by March and Steadman, MIT Press.

<sup>4</sup>See also Norber Wiener -- Cybernetics; The Human Use of Human Beings, MIT Press, others.

<sup>5</sup>Kenzo Tange, op cit., Zurich, 1970.

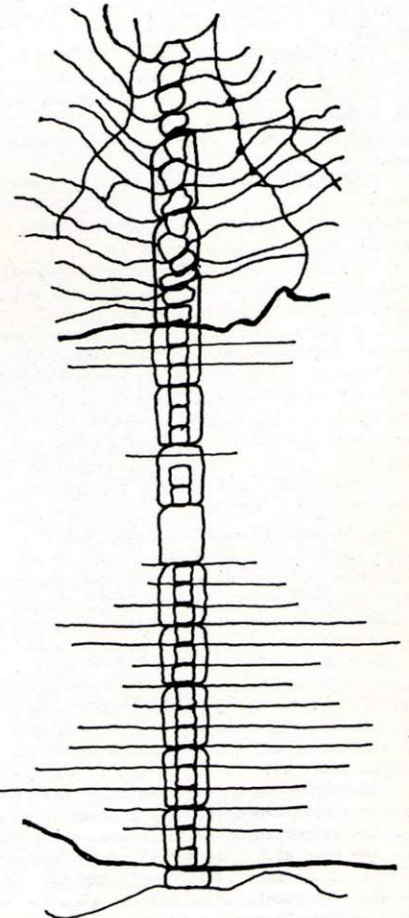
<sup>6</sup>"aus innere Bedürfnis mit der alten Bevölkerung von Afrika, Asien, Amerika, und vom Stillen Ozean verbruderten. Der intellektuelle Europaer: bog endlich das stolze Haupt und erkannte die verlorenen Voraussetzungen der Kreativität". (Forum, July 1959)

<sup>7</sup>See also The City, by Max Weber, Free Press, New York, 1972, also Sociological Analysis, ed. by Wilson and Kolb, Random House.

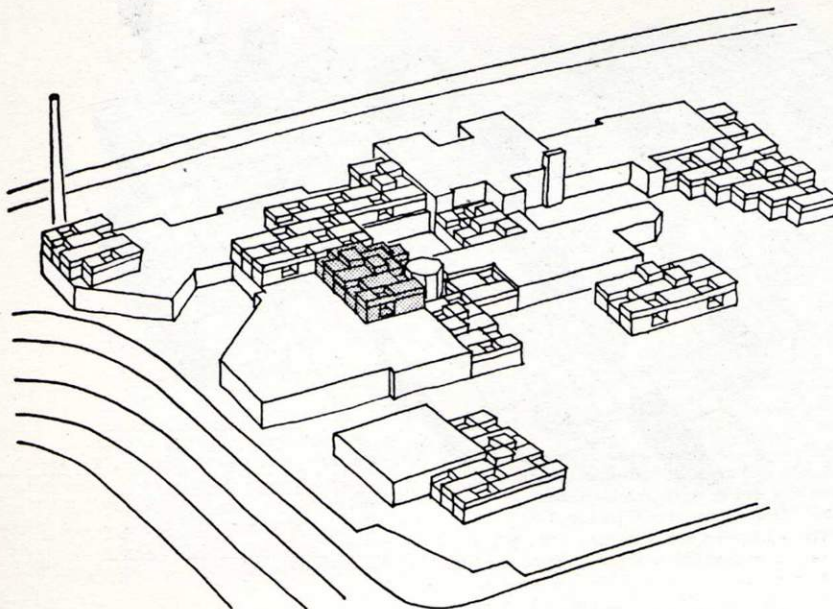
<sup>8</sup>VIA I, publication of School of Architecture, University of Pennsylvania.

<sup>9</sup>Die Drei Hoven, Hertzberger, Student Housing, Hertzberger, Orphanage, A. van Eyck, Montessori School, Hertzberger.

(TO BE CONTINUED)



Schematic Plan, Tokyo Bay, 1960, Kenzo Tange



Factory Addition in Amsterdam, 1969-72, Herman Hertzberger



The two urban projects presented here, offer a dialogue of practically opposite interpretations of building within the context of a traditional city. Although of approximately the same date, they are manifestations of two different moments within the chronological development of modern architecture and planning. Their comparison, despite their relative magnitudes, is valid if one is concerned with the abstract ideals that fostered the acceptance of one interpretation, its current reality and criticism within the urban physical environment. This is not to say the other was rejected by dominant sectors of society or by a general consensus, but was simply replaced in the 'natural' course of events and consequences within the evolution of the "modern movement" in architecture and city planning.

Le Corbusier's Voisin plan for Paris exhibited in the Pavillon de l'Esprit Nouveau of 1925 is of course part of a continued refinement of his city planning concepts starting with the "La Ville Contemporaine" of 1922 (the 1920 scheme for a "City of Towers" was not so elaborately presented) and perhaps reaching a pinnacle with the publication of "La Ville Radieuse" in 1933. These concepts are a part of the latest major treatise in what John Summerson calls, the "French rational tradition."

Gunnar Asplund's competition entry for the Royal Chancellery in Stockholm of 1922 was conceived before the "Modern Movement" had arrived in Sweden. The Stockholm Exhibition of 1930 marked its arrival. The Exhibition's master plan and buildings were also executed by Asplund, and it sponsored the emergence of the "International Style" and the glorified functionalism of the thirties in Scandinavia. Its importance was, according to J. M. Richards, that the public was given the... "first glimpse of modern architecture not as a new fashion in design but as a newly conceived environment," by "... a whole sequence of buildings (a whole quarter of a town)..."

The Plan Voisin can be seen as the predecessor of the ideals presently being implemented throughout the world and with particularly great effect on the fabric of the traditional American city. Examining the ideals inherent in Le Corbusier's proposal and the climate of adoption of them in America may well provide a better understanding of the existing conditions of building in our cities and the resultant problems.

In comparison, Asplund's scheme took place within Sweden's stable, somewhat closed system, and as has been explained, untouched by the revolutionary new architecture and thus its aberrant influences. In it one may find methods and attitudes that could possibly stimulate applicable solutions in dealing with the traditional city and

to reconcile the problems of the contextual imposition of the 'new city,' its image projected in the Plan Voisin, within the traditional urban pattern.

Although Le Corbusier stated with the study of "A Contemporary City of Three Million Inhabitants," that his "...object was not to overcome the existing state of things, but by constructing a theoretically water-tight formula to arrive at the fundamental principles of modern town planning." However, the Plan Voisin, upon initial inspection appears to completely replace the existing city fabric, and thereby can be conceived of as a fragment of the utopian city for twentieth century man, rising 'phoenix' like from the ashes and debris of the peccant traditional city fabric, in this case Paris.

Le Corbusier, however, does proclaim that his plan respects the historical past, and in fact "it is rescued." But, the ancient city is isolated from the human life centers of his proposal and in particular historical monuments are preserved as "relics of the past" reverently placed "in a framework of trees and woods," cemeteries (Le Corbusier uses the word) to be sure. It is of no little importance that Le Corbusier provides a footnote regarding his preservation of the ancient churches of this sector of Paris.

This was not one of the objects of the plan, but was merely the result of their falling into the architectural composition of the scheme.

The past was to become "no longer dangerous to life" and in the way of the projected monuments in keeping with the Zeitgeist. These monuments were systems of communication, for both the automobile and mass transit, and the functional zoning of activities, the products of an expanding exponential growth of technical means and administrative authority. Its geometric intention is a mandala remnant, physically and ideologically, of the "La Ville Contemporaine". The existing city's tight density was juxtapositioned with the benefits of the new; "open to light and air, clear and radiant and sparkling", as opposed to "unhealthy" and "diseased".

But, more than a sanitary and scale change had been proposed in the vertical city of towers in a park setting, it was a general statement in the continued process of the visual objectivity of rational -- functionalism of the Cartesian world. Along with spatial use zoning, buildings are specified by functional types and clearly articulated in form and position from those of unlike functions. The specialization of various movement systems, accommodating the speed of the new machine age, also separated themselves as distinct networks.

The honor Le Corbusier bestows upon the

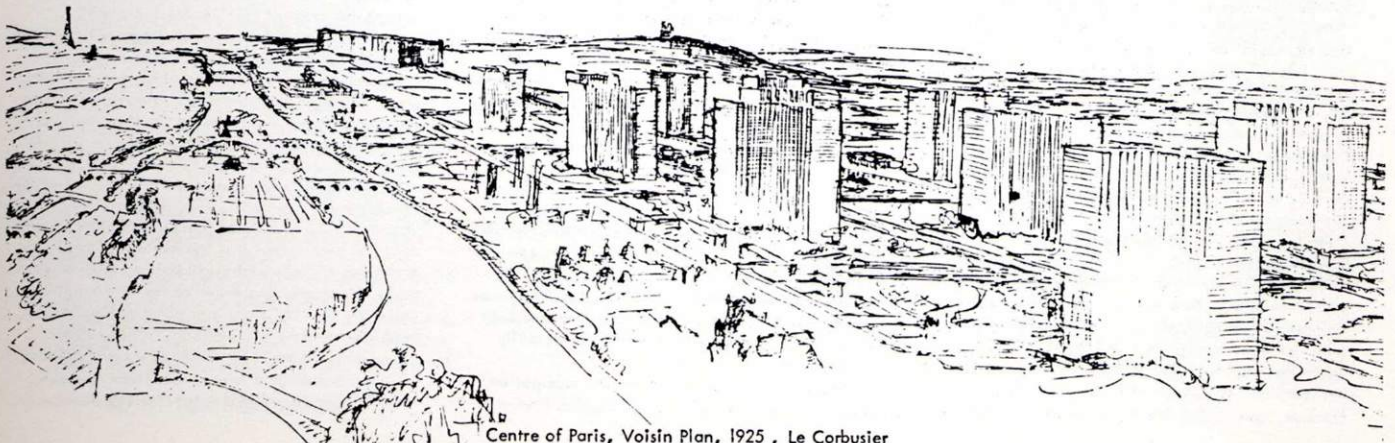
motor and in general, speed and power as a source of imagery for the new city echoes of earlier Futurist's manifestos, e.g. "the machine age intervenes: the city is overcome by multitude speeds..." (1) At a less conceptual level Le Corbusier is no doubt influenced by the complex of ideas around the turn of the century, similar to Tony Garnier, and certainly in detail to the projects and solutions of Eugene Henard. Carnier's contributions were the separations of functions (zoning of land use) and the considerations of circulation, while Henard's analysis of multi-level streets, air traffic in high density city centers, and road designs for maintaining continuous flow of high speed auto traffic obviously affected Le Corbusier's proposals.

The formal characteristics of each part of the total plan is suggested by its functional requirements to create a working social pattern. The unity of the scheme is a social argument, the spirit of the times represented in the building program of functional requirements is now the common denominator of design which was once served by classical antiquity. "Rationalism" becomes synonymous with "Functionalism", not in the sense of structural integrity but that the internal organization of a building (or of a city) is the source of its external appearance. The expression of function is elevated to an aesthetic value.

As has been mentioned before, functionalism in architecture and planning did not have its origin with Le Corbusier. The ancient Greeks are given credit as the first people to take up the problems of beauty in the spirit of contemplative rationalism. Aristotle, we are told, conceived of artistic wholeness as a unity which is unfolded and expanded according to the law of its own nature, an organism which develops from within. If today the program is the organizer of the "within" then the unity of a building (or a complex of buildings) is found in its functional expression.

But it wasn't until the eighteenth and nineteenth centuries that new building types emerge as a result of revolutions in industry and technology, social reforms and the rapid increase in population. The Roman Revival, with its concern for complex public buildings together with the academic studies in the middle of the eighteenth century, in the form of the French "Prix de Rome" competition, is the why and where the idea of building program as a detailed list of requirements first evolved.

