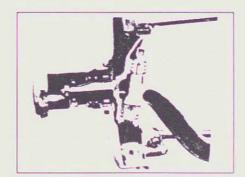
# LE CORBUSIER: THE LIMITS OF DERNISM

# By Frank J. Bercarich

Le Corbusier était confronté à un dilemme: l'architecture s'écroulerait-elle sur elle même comme étant une autre illusion d'une tradition esthétique (bâtiment comme kitsch) ou se transformerait-elle sur des principes basés sur la précision monotone de la technologie (bâtiment comme instrument)? Dans l'oeuvre de Le Corbusier, on sent la lutte acharnée pour résoudre ce conflit, un conflit qui nous aide à définir

> "I want to fight with truth itself. It will surely torment me."1 Le Corbusier

Richard Rorty reminds us that we are the inheritors of a tradition of Modernism that is characterized as much by its limitations as by its potential for new explorations. Modernism, he writes, exists under a triple constraint: (1) Hegel's prophecy that any future would be transcended by a future future; (2) Marx's prophecy of the end of all individual enterprises; and (3) Freud's analysis of the entropic drive beyond the Pleasure Principle -- an analysis closely akin to Nietzche's vision of the death of Man. As Rorty says, "Who can see himself as caught in a dialectical moment, enmeshed in a family romance, parasitic upon the last stages of capitalism, yet still in competition with the mighty dead?". Le Corbusier, particularly in Vers Une Architecture<sup>2</sup>, set out to create a stance within this tradition at least partly in the fear that volume six



Front wheel, Delage

architecture had reached Rorty's endpoint. Vers Une Architecture can be understood as a defensive struggle fought against the closure.

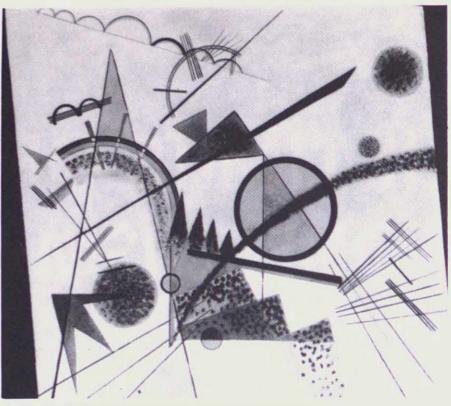
> "Today painting has outsped the other arts. Modern painting... sequestered itself in a frame, flourishing, full of matter, far removed from distracting realism; it lends itself to meditation."3

## Le Corbusier

Le Corbusier's plea to painters and sculptors to "not forget the problem of architecture" contrasts eloquently with the early theoreticians who held that architecture was superior to the other arts. For them, architecture was the unchanging harmony of the universe and the idea of man as the image of God's perfection. Classical philosophers, following the example of the Ancients, examined the proportions of the human figure for secrets of universal Truth and speculated on the possibility of expressing Truth by means of simple mathematical formulae. The orders of architecture, for example, were not only a token of the divine ordering of the human body; they were actually part of the divine gift of the temple "type" which was either drawn by the hand of God itself or drawn by Solomon under direct guidance from God. Classical architecture was therefore the only true architecture not only because it conformed to reason (in the manner set out by the ancient authorities) but because it was a direct result of divine revelation.

The Humanists of the Quattrocento, feeling dissatisfied with mythical historicism, began to rationally explore the structure of that code, and in architectural theory the stability of the ancient conventions and orders began to be questioned. If architecture is the replication of ancient standards, which in turn are shadows of Absolute Ideas, they reasoned, then the architect is condemned to copy a copy, or at best, approximate the "Idea" which has been corrupted and contaminated by the passage of time and history.

History, according to this conception, could not be represented by a continuous



Wassily Kandinsky : Dans le carre noir ,1923 , oil on canvas.

