ETHNIC DOMAIN

Langer continues this argument by asserting that an environment, 'the created space of architecture, is a symbol of functional existence.' The explains that this has nothing to do with convenient arrangement or provident planning. To Langer, the work of architecture.

does not suggest things to do but embodies the feeling, the rhythm. the passion or sobriety, frivolity or fear with which things at all are done. That is the image of life which is created in buildings; it is the visible semblance of an 'ethnic domain,' the symbol of humanity to be found in the strength and interplay of forms.

langer goes on to explain how, because we are organisms, our actions and feelings are organic. Our lives have a metabolic pattern consisting of 'Systole, diastole; making unmaking; crescendo, diminuendo.' There is, as Langer points out, a close parallel between the organic pattern of our lives and the nature of art. 'It is perception moulded by imagination that gives us the outward world we know.' This is how we react to the world and in consequence by virtue of our thought and imagination we have not only feelings, but a life of feeling.' 5

Langer explains how our life of feeling is a 'stream of tensions and resolutions'. In fact, our lives are an interplay of tensions—'actual nervous and muscular tensions taking place in the human organism.' It is because 'art is a symbolic presentation and not a copy of feeling that there can be as much knowledge of feeling projected into the timeless articulated form of a painting, or a stained glass window, or a subtly proportioned Greek temple, as into the flowing forms of music, dance or recitation.'

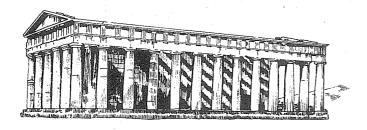
1 lbid., p. 98. 2 lbid., p. 99. 3 lbid., p. 99. 4 lbid., p. 372. 5 lbid., p. 372. 6 lbid., p. 372. 7 lbid., p. 372. 8 lbid., p. 373.

TENSION AND HARMONY

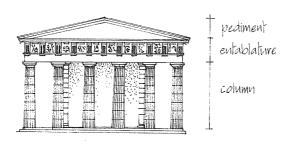
The emotions we experience throughout our 'life of feeling' are translated by the artist to harness the energy of the life situation. As such, the dynamic aspects of life, its drama and excitement combine with those other experiences of peace, sadness, suffering or exhilavation to become part of the artists expressive palette.

The fact that life does indeed consist largely of langer's tensions and resolutions' means that this is central to existence. The pattern of life has much to do with striving to attain goals or accomplish tasks resulting in a feeling of satisfaction and fulfilment. The desire and conditions which are created in order to reach such goals produce a certain tension. Once achieved there is a feeling of contentment.

These energies receive artistic expression in the major themes of tension and harmony. If tension and harmony are major forces in life and art they are supported by secondary forces also everpresent in each, the rhythms of night and day, the rhythmic flow of blood as it is pumped around the body, the rhythm of the seasons. Such rhythms are also interpreted by the artist or composer in ways appropriate to whatever medium is employed.

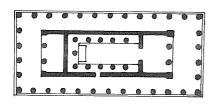


VIEW FROM THE SOUTH WEST



PLAN

EAST ELEVATION



The Thesion Athens 449-444 B.C.

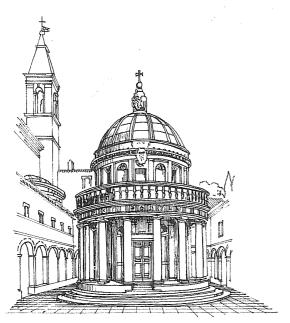
If the overall statement of the Greek temple is one of harmony and unity, this is achieved primarily in the balance inherent in the bi-laterally symmetrical plan.

This unity has within it the opposing tension between the vertical column and horizontal entablature. The composition relies on a powerful rhythmic component with the major columnar rhythm supported by the secondary rhythms of triglyphs and metopes.

The inclined planes of the roof conclude at each end with the pediments, whose oblique planes and triangular formation suggest another kind of energy. As Maurice de Sausmarez has explained, diagonals introduce powerful directional impulses, a dynamism which is the outcome of unresolved tendencies towards vertical and horizontal which are held in balanced suspension. Although somewhat muted in the shallow angle of the temple pediment, this form is as necessary to terminate the composition at its upper extremity as is the stepped base at ground level.

¹ Maurice de Sausmarez, <u>Basic Design: The Dynamics of Visual Form,</u> London, 1964, p.p. 20-22.

PERMANENCE AND HARMONY



Tempietto at S. Pietro in Montorio, Rome. 1502-10. architect Bramante.

With its circular plan the Templetto is a centroidal configuration, maintaining a balance of forces. Centroidal bodies suggest repose and stability whereas linear forms imply activity.

The permanence of architecture gives it a special role as the embodiment of the rhythmic functional patterns which constitute a culture. This permanence makes a special demand on the architect to ensure that the work symbolizes the essence of its particular role in such a way that this can be sustained over a period of time.