To the Functionalist, a building type with specific programmatic requirements implies a standardization of compositional shapes, similar to a Greek temple or a Roman theater. The building is considered in relative isolation and its architectural expression derives from the articulated exponents of the plan. In short, architectural



Centre of Paris, Voisin Plan, 1925, Le Corbusier

form is a "product" of a building's functional "process".

Few will disagree that 1923 heralded a strong message in the publication of Le Corbusier's *Vers une Architecture*. But if one agrees with Summerson, there was nothing absolutely new proposed in *Vers une Architecture* concerning architectural principles nor does it claim to be a theory of architecture. It was "the re-illumination of principles already established", in the light of the present. It is in this conception of the history of ideas that one examines the conditions in America that provided for the embrace of Le Corbusier's "visionary" principles of city planning.

Wherever the origin and whatever the history or its specific adornment and amplification, this idea could find no more cultivable soil than in America. Although Frank Lloyd Wright spoke for a new compositional freedom, producing picturesque effects, his argument was more in dispute with the traditional superimposed Classical doctrine within the teachings of the Ecole des Beaux Arts. However, the seeds for the acceptance of the Functionalist-Rationalist line were planted much earlier than Frank Lloyd Wright's "organic" unity manifestos.

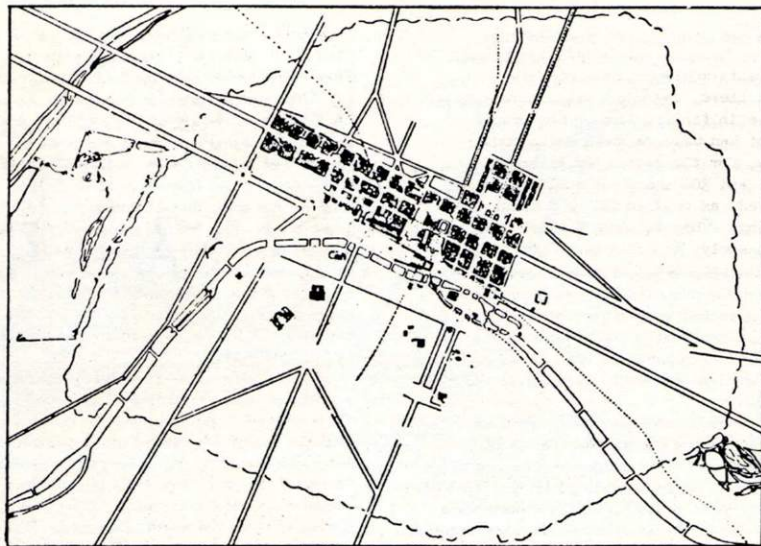
In the first half of the twentieth century functionalism and its non-bias platform, the program, have been elevated from being merely quantitative to qualitative, and achieve, as has been mentioned, the status of value. Functionalism implies a pluralistic system of values. America furnishes the almost ideal grounds for its flourishing.

During the early days of this country's establishment, many of its leading intellectuals were influenced by the architectural literature of England. *The Modern Builder's Assistant* (1742) by William Halfpenny and *A Complete Body of Architecture* (1756) by Isaac Ware were among the handbooks that stressed the building of forms fit for their function.

Thomas Jefferson, Andrew Jackson Downing and Ralph Waldo Emerson, were also early advocates of functionalism. With ideas mostly derived from another eighteenth-century English contributor of functionalism, Henry Home, Lord Kames, Jefferson's concern for art was as a social conditioner of morality. His delight in technical and mechanical devices paralleled Kames', and the respect for the expression of the pure simplicity of the natural laws of the way in which things "worked". To promote human well being, Jefferson propounded the ideas of an expression of "pure" or truth and right in architecture, "accustomed to pure architecture, the mind would relish in time no other, and therefore the more pure the better". (2)

Downing also believed in the moral issue of architecture that of a refined simplicity naturally capable of the beautiful expression of "goodness". Although his books confined themselves to small domestic design principles during the middle of the nineteenth century his ideas influenced a wider intellectual range. His writings fundamentally "stressed the importance of fitness for function and expression of purpose in design".

Emerson also anticipated the viewpoint of the twentieth century functionalist. He confessed at 29, that his interests were more with men and associations than with art and of architecture he "would rather know the metaphysics of architecture... than anything else in the matter". He derived from Goethe a fundamental principle of his interpretation of the mystical creative process: "the idea that the natural world is governed by benevolent necessity". Emerson also saw art as subservient to the material aspects of nature, and architectural form determined by material properties and physical laws. Many of the "slogans" of modern architects such as "honest construction, truthfully expressed" and "form following function" can be heard in the following of Emerson, concerning reason, necessity and beauty:



Schematic Plan, Centre of Paris

Arising out of eternal reason, one and perfect, whatever is beautiful rests on the foundation of the necessary... Fitness is so inseparable an accompaniment of beauty, that it has been taken for it. The most perfect form to answer an end, is so far beautiful... We feel, in seeing a noble building, which rhymes well, as we do in hearing a perfect song, that it is spiritually organic, that is, had a necessity in nature, for being, was one of the possible forms in the Divine mind, and is now only discovered and executed by the artist, not arbitrarily composed by him.

We know that Emerson had great admiration for the American sculptor Horatio Greenough and his thoughts on architecture. In a letter to Emerson, Greenough sketches his theory:

Here is my theory of structure: A scientific arrangement of spaces and forms to functions and to site; an emphasis of features proportioned to their GRADUATED importance in function; color and ornament to be decided and arranged and varied by strictly organic laws, having a distinct reason for each decision; the entire and immediate banishment of all makeshift and make believe.

In his call for America to invent her own forms to suit her own climate and culture, Greenough was concerned with architecture as a visible exponent of the freedom of its civilization. Greenough held the mechanics of America in high esteem, and admitted they had outstripped the artists of the country and were producing works more admirable as having an American aesthetic than the architects. Like Le Corbusier, Greenough saw beauty in the perfected machine, only some seventy years earlier. He defined "Beauty as the promise of function".

The tradition of functionalism in this country had its most generally acknowledged proponent in Louis Sullivan. The importance of the Chicago School in the history of the functionalist theory in American architecture during the last two decades of the nineteenth century is perhaps best expressed in the development of a new building type, the high rise office building. The office building was approached with an open mind, a new technology and a logical treatment to find the functionally best solution.

In Sullivan's publications of "Kindergarten Chats", it is stated that "every function finds or

is striving to find its form" and that relating them is of a systematic professional technique. This is very similar to Eugene Emmanuel Viollet-le-Duc's nineteenth century meaning of a rational architecture, as an architecture in which the logic of the plan dictates the design and where following simple rules govern and expose a buildings "truthful" expression, its function.

Although Frank Lloyd Wright confessed an architect could learn much from the monumental writings of Viollet-le-Duc and was no doubt of great influence upon his own literary endeavors, it was Le Corbusier who brought the ideas of Viollet-le-Duc and the tradition of French Rationalist Architecture to the United States and the rest of the world.

In *Vers une Architecture*, Viollet-le-Duc was reiterated in twentieth century terms, "rational" was replaced by the word "functional", instead of the locomotive we have the automobile, in place of cast iron we have reinforced concrete. Through this most decisive book Viollet-le-Duc had popularly appeared for the masses.

One may argue that functionalism is as old as building itself and responsible for many of the artifacts of past cultures, but "the personality of modern architecture... had its genesis in the 1850's, the formative years of present day functionalism". During these years America as well as France had its spokesmen of functionalism, but it was probably through the more commonly known writings and work of Sullivan and Wright, along with the history of the four sided rectilinear "parti" for town plans and buildings, which enabled America to so easily accept the ideas of the "new architecture".

In addition the exaggerated conception of the functionalist doctrine that building is more of a science than an art was claimed by many contemporary critics of the movement. Siegfried Giedion saw the architect's solution to the practical problems of the modern world as the real issue, while aesthetic questions of secondary importance. This widely shared opinion supported the position of the already quite successful, American engineer, and the view that considered "architecture not an art, as it has been in the past but merely a subordinate technique of industrial civilization. With this, and an economic depression of the late twenties and early thirties, these prudent and quantitative benefits provided the American functionalists a set of circumstances by which they could produce efficient buildings of a pure analytical character with the morally ethical "clean" air of democracy.

The Plan Voisin is the early forerunner of these functionalist principles applied to the existing texture of a major city. It was offered as the new symbol of urbanism replacing the older modes of symbolism which "no longer spoke to modern man; and that, on the contrary, the new functions brought in by the machine had something special to say to him". Its image is of an immediate, absolute and total solution, manifested by the articulation of program requirements.

By contrast, Gunnar Asplund's plan for the Stockholm Royal Chancellery is relative, operating within an existing continuity of context, it acknowledges the presence of the conglomerate multiplicity of functions and contradictory realities of the urban matrix. Although dressed in neo-classical robes during this period, Asplund was not a dogmatist or a rivalist, but an intuitive artist. Despite the fact that each architectural problem was primarily of an aesthetic nature, his conception was also "the logical result of a carefully studied plan".

During the design of the Royal Chancellery competition, Asplund was probably still under the influence of his travels to Italy and his classical studies, including Vitruvius and Palladio. What later, in 1930 attracted him to functionalism was not the theoretical base of the modern movement as much as it was the "undreamed of artistic possibilities". His concern was involved in a search for the logic and truth of architectural solutions, but never where the mere analytical process was subservient to the continuity of visual order within a larger frame of reference.

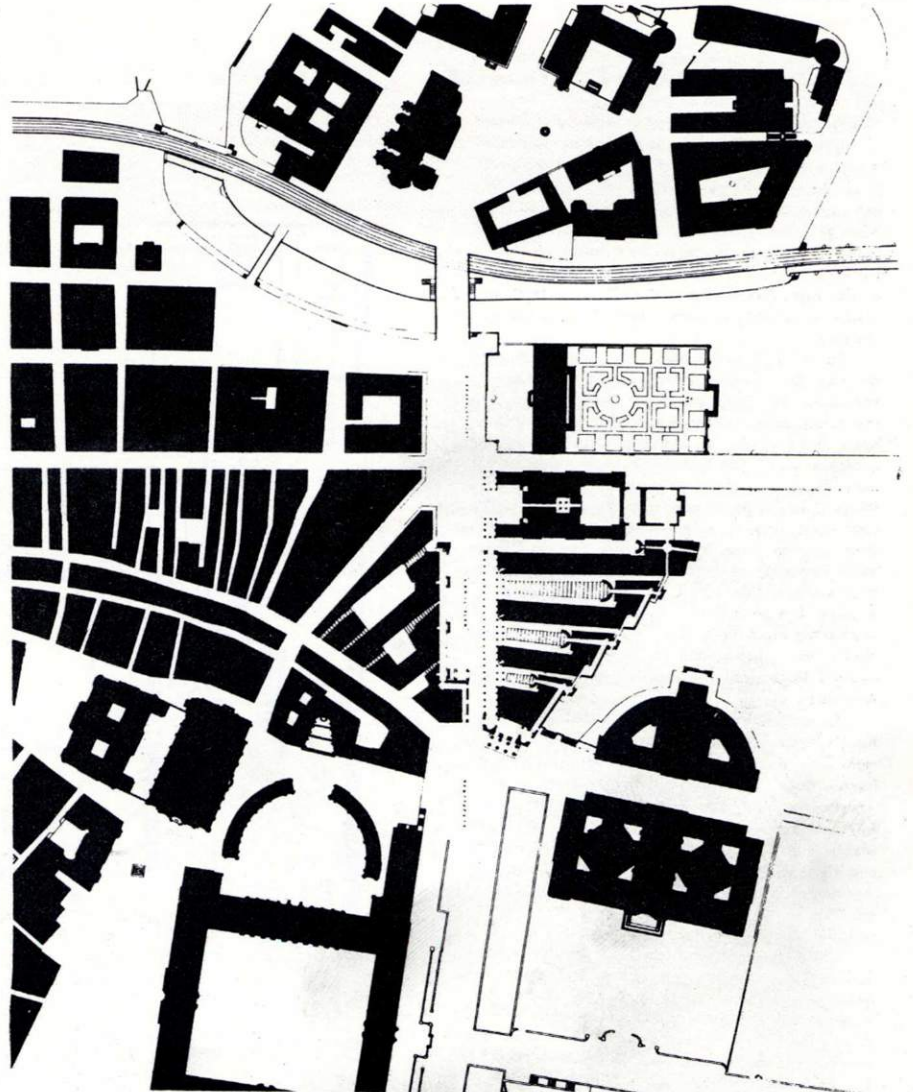
Without sacrificing the plan logic, the existing buildings surrounding the site provided the "necessary" clues for Asplund's compositional arrangement. Therefore, a continuum of space occurs from old to new. The new reinforces the hierarchical symbolism of existing structures and urban spaces while furnishing a method of expansion for the existing city in which growth is an expression of time-depth, variety and cultural richness. It enables a metaphorically human value cross section to exist, the co-existence of the then and now of a particular place. But the method is not one of the maintenance of the status-quo, but the adjustment and clarification of past and current values and ideas, to those within the history of human values and ideas which are always to be found in the physical manifestation of the traditional city.