"Today painting has outsped the other arts. Modern painting... sequestered itself in a frame, flourishing, full of matter, far removed from distracting realism; it lends itself to meditation."<sup>3</sup> Le Corbusier

line to the ancient sources, but rather by a broken line defined by an arbitrary yardstick that decides, its values and goals each time. The first avant-garde in the modern sense, itself broke the continuity of the "Romanesque-Gothic" while claiming to be independently building a new history that would allow a transhistorical comparison with the great example of antiquity in order to recover the exact meaning of its syntactical and emblematical values. By the sixteenth century, the entire culture swung between these two poles. As Manfredo Tafuri wrote,

> "On one hand, the will to give historical foundation to an antihistorical code, like the one of the revived Classicism; on the other, the temptation -- repressed but always there -- to compromise and dirty one's hands with the very Medieval and Gothic languages that the entire Classicist culture wanted to erase... But the exorcism had not been complete. The ghost of the Middle Ages continued to re

appear, making the nightmares of Mannerism even more tormented."<sup>4</sup>

Instead of the victory of the ideal unity of classicist language, the first great attempt to root architectural theory into history resulted in an anguished awareness of the precarious nature of its foundations. The notion of the ideal correlation between form and natural meaning was replaced by a more empirical approach. Classical proportion and ornament could now no longer be accepted as a rational basis for design but was justified as a convention governed by rules which could be revised and improved. In abandoning the notion of a pre-ordained agreement, the early avant-garde theorists sought to re-affirm the essential truth of the classical conventions but at a more profound and secure level. If nature could not be known directly, they believed, Reason, (since it was a human creation), could provide a basis for certainty. In place of ancient theoretical truths of which we could hold only uncertain opinions, there would be "positive beauty", mechanical and inevitable, which was obvious to all. In place

of practical conventions, there would be "arbitrary beauty" which depended upon individual inclination.

The Neo-classical doctrine of "arbitrary and positive beauty", which relegated architecture to the shifting fortunes of "individual inclination", proved to be unstable as well. With archeology and new explorations providing new sources of inspiration, form was gradually detached from any singularity of meaning. The radical avant-garde began "to spin, twist and irremediably mutilate the frozen lists and recipes that the classical mind had struggled for centuries to keep alive"5. By the late nineteenth century, the process of revision had been installed at the very center of art where it emerged as a critical skepticism which, in principle, put all convention - and the idea of convention itself - under corrosive scrutiny. As Le Corbusier wrote:

> "[Modern man] has need of ideal certainties which previously religion gave him; doubting it now and metaphysics also, he is driven on himself where the

true world goes on within; the anguishing emptiness which nothing can fill... except art..."

Painting, (Surrealism, Dada, Cubism, etc.) with its greater capacity for abrupt, revolutionary transformations, became the model that the aesthetic avant-garde would follow in their search for a radical originality. In architecture the antithesis between historical revision and rigorous abstraction produced a whole range of typological syntheses in which parts and fragments produced new forms built purely for effect and devoid not only of meaning but lacking even practical use.

> "Our engineers are healthy and virile, active and useful, balanced and happy in their work. Our architects are disillusioned and unemployed, boastful and peevish."<sup>6</sup>

# Le Corbusier

The splintering of the avant-garde in the last quarter of the nineteenth century meant, for many, the rejection of a cultural millennium, and the creation of an architecture based entirely on the impersonal laws of material resistance, statics and dynamics. The mechanical properties of the machine and the biological process of man were seen as "mutually sustaining and interdependent as the common origin of all principles governing the dynamic nature of form". Progress was determined by the development of the means of production rather than the refinement of individual impulses. Leon Trotsky wrote:

> "It would be extremely lightminded to give the name of proletarian culture even to the most valuable achievements of individual representatives of the working class. One cannot turn the concept of culture into the small change of individual living and determine the success of

"Our engineers are healthy and virile, active and useful, balanced and happy in their work. Our architects are disillusioned and unemployed, boastful and peevish." class culture by the work of individual inventors and poets."<sup>7</sup>

By suppressing the subjective, imprecise artifice of architecture, a new technological avant-garde (Constructivism, Suprematism, et al.) sought to establish building as a necessity that would transcend style. It would be based on 'positive beauty', the self evident laws of technology and engineering. The arbitrary and artificial social constructs would be stripped away by aligning the nature of the building strictly to the nature of the process of its fabrication. "The individual is losing significance," wrote Mies van der Rohe, "his destiny is no longer what interests us." In the pursuit of certainty, progress would mean the continuous purification of technique until architectural form would be nothing more than the "visible record of the act of building". By transforming itself into a pure Instrumentality, architecture would proceed by a process of reduction that would bring an end to the confusion and ambiguity of the past. The Utopia of Modernism was to be a place of anonymous invention and freedom that would reveal itself within the continuous breaking of restricting social convention.