The theme of harmony, with its implications of order and unity, is of particular importance to architecture, partly because these issues are preferred symbols culturally but also because the permanence of architecture denies a discordant statement. In this, architecture in general separates itself from the other arts, in which a greater degree of imaginative freedom is possible and in which the strident and discordant note may be acceptable.

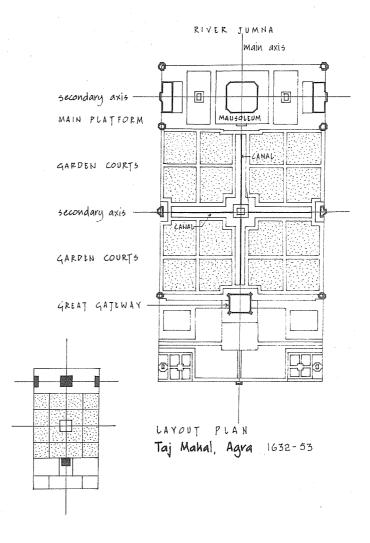
The harmonic theme has been expressed in different ways during the various periods in different parts of the world. The Italian Renaissance displays a concern for harmony in a broad philosophical sense, and the compositions of Bramante and Raphael gave symbolic expression to belief in a harmonious universe. The centralized plan, used by Leonardo and Michelangelo, gave architectural conviction to this idea, whilst the gentle rhythm of the arcade became another manifestation of the serene tranquility of the period.

Although the circular plan is the most obvious architectural device to depict harmony, other centroidal configurations such as the square or polygon may also convey this theme.

One of the most complete statements of sevenity based on a harmonious geometric arrangement is that of the garden courts and mausoleum of the Taj Mahal at Agra. Four large square courts subdivided into smaller squares front the mansoleum which is positioned centrally on a platform at one end of the main axis of the ensemble.

At the other end of this axis is the great gateway with its own entrance court flanked by two more courts. The secondary axes are terminated by appropriate incidents in an almost totally consistent application of bi-lateral symmetry.

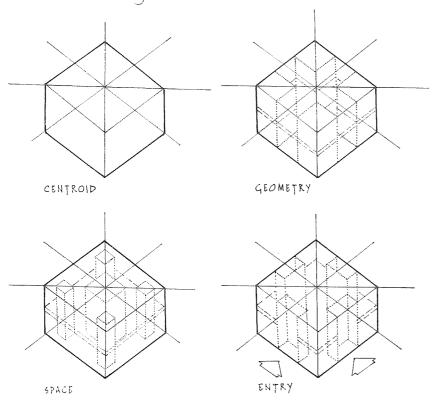
Within the overall symmetry there are subtle contrasts of surface treatment. The hard white marble and rich decoration of the main platform and mausoleum contrasts with the softness of the garden courts, themselves defined axially by the water of the canals. Minarets give vertical punctuation and establish the main space zones.



HARMONY BY GEOMETRY

The design principles used in the design of the Taj Mahal are concerned with mass, surface, geometry and the fact that the plan determines the entire arrangement.

We can relate the design of the mausoleum to a series of design maxims set out by Le Corbusier in his theoretical survey Vers one Architecture.



MA 55

'Architecture is the masterly' (stress on the importance of technique) 'correct' (appropriateness of means, method and solution) 'and magnificent play of masses brought together in light.' Forms seen in light because 'Our eyes are made to see forms in light light and shade reveal these forms; cubes, cones, spheres, cylinders or pyramids are the great primary forms which light reveals to advantage.' 1

THE PLAN

'The whole structure rises from its base and is developed in accordance with a rule which is written on the ground in the plan...

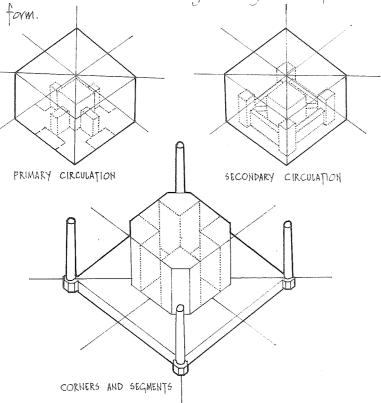
The plan is at its basis. Without the plan there can be neither grandeur of aim and expression, nor rhythm, nor mass nor coherence. Without plan we have the sensation, so insupportable to man, of shaplessness, of poverty, of disorder, of wilfulness 2

GEOMETRY

But in deciding the form of the enclosure... he has had by instinct recourse to right angles—axes, the square, the circle... For all these things—axes, circles, right angles—are geometrical truths... Geometry is the language of man.' 3

1 Le Corbusier <u>Vers une Architecture</u> (translated into English as <u>Towards a new Architecture</u> by Frederick Etchells, London, 1946, p. 31 lbid., p. 46. Ibid., p. 68

In his discussion of form, Le Corbusier is at pains to point out that the geometric laws of any particular form should be the basis for subsequent action. Once these geometric laws are understood the various axes can be traced, the properties of forms depending on whether they are linear or centroidal, static or dynamic can be charted be Corbusier calls these the generating lines of the



GENERATING LINES

'If the essentials of architecture lie in spheres, cones and cylinders, the generating and accusing lines of these forms are on a basis of pure acometry."