Greenough's doctrine was a salutary one, but incomplete, for it "failed", as Mumford said, "to do justice to those specifically human values that are derived, not from the object and the work, but from the subject and the equality of life the architect seeks to enhance". The building program in the use of pure functionalism is committed to a standardized set of objectively symbolic building forms without the integration of subjective functions.

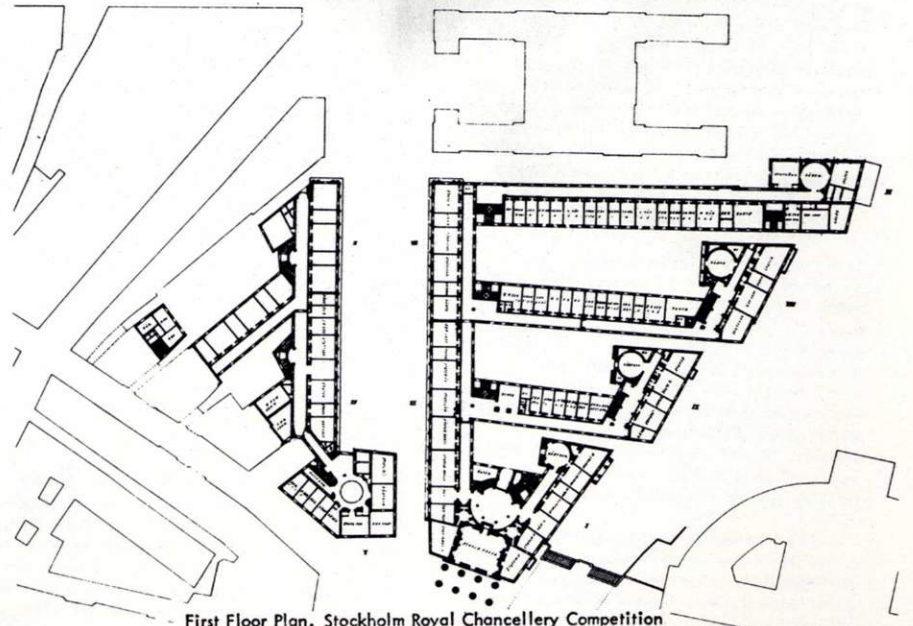
A paradox also seems to exist, for if functionalism (a philosophical source of modern architecture) implies a concentration on utility, and the program (the source of unity in modern architecture) is concerned with the "social sphere", then the proficiency of the program and utilitarian expression would represent human values and their interaction. But, the program tends to generate the calculable individual solids within a city, not the voids, and it is the defined open space which is an expression of public amenity for social interaction, traditionally the street and the plaza.

With Plan Voisin one sees the collective and universal solution, and with Asplund's plan the individual and local solution. The realities of the Plan Voisin ideas are; monotonous, lack essential scale variety and a sense of "place, its image of

continued on page 17



Site Plan, Stockholm Royal Chancellery Competition, 1922, Gunnar Asplund



First Floor Plan, Stockholm Royal Chancellery Competition

## TO SYDNEY AND BACK

Recently, a chance remark during the introduction of Australian architect Harry Siedler topped a host of memories of the period which sent Siedler and many of us off on architectural careers.

Just returned from WW II service in the Aleutians, where the unlikely discovery of Mumford's great Guggenheim grant trilogy made the difference between a Mont-St. Michel and a Devil's Island, I had reluctantly decided against a long wait for Harvard, and, disheartened by a report on the health of Moholy-Nagy, against the New Bauhaus at Chicago, and impatient to recapture lost time, settled on school in upstate New York - home country.

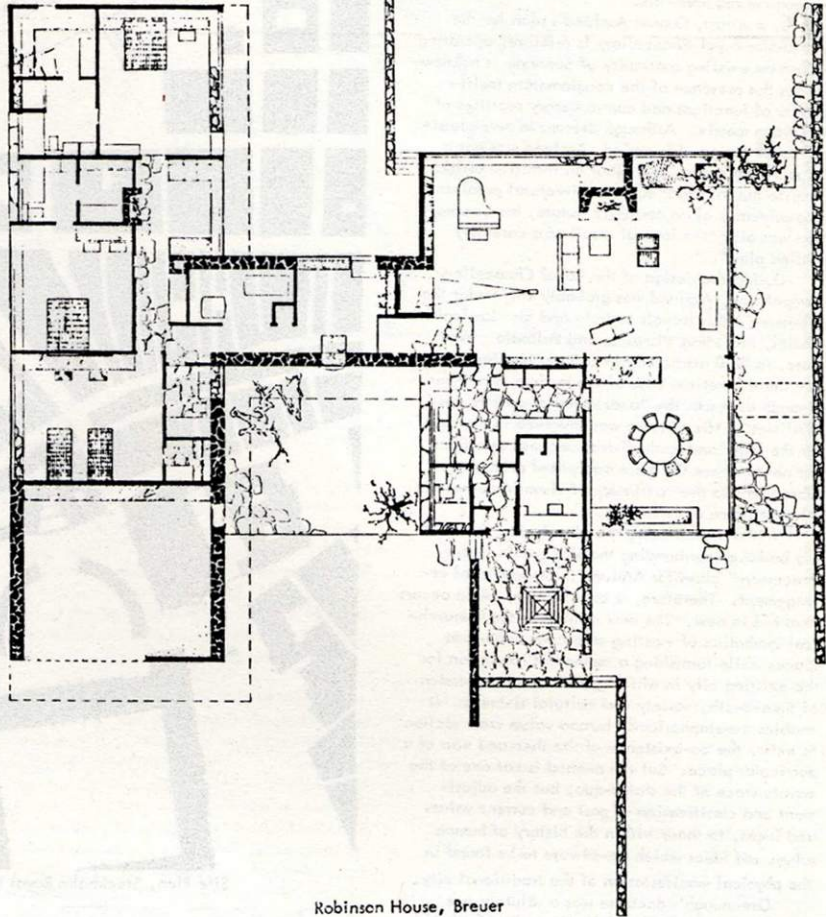
Earlier work had brought some familiarity with the Neo-Plasticism of Mondrian, and with Constructivism and Bauhaus. That, plus Mumford, was the extent of my experience with art and architecture. But architecture at Cornell, just in a former sculpture studio and then in the highly evocative garret studios of Civil War era White Hall, was an exhilarating experience - on the one hand, the romance of American College Gothic, chimes at dusk, English minor fraternity life, Paris and Rome Prize renderings throughout the halls, button-downs and tweeds; on the other, the irreverence of unshaven, Chino-slacked vets working frantically around the clock under the pensive gaze of melancholic tigers, bears, and elephants peering from heavy foliage - mural memories from ancient Beaux Arts balls.

Curriculum was traditional - mornings at lecture, afternoons in studio. Structures in the basement with the grumblings of old WW I pilot Hubert Baxter about "those gyps upstairs"; materials of construction with John Filton, much experienced in American Gothic in Chicago; history with archaeologist Henry Detweiler who, according to legend, met his equally tallish wife-to-be walking down an excavated street of Dura-Europos; drawing and painting with muralist James O'Mahoney, characterizing Mondrian as a good designer of floor tile.

While one continued to hear of washes being run on Greek columns, elsewhere, our early programs were Bauhaus-inspired, but all too rapidly deteriorated into conventional building programs. Among the last vestiges of eclecticism, at the very edge of retirement, still walking the halls, were a few tall, white-haired, mustachioed design professors whom one fantasied as illegitimate offspring of a Sanford White, caught between two worlds. They truly belonged in those old, dimly-lit garret where the sense of other times and other feelings proved so pervasive. Was that why those Beaux Arts mural creatures were so melancholic? (One first knew of Sanford White, not through history lecture, but through the sensationalism of the N.Y. Daily News reviewing the story of his murder by shooting, over a showgirl, in his own creation, Madison Square Garden.)

Other things of the past also prevailed. Frank Lloyd Wright, in an illustrated article, had shown us the proper way to sharpen a pencil (!), and word was passed along from ancient draftsmen on the maintenance and sharpening of ruling pens. One used India ink straight from the bottle, but also experimented with thinned tempera for ruling, and fly sprays were common. For last minute presentations, sketches were floated into illustration board with a vegetable paste squeezed smooth with a triangle, giving the drawing a rich unexpected sense of depth. (Could one forget kicking over one's last pot of paste at 4 a.m. in one's room and scooping up what one could - paste, carpet and all?)

Jury time was judgment time - behind locked doors. Those too nervous to pace publicly fled to the "Straight", to hear the news, good or bad. Later, when the doors opened, the room filled instantly, everyone quickly locating his work in the arrangement by grade - looking first among the gold seats, if one had high expectations; out-



Robison House, Breuer

side them, if not. Top work received such reward with "Ist Mention" scribbled alongside in crayon, or, less often, "Ist Ist Mention". Diminishing grades were M for mention, P for pass, X for unacceptable, and finally, the disqualifying HC for some infraction. All terms and symbols of competition. One had first seen it all on the faded prize-winning renderings on the walls. Occasionally a jury member attempted to sum up, but one had heard all one cared to through those seals and grades - appropriate symbols of elitism, if not of functionalism.

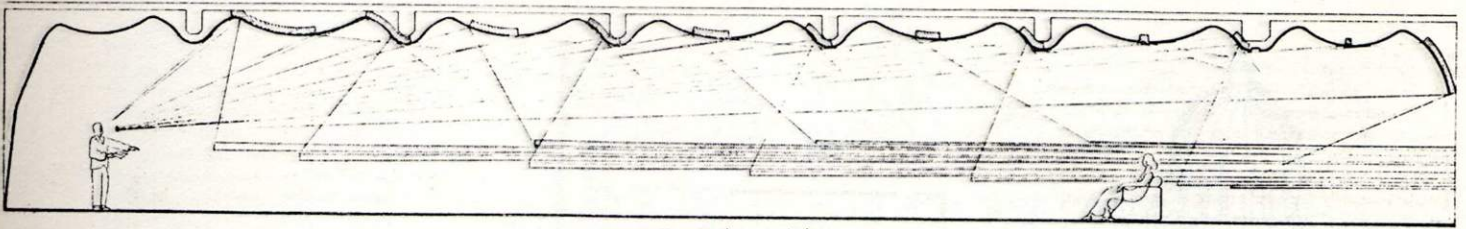
That was the old world again, of juries, awards and prizes - but also of conflicts and bitterness. (One learned much later how Le Corbusier's entry for the League of Nations Competition had been disqualified because of the ink used!)