> "Nevertheless, there exists this thing called Architecture, an admirable thing, the loveliest of all."<sup>8</sup>

# Le Corbusier

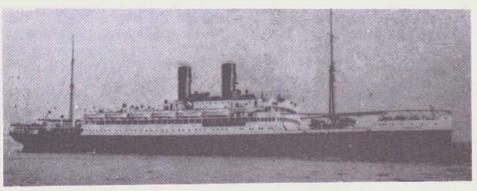
Le Corbusier was confronted by a dilemma. Would architecture collapse into itself as yet another distorted vision of an aesthetic tradition (Building as Kitsch) or would architecture transform itself on principles based on the empty precision of technological authority (Building as Instrument)? Between this Scylla and Charybdis what strategies were still available?

The Enlightenment tradition had always been committed to the construction of a permanent, neutral framework of inquiry that would lead to an objective understanding of the society of man and his environment. In response to the crisis of Classical thought -- what Michel Foucault termed "a desperate searching for a new similitude in a world where nothing resembled what it once resembled," the early avant-garde developed a series of strategies that would profoundly affect later architecture. They proposed that form and meaning must be bound inseparably within the fixities and limits of space and time either through an intuition of Spatial Identity (Representation) or Temporal Identity (Type). First, Boullee attempted to generate a universal language of symbolic geometry (Representation and Form); then Durand elaborated a theory of composition that aligned form with its internal functioning (Representation and Function); and finally, Daly (and Laugier before him) sought to found architectural culture on a "Natural" basis by reference to a primitive precedent (Type and Archetype), or to an evolving model (Type and Antetype), that would direct architecture to a future perfection.

In Le Corbusier one sees the moment of transition from this tradition to the forms of a new architecture. While simultaneously stressing the need to reject tradition, Le Corbusier constantly referred to it, whether by involving its principles or by overtly contradicting them. Throughout <u>Vers une Architecture</u> the suppressed original strategy and Le Corbusier's revision can be seen as a paradigmatic set such that his meaning can be understood in reference to its precursor.

# REPRESENTATION AND FORM

"Circular bodies please our senses because of their smooth contours; angular bodies are displeasing because of their harshness; those that rise to the sky delight us and those that



The Flandre. Cie Transatlantique

"Architecture is the masterly, correct and magnificent play of masses brought together in light. Our eyes are made to see forms in light: light and shade reveal these forms; cubes, cones, spheres, cylinders and pyramids; the image of these is distinct and tangible within us and without ambiguity. It is for that reason that these are beautiful forms. Everybody is agreed to that: the child, the savage and the metaphysician."

Le Corbusier

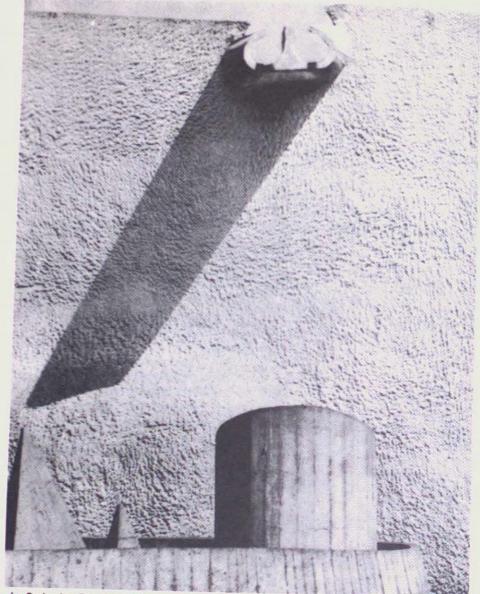
stretch to the horizon are noble and majestic."9

# Etienne Boullee

"Architecture is the masterly, correct and magnificent play of masses brought together in light. Our eyes are made to see forms in light: light and shade reveal these forms; cubes, cones, spheres, cylinders and pyramids; the image of these is distinct and tangible within us and without ambiguity. It is for that reason that these are beautiful forms. Everybody is agreed to that: the child, the savage and the metaphysician."<sup>10</sup>

