

THE PRODUCTION
OF ARCHITECTURE

by

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ABSTRACT

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Submitted to the Department of Architecture
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The production of architecture is not about the building industry. Ideas and a consciousness of architectural quality are as much products of the practical engagement of human beings with their environments as buildings are. People produce buildings and their conceptions about how things should be built in the same way that they make or "produce" their own history. In the broadest possible sense therefore, the production of architecture is about the historically evolving interaction between human activity and its reflected architectural result.

More specifically however, it is the intention of this thesis to explore two main themes: 1) Three interrelated contemporary attitudes towards the production of architecture. These were selected, because they reflect in a highly concentrated way, the major preoccupations of modern architecture. 2) The origins of these conceptions in the actual historical evolution of architectural form.

The conclusions of this thesis derive consistently from its starting point--the fact that the profession of architecture is facing a crisis of immense proportions. In the course of the ongoing battle for the emancipation of human beings from the leaden weight of the past, it appears that architectural quality--amongst other things--is seriously losing out. Cities are in shambles. The producers and consumers of architecture are thoroughly alienated from "their" buildings--although not so seriously as the architectural profession itself is. Conjuncturally, the world capitalist economy is facing the most serious post-war recession to date. The whole capitalist edifice of security and prosperity so painstakingly constructed after the colossal mess of World War II, is threatening to fall apart. . . architecture included. Nothing less than the conscious practical activity of whole layers of society is required to change this state of affairs. Imbued with this realization we have begun and ended this thesis.

Finally, this is a thesis with a point of view. It rests squarely and wholly on the theoretical tradition of Marxism. This having been clearly and unequivocally stated at the very beginning of our endeavor, we will henceforth deliberately refrain from quoting and relying upon the Marxian classics . This is not intended to be a dialogue of the deaf, nor an exercise in selecting quotes from Marx. Marxism is for us, above everything else, an analytical method and not a dogma, a guide to action and not an intellectual crutch we hobble along with.

.....

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In a more general sense, I owe a great deal to the early and formative influence of Richard Filipowski, Minor White, Maurice Smith and Jan Wampler. My deep-seated and fundamental disagreements with the ideas of these individuals, which will become clear throughout the course of this thesis, in no way detracts from the importance of their contribution to my development. In this sense I owe them and to a lesser extent the department of architecture at M.I.T. as a whole an acknowledgement.

Finally, my stay at M.I.T. has brought me into contact with innumerable friends, whose contribution to this thesis, although indirect, is nevertheless immense. It would be an impossible and pointless task to try to put down their names on this page.

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INTRODUCTION

A Statement of the Problem and Method

INTRODUCTION: A STATEMENT OF THE PROBLEM AND METHOD

Buildings are the product of human labour. Furthermore, the production of buildings is the business of architecture. It is the intention of this thesis to expand and flesh out the implications of these "trivial" observation by an analysis of the architectural profession and its interrelations to the processes of human labour.

Strictly speaking, it is only since the middle of the nineteenth century that one can talk about an organized architectural profession,¹ when the first architectural association in England, the R.I.B.A., was founded in 1834. In fact whenever and wherever there have been monuments, there have always been architects.² This takes us all the way back to the early Mesopotamian and Egyptian civilizations, through Medieval Europe, Rome, and Greece. The architect of antiquity--as a social type--is aptly symbolized by the life and work of Vitruvius. Such a "type" is admittedly hard to find in the Middle Ages. Maybe this is partially explained by the fragmentation so characteristic of a feudal economy as compared to the centralization of imperial slave economies, like the Roman Empire during Augustus' reign. Nevertheless, that there were architects, is an established and by now commonly

¹"By the end of the nineteenth century all the major professional occupations had effective associations, and professionalism, as it is understood today, was an accepted principle."

Barrington Kaye, The Development of the Arch. Profession in Britain (p. 13)

²"The fact is that for the production of all large scale works of complex structure, an architect is necessary--by no means a "professional architect of the modern type, but none the less, a highly specialized designer."

John Harvey, The Medieval Architect (p. 54)

accepted fact.³

The differentiation between individual architects and a professional association of architects is a result of the qualitative leap in accumulation of social wealth that followed the industrial revolution. This burst of productive energy created in its wake new needs and problems that old institutions and social relationships could not solve.⁴ A vibrant, revolutionary social and cultural order had emerged, relative to the centuries of stagnation under feudalism, which called for a relatively independent and unified organization--the professional association--in marked contrast to the individual patron-architect alliance that marked the pre-capitalist era.

But there have not always been people skilled in the mental gymnastics of physical design.⁵ Before and alongside architects there have been builders. These are people allocated the physical aspects of building construction. The development of architects out of builders is the separation of mental from physical labour, in the business of architectural

³ An entire book has been devoted to this topic: The Medieval Architect, by John Harvey. Also, Martin Briggs in his work The Architect in History has observed that "the following fallacies are commonly accepted concerning the Middle Ages:

"that there was no independent directing personage or "architect" in Middle Ages; that the controlling power was exercised by an artisan, the mastermason, not by an educated professional man; that no preliminary plans or working drawings were used; that design was purely traditional.. that the masons worked for God rather than for mere bread and butter; that the mastermason lived on the bldg. not undertaking other work in the way that a modern Architect runs a 'practice'; that he learned his trade at a bench, not in an office or school; that he was usually a monk...; and that he gloried in his anonymity" (p. 59)

⁴ "Professionalism developed in England during the nineteenth century as a means of affording the professional man security of employment in a free market economy dominated by the principle of laissez-faire and caveat emptor."

Barrington Kaye, The Development of the Architectural Profession in Brit.
(p. 22)

⁵ "We must decide what we mean by an architect. An architect, then is a

production. They thus historically develop out of each other at the same time as they necessarily have to coexist. Builders who encompass within themselves the later work of architects are an even earlier product of history. They date back to a "pre-civilized," Neolithic Age (when people first became food producers). The first human settlements gave birth to the earliest known forms of division of labour. The increase in labour productivity brought about by working the land, i.e. moulding and shaping it to produce for predetermined human needs, as opposed to simply living off of it like the animals still do, initiates processes of separation between hunters, food gatherers, food producers, animal domesticators, potters,...and builders. At first every member of society is a builder. Only later when a social consciousness of "the building" as an object of production is more definitely established, does the conscious activity of building increasingly become restricted to fewer and fewer individuals. The more complex social life gets, the more specific division of labour becomes. It is this increasing

man who is capable of [read here; someone who is allocated by society the task of] envisaging a building, complete and in detail, before one stone is laid on another, and is also capable of conveying his vision to the actual builders that they are able to translate it into actual reality." L.F. Salzman, Building In England Down to 1540. The quote was taken from J. Harvey, The Medieval Architect.

Karl Marx has explained the difference between architects and bees in his own inimitable way: "...a bee puts to shame many an architect in the construction of her cells. But what distinguishes the worst architect from the best of bees is this, that the architect raises his structure in imagination before he erects it in reality. At the end of every labour process, we get a result that already existed in the imagination of the labourer at its commencement. He not only effects a change of form in the material on which he works, but he also realizes a purpose of his own that gives the law to his modus operandi, and to which he must subordinate his will. And this subordination is no mere momentary act. Besides the exertion of the bodily organs, the process demands that during the whole operation, the workman's will be steadily in consonance with his purpose." Capital, vol. I, p. 178, "The Labour Process."

specialization that is reflected in the evolution of builders into architects, architects into professional associations.

In carrying this argument to its logical conclusion we have arrived at the assertion that before builders, there was no one specialized in the production of buildings. This also corresponds to historical reality and in fact traces of such a mode of life still persist today in several Asian and African tribes.⁷ Whereas it can be said with certainty that in the Paleolithic Age (food gatherers and hunters) there was no specialization in buildings, it is not the case that in the later Neolithic era, this social function consistently appeared. Many primitive settlements up till today have not had builders as a distinct grouping within their society. In short settlement is a necessary but not sufficient condition for the appearance of local builders. Additional factors like stage of development, geography, available materials, and climate come into play in any further consideration of this problem.⁸

⁷One need mention only the title of Bernard Rudofsky's famous book, Architecture without Architects, which is a primarily visual documentation of non-specialist architecture.

⁸From personal experience in Southern Iraq, I can document this fact. The Marsh Arabs have lived for centuries on artificial islands created out of alternating layers of reeds and mud, in the heart of the vast marshy waters that cover large parts of south Iraq. The sole raw material available in sufficient quantities for buildings, are reeds, which govern almost every aspect of the economic and social life in these communities. They are used for trade and the construction of mats, baskets, ropes, buildings (see Arch. without Architects, Rudofsky), artificial islands, boats and in myriads of other uses. This means that every human being engaged in productive activity--and that includes the women and children--is in one way or another a "reed expert". But since a specialized builder would, almost by definition, have to be a "reed expert," the social role of the builder as a task distinct from other roles simply does not emerge. Natural factors have done away with the need for "building specialists".

This whole thread of argumentation can be summed up in the following conclusion: when looking at pre-capitalist economic formations it becomes easier, the further back we go in time, to observe that buildings are the product of human labour. This result can be thought of by way of juxtaposition. Think of all the giant architectural monuments that are the precursors of our civilization--the pyramids, the Greek and Roman villas, temples and stadiums. Does not the sweat and blood of the slave labour that went into them just stare us in the face? Now give the Hancock tower and Boston City Hall a try. Surely I.M. Pei, and Kallman and McKinnell keep on coming in the way.

A corollary to this result can also be formulated: the evolution of the architectural profession has progressively thrown a veil over the foundations of architectural production--in human labour.

The structure and content of this thesis flow out of this fact.

Part I will attempt to uncover this veil as it is expressed in the ideas of certain important "schools of thought" in the profession. A school of thought in architecture is a way of thinking about the built environment. It is a characteristic of the schools of thought that Part I will investigate, that they seek to explain the totality of architectural "truth", from only a very partial aspect of it. Thus they make a "fetish" out of this part, by separating it out of the whole and hurriedly consolidating themselves around it. Consequently, in architecture a fetish will serve to conceal something at the same time that it will point to a partial truth concerning the nature of architectural production. The common denominator of all that is concealed, this thesis will attempt to show, is the organic relation of architecture to living human history--the history of the development of human labour.

Let us take an example. The built form fetish in architecture operates around the assumption--which they take as a given fact--that it is the quality

of the architectural form itself that governs its quality as an environment. The starting point for this school of thought is the correct observation that some physical environments are of a better quality than others in that they are consciously designed to respond to the social and personal needs of their inhabitants. A case in point is the so-called vernacular or folk architecture, which is frequently compared in quality to our own "modern", antiseptic, and alienating architecture.