Giedion's monumental "Space, Time and Architecture" had been available for a few years and one clasped it like a Bible. Perhaps because while one knew this was supposed to be the New Movement, one couldn't quite find it in the studios. Richards' first American edition of "Introduction to Modern Architecture" had just appeared, as had Wittenborn's "Documents of Modern Art" (FLW, Sullivan, Moholy-Nagy, Mondrian, Kandinsky), the MOMA Studies on Breuer, Calder, and Mies,

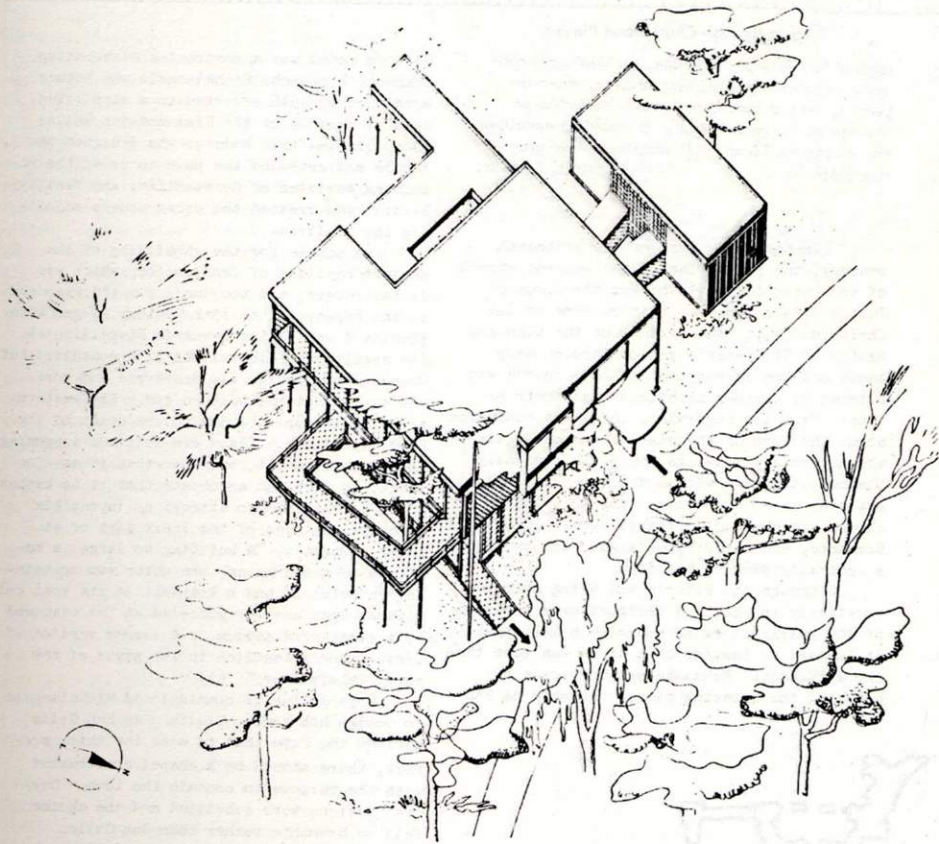
and Hitchcock's Wright. Alfred Roth's "The New Architecture" prompted weekly visits to the school library to study a library in Viipuri (Who was A. Aalto?), and the Japanese Pavilion at the 1937 Paris exposition by Junzo Sakakura.

One browsed in the Architectural Book Publishing Co. in New York in the W 40's and found Ser's "Can Our Cities Survive?", and Gropius's "Rebuilding Our Cities". Graphic Standards was but an inch thick, and the Oeuvres Complete numbered four (Who is Le Corbusier?) Alvar Aalto was teaching at MIT (one heard this much later, after Aalto had become known to us), and Gropius and Mies had already been in the country since the late 30's. One knew something about Gropius through the Bauhaus, but Mies would not be so well known until the publication of Johnson's book shortly. Soon after, it would show up on Sunshaft's board at SOM, and a small cadre of devotees would move through the studios uncannily like the figures in a Mies rendering.

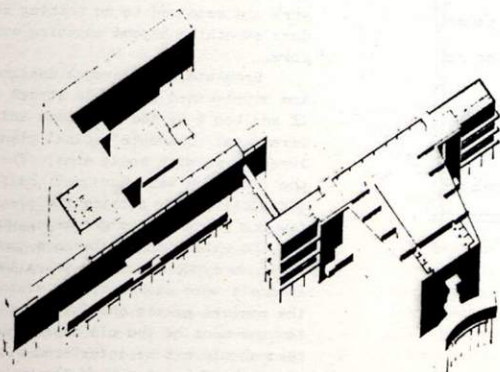
The phenomenon of the Visiting Critic was not to appear for a few years. Gropius came to lecture, and talked of reason and human values. (Q: Are you going to hear Gropius, tonight? A: Who's Gropius?) Ozenfant (silver hairwash, blue eye shadow) showed slides of current work (bloody red? and intestinal looking). Burly Nat



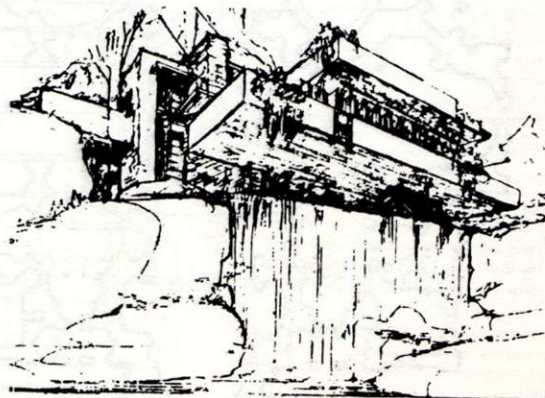
Viipuri Library, Aalto



Japanese Pavilion, Sakakura



League of Nations Competition, Le Corbusier



Falling Water, Frank Lloyd Wright

Owings chatted with an intimate circle of upper-classmen sitting around the edges of a jury room and Mike Harris described the long night-time process of translating daytime sketches and discussions of the international committee of architects designing the U.N. (The Russians took charge of stairs, and Le Corbusier, by now paranoid in America, accused Harrison of the U.S. of stealing his missing notebooks).

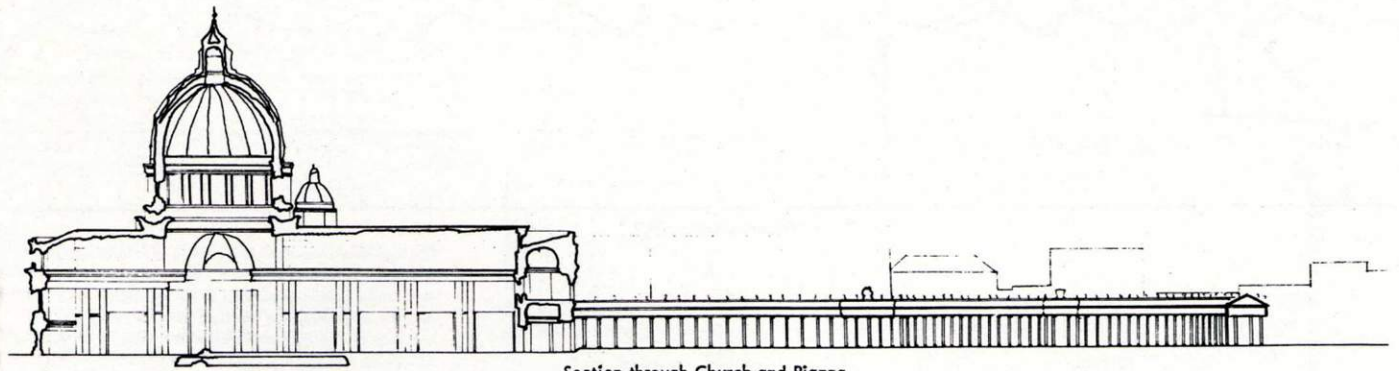
In a few years, students would be working with Johnson, Rudolph, Fuller and other celebrities. The lecture would soon become the drafting board.

The optimism and hope of the Modern Movement, interrupted by the War, managed to revive in the years following. There was a sense of Spirit and Style. Resistance to the system (particular if identified with the past) ran the gamut from high comedy and near-pranksterism to satirical social commentary - from Hugh Troy's X-rated ice sculptures and Rockefeller Center street excavations to turmoil at ROTC reviews at the sight of a contingent of mop, broom and T-square wielding veterans, in perfect and deadly serious formation approaching the review stand accompanied by roof-top recordings of Hitler and Mussolini speech-making - all the more biting knowing that the "troops" had just returned from service as senior officers.

Gentler, and less disruptive, was the strange snake-like apparition fashioned of wire and cloth-eighty feet of sinuous form weaving in and out of lobbies, corridors and lecture halls - traditionally making its appearance each St. Patrick's day, accompanied by a mob of green-stained hooligan like figures, led by whip-yielding St. Pat himself.

One left school with certain building images indelibly printed in one's mind - the most powerful being the Bauhaus at Dessau, perhaps because of its logical, intelligent sorting out of functions and their direct expression. There was also Asplund's monumental crematorium, the astonishing anticipation of modern principles in ancient Japanese houses and temples, the geometry of Wright and Neutra, Rudolph's earliest houses, the Architects' Collaborative, IIT.

And then there was the exoticism of Breuer transplanted to Australia by Harry Seidler.



Section through Church and Piazza

Commentary on Peter Ching's submittal of Development History of St. Peter's, Rome in fulfillment of Assignment number one, Architecture ARC 602: Design Methods

Within the context of Design Methodology or, what I would like to articulate as organizational and working techniques for Architecture, attention must be paid to change in state of observable systems. History, or the record of a change in state over time functions gives the architect a broader theoretical and implementative base for: parti types, siting, appropriateness, and time/place geometries, and most importantly, the security of the continuity. This type of Historicism leads to timely innovation when coupled with the basic principals of design, not to revivalism out of subjective response only.

The assignment was to develop the changes in state, over a protracted period of time, of an artifact, a building, a Movement, etc.

Peter's submittal meets the requirements of the assignment in a visual and rhetorical way. It responds to the design necessity of particular periods in time in an architectural as well as a cultural way. There is organization, clarity, and legibility about the work, rendering a familiar object (building) more familiar and comprehensible. It, the submittal, speaks of two architectural issues, both the efficacy of the parts and the syn-

ergetic integrity of the whole. It reinforces analytic and drawing skills that become, when repeated, second nature and wholly desirable on the part of the professional. It would be excellent and altogether ideal if all architects were practicing scholars.

-Kermit J. Lee, Jr.

In the early part of the sixteenth century, the rebuilding of the central church of the Christian world became the focus of Julius II's attempt to restore Rome as the Christian City. The history of the plan and design of St. Peter's passed through many hands and the development of this church was altered by various architects and their patrons. From the beginning, there was confusion about the form of the plan. Some early sixteenth century drawings implied a centrally planned structure with a domical crossing; but many more showed plans for a basilican church attached to a central core. Julius II, Bramante, and later Michelangelo all preferred a centrally planned building.