# Le Corbusier

For Le Corbusier, beauty was the result of the interplay between primary forms which revealed their meaning to us without ambiguity. Architectural beauty



Le Corbusier: Ronchamp Chapel: west wall

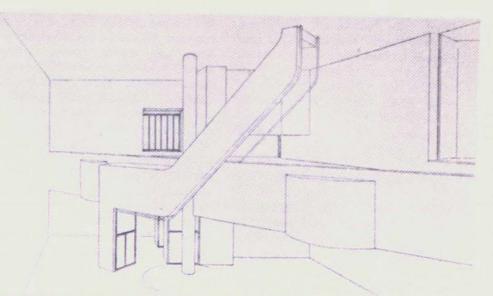
was the result of the conjunction of direct sensation and geometrical forms. Architecture's intrinsic superiority over the other arts lay in its capacity to represent the geometrical essence of Nature most directly.

For Boullee as well, the idea that architectural representation could express Nature meant that "the language of the monuments is clear to everyone". This "Architecture Parlante" was to be an essential component of Utopian society that was to be established through the immediacy of "their symbolic language ... expressing the uses of Nature and the attributes of the Creator"11. Representing a symbolic universe of unchanging meaning, the building itself could be magnified to dimensions that would match the scale of Nature itself. Nature and building could be reconstituted to create a harmonious and permanent unity.

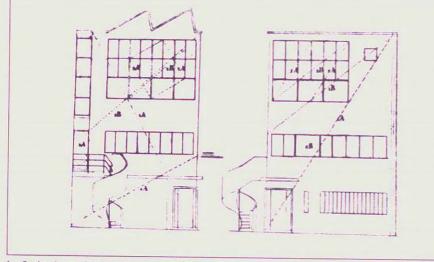
For Boullée, as well as Le Corbusier, there was no conflict between painting and architecture since all the fine arts could be reduced to the single principle of the imitation of Nature. Yet, ever since Courbet, the attempt to depict appearance directly and accurately has been paralleled by the deformation and exaggeration of appearances -often in the work of the same artists. With all their excesses and violations of convention, Impressionist and Cubist paintings could and did claim to be more "realistic" than classical painting. For Le Corbusier, this signaled the presence of a new condition. Nature, he wrote, had been "transformed in its outward appearance in the use mode of it, by reason of the machine"12. The harmony between Art and Nature could no longer be achieved directly but rather through an intermediary -- the engineer -- who, governed by mathematics, was in accord with universal laws and capable of representing Nature even more directly than the architect. The ocean liner, for

"Architecture has no other objective than private and public usefulness, the conservation of the happiness of individuals, families and society."

J.N.L. Durand



Le Corbusier, Pierrre Jeanneret: Maisons en serie pour artisans. (1924)



"Every art or science has a definitive objective. There is only one way of doing things right."

# Abbe Laugier

Le Corbusier and Pierre Jeanneret .: M. Ozenfant House (1923)

example, was designed according to principles of technology and provided for the needs of a rational human society. It was built with a purity of form and immensity of scale in which the subjective choice of the designer was reduced to a minimum. This logic, when projected onto the city of Paris, became "la Ville Radieuse" -- a startling vision of 18 immense isolated point towers punctuating an urban space where all traces of history have been obliterated, the so-called "mobilization of the ground."

Technology, not Nature could provide the means of rescuing architecture. Instead of Boullee's concept of the identity between Natural forms and representation, Le Corbusier proposed the identity between machine form and architectural representation. More than a simple assimilation of objects of technology, technology had a regulatory role in which complete machines (aircraft carriers, grain silos, airplanes, etc.) became templates for an architecture now distanced from its ancient source of inspiration -- the landscape. As Charles Jencks wrote, his forms are "the antithesis of organic architecture and its metaphors of growth, harmony, reconciliation and picturesque compromise. Its relation to Nature is cataclysmic, abrupt and sublime."<sup>13</sup>

# REPRESENTATION AND FUNCTION

"Architecture has no other objective than private and public usefulness, the conservation of the happiness of individuals, families and society."<sup>14</sup> J.N.L. Durand