The correct observation has been transformed into an incorrect generalizat^{ion} --which in turn has become the basis of a whole school of thought.

All of this because of a simple, although logical, mistake. A building, or an environment, is first of all a product of something, before it is an object to be studied in and for itself. It is a social product of a specifically located--in time and place-- mode of organization of human labour. The quality of objects are imparted to them by people engaged in the process of production. If we take away the social relations of production that engender particular environments, then we have cut the umbilical cord that produces, or does not produce, quality in architectural forms. Thus it is ~~not~~ the proportions and distribution of the built parts of a building in their internal relation to each other (i.e. the quality of the architectural form) that is primarily responsible for determining the degree of responsiveness of a building to socially evolving norms of what people want out of an environment (i.e. the quality of the environment). Rather it is the social relations of labour that produces quality in the built environment.

Any other way of approaching the "architectural problem"--and there is a problem--will end up in the impasse of idealism or crude materialism. When "objects" and "ideas" replace the living, active and practical relation of human beings to the "productions" of this activity or to nature, then the world of fetishism has replaced the world of reason.

Part I will end after having posited that social development precedes architectural development in analytical importance, because it alone can explain the latter. Part II will therefore emerge out of the need to further establish and develop the historical proof of this relationship. Three main architectural traditions will be chosen (the folk, monumental, and capitalist traditions and related to their corresponding economic mainsprings--the natural, slave and exchange economies, respectively.

It might appear that the argumentation developed so far has imposed upon human beings--in particular architects-- inexorable historical laws that predetermine the quality (and quantity) of their productions, in this particular case their buildings. This is not the case. History is both made by human beings and given to them, at the same time. The limits imposed upon that which can be made in the future, are those imposed upon that which is given from the past. From this comes the need and reason for a conclusion on the impact on architecture of our socialist future.

PART ONE

THE SUBJECTIVE REFLECTION

PART ONE: THE SUBJECTIVE REFLECTION

I. SHOULD ARCHITECTURE BE CLASSIFIED?

It is possible—and has been fashionable—to classify architecture according to the individuals who practice it. Even styles and movements are seen to gyrate around strong personalities and "famous men".¹ Therefore it is not surprising, given the individualistic and personalized orientation of architects (as well as architectural historians and critics) to notice that the profession as a whole is highly fragmented into different "schools of thought". In and out of these schools float a mass of superspecialized individuals. This phenomenon is not unique to the architectural profession, although it takes on here a particularly acute form.²

A good example of the fractured state of the profession is the cluster organization of the MIT architecture department. In 1971, this department formally restructured itself, instituting the "cluster system". Competing "schools of thought" were given official status and each faculty member was linked up with a particular cluster. The students were not obliged to identify with individual clusters. In fact, the very survival of the department—given this mode of organization—became dependent upon students behaving like a circulating medium (money!?), moving from one cluster to another, throughout their four years at M.I.T. Some side effects of this system were, an

¹Of course at the expense of all women, in addition to all those builders and laborers whose backbreaking work was rewarded with a mere pittance for survival and oblivious anonymity.

²Compare the number of times one is faced with the question, "Who built that building?" (implying which architect), with the number of times one is asked, "Who invented that machine?" (in reference to the machines we use in everyday life, tools, ovens, toasters, cars, etc.).

intensification of competition--now between clusters as units, instead of between individuals--over 1) student loyalties, 2) money (i.e. cluster financing), 3) hiring and firing practices. A marvelous thesis could be written on the intricacies of departmental politics based upon the minutes of the meetings of this very formative period of the history of the development of monopoly architecture in the M.I.T. architecture department! That is not, however, the purpose of this thesis. The interesting question from our point of view is how to explain the meaning of these clusters?

It would be a mistake to proceed with such an explanation based primarily upon the interests of the individual faculty members of M.I.T. This simply begs the question. Why do they have such interests in the first place? Such an explanation would result in a mixing up of the effects of this multiplicity of schools of thought--as reflected in the personalities of the department--with the underlying and necessarily social causes of this phenomenon. After all, even architects are social beings first and individual people second.

If the cluster organization at M.I.T. was not an accidental by-product of the individuals teaching in this department, then it must correspond to "real" schools of thought in architecture, each of which has roots in one or another aspect of the architectural tradition. Naturally, given the small size of each cluster, each of these aspects is heavily colored by the personality of the individuals involved. A good example of this is the influence of Maurice Smith on the built form cluster. Nevertheless, this should not obscure the fact that hidden behind the personalities of the M.I.T. architectural faculty are important historically rooted perspectives on architecture. This is indirectly recognized by the clusters themselves in the organization of their courses and curricula. It is also recognized by the international milieu of architectural students, who flock to M.I.T. precisely because it collects together

so much of the architectural tradition in its various clusters.³

The cluster organization is therefore a "natural" falling apart of the architectural whole in the case of the M.I.T. School of Architecture. It is the recognition in form of an increasingly differentiated content in architecture that corresponds to the real history of its development--as opposed to the standard architectural historians' standard "art-historical" presentation of the subject. The latter have either constructed chronological catalogues of events, or imposed upon history arbitrary and subjective mental categories, rooted in the properties of objects (example: the quality of space) and not in the social context that produced them. In fact, according to this point of view, the "best" historians are those who have managed to combine both mistakes--usually in one work. The title alone of S. Gideon's magnum opus, Space, Time and Architecture, shows this.

It is this thesis' contention that if we are interested in understanding the present state of the architectural profession then we must work from a point of view that corresponds to how it really developed. All attempts to bypass this by reverting back to individuals, styles, or the qualities of the buildings themselves are doomed to result in pigeon-holing exercises that reflect reality to the extent that a hall of mirrors in a funhouse does.

Attempts to classify architecture can at best only serve technical purposes of identification of buildings, their architects and their periods. They assume that what we are talking about are "things" and not living processes of history. It is therefore categorically not the intention of this thesis to classify all architecture and architects into the three schools of thought

³In a recent national survey of professional schools of architecture the department at M.I.T. ranked second "best", closely following upon the heels of the school of architecture at Berkeley. (See M.I.T. Tech Talk Nov. 7, 1973, Vol 18 #18.)

treated here, (the built form, technical, and monumental traditions). Only occasionally, in fact, have these points of view corresponded "exactly" with particular architects and their buildings. In spite of this, however, they constitute archetypal fetishes that have at one point or another been very firmly articulated by a number of architects, and even more importantly, they comprise integral parts of a contemporary architectural education. The very fact that "ideal fetish forms" can be singled out in the profession implies the existence of innumerable combinations and offshoots from them. It is this tumultuous collection of "schools of thought" in architecture that, naturally become centered around individuals, that gives the appearance of architectural ideas as starting from the psychological makeups of architectural personalities that in turn leads to esoteric methods of writing history.

Finally, a comment on a widely held misconception: that architecture is more "creative" than other professions (for example, engineering). This is simply not true and the groundwork for understanding how such an "idea" emerges out of the realities of the profession has already been established above. Architectural traditions when reflected and objectified in individuals, appear like individual architects "creating" these various schools of thought. When all is said and done, the profession of architecture is "more creative" than that of engineering in the same way that a politician is more creative than a bureaucrat.⁴

⁴On architecture, art, creativity and politics: "...the architect, therefore, is not only a professional man, but also an artist, and he shares...both the problems and the qualities of a temperament commonly associated with artists. Thus he lives in a world which is dominated by fashion and split up into cliques and coteries...As a result, faction has become the distinctive feature of architectural politics." The quote here is from Carr, Sanders and Wilson as given by Barrington Kaye, in his book The Development of the Architectural Profession in Britain (see p. 23).

PART ONE: THE SUBJECTIVE REFLECTION

II. THE BUILT FORM FETISH

Primarily, nature furnished the materials for architectural motifs out of which the architectural forms as we know them today have been developed, and, although our practice for centuries has been...to turn from her, seeking inspiration in books and adhering slavishly to dead formulae; her wealth of suggestion is inexhaustible; her riches greater than any man's desire...¹

The world of built form is the natural world. Its arena is the particular landscape, which, taken as a whole is...the site. The climate, the terrain, the vegetation and the available materials, these are the elements out of which finally the building is to be fashioned. The architecture of built form therefore "organic" and in "harmony" with nature.

The environment and building are one: Planting the grounds around the building, on the site, as well as adorning the building, take on new importance as they become features harmonious with the space-within-to-be-lived-in. Site, structure, furnishing---...all these become as one organic architecture.²

It is also an "incomplete" architecture, and "in some continuous state of becoming," because nature itself is so

...the law of organic change is the only thing that mankind can know as beneficent or as actual...³

¹An American Architecture, Frank Lloyd Wright (FLLW) ed. Edgar Kauffman, (Horizon Press, N.Y., 1955, p. 23). Also, Louis Kahn has put the idea in the following way: "The builder seeking a beginning is primed by his feelings of commonness and the inspirations of Nature." From the Foreword to Myron Goldfinger's book Villages in the Sun (Praeger Publish. N.Y., 1969, p.7.).

²Writings And Buildings by FLLW, ed. Edgar Kauffman (Meridian books, April, 1960, p. 317).

³An American Architecture, FLLW, p. 45.

But in order to arrive at an organic architecture and to live in a harmonious natural world, non-organic architecture and its corresponding social world have to be excluded decisively from the picture. By fixating upon the quality of organic architecture, a truism is thus set up which makes all other architectural forms redundant and in fact unexplicable except through a categorical denunciation (which is a negative explanation), and this is achieved by reverting back to the very terms of reference with which the whole discussion began...organic architecture.

Debased periods of the world's art and craft are far removed from any conception of these simple and innate principles of organic architecture. Degenerate Renaissance, Baroque, Rococo, the styles of the Louis: none were developed⁴ from within. There is little or nothing organic in their nature...

Here, it is the quality of the architecture--whether it is organic or not--that is being used to interpret social history, rather than social history itself being used to understand the evolution of architectural quality. This inversion can be demonstrated in all the writings of the architectural exponents of this school of thought.⁵ It necessarily involves lopping off society from its architecture; labour from its product. Eventually the

⁴Writings and Buildings, FLLW, p. 89

⁵"Today there are two major problems raised by the changing conditions within our cities. First, there is a lack of cohesive order and sound judgement in the multiplicity of isolated structures...Second, the vast development of anonymous public residential structures has created large and monotonous expanses...There is absolutely no feeling for urban unity, and less feeling for the urban community.

"In our search to improve our conditions, we may look for spiritual guidance [?] to the towns and villages of the Mediterranean--contained communities similar in size and scale to our new suburban villas...Mediterranean villages have developed organically...What is achieved is a place for human experience; a rich variety of forms and spaces in which to live; a structural framework that permits the expression of the individual and the participation of all the community."