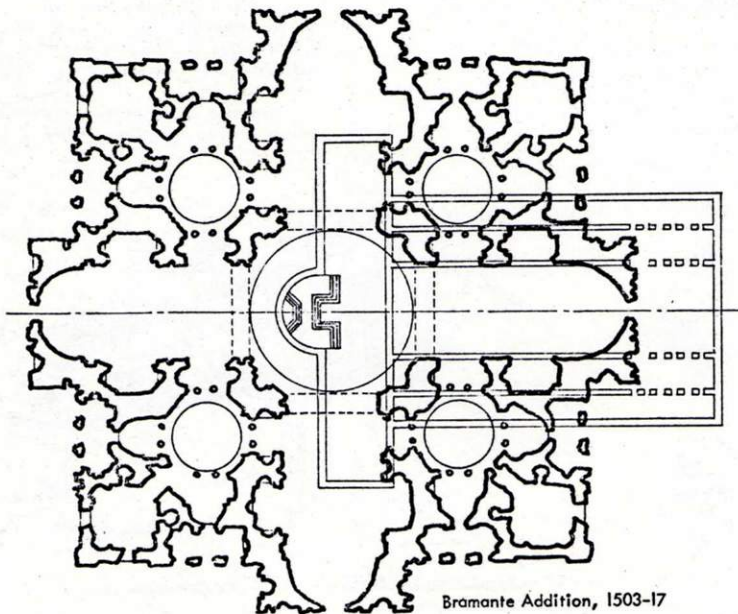
Although St. Peter's was being modified constantly in size and designed over a period of 100 years; it is so cohesive a unit that it is hard to imagine that there was more than one architect. Bramante set the scale by building the crossing piers. Antonio da San

Gallo's model was a compromise elaborating Bramante's church; Michelangelo who became architect in 1546 reverted to a simplified, central version of the Bramante-San Gallo plan. It was then Maderno who designed the facade and extended the nave to cover the remaining basilica of Constantine; and finally Bernini who created the urban spaces adjoining the basilica.

The scheme for the rebuilding of the ancient basilica of Constantine, which was in bad repair, and too small for the grandeur of the Papacy in the 15th Century, began with Nicolas V appointing Bernardo Rossellino as the architect. Alberti was also consulted but Rossellino's design was preferred and work was started at the western end. The western apse was uncompleted due to the death of the Pope, Nicolas V. Plans are lost but supposing Vasari had seen it, and describes it as, "so large, so rich and so ornate that it is better to be silent than to attempt an impossible description, even of the least part of it." Later he states, "A building so large, a basilica of seven naves; the outer two containing chapels: it had a transept at its west end with an apse and was preceded at the east end by a cloistered atrium...A larger version of Constantine's basilica in the style of the early Renaissance." (1)

Pope Julius II commissioned Michelangelo to design his tomb. Giuliano da San Gallo advised the Pope that to make the thing perfect, there should be a chapel constructed with the purpose to contain the tomb. Several designs were submitted and the choice fell on Bramante rather than San Gallo. Julius II's ideas went far beyond a chapel and he resolved to carry out the intention of Nicolas V and build an entirely new church. Bramante was commissioned to design the new church. He destroyed Rossellino's work and resolved to do nothing common; to dare something beyond anything ever done before.

Bramante made several designs which are represented on medals struck for Julius II and Leo X by the goldsmith and medalist Caradosso. Bramante's final plan was a Greek Cross with equal arms. The idea of the long nave was abandoned; half of the old basilica lay outside the plan of the new one (this became one argument of Paul V for the extension of the nave eastward by Carlo Maderno, a hundred years later). Scandals were caused by the disturbance of the ancient graves and Julius ordered that the pavement of the old church which covered them should not be interfered with, except where the foundations of the new one made it necessary.



Bramante Addition, 1503-17

above and below, convenient for infinite rascality, for housing bandits, or coiners, so that in the evening when the church is shut it would take five and twenty men to search for any one hiding there, and they would have great trouble in finding them. The demolition of San Gallo's wall would cost little, for the stones would serve again, and 300 years of building would be saved, as well as 200,000 scudi in building. This is what I think dispassionately, and if you can make the Pope understand this you will do me a pleasure, *che non mi sento bene.*

Vostro Michelangelo, etc. (2)

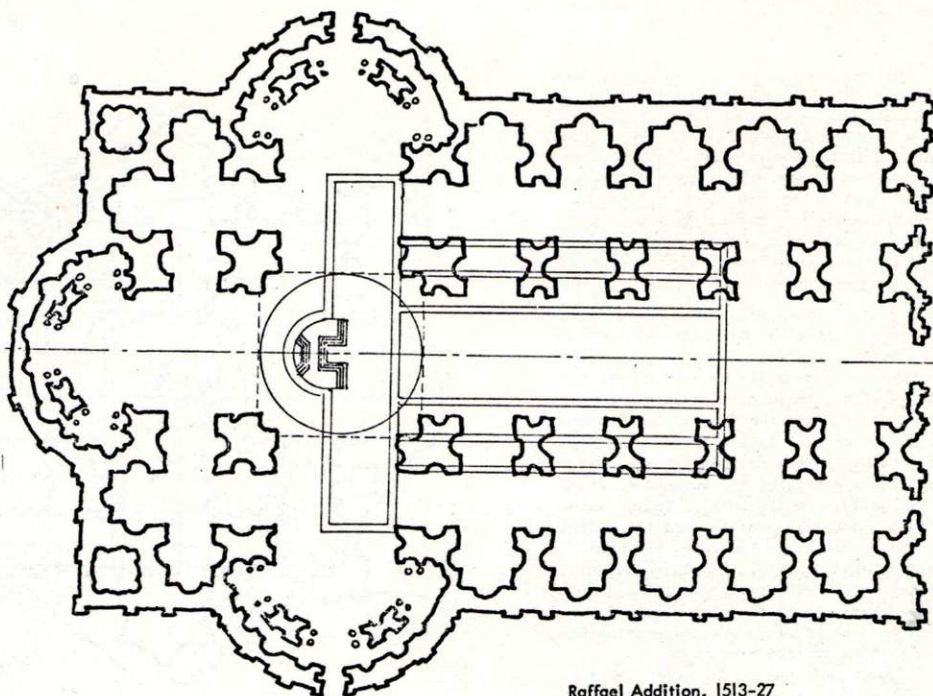
Michelangelo's plan for the church was simpler, more ornate, and more powerful in form. He substituted only one round drum for the San Gallo two tier colonnade, and altered the extremities of the choir and transepts retaining the apsidal plan; but removing the ambulatory aisles around which are all in the preceding plans. What he did was to admit light directly into the church whereas San Gallo's circular wall outside removed the windows to the outer wall of the aisle. Michelangelo made the inner walls of the San Gallo three tribunes his outer wall, destroying the outer circular wall and the ambulatory aisle, and thereby reducing the area of the church.

The facade had a fine colonnade slightly projected in the middle. During the construction of St. Peter's, Michelangelo was in conflict with the *Setta Sangallesca*, supporters of San Gallo. He was thwarted by this group, claiming him old and no longer the great artist he had been. With this hostile feeling he met with in Rome, he thought of returning to Florence to end his days there. In letters written to Vasari he thought it would be wrong to desert St. Peter's. "You know how I was forced to the building of St. Peter's, and it is now eight years that I have served not only without profit but with great loss and pain to myself," and in another letter, "...if I leave here, I should be the cause of the ruin of the building at St. Peter's of a great shame, and a very great sin." (5) Michelangelo was now over eighty years old and too infirm to return to Florence and died in 1564.

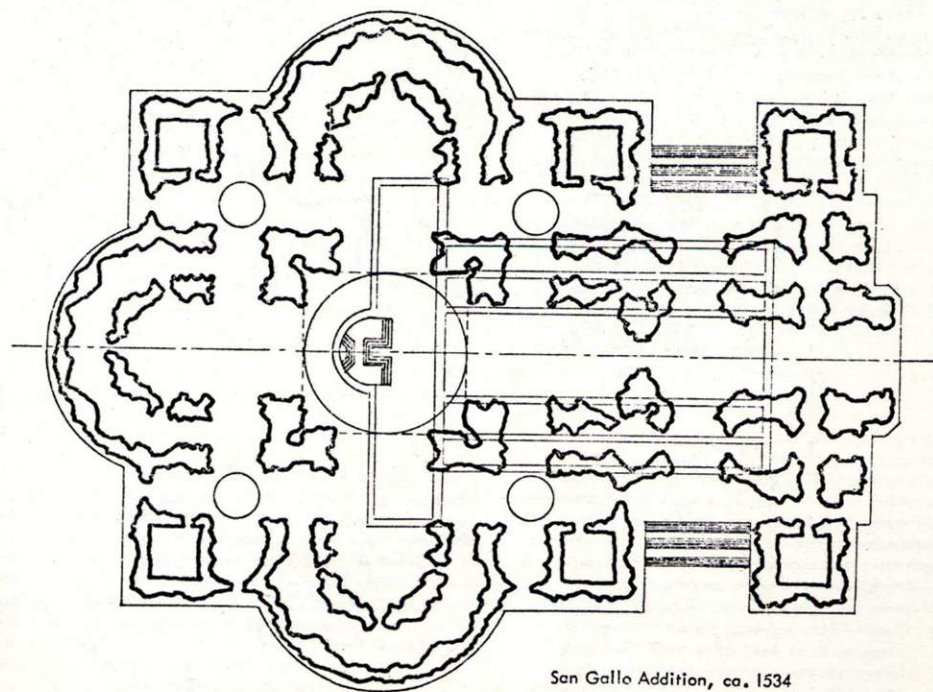
Pirro Ligorio and Bignola were appointed by Pius IV to succeed Michelangelo, but Bignola declined because of his age and an invitation to go and build the Escorial in Spain. They then were ordered by the Pope and told not to depart from the designs of Michelangelo, and Pirro Ligorio disobeying this injunction was discharged.

The state of completion of the church after the death of Michelangelo was that of the body of a church; including the outer walls and vaults, and that of the drum. The dome was to be completed 20 years later during the time of Sixtus V. After his death nothing was done until 1585. Meanwhile the area in the middle of the church remained uncovered, and open to weather; for in the time of Gregory XIII (1572-1585), Giacomo della Porta was employed to put a roof over St. Peter's altar, to protect it from rain.

Sixtus V determined to erect the dome. Della Porta was appointed architect, along with Domenico Fontana. The work was done in 1588 strictly to the design of Michelangelo. It was finished in 1590, when Sixtus V died, except its lead covering and the lantern. The lead covering and lantern were finished a few years later, during the reign of Cle-



Raffael Addition, 1513-27



San Gallo Addition, ca. 1534

The first stone of the new church was laid in 1506, Bramante carried the work up to the level of the cornice that runs above the four great piers and their arches which support the dome, (and according to Vasari, is all that remains of his work). To Bramante however, is due the vast scale on which the building is designed. The gigantic order of the body of the church was 108 feet high to the top of the cornice, carrying a barrel vaulted roof enriched with coffering. His dimensioning that was allotted to the dome, rivalled Brunelleschi's cupola at Florence. His was a dome resembling the Pantheon but surrounded by a colonnade and crowned with a lantern, (Bramante had the intention of using the dome of the Pantheon for St. Peter's). Julius II died in 1513 and Bramante in the following year. The new Pope, Leo X entrusted the work to Giuliano da San Gallo, Fra Giocondo of Verona and Raffaël. San Gallo was old and too infirm and had to retire to Florence, his home, where he died in 1517. Fra Giocondo and Raffaël both died a few years later, in 1520. They changed the plan from a Greek Cross to a Latin Cross but did nothing toward putting it into execution.

Cracks appeared in the great piers which had been too hurriedly built (Julius II's insistence and impatience) and now yielded to the pressure of the arches. They were strengthened by sinking large square wells between them which were filled with stones compacted with lime. Baldassare Peruzzi was then called in. He undid the work of his predecessors and reverted to Bramante's Greek Cross Plan.