For Le Corbusier beauty resulted from the discovery of fundamental principles. He believed that architecture depended upon the fulfillment of the needs of society that "lived primarily by... baths, hot-water, cold-water, warmth at will, conservation of food, hygiene, sun, beauty in the sense of good proportion."<sup>15</sup>

With the growing authority of technology and engineering, Le Corbusier wanted to clarify the distinction between surface ornament and style, and the building underneath. The former seemed to be a product of imprecise subjective factors while the actual structures seemed to be products of inevitable law of material science and economics. Once it became possible to separate decorations and style from the constructed object, Le Corbusier argues that it was necessary to strip away the artificial facades and express the building through the representation of its internal functioning. By being true to its internal nature, architecture would be true to the laws of Nature itself in a transparent fusion of appearance and essence. A 'style' that would transcend style would emerge and bring an end to the eclecticism of the past.

When fully rationalized, architecture would be designed as an assembly of standardized parts that would be mass produced like other objects of modern life. "If we eliminate from our hearts," Le Corbusier wrote, "all dead concepts... we shall arrive at the House-Machine, the mass production house, healthy and beautiful in the same way that working tools are beautiful."<sup>16</sup>

If architecture could be reduced to a tool, Le Corbusier also reasoned that the engineer, already fully integrated into the means of production, could absorb his profession. "The engineers," he wrote, "overwhelm with their calculations our expiring architecture."<sup>17</sup> The continuing demystification of architecture (Adolph Loos, Hannes Mayer) was thus accompanied by an equally widespread continuation of mythology in other forms. Proust and Yeats explored the spiritual in art as did Kandinsky and Klee. The writer that championed Cubism also argued for its spiritual aspirations.

Here, Le Corbusier found fault with the technological avant-garde such as the Constructivists for thinking that architec-

ture had nothing more to do than resemble machines. "S'il n'y a pas de poésie," he wrote, "tout s'écroule." He swerved from Durand's view and proposed that the satisfaction of the need "satisfied one part of the mind, the primary part, that was a necessary but not sufficient condition for the richer satisfaction of art."18 For Durand, building should become like machinery following the dictates of an inevitable economic and technical destiny. Le Corbusier reversed this concept, machinery had to be raised to "a state of platonic grandeur, mathematical order, speculation, the perception of the harmony which lies in emotional relationships"19 in order to become architecture.

# TYPE AND ARCHETYPE

"Every art or science has a definitive objective. There is only one way of doing things right."<sup>20</sup>

Abbe Laugier

Beauty originated in the mathematical laws that governed both natural and cultural forms. For Le Corbusier, the search for the origins of architecture could be pursued through an intuitive or experimental approach since both would produce the same result. "Nature is ruled by mathematics." he wrote, "and in consonance with nature; they express the laws of nature and themselves proceed from these laws. The Fibonacci series, for example, guides the growth of leaves, shells, as well as the proportions of the 'trace-regulateur'."21 Architecture, he believed, results from the adherence to the structure and proportions of archetypal models that transcend particular conditions. The study of such archetypal models would serve as an abstract ideal which would at once be a "pre-existent germ and primitive cause" that would continue to inspire and even correct the present.

The effectiveness of this idea depended on the existence of a united and consistent culture. By the end of the nineteenth century, however, the avant-garde's critique of the idea of man as "an all powerful, all rational being at the center of his physical world" had begun to undermine the possibility for consensus. This consensus came to be seen as a nauseating bourgeois convention, a 'doxa', an example of a cultural convention masquerading as a



The Parthenon, 5th century B.C.

"Is there not in the universality of these figures, the proof that at the base of human instinct exists the conscience of a permanent relationship between, on one hand, certain considerations of lines, and on the other, the static and dynamic condition of bodies?"