SURFACE

'To leave a mass intact in the splendour of its form in light, but, on the other hand, to appropriate its surface for needs which are often utilitarian, is to force oneself to discover in this unavoidable dividing up of the surface the accusing and generating lines of the form!

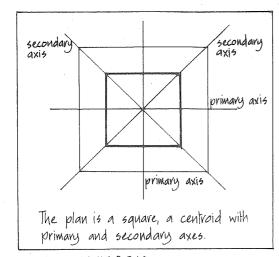
RHYTHM

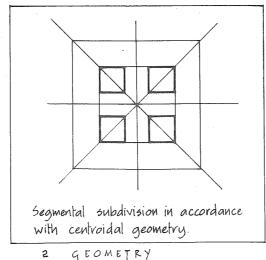
'Arrangement is an appreciable rhythm which reacts on every human being in the same way. The plan bears within itself a primary and predetermined rhythm:.. Rhythm is a state of equilibrium which proceeds either from symmetries, simple or complex, or from delicate balancings. 3

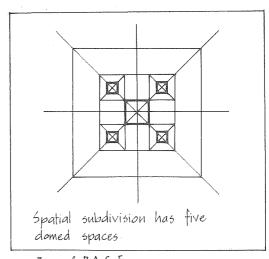
HARMONY
'A profound projection of harmony: this is architecture.' 4

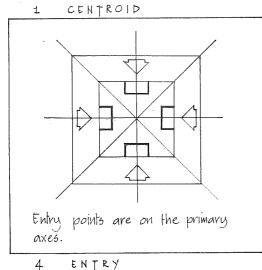
1 lbid, pp. 39, 40. 2 lbid, p.p. 37, 39. 3 lbid, pp 47, 48. 4 lbid, p. 46.

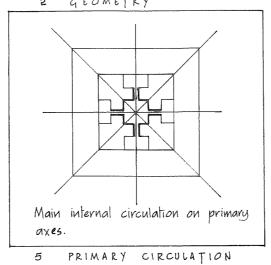
GEOMETRICAL DESIGN

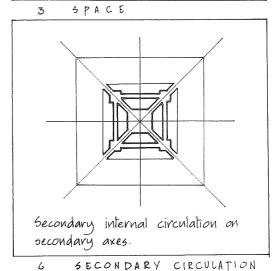


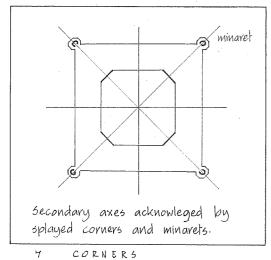


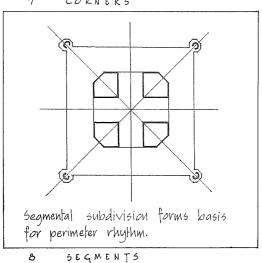


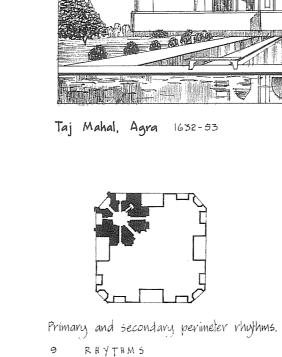


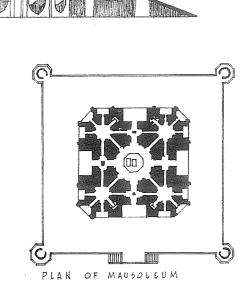








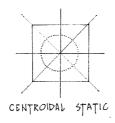




CENTROIDAL STATIC



The Selimiye Mosque Edirne 1560-44 architect Sinan.



The Taj Mahal, built in the Moghul dynasty, uses the traditional motifs and elements of Islamic architecture. Expressed particularly in the mosques, the architectural language of Islam gives physical expression to the Muslim faith by creating a mood of dignity contemplation and tranquility.

The centralized plan becomes a favourite device, along with the courtyard, domes, avoades and elaborately decorated gateways. It is an architecture of form, space, light and surface decoration which relies on a well established code of anthoritative symbols in order to ensure that the buildings are culturally meaningful.

In terms of technique this is an architecture of symmetry controlled by axes. Although the emphasis is on serenity and equilibrium the contrast between the 'soft' domes and rocket-like minavets becomes a powerful device. The silhonette assumes great importance as does rhythmic repetition, whether this be arches in an avcade, a rhythm of windows or of abstract decoration.