We see here in the thinking of Myron Goldfinger a "cruder" example of

methodological problem involved here will get artificially resolved through the personage of that great problem solver, the architect. But we will get to that later.

This exclusion which comes from looking at architecture upside down, transforms the usefulness of built form into its opposite--into a fetish.

From the starting point of the built form fetish, a critique of capitalist society and contemporary architectural practice can be made very easily.⁶

But this critique, because it is being made on the level of appearances (the visual quality of architecture) is no more than the counterposition of one set of organic objects against another set of non-organic objects. This sort of argument therefore lacks the ability to explain the origins of capitalist architecture and to provide a viable alternative to capitalism. When the past is counterposed to the present instead of being explained by it, the future alternative society is turned into a utopian and ideal category. The underlying historical thread is completely lost in the process. A heaven of believers residing in Broadacres city and hell of non-believers--the rest of us--is thus set up, leaving the real world far, far behind.⁷

the typical inversion that results from idealizing primitive architectural forms. (Villages In The Sun, p.9.)

⁶On the whole this critique is made up of fairly obvious observations on the anarchy and chaos of urban life in industrialized economies (See Part two of the Living City by FLLW). But it is a critique based on the effects of capitalism and not on its causes. Occasionally, however, useful insights are made:

As the citizen stands, powerful modern resources, naturally his own by uses of modern machinery, are owing to their very nature [?!] turning against him, although the system he lives under is one he himself helped to build. (The Living City, FLLW, p. 22.)

⁷Broadacres city is FLLW's "organic" alternative to capitalism. It is described and explained in painstaking detail throughout the pages of The Living City (especially Part Three to the end).

The dilemmas of this school of thought come through most clearly in their observations on the truly organic architecture in human history--the vernacular or folk environment.

...folk buildings growing in response to actual needs, fitted into the environment by people who knew no better than to fit them to it with native feeling--buildings that grew as folklore and folksong grew--are today for us better worth studying than all the highly self-conscious academic attempts at the beautiful throughout all of Europe.⁸

This essentially correct observation on "folk buildings" is very deeply rooted in the built form heritage. Paul Oliver in his book Shelter and Society has provided us with a critical history of the influence of this idea first articulated by Frank Lloyd Wright--on the "modern movement" in architecture. In a sense Oliver's account traces the "built form fetish" (although he does not call it that) from FLLW to the 1970s, with the publication of books like Architecture Without Architects by Bernard Rudofsky and Villages Under The Sun by Myron Goldfinger.⁹

The distinction that was made implicitly in the above quote between an unselfconscious society¹⁰ and a selfconscious one appears to the reader as

⁸ Writings And Buildings, FLLW, p. 89.

⁹ See Shelter And Society, by Paul Oliver, especially Part One, Chapter 3, entitled "Attitudes in the Modern Movement." The built form point of view is also quite well reflected in a number of articles included in an issue of Harvard Educational Review (vol. 39, no. 4, 1969) which was devoted to architectural education. See Maurice Smith, What is Arch. ...etc. For, and Aldo Van Eyck, The Enigma of Vast Multiplicity.

¹⁰ An unselfconscious architecture, according to Alan H. Brodrick, in an article published in The Architectural Review, is when "...many dwelling from simple beehive huts to isbas [log cabins] plank-houses and earthen ones can be built by men who are not specialists, but whose chief occupation may be trapping, hunting, cattle-tending, or plant raising. Your boys [!] in Cambodia and Guatemala will build you a nice house between dinner and sundown. They all take a turn at the work as naturally as cook or swim." (entitled "Grass Roots", published in The Arch. Review, vol. 115, p. 101, Feb., 1954.)

a side comment--a not very important truth. This is even more clearly seen when the lines are read in context. For us this distinction will become crucial because it sheds light on the motor force that produces "organic architecture." A discussion of this point--which will incidentally underline the inversion that is typical of the built form theorists--should therefore start by addressing the question: what is the material root of this selfconsciousness (or the lack of it)?

When there are no conflicting economic interests that dominate social relations, then there are no material reasons why a society that is conscious of itself should emerge. On the other hand, the division of the social whole into conflicting classes related to the mode of production and correspondingly to each other in different ways--this is the material basis for a selfconscious society. In primitive economic formations, where there is little, if any, division of labour, and every member of society is productive (or almost every member), there is no objective reason why groups of people (how are they even be defined?) should become conscious of themselves as opposed to other groups. Because the primitive community as a whole is the unit of production, the interests of an individual member are indissolubly bound up with--and flow out of--the fate of all other members. Hence the world gets perceived and dealt with from the standpoint of the community and not from the standpoint of the individual member.

Compare this to a highly specialized (relatively), deeply divided, and interrelated socio-economic structure. Here there is all the reason in the world for interest groups--in particular economic classes--to become conscious of themselves in opposition to, and as distinct from, other groups. To put it bluntly, the intensification of the class struggle that dominates the whole of civilized history presupposes social formations that are increasingly becom^{ing}

more and more selfconscious.¹¹

The implications of this apparent diversion on the evolution of architecture and the increasing specialization of architects is enormous.

It does not follow from the above that an unselfconscious architecture (i.e. "organic")¹² must necessarily disappear as soon as selfconscious classes appear in history. So long as classes (like peasants) still produce on the whole, for their own consumption--not for the market--and other classes (like lords and landowners, or the ruling elites of the earliest civilizations) only exist by expropriating a portion of this internally made product (internal to peasant social relations), then the developing class relations will as yet not have intruded into every aspect of life...and buildings will continue to be produced unselfconsciously. This explains why an organic architecture will

¹¹For an excellent analysis of this point, see History and Class Consciousness by the noted Hungarian, Marxist philosopher, Georg Lukács (especially the entitled "Class Consciousness".)

¹²To distinguish between primitive architectural forms on the one hand and monumental and capitalist forms on the other, using the concepts of "unselfconscious" and "selfconscious" architecture, can be very misleading, in my opinion. The term organic is even worse. However, for the time being we will stick with this terminology because it recurs very frequently in architectural usage. For example, Christopher Alexander in his book Notes on the Synthesis Of Form, which we will critically analyze in the next chapter, on "The Technology Fetish," has extensively developed the former distinction (between selfconscious and unselfconscious architecture). The reason both formulations are clumsy, is because they proceed from the superficial appearance of things and not from that which produces these appearances--the labour process itself. Later on an organic and unselfconscious architecture form will be referred to as the Use Value Trad. in architecture--in accordance with the Marxian distinction between a labour process that produces wealth primarily for direct consumption (use-values) and one that produces to the tune of the market and thus adds to the use value of a product another property--an exchange value.

still prevail in all the rural, agricultural class societies which preceded capitalism despite the fact that they were differentiated economically. But whereas in the 18th and 19th centuries, capitalism developed in some countries, it did not develop (and has not) in others. This uneven development has made it possible for Bernard Rudofsky and Aldo Van Eyck¹³, etc., to go traipsing all over the underdeveloped world photographing and documenting an "architecture without architects".

The line dividing this search for the "holy grail" in architecture, from hypocritical paternalism, is thus revealed by such an analysis to be very tenuous. Backwardness--today--is not something to be put on a pedestal. After all, it is a phenomenon that has been increasingly entrenched precisely because of the capitalistic development of certain parts of the world at the expense of others. This is the quintessence of "imperialism", as we know it today. Therefore, it is the bounden duty of every member of such oppressor nations (who does not identify himself or herself with the maintenance of privilege) to combat actively all ideologies that tend towards obscuring this fundamental fact of our times. The built form fetish, appears--by its very nature--to the underdeveloped world as a conservative outlook--one that tends to reinforce old life patterns of inequality, privilege and backwardness. This is an inescapable conclusion, and it is a property embedded in the point of view itself.

The impact on architecture of the evolution of society from an unself-conscious one to its opposite takes place unevenly as we have seen. Thus although new architectural forms are developing, the old ones still persist and thrive. This "vertical" or chronological accumulation of architectural forms from history is matched by a "horizontal" differentiation or spread of architectural types

¹³See Architecture Without Architects and Streets For People by Bernard Rudofsky, and Aldo Van Eyck's previously mentioned essay in The Harvard Educational Review, entitled "The Enigma of Vast Multiplicity."

corresponding to the different classes in each particular society located as they are in a particular historical moment. As examples of the latter "horizontal" differentiation in the mid-twentieth century, compare housing in Harlem or Roxbury with FLLW's, Fallingwater in Bear Run, Pennsylvania. The examples are similar in form, in that they were both dwellings produced as a direct result of an exchange of labour power for wages. However, they differ in content or quality in that they are produced for different classes within capitalist society.

The combination of these two levels of development of architectural form (the horizontal and the vertical) has led to the utmost confusion, within the profession, and to the proliferation of esoteric schools of thought that thrive on fetishising one or another "type" of architectural form, as we have seen. Other professions do not behave in the same way simply because for them change is much more clearly associated with the demise of that which has become "obsolete". The scientific and engineering professions are good examples of this. A new atomic theory or new methods for calculating structural stresses inevitably replaces the older methods, unlike in architecture whose development consists in adding to an unending list of fetishes!

In an analysis of architecture in pre-capitalistic economic formations the chronological development of new forms (for example, the development of monumental architecture) is inextricably intertwined with the "horizontal" differentiation of types corresponding to the newly developing classes. This means that it is impossible to separate the two and understand what is going on. Monumental architecture is a new architectural form, a product of the first urban civilizations (5,000 years ago). It reflects the newly developing needs of ruling classes that had previously been totally nonexistent. It is produced in a wholly different way from the former, organic (unselfcon) architecture, but despite this fact, it necessarily continues to coexist along

it. Under capitalism, however, a separation takes place between these two tendencies, and this will comprise the theme of the next point.

The peculiar feature of capitalism--the most self-conscious class society of all--is that it tends to replace all hitherto "organic" human relations with exchange relations (i.e. social intercourse is expressed through acts of buying and selling). The latter over time percolates into every detail of everyday life (the consumer society extends itself) making capitalism eventually completely incompatible with an unselfconscious architecture.¹⁴ Thus a new form of architecture develops under capitalism--based on the exchange of the ability to do work--that tends to absorb all the prior forms that have developed historically. As the producer is separated from the product, the architecture of a capitalist economy is cut loose from its past.¹⁵ From now

¹⁴The simple fact that one has to buy building materials as distinct from just "borrowing from nature", means that as producers of buildings we are subject not to "natural" laws but to the social laws that regulate all purchases and sales. The more materials we "buy" and the less we "borrow" (or scrounge from demolishable buildings), the more "selfconscious" our architecture has to be. Thus skyscrapers are more selfconscious than slums in the sense that there is far less "borrowed" or "scrounged up" material embodied in them. Does this mean slums ought to be eulogized over skyscrapers!?