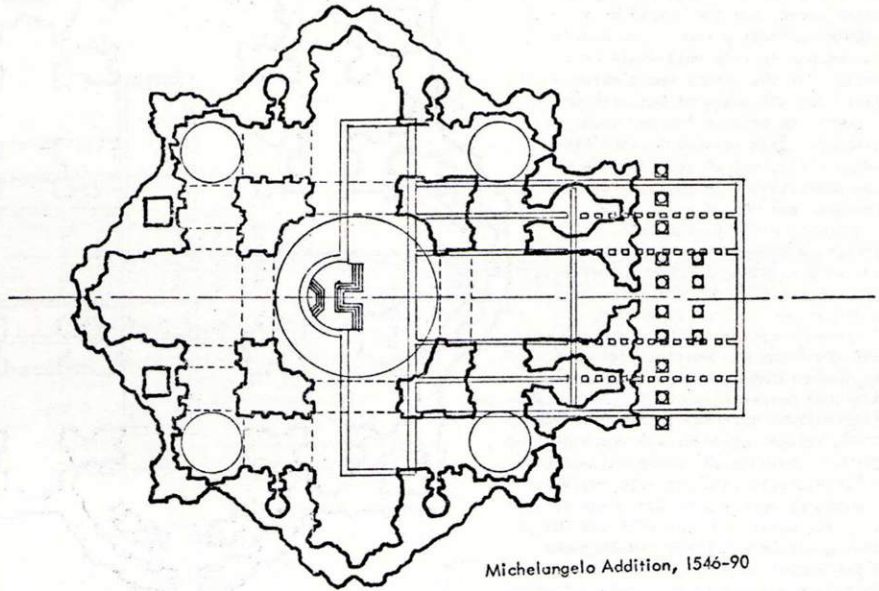
Peruzzi retained Bramante's dome over the crossing and in the corners of the plan between the arms of the cross, he put four sacristies fit to carry campaniles. Leo X died in 1521 and nothing was done during the reign of Adrian VI and Clement VIII. The sack of Rome occurred in 1527 and nothing more was done to St. Peter's till the time of Paul III in 1534.

Paul III called in Antonio da San Gallo, who designed a new St. Peter's. He decided to replace Bramante's facing of Peperino stone with travertine stone. San Gallo's plan retained the Greek Cross for the church proper but added in front a sort of ante-church, separating the main body by an open archway over which the nave roof with a dome was carried to the building, forming the facade. This was flanked by two campaniles, not unlike those which Wren used in London. In the exterior San Gallo has two orders with a mezzanine between them, Doric below, Ionic above and his dome has two stages of colonnades with a lantern, (which people say, its weight would be too great for the supports. Michelangelo stated that it was more Gothic than classic.)

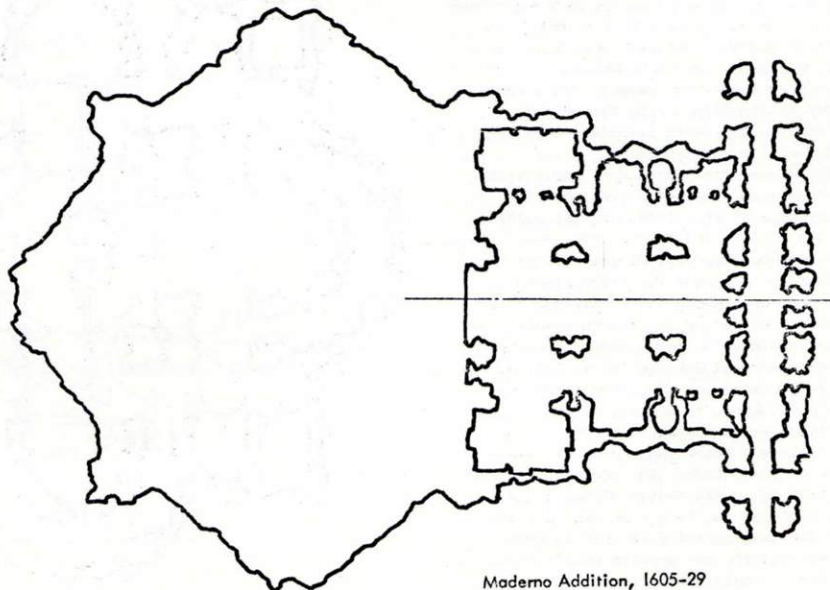
San Gallo died in 1546 and Paul III commissioned Michelangelo with the work, (he was now over seventy years old). He took the commission against his will and determined that St. Peter's should return to the Greek Cross plan, respecting Bramante's intentions. Michelangelo writes to a friend against San Gallo's plan.

Misser Bartolomeo amico caro,

It cannot be denied that Bramante was as great in architecture as anyone from antiquity till now...so that whoever departs from the design of Bramante, as San Gallo has done, departs from the truth. He with his circular wall shuts out all light and...causes many dark and secret places both

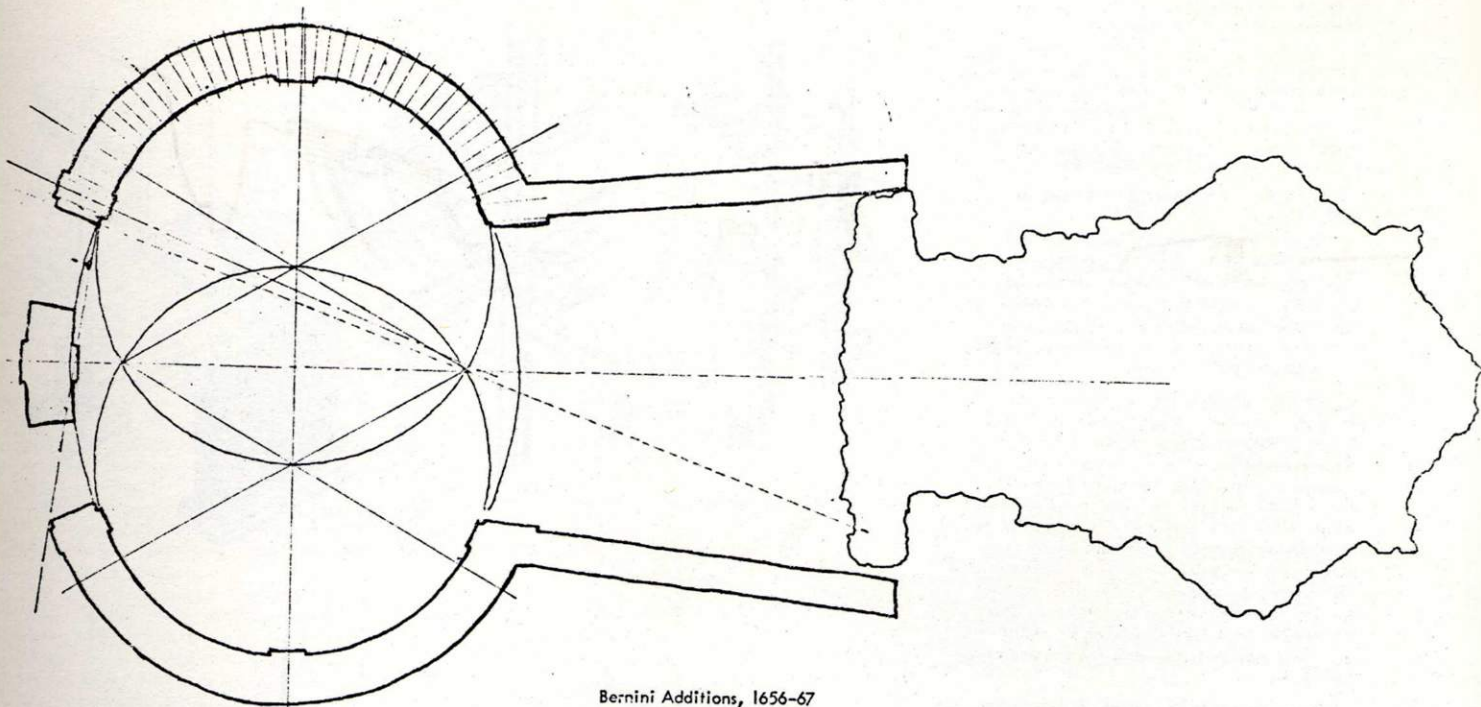


Michelangelo Addition, 1546-90



Maderno Addition, 1605-29





Bernini Additions, 1656-67

ment VIII, who died in 1605.

In the time of Paul V, (1605-1621); it was found that part of the old basilica of Constantine was still standing (western end, the greek cross plan of Bramante only occupied part of the long church so that at this time, the rest of the nave with its aisles and many chapels still remained as far as the eleventh bay of the colonnade from the entrance). This part was found unsafe, stones fell, and architects were called in to advise on the matter. They concluded to pull down what was left of the old basilica and carry the nave of the new church up to the front of the eastern end.

Carlo Maderno was appointed architect and the first stone was laid in November of 1607 and the whole was finished as we see it now, in 1614. Maderno found the building without its eastern apse and facade. After the Protestant secession and the Counter Reformation the basilican form of Constantine's church took on a new historical and symbolic importance in the late Cinquecento and the Latin Cross became a dominant form. A central church, modelled on ancient examples seemed 'pagan'; moreover people thought that it would be sacrilegious to leave any of the ground under Old St. Peter's uncovered by the new church.

Maderno's facade evolved from Santa Susanna. The same progression from an outside bay without openings, framed by pilasters, leads to a bay framed by columns with more articulation and decoration and then to a central pedimented element standing on the forward plane, is seen in Maderno's facade. He later adds two campanili to the design in 1612-1613, to end the facade. These towers were never completed and this tends to change the proportions of the facade. He designed the nave with the concern of the existing structure in size and articulation. In order to keep something of the original centralizing plan, Maderno made the nave higher and wider than the older arms.

Pope Alexander VII announced his proposal for developing the Square of St. Peter's

in 1656; the Congregazione della Fabbrica San Pietro, the committee of cardinals, responsible for administering the project chose Gian Lorenzo Bernini. Through several submissions Bernini was able to go ahead with the building of the urban spaces for St. Peter's in 1657. The piazza has an oval area with a single focus at the obelisk, and is stressed by the radial pavement design. He used quadruple rows of Doric columns enclosing the space and creates the icon of the enfolding arms of the church. This final phase of development of St. Peter's brought the whole scheme of the new church and its surroundings to a conclusion.

## SUMMARY

- 1506 Bramante planned a Greek Cross and destroyed half of the old basilica.
- 1514 Giuliano da San Gallo, Fra Giocondo and Raffaell made plans for a Latin Cross plan but they could not have carried their proposed long nave into execution. (done very little but the strengthening of the supports).
- 1520 Baldassare Peruzzi returned to the Greek Cross Plan but had no time to do much; for the Pope died and the work was suspended in the year following.
- 1534 Antonio da San Gallo new plan was partly carried out so far as to build his external "circular" walls around the apses.
- 1546 Michelangelo appointed. Fixed the cornice on the great order of the nave and over the dome arches; pulled down San Gallo's circular walls; reverted to the Greek Cross plan of Bramante, and built the drum of the dome, (leaving at his death full instructions for the building of the dome itself.)
- 1564 Pirro Ligorio and Vignola: did little beyond refacing.
- 1588 Giacomo della Porta built the dome of Michelangelo. Remained unfinished at the death of Sixtus V in 1590.
- 1605 The lantern and the lead covering were finished by Della Porta for Clement VIII.

- 1607 The rest of Constantine's basilica was pulled down; new church extended over its site by Carlo Maderno and the whole church was completed in 1614.
- 1655 Bernini's oval colonnade, until 1617.