Chartres Cathedral (rebuilt 1194-1260) LINEAR DYNAMIC

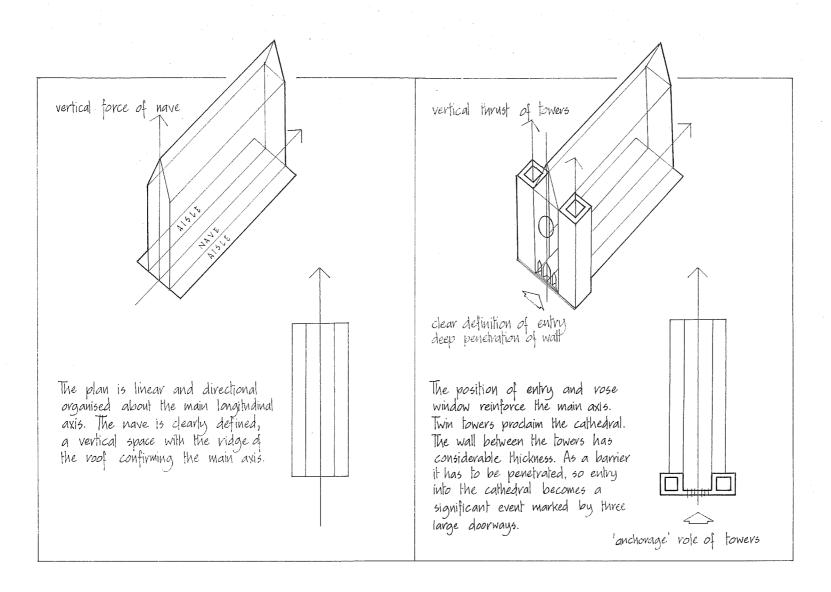
LINEAR DYNAMIC

The western equivalent of this serene architecture of the east is that of the Gothic period as demonstrated in the great medieval cathedrals. In some respects the religious requirements are similar in demanding a contemplative and reverential mood, but the western tradition is infused with dynamism; processional needs change the centroidal into a linear response and soaring verticality charges the interior with a majestic and awe-inspiring statement of the power and glory of God.

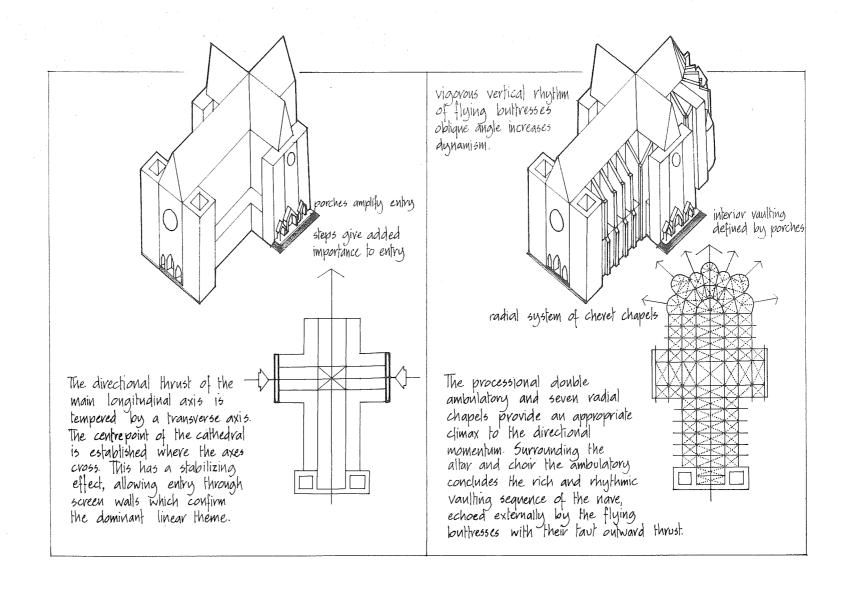
The structural audacity of the high nave vaults with 'curtain' walls of stained glass supported by flying buttresses creates a feeling of tension and energy, sustained by the vigorous repetition of elements both within and without.