¹⁵The Modern movement in architecture represents just such a break with the past, as is commonly accepted in architectural circles. Le Corbusier, the eloquent spokesman for that movement, has put it this way:

"The architectural revolution is achieved.

"Accomplishments in construction:

1) The carrying functions (post and beams) have been separated from the parts carried (walls or partitions); the framework is independent (steel or reinforced concrete); it finds its firm support in the subsoil without the aid of traditional foundation walls.

2) The facade, which no longer has any compulsory carrying function, may be considered, if need be, simply as a screen separating the inside from the out. It no longer bears the weight of the beams, and...it leads at once to a complete solution of the centuries-old problem of introducing the maximum amount of light into the interior of buildings. Henceforth, the facade can be built of glass...

3) The independent framework of the building, coming in contact with

on the organic and the monumental traditions in building production can be resuscitated only through the fetishes that live on in architects' minds, which can no longer correspond to reality. As the consumer society develops, the typological differentiation of architecture according to classes, proceeds exclusively on the basis of an architectural form based on exchange relations of production. From now on the building is produced with the market in mind and through wage labour. Furthermore, class relations no longer appear solely in the relation of the building to the whole of society, but also within the design of the building itself.¹⁶ Thus not only are the producers alienated from their products (the buildings) but so are the users (the consumers).

the ground only by means of several points of support (the posts) permits ...the omission of all basement quarters, thus leaving open space under the building...

4)...the framework of wooden roofs can be replaced henceforth by flat cement roofs whose horizontal surface will lend itself to valuable

5) Inside the structure--occupied only by economically spaced posts--the plan is entirely free, with vertical divisions (partitions) no longer being joined by placing one on top of the other from floor to floor...

"Such, in brief, is the position of the architectural revolution as it has been accomplished in this day by modern techniques."

See Le Corbusier, The New World of Space (Reynal and Hitchcock, N.Y., 1948, p. 123).

¹⁶The John Hancock tower in Boston is designed not only to accommodate the employees of an insurance company, but also to symbolize a class relation that exists between the owners of this company and the population of Boston. The formal differences between the image the John Hancock tower presents, in comparison to another example of high-rise construction, the Columbia Point housing project, are derivative, in the final analysis, from the different class relations that are built into each of these buildings. Utilitarian "functions" are consequences of the class structure of society and not absolute givens that an architect "objectively" deals with. Hence, the simple act of choosing bathroom fixtures for Columbia Point in comparison to the Hancock tower--mediated as the decision is by the price of the fixtures and hence the quality--derives from the social relations of production that distinguish the people of Columbia Point from the owners of the Hancock Tower.

Recently, a remarkable exhibition entitled Imprint was held at M.I.T. It collected together a number of disparate, very personal and self-made houses that Jan Wampler, from the M.I.T. School of Architecture had documented in the course of his travels throughout the U.S.A. These examples extracted, so to speak, out of the very pores of U.S. capitalism and placed in the Hayden gallery at M.I.T. are above all individual forms of a self-expressive and creative "architecture without architects". These individual exceptions only highlight the social norm that prevails in urban America. If they prove anything at all then it is that the levelling action of a capitalist society (based on exchange) still finds its greatest obstacle in the human being.

Inequality, privilege and hierarchical social relations are therefore being maintained economically and not solely by brute force (as under slavery and serfdom). It is simply the "legal" and inherited fact of the ownership of the means of production that makes the capitalists an unproductive and parasitic class, distinct from the producers themselves, who only have their labour power to sell. From this fact of class relations based on an exchange economy comes the social norm of a self-conscious and alienating architecture.

We can now go back to our starting point--the built form fetish--and hear from that most prolific spokesman, FLLW, on the subject of class relations:

It is seldom that collaboration can enter into truly creative work, /in reference to the production of organic architecture/ except as one man conceives and the other executes.¹⁷

This is the colonial, aristocratic mentality in its architectural garb. It goes to FLLW's credit that he articulates what usually remains buried underneath the aspiration to become an "artist-architect". Quite apart from this,

¹⁷ An American Architecture, FLLW

however, the built form point of view has an impregnable contradiction on its hands: how to create an "organic architecture," with "non-organic" social relations. History and economics make it clear that their dilemma--even using their own terms of reference--is completely insoluble.

In conclusion: the "tragedy" of this school of thought is that it continuously traverses a path leading from the most profound insights into human society and its architecture (and this is what attracts large numbers of young architects to its ranks, disillusioned with the contemptible quality of capitalist architecture); through that which is banal and superficial (their critique of capitalism); into the most inane kind of contradictory formulations (such as the one given above). The result is to diffuse the concentrated and creative energy of a rebellious youth away from the practical problems of the construction of an alternative way of life, that can eventually generate an undreamed of quality in architecture.

PART ONE: THE SUBJECTIVE REFLECTION

III. THE TECHNICAL FETISH

Today more and more design problems are reaching insoluble levels of complexity. This is true not only of moon bases, factories, and radio receivers...but even of villages and tea-kettles...To match the growing complexity of problems, there is a growing body of information and specialist experience. This...is hard to handle; it is widespread, diffuse, and unorganized.¹

The problem of architectural design according to this point of view is one of method: how to organize a fusion of this "growing complexity" with a corresponding "diffuse" and "unorganized" growth of specialised information. The starting point is therefore an assumed crisis in architecture which is caused by an inability of the designers to meet the tasks imposed upon them by the rapid development of capitalism. This crisis can no longer be resolved "intuitively", rather, it requires a "functional approach" to the problem.

Even a cursory reading of Notes On The Synthesis Of Form, by Christopher Alexander, reveals a tremendous fascination with the analogy of the well designed machine or with its philosophical counter part, the formal mathematic system. The writings of other more "famous" architects like Le Corbusier and Buckminster Fuller, exhibit this same fascination.² However, we have chosen

¹ Christopher Alexander, Notes On A Synthesis Of Form, 1966, Chapter One, "The Need for Rationality", pp. 3-4. Since the publication of this book, Alexander has rejected some of the ideas he himself outlined in Notes On The Synthesis of Form. The importance and influence of the ideas in this book, however, must be separated from the personal development of the individuals involved in their articulation.

² Le Corbusier has put it in the following manner:
 "A hundred years of a mechanical era have brought forth an entirely new spectacle. Geometry is supreme. Precision is everywhere The right angle prevails. There no longer exists any object that does not tend to severity.
 "Science, mathematics, analysis and hypothesis, have all created an

Alexander's early writings for our analysis, because these by far present the method of the technical fetish in its most refined form. It would be too easy to pick on the naivete of either Le Corbusier or Buckminster Fuller. In order to get at the heart of the method itself, it is worthwhile to investigate the powerful machine analogy.

The internal workings of a well-designed machine presents itself to the human mind as a model of the rational and scientific method. This is because a machine--no matter how complex--is always a built object that is produced with a specific mechanical activity in mind. The different parts of a machine, in their internal relation to each other (for example, the relation of a cylinder to a piston to the drive-shaft of a car) and to this mechanical activity (drive) are thus easily comprehended and can be appreciated according to how harmonious their correspondence is. Therefore, from the machine as a final product, to the technicalities of its design, the mind naturally abstracts a formally (non-contradictory) logic.

In architecture, when this logic is crowned "the design process", you have the technological fetish. The fetish arises methodologically (later on we will be looking at the material basis of all these fetishes) from perceiving the machine in its internal relation to a laundry list of specific mechanical activities, which are passed off on us with such glowing titles as "user need", "design goals," "design criteria," "performance specifications," and so on.

authentic machinery of thought [emphasis added. This Freudian slip is very revealing as our analysis will show.] An imperative need for clarity, the search for the solution. It is for that which the mathematician term the "elegant solution".

"..The past has ensnared us...We are cowardly and timorous, lazy and without imagination...

"Meanwhile the means are at hand; science, mathematics, industry,

From an article entitled "Architecture, The Expression Of The Materials Methods of Our Times" in the Architectural Record, Aug., 1929, vol. 66, no. 2, p. 123.

The fetish is technical because the problem is perceived not in the "needs" themselves, nor in the quality of the form that results, but in the fitting together of the two.

...every design problem begins with an effort to achieve fitness between two entities: the form in question and its context [the "checklist"/.
The form is the solution to the problem; the context defines the problem.³

This kind of formulation assumes that society is a giant laboratory with "problems", "contexts", and "forms" sitting on different shelves awaiting his excellency, the "objective" designer (the non-subject of this society) for a "synthetic grasp of the organization of the physical world".⁴ While abusing one set of pretenders to genius--the romantics--Christopher Alexander has very quickly slid into a different version of the same thing.

Impressionistic evaluations aside, however, it does follow from the above methodological set-up that social relations are given and unproblematic. They simply "put demands" on the final form (the building) which have to be met with the least amount of conflict, in order to achieve a..."goodness of fit

The form is a part of the world over which we have control, and which we decide to shape while leaving the rest of the world as it is. The context is that part of the world which puts demands on this form.../emphasis added/.

We want to put the context and the form into effortless contact or frictionless coexistence.⁵

A critique must begin by going back to the machine analogy. When an entrepreneur finances the invention of a machine that performs a particular activity better than any other in a certain branch of industry, does that mean that this newly designed "form" in its relation to its total context--as opposed

³C. Alexander, op. cit., from Ch. 2, "Goodness of Fit", p. 16-17.

⁴ibid., p.11. ⁵ibid. , pp.18-19.

to its relation to a particular mechanical activity--has been put into "effort less contact or frictionless coexistence"? Not necessarily, for if the machine constitutes a better "fit" because it conserves labour, then at the same time, the labour that has been conserved might find itself out on the streets--unemployed. From the point of view of our entrepreneur, labour has been conserved. From the point of view of the fired workers their labour has been rendered worthless--i.e. it does not fetch a price. But are we outside the boundaries set down by the "context"? Not at all, for "the context is that part of the world which puts demands on this form...", and the price of human labour power in a competitive market situation "puts" a "demand" on the capitalist to finance the invention of a new machine. There is a duality involved in the relationship of the machine (the form) to society (the context). The machine behaves as a social product (this is what the technocratic mind likes to forget) in addition to the fact that it is a technical achievement. A conflict is resolved at the same time that another one is created. This is what a formalistic logic cannot handle.