Cesar Daly

fact of nature. Artists, in particular the painters and sculptors of Surrealism and Dadaism, explored an aesthetic ideal that depended on the fragmentation and reinterpretation of pre-existent reality. Their method, as perfected by Salvador Dali was "the fabrication of evidence for unprovable speculations and the subsequent grafting of this evidence on the world, so that a 'false' fact takes its unlawful place among the 'real' facts." Their intention was to destroy, or at least upset all existing categorizations in order to make a fresh start. The Dadaists advocated the withering away of art and the recovery and cultivation of the marvelous, the lyric, in everyday life. By dramatizing the arbitrary relationship between meaning and form, they aspired to free the individual of the constraints that held him in discontented bondage to society. "Architecture is stifled by custom," wrote Le Corbusier, "the Styles are a lie."22

The new architecture would not be an architecture of agreement and consensus; the source of its power would be its capacity to evoke poetic emotion through unexpected associations and juxtapositions; the same individual who would welcome the unfamiliar forms of primitive sculpture would also revel in powerful automobiles, go to movies and speculate about airplane flight and the fourth dimension. Instead of the ancient certainties of religion and metaphysics, "Art will have the mission of superior distraction and it will give this exalted contentment without which the calm of the soul is impossible."<sup>23</sup>

Le Corbusier appropriated Surrealism's "cadavre exquis", and projects such as the Unite d'habitation with its internalized streets, elevated gardens and detached base, can be seen as a bricolage of existing elements fragmented and reassembled to create a disturbing new form. Architecture would be based on the abrupt assimilation of isolated elements giving them a symbolic significance which they had not previously possessed. With the Surrealists, Le Corbusier understood that there is only interpretation, and that every interpretation responds to an earlier interpretation, and then gives way to a later one. Le Corbusier wrote, "when Egyptian priests had their hierotic types sculptured, they knew that what was being fabricated was a machine to provoke sacred emotions". The Parthenon was "...in the inexorable realm of the mechanical ... the mouldings are tight and firm ... all this plastic machinery is realized in marble with the rigour that we have learned to apply to

the machine. The impression is of naked, polished steel."24

Architecture is not simply a renewable archetype in a rational universe -- it is a defensive struggle in constant change. Here, Le Corbusier precisely reversed Laugier's paradigm; instead of the past serving to guide the present, the study of the present would serve to revise and reinterpret our understanding of the past. Taken to its logical extreme, this would produce the illusion of having "fathered one's own fathers" -- the illusion that architecture could stand outside its own tradition.

# TYPE AND ANTETYPE

"Is there not in the universality of these figures, the proof that at the base of human instinct exists the conscience of a permanent relationship between, on one hand, certain considerations of lines, and on the other, the static and dynamic condition of bodies?"<sup>25</sup>

# Cesar Daly

Daly argued that beauty is derived from the discovery of fundamental principles by means of a science evolving towards perfection. Architecture depends on the time and place of its invention as it also evolves towards perfection. An analysis of the expressive forms of the past is a means by which the movement of the permanent essence can be traced in order to project its movement into the future. Form, then, evolves through stages of gradual development. Underlying this gradual evolution, there lies principles and elements that remain constant. The idea of a Darwinian evolution towards superior types was, with few alterations in tone, reinterpreted and put into the service of Le Corbusier's thesis. "There exists a new spirit. Industry, overwhelming us like a flood which rolls toward its destined end, has furnished us with new tools adapted to this new epoch ... "26

The danger in this approach, particularly in a period without a strong sense of its own identity and values, lay in the production of an architecture of eclecticism. For Daly, this was seen as a necessary stage of development that would inevitably be abandoned once the true direction of the future would establish itself. The certainty of progress would guarantee the eventual triumph of the best, as superior standards would emerge from the chaos of competition.

For the avant-garde, the idea of the inevitability of progress was precisely the focus of their doubt and uncertainty. The "art for art's" sake of eclecticism appeared to be diametrically opposed to the new discoveries of Freud regarding the nature of the unconscious and the relationship between Art and Society. For the Surrealists and artists of Dada, all literature and art was an "alibi" and a "lamentable expedient", since it was directed toward the maintenance of a repressive illusion. The impasse would be ended if the artistic impulse could be directed back to everyday life, toward found objects, chance encounters -- the creation of each day as a work of genius. The only true art would be life itself.

Amidst the struggle among the avantgarde, Le Corbusier distanced himself from Dadaism and Surrealism and proposed a new movement -- Purism -- based on the inverse of Daly's paradigm. Superior standards do not emerge from competition, he argued, but rather, "When a standard is established, competition comes at once and violently into play."27 The law of natural selection would produce the basic 'object types' such as the wine bottle, the pipe, the flask, etcetera. They would possess a certain "anonymous dignity" since they would not have been produced by an individual effort but rather through "the best efforts of thousands of men converging towards the most economical and certain shape." Architecture was to be purified of the contamination of personal interference and convention by identification with the impersonal and universal in civilization.