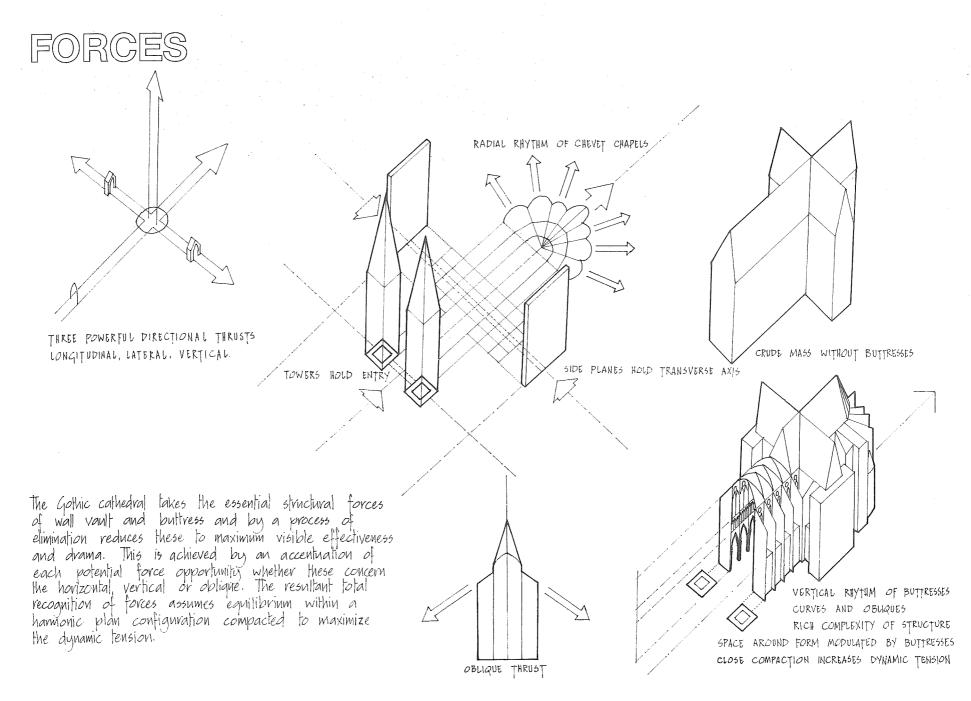
Again axes control the design; again the overall composition resolves its tensions in a state of equilibrium. No less rich or mysterious than their eastern counterpart the cathedrals also rely on a well established architectural language in which form, space, light and decoration convey a range of symbolic intentions.

CHARTRES



DYNAMISM



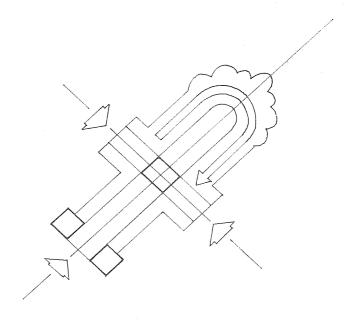


ORGANIZATION

Erwin Panofski has described how the High Gothic style of the great French cathedrals runs parallel to the development of High Scholasticism, and how these two important events in Western culture emanated during the twelfth century from an area less than a hundred miles around Paris.²

Panofski explains how scholars in the twelfth and thirteenth centuries saught to establish the unity of truth. Elucidation or clarification was the controlling principle and for the first time Scholasticism established a logical sequence of division and subdivision in writing so that the reader is led 'step by step from one proposition to the other and is always kept informed of the process. As Panofski points out, this does not mean that Scholastics were more orderly in their thinking than their predecessors but that they 'felt compelled to make the orderliness and logic of their thought palpably explicit.'

This process of clarification and articulation of thought expressed through the written word can also be observed during this period in the organization of pictorial space and in musical notation. It was, however, architecture, with its hierarchy of functional needs, which provided the best opportunity for clear articulation. The Gothic cathedral had an unambiguous zonal distribution of space, with the nave taking precedence over the transcepts and aisles, and the choir and chevel chapels acting as the climax to the nave. Processional requirements ensured that axes controlled the arrangement, and structural needs ensured clarity in the rhythmic repetition of vaults and buttresses.



ZONAL ORGANIZATION OF THE GOTHIC CATHEDRAL

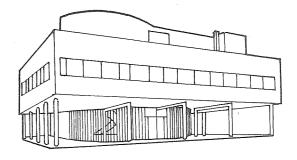
² lbid., pp. 4.5. 3 lbid., p. 28. 4 lbid., p. 34.

COMPLEXITY AND CONTRADICTION

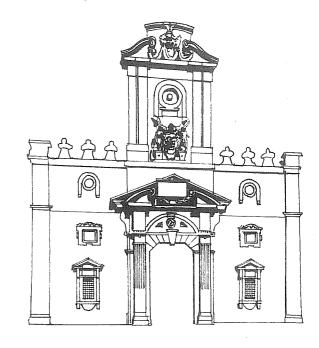
The explicit clarity of the Gothic style may be compared to that of the Modern Movement in architecture, although the modernists, by substituting abstraction for applied decoration, produced far simpler shapes. This approach emerged from a desire to eliminate 'unnecessary' ornament and to rationalize and 'purify' architecture in terms of new technology and the twentieth century zeitaeist.

Typical of this approach is the work of Le Corbusier, whose output during the twenties proved so influential in propagating the modernist credo. Although Le Corbusier relied heavily on an extensive knowledge of the architecture of the past, he became convinced (partly through this knowledge) that to communicate effectively on an emotional level it was necessary to use primary forms.

However, Le Corbusier's influential book Towards a New Architecture (1923) was followed four decades later by an alternative point of view put by Robert Venturi, who argued against the puritanically moral language of orthodox Modern architecture in postulating an argument for Complexity and Contradiction in Architecture (the title of his seminal study). In an attack on the limited reductionist position adopted by many modernists Venturi explains that he likes 'elements which are hybrid rather than "pure," compromising rather than "clean," distorted rather than "straightforward," ambiguous rather than "articulated," perverse as well as impersonal, boring as well as "interesting," conventional rather than "designed," accommodating rather than excluding, redundant rather than simple, vestigial as well as innovating, inconsistent and equivocal rather than direct and clear: I am for messy vitality over obvious unity. I include the non sequitur and proclaim the duality.