The argument that "...the environment only requires design in order to prevent conflicts occurring..."⁶ simply does not correspond to reality, no how much we try to stretch and pull the "form-context boundaries."⁷ Whether one looks at the design of high-rise office complexes, mass-produced housing or the design of Nazi concentration camps, in each respective case the needs

⁶Christopher Alexander, The Atoms Of Environmental Structure, p. 10. This article is the draft of an unpublished paper, that was nevertheless put out for limited circulation by the Center For Planning and Development Research, University Of California, Berkeley (July, 1966). It is available in M.I.T. Rotch library.

⁷This concept of "form-context boundaries" is developed by Alexander on pp. 16-20 of Notes On A Synthesis Of Form.

for prestige, marketable housing, and stabilization of fascism, may or may not be handled well (in a design)... However a good design (a camp from which no prisoners escape) will always occur only at the expense of exacerbating social conflicts. Thus a building, just like a machine in a class society, will resolve some conflicts at the same time that it intensifies others. This is what Bob Goodman in his book After The Planners, meant, when he called planners and architects..."the soft cops".

The potency of the machine analogy lies in its ability to sterilize reality and at the same time keep within a certain margin of truthfulness. For it is true that a machine considered abstractly (i.e. in relation to other machines) can be distinguished from a machine considered concretely (i.e. in its relation to the social relations of production). However, this is categorically not the case with buildings.

A building is a delicate weave of mechanical and social relations. As an example take the average dwelling unit in this country. It provides shelter and mechanical comforts (heat, light, water, acoustical barrier...etc.). But at the same time, it reflects in the organization of its rooms the nuclear family structure of American society. Compare this with other products of human labour, like pencils or a printing press. These are also socially produced commodities, but they tend to be consumed individually--the pencil so than the press. However, even the press relates to the human being in its entirety and does not reveal itself to him or her partially, over time, as all buildings do. Buildings--partially because of their size--are shaped by the social behavior of large groups of people, and in turn they shape that behavior. This is the particle of truth around which Oscar Newman's book Defensible Space revolves.⁸ In conclusion a building is by necessity designed with a

⁸The behavioral approach to physical design has recently become very

social behavior in mind in addition to the mechanical behavior of its various parts.

For all these reasons it is wrong to compare a building with a machine--from a methodological point of view. Rather, a building is a collection of machines spatially interrelated (and thus socially) with each other. Space is a social category, while a wall is a mechanical one. The heating, plumbing and electric systems are all machines--even the constituent parts of a window make a machine--but the whole (the building) is greater than the sum of its machines. Architectural design is thus concerned both with the design of these machines and with the organization of social relations. This analysis leads to the incapable conclusion that it is simply impossible to tear apart this "delicate weave" of mechanical and social relations without "sterilizing" reality. Nonetheless a technocrat goes right ahead and does just that. The desire to reduce all relations of quality (social) into ones of quantity (mechanical) is

fashionable, amongst some architects. This is because the behaviorists manage to keep the method of the technical fetish intact, while espousing it in socio-psychological verbiage. They thus do away with the gruesome exterior form of machine-like analogies, while holding onto the basic content of those analogies. Let us take an example from Oscar Newman's book Defensible Space, subtitled Crime Prevention Through Urban Design, (N.Y., 1972).

The author provides us with pages of handsomely worked out statistics that show that the frequency of crime increases with the building height (or number of stories). From this he concludes:

"Architecture can create encounter and prevent it. Certain kinds of space and spatial layout favor the clandestine activities of criminals. An architect, armed [!] with some understanding of the structure of criminal encounter, can simply avoid providing the space which supports it... The adoption of defensible space design in new buildings...may well pay for itself in terms of the increased level of police efficiency."

Not much seems to have changed since Haussman "solved" Napoleon's problem by tearing through the streets of Paris with his giant boulevards! The architect is "armed" at the same time that the police force is made more "efficient", at the same time that crime is displaced somewhere else. Poetic justice I call it, or the technical fetish at work.

In the Preface, Newman makes an illuminating acknowledgement to his intellectual predecessors: "There are many others who could be cited as intellectual predecessors, espousing similar theoretical principles, Robert Sommer, Edward Hall, Christopher Alexander..." [emphasis added]

at the root of the technical fetish. This theme will be developed later on.

A final note: the distinction between a mechanical and a social relation is not arbitrary for another very fundamental reason. It corresponds to the fact that it is the underlying structure of society as expressed in the actions of human beings (the subjects of history) that produces machines and all other built "things" (the objects of history) and not the other way around. The consequences of dissolving the two into each other will be seen in the practical application of the technical method in architecture using computers.

The problems of the so-called scientificity of this school of thought are most clearly brought out in Christopher Alexander's attempts to translate a "context" into user needs, "design criteria"...(whatever one wants to call them). This is how he begins:

The statement that a person needs something--whether he makes it himself or not--has no well-defined meaning. We cannot decide whether such a statement is true or false... people are notoriously unable to assess their own needs.⁹

The author of these lines "therefore" decides to "replace the idea of a need by the idea of "what people are trying to do".¹⁰ This "idea" he then calls an "active force" as opposed to the passive (I suppose) needs, which he started off with. The next operation is to "call this active force, which underlies a need, a tendency."¹¹ I--the writer--have decided to declare this whole business a fine example of the "pedantic, scholastic technical method"...and I will not bore the reader any further with it, except to note that a "tendency" is simply a way of stating a "user need" in such a way that the users have no say over

⁹C. Alexander, The Atoms... p. 3, in the chapter "What Is A Need?".

¹⁰ibid., p. 4.

¹¹ibid., p. 4.

or not this supposed "tendency" is in their interests or not. All in all a very subtle move, but then that is what scholasticism is all about! From now our "tendency" is "a statement of fact. It may be false; it may be true; it can be tested."¹² A technical fetishist always breathes a great sigh of relief when something can be "tested"--for this notion is the bread and butter of this school of thought. Wriggle and twist though they might, the basic problem has not changed one single bit, by the fact that some scholastic refuse has been distributed to cover up the tracks. It has simply been switched over from the subjective and qualitative realm of real users (members of different classes) and their conflicting needs, to the "objective" or quantitative realm of the technical fetishist, who will from now on act in the interests of "everybody". (despite or because of themselves?!!). Parenthetically, the reader might notice that the elitism implicit in all of this far surpasses anything the built form school ever said.

Having thoroughly robbed user needs of that which breathes life into them, (I mean the active participation of the users in the formulation of their own needs) and reduced people to the level of observers (if not objects), the technocrat once again gets right down to the heart of the matter:

The traditional [i.e. romantic] point of view about design says that the rightness or wrongness of a [built] relation is a question of value...

The point of view we have presented is impartial [another favorite notion of this school]. This is its beauty [!] Because it is impartial it makes possible a sane [!!] constructive and evolutionary attitude to design. It creates the opportunity for cumulative improvement of design ideas.

In terms of this view, the rightness or wrongness of a relation is a question of fact. Either the relation does prevent a conflict between tendencies which do occur, or it does not. [What if it does both accord

¹² ibid., p.4.

to your point of view!!¹³

Facts are not independent of the way we think about them. Therefore one cannot call upon them alone to arbitrate anything except a demonstration of one's methodological incompetence. Consequently, there is no such thing as an impartial point of view--in a class society. This does not mean we have relapsed into utter subjectivism as the author would have us believe.

On the contrary, because history has a progressive and accumulative dynamic, there are points of view that acquire--in practice--historical justification. This--the socialist point of view--we will touch upon in the conclusion.

However, along the way, one meets stumbling blocks--and these have to be uprooted if we are to progress.

In summary: the essential thrust of this technological approach to arch is twofold. First, it attempts to ascribe the lack of quality in architecture under capitalism to the technical and individual incompetence of the architect. In other words the whole problem of quality is a horrendous historical mistake

¹³ ibid., p. 17, chapter entitled "The Scientific Attitude to Relations". In all fairness to Alexander, I will quote a peculiar remark he has buried in the final paragraph of the chapter entitled "What Is A Need?". It is peculiar because it completely undermines the whole purpose of his article:

Since a tendency [he means a use need] is a hypothesis, no tendency can be stated in an absolute or final form. The ideal of perfect objectivity is an illusion--and there is therefore, no justification for accepting only tendencies whose existence has been "objectively demonstrated."

But what are the implications of such a very astute and correct observation? How can this be reconciled with Alexander's conclusion that his point of view is "impartial"? It appears that the real world, which does not restrict itself to the relations of a formal logic, has thrust its truly dialectical essence right into Alexander's face. However, using the standards of formal logic alone--in which Alexander is a true expert--one must admit that we have a serious case of a "mechanical" contradiction.

we have been living with for a few centuries. The second step naturally become to patch up this mistake--via the technical method--but because of the first point, this has to be done by announcing the separation of quality from the way in which it is produced--i.e. from capitalist relations of production.

This is the step that tosses the veil over the fact that: buildings are the prod^{uct} of human labour. The form is thereby artificially separated from the context and the fetish revolves around fitting the two together "objectively" (without contradictions). Contradictions are sterilized out in this method, by resolving all qualitative distinctions in society (such as its class structure) into quantitative categories (such as a checklist of "user needs", which translates the distinctions between a capitalist and a worker into so many more dollar worth of amenities). To question this quantitative framework and to attempt to unfreeze this relation of people to their contexts...is to be "irrational". The unfolding of this method is therefore revealed to be a perfect apology for the capitalist system.

The remainder of this chapter will briefly demonstrate this point by work through two examples of the practical application of this method, in architecture. The focus will be on a) the subjective reflex of the technical fetish on the individual architect, and b) the objective consequence of it on the quality of architecture and the role that the technocratic architect plays in a capitalist society.

The First Example: AN ARCHITECTURE MACHINE?

In their eagerness to provide "harmony" for a problem-ridden physical environment, some architects have turned to that great symbol of rationality--the computer. The problem of architecture is thereby translated into one of constructing "an adaptable architecture machine" that is capable of doing the active work of design. In the preface of a book on this subject dedicated

"to the first machine that can appreciate the gesture", the author says:

I shall...treat the problem as the intimate association^[!] of two dissimilar species (man and the machine), two dissimilar processes (design and computation) and two intelligent ^[?] systems (the architect and the architecture machine). By virtue of ascribing intelligence to an artifact or the artificial, the partnership is not one of master and slave ^[??] but rather of two associates ^[!!] that have a potential and desire ^[!!!!] for self-improvement.¹⁴

In these lines a remarkable metamorphosis has taken place. The machine--the object of human production--has been elevated to the status of the subject of the labour process--the human being. That which was once upon a time passive has now become active. The world can only turn upside down more completely if the inverse were also to take place....if the active subject of history were denigrated to the level of a passive object. This is exactly what the author proceeds to do for the next one hundred and fifty pages. We have already seen how the seeds of this inverted outlook were laid in the transformation of user needs into categories which could be "tested". The substitution of a "tendency" for a "statement that a person needs something" is the first step in the degradation of the human being to the level of an object. The finale borders on the pathetic:

Someday machines will go to libraries to read and learn and laugh and will drive about cities to experience and to observe the world. Such mechanical partners must badger us ^{[note the active-passive relation:} "they" badger "us"/ to respond to relevant information...¹⁵

The obliteration of social relations into mechanical relations and the consequent dissolution of all qualitative differences into quantitative ones logically transforms--in the mind of a technical architect--a machine that is

¹⁴Nicholas Negroponte, The Architecture Machine, (M.I.T. Press, 1970).