Le Corbusier's lifelong struggle to submerge individualistic art for the benefit of universal art reflects his search for an architecture that was trans-historical and non-conventional, while at the same time poetic and inspired. It was this love for the impersonal that never quite allowed him to come to terms with the idea that convention itself, with its inevitable "pettiness, provinciality, subjectivity and snobbism", might be universal as well.

## CONCLUSION

"Art is a deep love of one's ego, which one seeks in retreat and solitude... It is a solitude that one can struggle with the ego, that one punishes and encourages oneself."<sup>28</sup>

Le Corbusier

As with Nietzche's Superman, Le Corbusier had to master his precursor/ opponent's power and ideas, before he could go on to destroy them in order to resynthesize them. This destructive/constructive pattern can be seen to unfold in a three phase movement of: Identity, Break, and Return, relative to the prior tradition.

Identity: In the first phase, the Enlightenment cosmology is reaffirmed in which Architecture is a narrative record and mimetic representation of society's relationship with the Natural World. Le Corbusier restated and defended this position with brilliant forcefulness, but at the same time, the text of Vers une Architecture reveals a profoundly felt anxiety.

Break: In each case, the constraints imposed by the new dominance of the aesthetic and technical avant-garde reveal the limit within the original tradition; architecture no longer acts directly to mediate between society and the universe.

Return: In each case, Le Corbusier proposed an architecture that was more concerned with its own limited objective. If architecture could no longer interpose itself between society and Nature, it must become more self-referential as an architecture about architecture with an existence outside, yet reflective of, its inescapable origination.

What emerges from Vers une Architecture is not a coherent resolution of the contradictions inherent in Modernism. What emerges instead, is a vision of architecture as a defensive process in constant change and engaged in a continuous debate with itself as well as with its precursory tradition.

Hannah Arendt tells us that political thought as a Realist tradition extends from Plato to Marx and ends there. It can be argued that moral psychology as a tradition goes from Plato to Freud and ends there. Architecture as a tradition has no Marx or Freud, but Le Corbusier came closest to that end-stop position. His architecture paradoxically breaks with the past in order to extend it, but at the price of narrowing and internalizing the tradition so that subsequent attempts to go beyond Le Corbusier have not as yet succeeded.

Layout: Eric Stein

# NOTES

- 1. Le Corbusier, letter to Charles L'Eplattenier, 1908.
- 2. Richard Rorty, Philosophy and the Mirror of Nature.
- 3. Le Corbusier, Vers une architecture, p. 23.
- 4. Manfredo Tafuri, Theories and History of Architecture, p. 17.
- 5. Joseph Rykwert, The First Modems
- 6. Le Corbusier, Vers une architecture, p. 18.
- 7. Leon Trotsky, Literature and Revolution, p. 200.
- 8. Le Corbusier, Vers une architecture, p. 19.
- 9 Jean-Marie Perouse de Montclos. Etienne-Louis Boullée, p. 38.
- 10. Le Corbusier, Vers une architecture, p. 31.
- 11. Jean-Marie Perouse de Montclos, Etienne-Louis Boullée, p. 10.
- 12. Le Corbusier, Vers une architecture, p. 21.

- 13. Charles Jencks, Le Corbusier, p. 174.

  - 14. J.M.L Durand, Précis des leçons.
- 15. Le Corbusier, Vers une architecture, p. 89.
  - 16. Ibid, p. 13.
- 17. Ibid, p. 33.
  - 18. Ibid, p. 72.
  - 19. Ibid, p. 102.
- 20. Marc-Antoine Laugier, Essai sur l'architecture.

21. Le Corbusier, The Modular.

- 22. Le Corbusier, Vers une architecture, p. 9.
  - 23. Ibid, p. 23.
    - 24. Ibid, p. 195.
- 25. Cesar Daly, "Du symbolisme dans l'architecture", Revue, Vol. 7.
- 26. Le Corbusier, Vers une architecture, p. 12.
  - 27. Ibid, p. 124.
  - 28. Le Corbusier, letter to Charles L'Eplattenier, 1908.

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