Villa savoye Poissy 1929-31 architect Le Corbusier



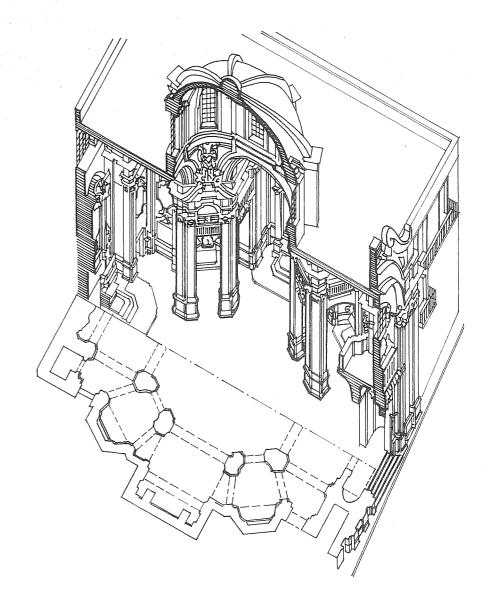
Porta Pia Rome 1561-64 architect Michelangelo

¹ R. Venturi, <u>Complexity and Contradiction in Architecture</u>, New York, 1966, p. 16.

This tirade, directed at the all too evident sterility of modern architecture, is supported by an extensive discussion in which Venturi draws perceptively on examples from all periods, explaining that both Le Corbusier and Alvar Aalto explared complexity and contradiction in their work.

But it is the architecture of the Baraque and Rococo styles which provide Venturi with some of his best evidence. He contrasts the Modern Movement tendency to prefer consistency between internal arrangement and external expression with the difference between inside and out in certain styles of the past. He explains that such contradictions between inside and out result in a tension between inner and outer form: Designing from the outside in, as well as the inside out, creates necessary tensions, which help make architecture. Since the inside is different from the outside, the wall - the point of change - becomes an architectural event. Architecture occurs at the meeting of interior and exterior forces of use and space. These interior and environmental forces are both general and particular, generic and circumstantial. Architecture as the wall between the inside and the outside becomes the spatial resolution of this drama.

Venturi demonstrates this maxim convincingly in his entrance treatment of the Extension to the National Gallery in London.



Church of the Concezione at Montecalvario 1718-24 architect Domenico Antonio Vaccaro

¹ lbid. p. 86.

THE DYNAMIC ENERGY OF FORM

The vigorous handling of form evident in the Baroque and Rococo styles demonstrates the kind of energy that can be generated in works of architecture. Michelangelo's Porta Pia is but one example from his output to display the dynamism evident in his buildings. The expression of muscularity and power is closely related to these tendencies in his sculpture and painting.

This energy is not however confined to earlier periods and twentieth century architecture has often displayed a dynamic treatment of form, as for example in the work of the Futurists, Constructivists and Expressionists. It is nevertheless the work of certain important architects which most clearly illustrates the tendency, including Luigi Morretti, Hans Scharoun, Alvar Aalto and Le Corbusier. Each distributes this energy in different ways and Aalto frequently uses variations on radial themes as a means by which to induce dynamism.

In allo's work the energy is carefully controlled, with forms modulated so as to distribute the energy and at the same time contain it. In the Rovaniemi Libary, a typical Aalto format, the linear elements act as a holding baseline, pulling the form out sideways to house administrative accommodation and the lecture hall and ancillary facilities. In contrast, the reading room fans out beyond this, breaking free of the holding boundaries of the form. Functionally this distinction