¹⁵ibid., p. 29.

capable of handling only quantities (because a computer in technical jargon is "a formal system") into a "species" undistinguishable from the by now thoroughly alienated architect. "To be alienated" can now be given very precise meaning. It is the tendency to confuse what in fact are social relations between people (ones of quality) with the interrelations of quantifiable "things".

The historical root of this confusion is of course the transformation of market relations of exchange from a minor and accidental role in pre-capitalist economies, into the universal dominant economic and social category with the advent of modern capitalism. Obviously market relations are quantitative relations. For example, two pounds of sugar equals one dollar equals three pounds of tea. The specific qualities of tea and sugar are being compared quantitatively. The analysis of the impact of this development on the quality of architectural form will be discussed more fully in the chapter on "The Exchange Value Tradition." For the time being we are concerned with the reflection of this development in the reified consciousness of the technical architect.

A logical outgrowth of the technical fetish is, therefore, the construction of an architecture machine, or,--a different way of saying the same thing--a stamping out of the subjective architectural design process and its replacement with a supra-human "objective" design process. By doing so the focus of discussion has shifted away from the problem itself (the building or the "form") and into the intricacies of another problem, upon whose solution the computation of entire environments will depend. That which started off as a means --the technical method--towards an end--the production of "functional" buildings--is itself transformed into an end--the lifeless dead corpse of a machine. The method is physically built (objectified) into a machine. The dialectic of human practice could not be more completely consummated! Add to this conclusion the proof that a building is not a machine (page 36) and the fact that a machine can only "design" (compute is more accurate) another machine (at

the very best) and the utterly dehumanizing consequences of the technical fetish in theory and in practice is demonstrated.

The same argument can be put in another way. Quality in the product of human labour, arises solely from the idiosyncracies of the individual people working in a social context that does not inhibit the release of their creative energy. For example, primitive societies did provide such an environment, for the only norm governing human behavior--within the limits of a given level of productivity--was social and cultural. It was neither forced (as in slavery) nor economic (as in capitalism). It was a "freely" chosen norm and as a result it produced an organic and unselfconscious architecture, as discussed previously. The essentially biologic (the gene structure) and peculiarly human characteristic of having a consciousness which make no two individuals alike is in the final analysis that which can produce an infinite variety of tangible qualities in the products of each and every human being (and in the products of a collectivity of humans), if and only if productive relations are neither forced nor quantified. The capitalist mode of production through minute specialization--a chopping up of the whole labour process into isolated, mechanically repetitive actions--hourly wages, punctuality...etc.--is continually aspiring to further and further quantification of production at the expense of the individual worker's control over the product of his or her labour. From the point of view of this quantifying action (the capitalist point of view) all individual human qualities are aberrations, to be levelled away. From the point of view of the production of quality, these essentially human attributes are the keystone of production.

In general, the very best that a machine can do is to pass on quality, imparted to it by the human being. This is because a machine is a quantifiable object which can be understood in its internal relation to itself. It is a

formal system. Consequently, the maximum that an architecture machine will ever be able to do is to "design" quantitatively. What does this mean? Concretely it means that although a computer will eventually be able to churn out an infinite number of combinations of "designs" for a specific building on a specific site, all of these will not differ from one another one iota in quality until the machine is understood to be subordinate to that exclusive producer of quality--the human being. The conditions under which this subordination will happen are the conditions of a socialist mode of production. However, for now, we would like to reemphasize that whereas force simply eliminates the creative subject from the picture, reification through quantification inverts the subject-object relation.

Earlier on we saw that the technocratic architects accused the "romantics" of individual and technical incompetence. It is now possible to see that what this criticism boils down to is the fact that the romantics are upholding an "organic" architecture in the teeth of a capitalist architecture, and not realizing what they are doing! They thus appear "irrational" to architects involved in building an architecture machine. An architecture of quantity is thus apposed to an architecture of quality, and this fundamental fact is now reflected in the feuds of these two fetishes.

In conclusion: the technocratic school of thought clearly contaminates the human mind. And it is the architectural reflection of the capitalist system with its ever increasing quantification of the labour process. The acceleration of this dehumanizing system is the objective intent of this approach.

The Second Example: TOWARDS AN ARCHITECTURE OF MOBILE HOMES

In the first example, we attempted to demonstrate the dehumanizing consequences of the technical fetish as it was reflected in the reified (or alienated) consciousness of the individual architect. The problem of the second example is to observe the consequences of the objective social behavior of our reified subject--the technical fetishist.

In an article entitled, "How Better Homes Will Be Built, The Question Mark of Prefabrication", written in 1937 by John E. Burchard, vice president of Bemis Industries, Inc., and professor of architecture at M.I.T., the author placed the problem of mass assembly line production in the building industry in the following social "context":

We are certain that indecent housing definitely breeds pestilence--economic, physical, and moral; that this pestilence will attack rich and poor alike. Without a Fauborg St. Antoine there might never have been a French Revolution.

How much happier we would all be if only these people [the author is referring to the board of directors of large corporations] would realize that there is gold in the prefabrication hills for every honest maker of an honest building material, that no one material is going to enjoy any monopoly whatsoever when the great day dawns, and that no successful prefabrication will ever be achieved by anyone who has a major motive other than the achievement of prefabrication.¹⁶

It should be kept in mind that these words were written on the eve of the gradual recovery from the great depression. The construction industry had begun to pick up a little in 1934, and hopes were riding high amongst architects. Burchard's universal panacea for all the evils in society could be summarized in one word--prefabrication. And prefabrication without government subsidies, because "he [the prefabricator] has good reason from American

¹⁶ John E. Burchard, "How Better Houses Will Be Built, The Question Mark of Prefabrication." This was a lecture given at a conference on housing held at M.I.T. on June 7, 1937. The proceedings were later published in the Technology Review, vol xxxix, no. 9, July, 1937.

record, to fear political machinations..." We will resist the temptation to draw a detailed analogy between Watergate, the impending worldwide capitalist recession that appears to be shaping up, and the probable responses of the architectural profession to them...nevertheless we would be less than truthful not to admit our hopes that the comparison just might tickle the imagination of a few readers!

There is in general a fascinating interaction--which has not yet been seriously analyzed--between a social or economic crisis and the architectural profession.¹⁷ On the whole, a crisis will tend to telescope the relation of the profession to the nitty gritty world of economics and politics.¹⁸ It

¹⁷I have collected over 60 articles, xeroxed from the following architect periodicals, The Architectural Record, The Architectural Forum, The Octagon (journal of the A.I.A.) and other miscellaneous material all from the period 1928-1937. These have been bound and will be put in Rotch library. The selections were motivated by my desire to observe the reflection on the architectural surface of the profound economic changes that were taking place in the U.S.A. during the time of the great depression. The material should constitute a good resource for anyone interested in this topic. The articles are all theoretical in nature and written by members of the profession. The kind of questions that governed the selection of this material are: how is the thinking of architects influenced by the changes that took place in the building industry? To what extent is the profession influencing and affecting the processes of change within the industry, or is it simply being pulled along by a wave it has no control over? How do architects themselves perceive this reality unfolding in front of them?...etc.

¹⁸Here is a "nitty gritty" example from the journal of the A.I.A.: "There exists in the minds of certain architects the conviction that during the present stagnation in the building industry, the Institute should lower its standards of professional practice, scrap the competition code and abandon all disciplinary action--in effect, throw up the sponge and return to the dog-eat-dog cave man procedure of fifty years ago....This is economic suicide from a business standpoint, and would result in all architects' being held in general contempt, instead of only a proportion of them, as is now the case."
Written by the Committee on Ethics and Competitions of the Boston Society of Architects and published in The Octagon, Aug., 1935, vol. 7, no. 8.

thus forces professionals to take a stand on these issues. This can be noticed not only in the writings of the professional journals during the 1930s, but also in the case of the advocacy planning and architecture movement, which emerged as a response to the "urban crisis" of the sixties. Hence, a crisis tends to strip the professional world of its self-appointed, supra-historical veneer of technical "objectivity". This sort of conjunctural period, therefore, becomes the most appropriate time to insert a political thermometer into the unfolding scenario and to observe the behavioral antics of the architectural profession. Of course the opinions will vary tremendously, not only on what the problems are, but also on how they are to be resolved. But one thing is for sure--as John Buchar'd's words indicate--the technical fetish always comes out with flying colors, on the side of the capitalist system.

Let us leave aside for now period of extreme economic crisis, and look at some contemporary trends in the building industry, and the response of the architectural profession to them, to see if there is any qualitative difference.

Between 1960 and 1970, the mobile home sector of the industrialized building industry experienced a phenomenal growth rate of approximately 300%. Moreover, this growth rate corresponds--although not directly--to a general trend in the direction of shifting traditional on-site building construction to manufactured factory production. It is estimated by expert technical observers of these trends that by 1980, the overwhelming proportion of all building construction will be handled by factory manufacturers. This implies that the traditional breakdown of the building industry into on-site builders, component fabricators, modular unit and mobile home producers, and building manufacturers, will tend to collapse into a monolithic whole (i.e. it will become harder and harder to differentiate these different

sectors). Already the mobile home industry has captured the entire housing market below \$15,000 and 50% of all mobile home production is controlled by only eight companies.¹⁹

These are highly indicative trends. And no longer is the architectural profession's response to these changes as naive and simple-minded as our 1930 examples were. A careful look at Bernhardt's study at M.I.T. shows that here is a project with very real implications for at least a partial professional integration into the industrialized building industry. The underlying purpose of the study is of course to lobby Congress and the political machinery of Federal and State governments in favor of the mobile home industry--which is chosen for its "symbolic" significance (it is the most highly industrialized sector of the building industry).