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## FOOTNOTES

- 1 Vasari, Giorgio, *The Lives of the Painters, Sculptors and Architects*, volumes 1-4, Everyman's Press, London, 1970.
- 2 Jackson, Sir Thomas Graham, *The Renaissance of Roman Architecture*, Cambridge University Press, London, 1921.
- 3 Vasari, Giorgio, *The Lives of the Painters, Sculptors and Architects*, volumes 1-4, Everyman's Press, London, 1970.

A small industry prepared by students in Professor Olney's design studio.

Both a building and the design process that produces it can be viewed as an assemblage of several smaller systems that overlap, complement, interweave or in some way respond to one another. This was one of the early premises from which Professor Olney's section developed their designs for a small industry.

The intent of the program was to make a building that provided for the manufacture of a specific product and explained itself to visitors who were curious about the process. Provisions for the staff and visitors included restaurants, slide rooms, living quarters, and places for sales, concerts and product display.

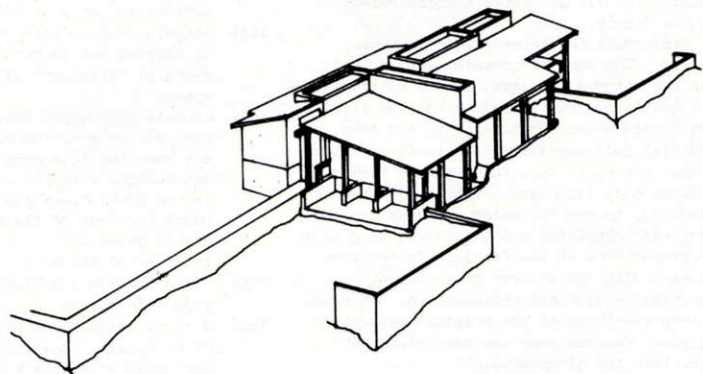
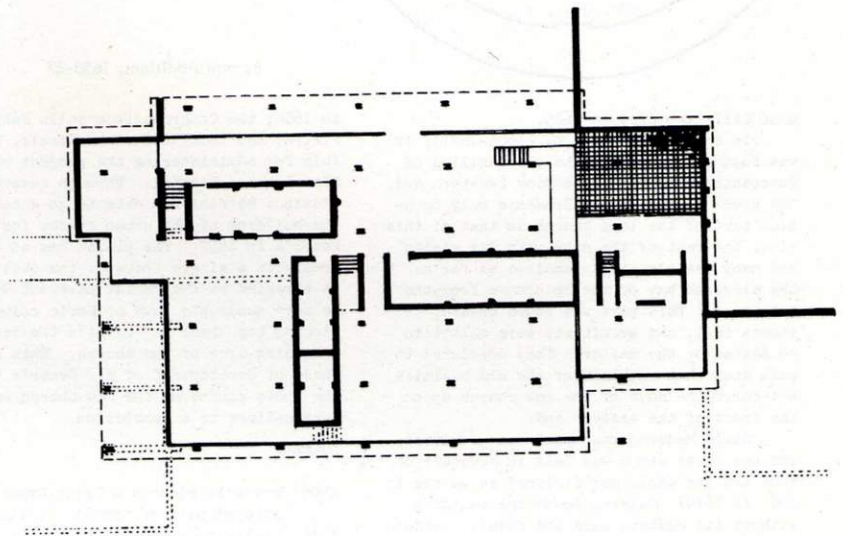
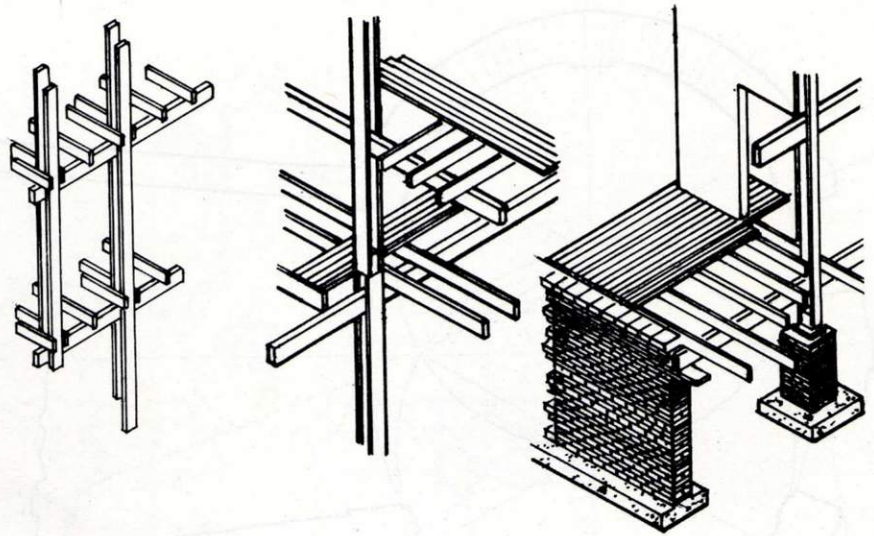
The design process began with an analysis of the systems of construction that would be used. The building process required the integration of three construction systems: masonry wall, wood frame and infill. Choices which were available within each, for example brick, block or poured concrete for walls, produced a variety of building types and encouraged comparisons among them. The class investigated the range of structural conditions that their systems would allow, such as level changes, cantilevers and closures. After drawing the possibilities, six-boy structural models were built as further practice in integrating the systems.

Simultaneous with the structural investigations, research was begun on the production process. Each student selected a product that could be manufactured with a staff of no more than twelve and wrote a program that explained the history and background of the product as well as spatial requirements for making it. Programs included: pottery, sailboats, hatchery, race cars, diesel engines, acoustic guitars, glass, chess, jewelry, maple products, honey, bread, paper, weaving.

Since the building systems and manufacturing operations were being investigated simultaneously, spaces that were determined by the manufacturing program could be conceived within the building framework. Even at this early stage the advantages of a design process that integrates independent systems into a whole unit were being realized.

The site was a steep, southeast sloping portion of Thomson Park. Access was from the uphill side, making the approach to the building, parking and entry a difficult design problem.

Partis developed through the combining of all the assembled criteria, blending and interweaving functions, and exploiting every element to its fullest. Final presentations included a structural model, floor plans and an interior perspective. The model was to be based on preliminary plans, but be a working model in that changes and improvements could be made as problems became apparent. Invariably surprises were discovered on the models that were not evident in the earlier studies. Final plans were drawn upon completion of the model.



## SPAS AND SHRINES: I. Utica

Mid-winter is not the most opportune season for touring Central New York. Nevertheless, the Editorial Staff of the 100's RAG has asked me to introduce a series of local, one-day itineraries. Except for skiers and other hardy types, the Adirondacks and other remote hinterlands might wait for spring, but in the meantime things worth seeing are to be found on well-traversed routes.

If you have not stopped off when driving east, allow a few hours on the next trip, or make the forty-five minute drive some weekend to Utica. We Syracuseans laugh at the nearby city as the upstate headquarters of the Mafiosi. The original *Grimaldi's* is there, and good food also can be had at the equally Italian *Diplomat* motel restaurant, near the Thruway exit. Neither is especially fancy; the former is more of a traditional ristorante.

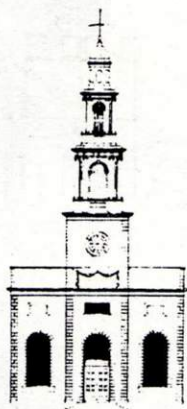
But on to the more serious stuff: Philip Johnson's museum on the main (Genesee) street is the high point, but don't miss the 1850 Fountain Elms house next door — one of the most sumptuous interiors hereabouts!

Utica has turned a movie palace into a community performing arts facility, a good example of adaptive use — take a look. It is almost across the street from the museum.

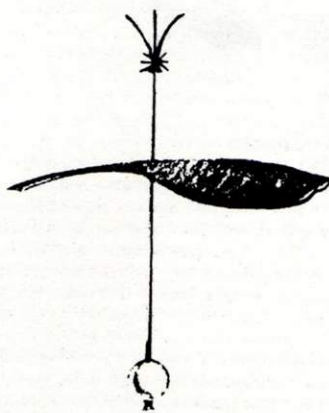
Ask for directions to nearby Rutger Park, an in-town square, center of a historic district. There are several fine houses fronting on the green. Number one is an 1854 Italianate villa by A. J. Davis; number three is by Philips Hooky (1830). The Junior League has acquired a Greek Revival house for restoration in the neighborhood, which warrants a walking tour.

Don't miss the important Grace Episcopal Church by Richard Upjohn (1856) on Genesee street. Go inside. Next door is a bank interior which we did a few years ago. At the time it looked pretty good, with neon mural and all, but I understand that the users have used it, changing colors and otherwise improving the design, so I am wary of claiming responsibility anymore.

The large, fairly new State Office Building nearby is by the Syracuse architects, Huelser-Hares-Glavin. A highrise housing project on the other side of the main street, a block or so removed is by Ulrich Franzen.



Hamilton College Chapel

Hamilton College Chapel  
Weathervane

Perhaps the most important building in town, more significant really than the museum, is the massive Utica State Hospital at 1213 Court Street. This noble Greek Revival structure was built between 1837-43 and is presented in Hamlin's *Greek Revival Architecture in America*.

Not to be missed, for sure, is the West End Brewing Company. The *Utica Club* tours are well known.

For a break from all this serious Architecture-watching: There is a dandy little short-order, soda fountain sort of place on a corner overlooking a public park where everyone in town seems to enjoy a snowy hillside. I couldn't find my way back again. (I was taken there by friends) but ask directions. Also ask anyone about the Mayor — a good conversation opener.

Probably I am missing many things in Utica, like the old R.R. Station, now a head-scratching problem of adaptive reuse. You might find out what is happening on this one. But on to Clinton:

Uticans may resent it, but many people think the best of Utica is in Clinton, a lovely village nearby — really a suburb nowadays. Hamilton College, a distinguished Liberal Arts institution, has been there forever. Its campus has been used for movie-making, so idyllic is it, with stone Federal Style buildings. The 1827 chapel is by Philip Hooker, interiors remodeled by McKim, Meade and White. Ed Stone made a performing arts facil-

ity out of another old-timer (now with raised mansard roof) and Ben Thompson did the Kirkland College (1969) girls' campus nearby. The old 1792 Kirkland Cottage on the campus is venerable, and stop in the Root Art Center, another good Federal House. There is an old inn in the village with respectable food at ditto prices. Look inside anyway. The church across the green is another adaptive use example, now serving as a community art center. An unusual, old fraternity house not far from the green also has been adapted as the village Library. You will enjoy walking around Clinton. It is one of our best Upstate towns.

For those who are "into" old mill buildings, one of the best in the state is to be found nearby, the 1825 Widdle Mill, at New York Mills.

A good guide for further exploration is *Wood and Stone*. A copy probably can be acquired at the museum, is this if your first stop.

## TWO URBAN PROJECTS

totality is unqualified and probably unworkable in a democratic society, while in Asplund's design the opposite seems to be proposed.

Eventually functionalism "had become a highly sophisticated school of thought, with a distinctive vocabulary of simple, geometric forms, of expressive and articulated plans, of clear structures and neat details". However, the ultimate achievement with simplicity of means should not connote the negation of human values nor the discontinuation of the history of civilization within the city. But the literal functionalists are capable of doing just this, for they have swallowed the doctrine whole and believe beauty can be produced by an automatic function-computer, pseudoscientific process.

If architectural design is the art of synthesizing form and function at a certain point in time,

the architect cannot be partisan. The synthesis is temporary, for it is an act in "time". Herein lies the danger of prescribing too precisely a set of articulated and standardized forms for particular building types. The program requirements will undoubtedly change with time, while the form remains, at least under the present methods of construction. Yet, the form could retain its validity if its usage were concerned not only with immediate functions but the less ephemeral programmatic requirements, the expression of the "social sphere", the urban physical context. For as Le Corbusier said, "Building (architecture and city planning) is the faithful reflection of a society". Then, as in Asplund's plan, the street and plaza are reclaimed arenas of social interaction.