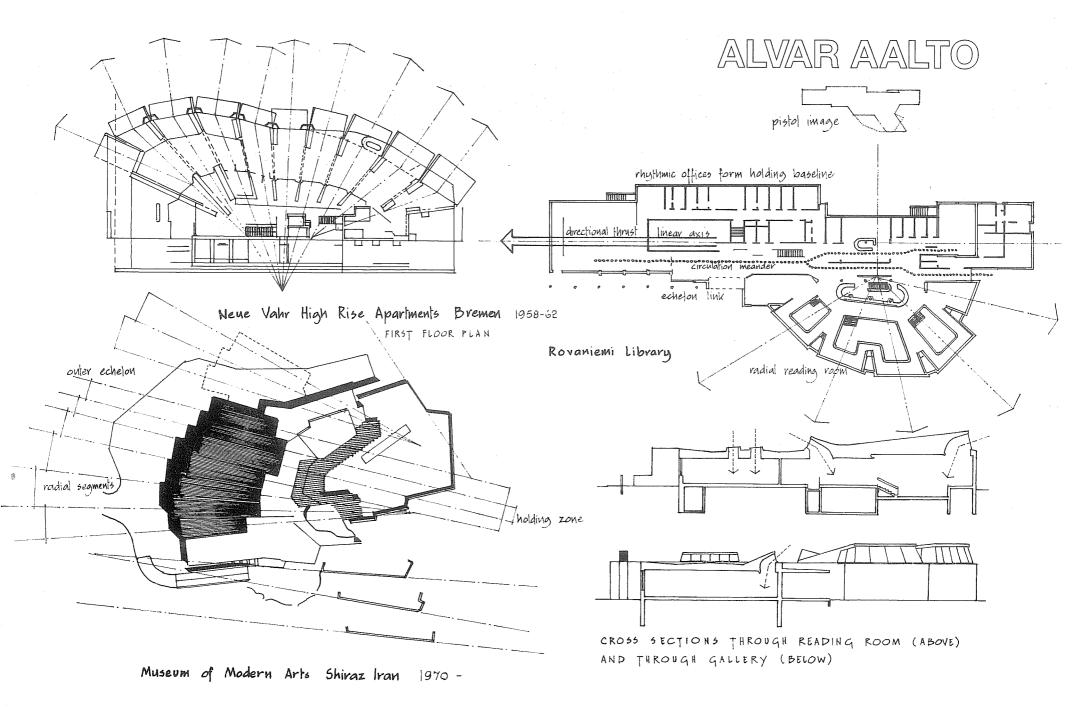
acknowledges the importance of the reading room as the heart of the library and creates a tension between the prosaic linear form and its radial offshoot.

The points where radial and linear conjoin are treated differently at each end, with an echelon at one side and an abrupt stop at the other. This gives the form directionality so that it can be read as pointing like a pistol.

Within the main shapes Aalto creates supporting shapes so that banks of offices become rhythmic sequencies and circulation in the long section reinforces the linearity of the plan, modulating differences between the parts as it meanders alongside them.

The reception desk to the reading room establishes the difference between the two zones by responding to both in its angled shape on plan. This fluency in planning is taken through into the third dimension as the section provides sunken levels, giving greater intimacy in the reading room whilst helping to articulate the radial segments.

Further definition is given by angled light sources which modify the spatial, functional and symbolic role of the reading room.



THE CLASSIC WORK

If we attempt to identify those characteristics that define the classic work, that take it beyond the ordinary, we may outline the following as being present in the major work; 1) a mastery of technique; 2) exceptional composition; 3) an enduring quality; 4) authority; 5) either abstractly or directly, some reference to our experience of life.

Each of the arts deals with these criteria in ways that are appropriate to our sensory apparatus. Music and literature, for example, may nurture our imagination so that we respond to sounds and words by picturing something in the mind's eye. Music, in particular, can directly affect our emotions and its rhythms may be associated with the rhythmic coursing of the blood or the rhythm of the days and seasons. Painting explores the way we enjoy colour, shape and arrangement, whilst the poet might engage subtle areas of meaning that are most readily conveyed by words. Architecture involves all our senses, as for example when we walk through a courtyard with a fountain and trees. We are aware of sounds, shapes, proportions, scale, texture and pattern. We may also be subjected to a series of impressions, concerned with intimacy, privacy, power, wealth or poverty. A courtyard may have historic associations; it may suggest accademia, the church or government.

If we take the above criteria in turn, they have specific implications for each of the arts:

MASTERY OF TECHNIQUE

Although technique may be taken for granted in the arts, an enhanced level of quality may be given to major works by absolute mastery of technique. This implies mastery of the means by which intentions may be accomplished. The composer of a musical score must be familiar with the various instruments to have the necessary control of expression. In architecture such control is associated

with knowledge of materials and constructional technology. The work of a master such as Alvar Aalto is exemplary in the way every detail, from window mullion to door hande, informs the final building.

EXCEPTIONAL COMPOSITION

The major work will be understood as such in part by its arrangement—in music of sounds, in poetry of words, in architecture by the articulation of the various elements. Such compositions may be rich and elaborate as in opera, or quite simple as in some poems and works of art. Because of its nature and life-expectancy, architectural arrangements may tend towards order and symmetry, or alternatively towards a dynamic balance of contrasting elements.

Robert Venturi has shown that architecture can be complex, ambiguous and contradictory. He quotes examples from Mannerist and Baroque architecture in which the level of elaboration sets out to confound the usual expectations. Within necessary limits of comfort, structure and weather-proofing, such strategies impart that vitality which emerges in certain periods as a reaction against what has gone before. This oscillation, from the staid to the lively, from serenity to vigorous dramatisation and even confusion exemplifies the way in which the arts renew themselves in response to changing cultural circumstances.

AN ENDURING QUALITY

This is found in major works in the way that we can return to them again and again, to discover something fresh or to be reacquainted with familiar qualities. In fulfilling

^{*}Robert Venturi, Complexity and Contradiction in Architecture, New York, 1966.