In many interesting ways the mobile home--which is not really mobile, since it falls apart if you move it more than once--is the direct antithesis of the traditional on-site built home. It is produced on an assembly line, in which the unit moves while the work stations are static, thus reducing the amount of labour time required, to an all-time minimum. It is also constructed from the inside to the outside, rather than the other way around. All of this opens up wide possibilities for creative design...if one excludes the "unfortunate" fact that all this "creativity" has to be subordinated not to criteria of human use, but to quantifiable categories of exchange.

Naturally enough the technical argument for the integration of the profession into the building industry rests its case on the deplorable quality of the final product (the mobile home in A. Bernhardt's case) and the immu-

¹⁹All of these figures and trends are taken from lectures given by Arthur Bernhardt, professor of architecture at M.I.T. and director of a massive federally financed five year research program into the mobile home industry. (Lectures were given in the fall semester 1973-1974).

tably "given" capitalist division of labour (Alexander's "growing complexity") If architects would only pull their romantic souls together—the argument goes—and realize that monopoly capitalist industrialization is where the ^{solutions} to all our social problems is "at"...then this irksome little other problem of quality will disappear. There is buried in this argument a fascinating and totally mystified notion...that somehow society through its development has undergone a division of labour between quantity and quality with the former being allocated to industry and the latter reserved for the architectural profession. This "grand illusion" of the technical fetish was analysed previously (p. 19).

In conclusion, we would like to simply point out that in essence (and not in form) the objective logic of the technical fetish has not changed at all since the naive "old" days of the 1930s. In this regard the worlds of Richard F. Bach, written in 1928 in an article entitled "Our Industrial Art", sound almost prophetic:

Power implies responsibility. Leadership is power...
 Where find leaders?...
 The answer is simple: they are in business...
 Thus in quantity production we will undoubtedly find leaders, [in business] but in their relationship to design they will be leaders of manufacturers only...
 Where, then, seek field marshals of design?
 Quantity cannot lead; quality must. Leadership in industrial art is to be sought in the field of the greatest of the industrial arts—architecture. To the architect falls the duty of striking a brilliant keynote.... [etc., etc.]²⁰

Our two examples have illustrated the double-edged consequences of the practical application of the technical fetish. As the one edge strikes a blow in defense of capitalism, the other sinks that much more deeply into the very "soul" of the architect. The capitalist mode of production thus wins out at the cost of increasing deterioration in the quality of the products of human labour coupled with increasing reification of the subject of the design

process--the individual architect. This is irony of truly tragic proportions.

²⁰Richard F. Bach, "Our Industrial Art, Generalship and Numbers", published in the Journal of the A.I.A., March 1928, vol. XVI, #3.

PART ONE: THE SUBJECTIVE REFLECTION

IV. THE MONUMENTAL FETISH

The built form point of view solves the problem of architectural design from a conceptual framework defined by the "organic" relation of human activity (or users) to nature. The technical point of view solves the problem of architectural design from a conceptual framework defined by a laundry list of functions. In contradistinction to both of these, the "monumental" point of view does not operate within a particular conceptual framework. It has no firmly established theoretical criteria in relation to which a "design" is arrived at. Despite this (or maybe because of it) it is the easiest school of thought to recognize in a contemporary building. It is also the single most popular and widely practiced approach to architecture. What is it?

Eero Saarinen is renowned for such achievements as the M.I.T. chapel, Kresge Auditorium, and last but not least that "bird in flight" the TWA air terminal in Kennedy Airport, New York City. Amongst his thoughts on that most revealing of all questions--what is architecture?--he has said:

I think of architecture as the total of man's man-made physical surroundings. The only thing I leave out is nature. You might say it is man-made nature.¹

The built form approach is thereby definitely excluded from this conception of architecture. What about the technical approach? It, too,

¹Eero Saarinen On His Work, ed. Aline B. Saarinen, (Yale University Press, 1962) p. 5.

is not decisive as we can see: "...architecture is much more than its utilitarian meaning."²

What we are left with is the following remarkably frank assessment of the meaning and content of architectural design from the "monumentalist" point of view:

I think, sometimes, architecture is like a marvellous three dimensional chess game.³

If one thinks of this conclusion in terms of a particular program for a certain building on a known site, then it clearly embraces a very wide range of completely unpredictable design alternatives. In spite of this it constitutes a highly specific approach to architecture. The coming together of this "arbitrary" and at the same time highly specific result is best reflected in Saarinen's ensuing descent from the heights of a chess theory of architecture, to its hum-drum application:

I think I now have a really good scheme for CBS. The design is the simplest conceivable rectangular free-standing sheer tower [could this be the chessboard?]. The verticality of the tower is emphasized by the relief made by the triangular piers between the windows [and these the pieces?]. These start at the pavement and soar up 491 feet [no more and no less!] Its beauty will be I believe, that it will be the simplest skyscraper statement in New York.⁴

"I think" this is one architect who is playing chess with himself. Naturally there are no rules in such a one-sided game, or at the very most they are self-imposed rules that vary from one chess player to the next.

² ibid., p. 5.

³ ibid., p. 8.

⁴ ibid., p. 16. The quote is from a discussion the architect had with the client--CBS--on March 31, 1961.

In this sense, the design process--from the subjective point of view-- is "artistic", "intuitive", "sculptural", and finally arbitrary. Instead of a bird frozen in concrete, about to take off, the TWA terminal might have been...a bird at rest, or it need not have been a bird at all, it could have been a semisphere (Kresge), a cylinder (the chapel), a cube.... At the same time, however, from an objective point of view, the "bird of flight" is TWA's terminal and not Pan Am's or BOAC's. The 491 foot "simplest skyscraper in New York" is specifically for CBS and not for NBC, or anyone else. This singularity or specificity is very important from the point of view of a corporate client like TWA, CBS, or Pan Am. It is so important that Pan Am will probably tend not to hire Saarinen to design their buildings for fear the same architect will not be able to make two of his buildings different enough from each other to suit Pan Am's very real needs to compete with--and hence be different from-- TWA.⁵

The distinction between an "arbitrary" design logic coupled with a specific building product distinguishes the monumentalists from both the previous schools of thought where the exact opposite is the case. Whether it is the site that defines the form (built form) or the program (technical) in each case the building itself is subordinated to an overall conceptual framework to design. FLLW's "Fallingwater" house, is first of all a so-called "organic" architecture and only secondarily a house for Edgar Kauffman. In fact, the post FLLW built form approach has carried this logic to such an extreme that M. Smith no longer wants to talk about particular buildings and programs....instead, built form is all about a "pluralistic three-dimen-

⁵Pan Am ended up hiring Pietro Belluschi (former head of the Department of Architecture at M.I.T.) to design its headquarters in New York.

sional 'habitable' field".⁶

In striking contrast, the TWA terminal is built to be a...bird in flight. The program has been so literally translated into a specific image--a scrambled metaphor of what the program is (bird:plane = flight: terminal)--that the very arbitrariness with which Saarinen started off the design is in danger of getting lost in the extreme particularity of the final product. What the product and the architects' verbiage does not conceal is left for the professional journals and the "critics" to chew upon.

By insisting upon the duality involved here the reader is able to see why this approach to architecture constitutes a fetish of monumental proportions. The dictum of "Form for its Own Sake" establishes a school of thought that subjectively ascribes to the product of human labour--the building--a meaning independent of all context (site, function, nature, economics). In comparison with the "Form Follows Function" (technical), of the "Form Is Use" (built form) fetishes, which still preserve a definite (although distorted) relation to context,⁷ which ties the architect down to a particular conceptual framework, the monumental fetish carries the objectification of architecture to dizzying and truly grandiose heights. Henceforth the linguistic hallmarks of this school of thought become "proportion", "symmetry", "harmony", "elegance", "aesthetic",....etc.

In addition to the above considerations arrived at from the point of view of the designer and the design process, the monumental fetish is actually concerned with the production of a special category of buildings, that are a necessary social ingredient in an economy based on monopoly capitalism...

⁶Harvard Educational Review: Architecture and Education, vol. 39, no. 4, 1969 (see article by M. Smith p. 69, entitled "What Is Architecture For...")

⁷"Use" in the built form point of view is described in a very "organic" way. See previous article by M. Smith.

monumental buildings. Before considering the latter aspect of the duality, however, let us make sure that Eero Saarinen is not all alone in his chess theories of architecture, by going up a peg or two on the ladder of professional abilities in the design of modern monumental architecture. Le Corbusier had this to say:

Architecture is the play of forms under the light, the play of forms, correct, wise, magnificent.⁸

And Philip Johnson, had this to say on the above "definition" of architecture:

The play of forms under the light. And my friends, that's all it is...⁹

Finally, Paul Rudolph manages to knock down two birds with one stone, himself and Mies Van Der Rohe, which makes for an efficient quote:

Mies seems to have resolved once and for all the old argument over the vertical or the horizontal should be emphasized in the skyscraper [the reader should remember that this very profound dilemma irked the modern movement for decades] for he emphasized neither [!], since a steel frame is essentially a cage...he has produced the most elegant steel cage known. [An apt description of Mies' contribution to modern architecture, in my opinion.]¹⁰

We have seen what a monumental fetish is--the highest stage attainable in the objectification of architecture. There remains an important question; what is a monumental building?

James Ferguson, a nineteenth century historian of monumental architecture

⁸ This quote is taken second hand from a selection of writings by Philip Johnson, incl. in the ff. book: Philip Johnson, by John M. Jacobus, Jr. (N.Y., 1962) p. 117. The original article is in Perspecta 3, 1955, "The Seven Crutches of Architecture".

⁹ ibid., p.117. ¹⁰ P.Rudolph, "Reg. In Arch.", Perspecta 4, 1957.

has said that, "the first and most obvious element of architectural grandeur is size--a large edifice being always more imposing than a small one; and when the art displayed in their buildings is equal their effect is almost in the direct ratio of their dimensions." The sentiment expressed in these lines might also be partially behind Nikolaus Pevsner's famous slogan: "a bicycle shed is a building; Lincoln Cathedral is a piece of architecture."¹¹

In our opinion, size alone--a quantitative and technical category--is not sufficient as a distinguishing criterion of monumentality. There are large buildings that are not primarily monuments (warehouses, factories, the houses of the pueblo indians) and there are monuments that are not especially big (M.I.T. chapel). In order for a building to be a monument it must have embedded in its size and proportions an abstract message that expresses a social relation. It must be symbolic of those relations.¹² In this sense the designer is once again the mediator between a set of mechanical relations (including the size of the building) and this socially determined symbol.¹³ But it might be argued, is not a factory also symbolic of (or a monument to) industry? And is not an igloo hut symbolic of an eskimo culture? Generally speaking, it is true that in a self-conscious society based on classes that have conflicting economic interests, almost all the objects owned by one class appear to the other as a "symbol" of the wide chasm that separates them. The sum total of value buried in a factory building with all its equipment and machines,

¹¹ Quotes from Paul Oliver's introduction to Shelter and Society, pp. 8-9.