We learn from Ortega y Gasset that "man's attitude towards life is apt to find its first expres-

sion in artistic creation and scientific theory". It is the "artistic creation" that the functionalist deny, and the city no longer remains a realistic identification with life.

## Footnotes

1. Le Corbusier, *The Radiant City* New York: The Orion Press, 1967, p.203
2. Glenn Brown, "Letters from Thomas Jefferson and William Thornton, Architect, Relating to the University of Va.", *Journal of the American Institute of Architects*, Jan. 1913, p.14
3. Holmdahl, Lind, O'Deen, *Gustav Asplund Architect 1845-1940* Stockholm, The Nat. Association of Swedish Architects (SAR), 1950 p. 15

Arthur McDonald

continued from page 9

There is a basic dilemma in architecture: how does an architect take his own work seriously and at the same time accept that there are serious, reasonable and likeable people around doing work that is fundamentally different. Even as a student one is forced by the evidence to conclude that either most of the profession is incompetent; or that architecture is not as serious as everyone makes it out to be; that, in fact, nothing makes any difference.

Dealing with criticism is such a pervasive problem that we architects have developed elaborate defenses against it. Architecture schools claim to teach design, but they can also be viewed as academies of architectural self-defense. The tactics have taken centuries to develop and are exceedingly subtle, as they should be, since they defend not only against outside criticism but our own professional self-doubts. The following are some of the more common.

#### The Intellectual Defense

To successfully employ the intellectual defense one must maintain that the profession is full of good intentioned but incompetent practitioners who simply do not know any better. The defense is fairly innocuous, allowing the architect to be pleasant though condescending to his critics, never being seriously challenged by them. It is possible to employ the defense without ever being publicly "for" anything; one need only discuss and criticize on an "intellectual level."

A key tactic in the defense is the use of obscure vocabulary. Properly obscured speech can not only divert conversion from the real issues, but can leave adversaries vulnerable and malleable, it being so difficult to disagree with a forceful argument one does not understand. The novice can practice by substituting alternatives for common words such as sidewalk, door or kitchen. For example "hard-surface pedestrian continuum;" "variable, kinetic, spatial linkage;" and "trimodal, gustatorial, domestic service space. In addition to substituting ambiguous phrases for common words, one can fabricate nouns from verbs and vice versa. One might speak of the "sleepability" of a bedroom or the "slumberness ratio," and one might employ some of the following verbs: de-schemify, solarize, historicate and architecturalize. "The vernacularization of historicated schemata" might be a paper title that is virtually immune to criticism.

The compulsion to obscure vocabulary is almost matched by the ability of those on the receiving end to adopt it as their own. This curious phenomenon within the architectural profession will surely give birth to a distinct language which only architects will understand, if it has not done so already.

A gambit, related to obscured vocabulary, is the obscure reference. The tactic is to illustrate a point with a specific example that nobody knows about. This can be quite disarming to one's adversaries, for one can simultaneously appear lucid, make an audience feel stupid and stifle response. "The subtle transition from public to private in the tepidaria of the Baths of Caracalla," or "the proto-machine symbolism in the Inquisitional torture chambers of central Spain" will certainly divert conversation from design attitudes, if not end it altogether. With practice in the intellectual defense one can progress from obscure references to fictional references, such as "reflection of familial hierarchy in the sitting of the thatched yarks of upper Boluga tribesmen."

One of the stickier drawbacks of this defense, however, is that the user must produce no built work or produce work so obtuse or silly that it be beyond the grasp of general architectural discussion. It is for this reason that one finds many architectural visionaries and critics to be of this defensive persuasion.



#### The Artistic Defense

There is no way to win a debate about Art. This was surely discovered soon after man carved his first bison on a cave wall and has been reaffirmed annually ever since. The "fine" arts by definition have no utility; if so, they become "applied" arts and are not considered Art. Without any particular purpose or reason for existence it is impossible to make a rational or practical assessment of the quality of Art. It has to be a matter of personal judgement and reference. De gustibus non disputandum est! Plato and Aristotle had much to say on the subject too. One wonders whether the concept of "Art" was perhaps not the invention of some clever, prehistoric crafters who got tired of being criticized for unworkable, undurable or uncomfortable products. Anyway, Art is very much with us; it exists outside of the utilitarian, mundane, workaday world; it is pure, timeless and ethereal; it does not need to justify itself; it exists for its own sake. And nobody would deny its value.

Architects of the criticistic defensive persuasion, seeing what an unassailable fortress Artists have constructed for themselves, have attempted to do the same. They assert that the important and worthy concerns of "great" architects should be those which transcend the temporal world. They are composition, harmony, balance, order, form; not utility, economy, structure, material, construction. Indeed the latter concerns may actually impede the designer's progress toward artistic greatness by muddying up the fundamental issues.

In the face of any client criticism the architect can respond with: "I can understand the way you feel, and I do not dispute the veracity of what you say, but there are larger artistic issues involved here, which my special training and skill allow me to deal with. Your criticism proves that you can not fully grasp these issues, so you must trust me and my Art. It is a chance for you to achieve immortality and greatness as a patron of the Arts. If you do not trust me you have insulted my own artistic integrity and maligned a tradition as old as Mankind itself."

This argument will work for almost any criticism, and with it the architect can respond to such diverse comments as: the roof leaks, the maintenance is high, the glass is popping out, the foundation cracked, the layout is inconvenient, it's too big, it's too expensive (never it's too small or too cheap), it costs too much to heat, it's ugly, my

friends will laugh at me, it's boring, it's repetitive, it's not what I asked you to do.

Unfortunately there are, unlike Art, few building types which do not have to perform some function, even mausoleums, memorials and churches. Although the artistic defense has allowed the architect to insulate himself from "worthy" criticism, he is likely to have left behind a wake of grumbling dissatisfied clients.

#### The Religious Defense

The religious defense is strictly speaking not a defense at all but an offense. It follows the admonition that the best defense is a strong offense, and is characterized by the "leap of faith" and a "proselytizing ministry."

The Leap of Faith concedes that the defense is not a rational one. One cannot argue about great Architecture, one must believe in it. But once having achieved this intuitive insight (revelation) into true Architecture, suddenly all the incongruous, inconsistent and divergent pieces of the sensory puzzle that surrounds us begin to fit together. One has a vision of the beauty and harmony that can exist in the world (the Millenium), fostered by Architecture, the mother of the Arts. To those employing the religious defense Architecture is no longer design, construction or even Art; it is a way of life. The Leap of Faith not only provides the architect with a view of "the Good," but it also unmasks the bad guys. They are all around, and they are evil, conspiratorial, jealous people. They work to destroy the goodness and order that the religious group propounds, because ... well ... because that is what evil people do: spread disorder and chaos. This of course is paranoia, but one should remember that paranoia is what others feel; what we ourselves experience is called struggle with critics and detractors.

Hallmarks of the religious defense are many. They include pilgrimages to holy shrines, shrines which are perfect and serve as models for later imperfect designs; disciples who clarify the Masters' ideas; holy relics, sketches by the Masters, models, little pieces broken off or stolen from their buildings; icons, including pictures of the Masters; and their works; reuse of motifs, symbols, alphabet styles - you name it. Scriptures are reread and committed to memory. Mimicry and ritual exist: dress, speech,

buzzwords, drawing style, model building technique. The basis of it all is the conviction that there is only one right way of thinking about Architecture and that people must be helped (trained) to think that way.

Here, as in all defenses, there is no possibility of rational dialogue. Unlike those previously discussed, however, the religious defense is not simply concerned with self-protection, but promotes the coalescence of like-minded architects, actively seeking converts. Conversion is a central theme: either one believes and is within the fold, or one does not understand and is an infidel. To the infidels the whole operation looks a little bizarre. It is because of the need to proselytize that one discovers so many architects of the religious defensive inclination writing and teaching.

#### The Jokester Defense

Sometime in the last 100 years or so a clever architect noted the impossibility of analyzing and criticizing wit. (Actually Architecture probably copied a similar movement in Art.) Making the connection to his own field, he determined to make witty buildings, or at least conduct a witty defense of his buildings. The jokester gambit was a stroke of genius, allowing the architect to design imaginative, controversial, weird buildings and not subject himself to any serious criticism. Serious criticism missed the mark because the building itself was not serious; witty criticism could not be taken seriously. It was Catch 22.

In the past half century we have seen colliding geometric shapes, mimicry, satire, allegorical allusions, buildings shaped like animals, like machines, like billboards, like ice cream cones, materials used in improbable ways, seemingly impossible structural situations. The catch words for this are: fun, enjoyment, frivolity, playfulness, gaiety, surprise, delight, bold departure, humor, youth, eccentricity and a legion of others, that are so well known.

This is a popular tactic, and why not, it works.

Would anyone argue that architecture should not enrich our environment? Would anyone say that wit and humor are superfluous? There is ample opportunity to confront this defense with guest speakers and in journals, but it hardly seems worth confronting. The buildings are entertaining to look at. The owner or occupant of last year's joke may feel a little differently, but as usual that is his problem if he does not have a durable sense of humor. In addition to the occupant tiring of the joke, the joke must wear thin on the architect as well, long before the building is even a schematic design. It is doubtful that any architect sincerely regards his work as humor, which is the ultimate punch line. The jokester defense is a put on.

#### The Scientific Defense

In the hands of a skilled practitioner the scientific defense is formidable. It is related to the intellectual defense and takes many forms, but the basic premise is always ... "this is not an arbitrary decision but one arrived at by scientific research and analysis." The implication is that the research and analysis are too complicated to understand, so only the conclusion is given. The conclusion may be anything from the ratio of window to solid wall on southwest facing nursing home facades, to the pattern of carpet in luxury hotels; the more outrageous it is, the better.

To use the defense correctly, instead of describing the analysis which has been done, one describes the credentials of whoever or whatever did it. This invests the premise with a type of diplomatic immunity which gives it the stature of pseudo fact. One simply does not say: "I don't care what the Schenk Institute found in their research on human response to architectural space; I don't believe one feels more protected under a hipped roof." The best one can do is refer to a conflicting report by the Harvard Center of Neurological Folderol.

There are certain fields whose pseudo facts have

achieved special credibility in Architecture.

**Computers:** We have fed all topographical, demographic and geological inputs into a computerized, four dimensional logarithmic use matrix, which has determined that the optimum location for the county little league field is in a peat bog north of town, popularly known as Tick Hollow.

**Psychology:** The subconscious childhood trauma caused in western cultures by white diapers has resulted in an instinctive aversion to soft white surfaces on bathroom walls.

**Sociology:** The life style of the third generation Keltic immigrants requires that the unmarried female family head sleep directly above her stove.

**User Surveys:** 95% of all sports fans in the city when asked have expressed the desire for heated stadium seats, controlled by individual thermostats.

**Economics:** We pushed through the numbers and found that the only financially feasible mix is the integration of luxury high rise apartments with soy-bean storage.

Cataloging architectural defenses is no simple matter. To mention a few that we have yet to deal with, there are:

1. the humble gambit
2. the foreign accent fog
3. the variety-is-the-spice-of-life routine
4. the pragmatist's or prostitute's ploy

And since a goal of any defense is to keep the critics off balance, there is constant research and development going on.

The true Samurai of architectural self preservation, however, will not restrict himself to one of the defenses, but artfully employ a simultaneous combination of them as feints parries and counter thrusts. The integration of defensive systems is so complex that it will be discussed in full detail in a later issue.

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