THE CLASSIC WORK

this requirement the major work may be complex or simple. Different kinds of complexity and simplicity create this enduring quality in each of the arts. The orchestral symphony consists of several contrasting but related movements; the novel consists of a series of related chapters. In each case a theme or story unfolds in a continuous linear fashion. In contrast, architecture is usually perceived as a whole, albeit consisting of a series of related parts. These may also be experienced sequentially by movement through a building.

Architecture may be complex, as for example in Richard Meiers Atheneum, for relatively simple as in Bramante's Tempietto. But architecture's practical and symbolic role setdom allows the kind of freedom enjoyed by the painter or musician. It is difficult to imagine an architectural equivalent to the random complexity of a Jackson Pollock painting, although Walts Towers in Los Angeles come fairly close.

Order and clarity are almost always important considerations in architecture. The need to communicate meaning usually demands a consensus architecture in which the familiarity of the language ensures shared comprehension. By this means certain styles persist, whether in civic or domestic buildings. In the sixteenth century, Andrea Palladio evolved an architectural style which has persisted to the present day. The reason for this enduring quality (as found in his Villa Capra) lies in a blend of simplicity and complexity, together with the architect's careful manipulation of the communicative aspect. Palladio creates forms that are simple enough to cause no perceptual difficulties— his forms can readily be understood as wholes— they observe time-honoured architectural canons of order and symmetry, yet are embellished with meaningful decoration in the form of classical motifs. Palladio fully understood the nature of architecture, an understanding which drew extensively on Greek and Roman precedent.

⁺ see pages 187-231

² see page 42

³ see page 14

AUTHORITY

To have authority, the work must inspire a confidence based on the author's command of his medium. Again this will have a different inference for each of the arts. Our confidence in shakespeare stems from the conviction apparent in his portrayals and characterizations. Consumate technique and impeccable composition contribute, but his authority is due to a universal recognition of his mastery of every aspect of his art.

This is also the case with architecture. Authority resides in total conviction. This is particularly evident in certain periods in which every aspect of the architectural phenomenon is resolved. Kings College Chapel Cambridge is such an example. A complete work, which integrates structure, form, proportions, decorative treatment and lighting in a way that expresses spirituality and which is perfectly at one with its selfing. Such are the demands on architecture and architects that this fusion is difficult to altain and is apparent in the great periods which represent a summation of man's progress. When this occurs architecture adds authority to the purpose it serves.

On another level, vernacular architecture, or the architecture of popular taste, will have its own authority when it embraces all man's needs, practical and symbolic. In popular, universal stereotypes of domestic habitation, found in all parts of the world, authority resides in the complete rapport between programme, climate and culture. In such stereotypes, structure, materials, craftsmanship, economic forces and symbolism are all combined in a manner that emerges through the roots of the culture. This recognises the importance of tradition, the common perceptions of status and conformity and the need to convey meanings shared by all. As with a Rembrandt portrait or a Beethoven symphony, there is a concern for universal truths which transcend tashion, superficiality or contrivance. The fact that architecture is all-embracing and deals with so many aspects of existence means that it is extremely difficult for an individual architect to produce work of real authority.

THE CLASSIC WORK

REFERENCE TO THE EXPERIENCE OF LIFE

This discussion has already indicated the extent to which the major work will illuminate our perception of life. The artist, author, composer or architect will draw out and reconstitute significant aspects of experience. The way this is done will depend on the capacity of the medium, which will also determine the subject matter. Degas' portrayals of dancers heighten our perception of dance, they convey the beauty of the female form and how this may be enhanced by costume lighting and choreography.

As the framework for existence, architecture participates directly in life, and as an art form it is assessed as to the extent to which it enhances and enriches life. The close connection with practical and symbolic issues separates architecture from the other arts which may seek to inform or entertain. Architecture has a particularly responsible role, allowing less licence or self-indulgence than the other arts. It is most successful when it absorbs the life forces so that they are correctly assimilated A staircase or stair handrail must be correctly shaped to permit easy and comfortable movement. In this sense architecture is anthropormorphic—this is its connection with life. Similarly in providing shelter, comfort and order architecture directly addresses the concerns of life. Its authority and conviction depend on this ability to satisfy practical and emotional needs.

This may be manifest in subtle ways. Barry and Pugin's Palace of Westminster contains two strands of the British Parliament, the Houses of Lords and Commons. This division, separating the aristocracy from the commoner, reflects a British societal tradition. As an expression of this, the Gothic style refers to the historic continuity which the building represents. In straddling the arts and sciences, aesthetics and practicality; in dealing with symbolism and a communicative consensus, representing cultural continuity and the present, architecture expresses aspects of life directly. Like major works in the other arts, the major work of architecture will reveal a comprehensive understanding of all those life forces which must be absorbed and encapsulated in built form.