¹² The Webster's New World Dictionary defines a "symbol" as follows: "an object used to represent something abstract; ...as, the dove is a symbol of peace."

¹³ See p. 16 for a discussion of this point.

in comparison to the relatively meager possessions of a worker in that factory, does in reality "represent" a distance separating the worker from the capitalist. Furthermore, in an unevenly developed world, the cultural paraphernalia of the highly developed part do in fact appear to the other less developed part as "symbolic" of a given level of economic development--and vice versa. This latter point will be much more forcefully made in the final section of this chapter on the U.S. embassy building program.

These new and general criteria, which have been introduced as a result of such questions, have, however, left the subject of our inquiry (that which we started off with)--the monumental fetish-- far, far behind. What we are concerned with here is to look at the production of architecture, from the point of view of the designer and the reciprocal (dialectical, if you will) relation of the product of design into its process. It therefore serves no purpose to fuse that which is concrete and specific, into generally correct observations. Concretely, what governs the design of a factory? What governs the design of an igloo hut? And finally, what governed the design of the TWA terminal in New York? In the first case the size and relations of machines to each other, to the assembly lines and to the workers...In the second case, a cold climate and restricted building materials...In the third case, air travel criteria plus "something else", defined by the competitive relation of TWA to other travel corporations. What, in turn, governs the design of this "something else"? Nothing. There are simply no restrictions on the design aspect per se, other than that it ends up distinct, complete, and as a consequence of these two criteria, symbolic. Parenthetically, it should be observed that monuments that are not formally complete entities (for some technical reason) tend to gravitate in the direction of becoming symbolic of something they were not intended to be. This in turn can backfire on the architect. A case in point is the John Hancock tower in Boston, which cannot

"symbolically" assert itself over the Prudential tower (a criterion that "governed" its design), until a few plywood patches get plugged up with glass. The "grief" this has caused the architect I.M. Pei, is at least to the tune of \$100,000--the money payed to M.I.T. to research the cause of the falling glass mystery.

Naturally any monumental building is as a whole constrained by a certain budget, location, market criteria, etc. After all, what can be more of a constraint than highrise construction in which almost everything from the floor area to the number of storeys is calculable according to market criteria? Given such formidable constraints, then, how can one talk about "nothing" governing the design of that "something else"? The solution to the riddle is buried in the word "almost" (and in the flexible character of that "something else"¹⁴), which puts the role of the architect into its proper perspective.¹⁵ Apart from business executives, market analysts, engineers, clerks, secretaries, draughtsmen, and developers...there exists the monumental architect who has a role because business corporations, the government, and the capitalist class in general, have a need for a little "something else". This miniscule slot into which the contemporary architect fits is completely out of proportion to the ideological song and dance which accompanies the performance of this role.

¹⁴The arbitrariness of the monumentalist design process is dependent on the extent to which the building needs to be dressed up--the extent to which "something else" needs to be added. Thus the Sydney Opera House in Australia and the TWA terminal, in comparison to the standard skyscraper, is much more arbitrary.

¹⁵The common practice in the design of monumental architecture of working out a plan and then slapping on an elevation, in my opinion, is connected to the new distinction between the technical function of architecture (the plan reflecting the "real world" forces) and the "arbitrary" social symbolism of the monument (witness the horizontal versus vertical dispute, which takes places on the elevation).

One need only think of the most recent "classic" monuments of the city of Boston--the City Hall by Kallman and McKinnel, and the Hancock Tower, by I.M. Pei, and of all the reviews, newspaper articles, professional journal coverage, including the snooty professional disdain emanating from the academic circles engaged in doing the same thing on a less grand scale...in order for this disproportion to make itself apparent. Why is there such a drive to inflate an empty balloon--the architectural profession?

Given that a monumental architect does in fact produce buildings with a symbolic content, then along with the monument, comes the need to pretend that it is not a symbol of class relationships in a capitalist society.¹⁶ Why is this an absolutely indispensable precondition for the production of symbols? Because to recognize a symbol for what it objectively is, is to deprive it of the very purpose for which it was created. To an atheist a church is no longer the house of God. Therefore, the very nature of a symbol, which implies an abstraction in the form of an object, lends itself to an act of deception. In the case of buildings, the moment of deception occurs when the monument which is a symbol of class relationships is called...architecture. Hence, the ideological song and dance, the reviews, the coverage...etc. To describe a monument for what it objectively is--an object that is both an inevitable product of a class society, and a symbol that conceals the reality of class relations--is the first step towards understanding it.

In the chapter on the Monumental Tradition, we will pick up the threads of this argument through an historical treatment of the origins of the monument fetish in the need to conceal--and thus symbolize--the first social surplus

¹⁶ Concerning the TWA building, Eero Saarinen says (in the book quoted in footnote 1,) "The fact that to some people it looked like a bird in flight, was really coincidental. That was the last thing we ever thought about. Now, that doesn't mean that one doesn't have the right to see it that way or to explain it to laymen in those terms, especially because laymen are usually more literally than visually inclined. (p. 68)

product that had emerged as a result of a rise in the productivity of agriculture. It will be shown there that the monumental tradition in architectural form is closely associated, in its origins, with the first differentiation of human society into classes. In this sense, the monumental fetish under capitalism is simply the crowning point of this development.

The remainder of this chapter is a focussed example of the monumental fetish in capitalist architecture, at work.

In the early years of the cold war, the U.S. government initiated a program entitled, The Foreign Buildings Operation. The purpose was to organize an "export drive" of American architecture that began with over 50 embassies, consulates, information centers and staff quarters--to such places as Spain, Greece, Iraq, Thailand, Brazil...etc. This substantial "beginning" is described by Paul Rudolph as an attempt on the part of the American Government to make "U.S. architecture a vehicle of our cultural leadership", or, put in a nutshell:

FBO is displaying to the rest of the world a colorful picture of a young, progressive, and modern-minded America. The lesson which architecture participates in the teaching of will not be lost upon those who may have received a different impression from Soviet propaganda.¹⁷

The reader is strongly recommended to take a good look at some of these embassies. They are documented in an article by Paul Rudolph, entitled "U.S. Architecture Abroad: Modern Design At Its Best Now Represents This Country in Foreign Lands", (March, 1953, Arch. Forum). The most eminent of architectural representatives were of course selected. To name but a few: Edward D. Stone, Gropius, S.O.M., Jose L. Sert, and of course, Paul Rudolph.

¹⁷From Architectural Forum, March, 1953, in an article by Paul Rudolph mentioned in next paragraph.

"Architecture makes good ambassadors"¹⁸ says Paul Rudolph and then in reference to the pictures of these monuments which are placed side by side with photographs of Soviet embassies, he remarks:

Note the pretentious classicism of official Soviet architecture abroad, then compare it with the clean and friendly [!] embassies, consulates, information centers...now being built by the U.S. in many parts of the free world.¹⁹

A "friendly" architecture, smarts, however, under the exigencies of empirical reality in the underdeveloped world:

Security regulations and the fact that these buildings are American "islands" on foreign soil, have tended to make embassies look self-contained and stern looking [!]. FBO director King, while retaining maximum security has tried to give the new embassies a friendly and inviting look.²⁰

"Security regulations" and a "friendly look" --a classic blend of symbolism and the harsh economic reality of imperialism.

Finally a brief excursion into those unknown lands of architectural objectification by John C. Warnecke, member of the A.I.A. and designer of the U.S. Embassy in Thailand:

If seen on the night of the Loy Krathong [Thai festival] when the fluorescent ceilings are lit and this brightness is floating on the lake, then the embassy will become a glittering lotus petal [no more and no less].²¹

¹⁸ Hopefully, such good "ambassadors" will be made out of a monumental architecture that: "...before long, many a U.S. corporation will be building headquarters overseas--like the Reader's Digest building in Tokyo...Ford offices and plants in the low countries, U.S. oil companies structures on the Persian Gulf, and U.S. steel companies' towns on the Orinero." From same article in Arch. Forum, March, 1953, by Paul Rudolph.

¹⁹ ibid.

²⁰ ibid.

"A glittering lotus petal" in the eyes of an architect...is the seat of U.S. imperialism in Thailand, not only in the eyes of some of the Thai people, but also in the reality of U.S.-Thai economic relations. This American "island" on "foreign soil" symbolizes through its "friendly and inviting look" (and when its "fluorescent ceilings are lit") a social relation between U.S. capital and the working people of Thailand. In other words, the bitter capital pill is objectively not sweetened by a monumental architecture, it is only concealed in a sugar-coated wrapping. Therefore, to the extent that this relation is exposed for what it objectively is--one based upon the capitalist development of underdevelopment (imperialism)--then to that extent will the architectural monument and its designer belong in the dust-bin of history.

²¹John Carl Warnecke, A.I.A., "The U.S. Embassy in Bangkok, The Story of its Design", in the Journal Of The A.I.A. , November, 1958.

PART ONE: THE SUBJECTIVE REFLECTION

V. THE FINAL ROUND

Part One began with an observable phenomenon in the architectural profession--the existence of "schools of thought". It was postulated that this phenomenon was "the recognition in form of an increasingly differentiated content in architecture, that corresponds to the real history of its development." This having been asserted, several schools of thought were then traced to their origins in three distinct "fetishes" in architecture. These were analysed in terms of how, through their own internal logic, they consistently and in different ways concealed the fact that buildings are the product of a particular social organization of human labour. It still remains to be demonstrated that this "neglected aspect" of contemporary architectural theorizing is of serious consequence to a thorough understanding of the evolution of architectural form. Such a demonstration of the determining character of labour relations on the quality of architecture will comprise the main theme of Part Two.

In the course of this analysis of the architectural profession, however, a very wide spectrum of "thought" was covered, beginning with the most sophisticated and alluring points of view (built form and technical) and ending with the crudest and most popularized conceptions (monumental). Clearly this evolution of ideas out of other ideas in architecture reveals an important developmental logic internal to itself. From the point of view of a critique based on a wholly different set of ideas, it is imperative that this internal consistency be analyzed and tested, on its own terms, against the "facts" of the real world. This was the major intent of Part One. But it is not enough simply to observe inconsistencies and then move on the elaboration of a different point of view. It is incumbent upon a materialist critique

to locate the immediate objective basis for the survival and flourishing of such "ideas". It is sufficient to glance at the outline of Part Two to make a guess at the argument which will be constructed concerning the historical origins of the built form, monumental and technical fetishes. But that is not enough. History is so rich that an infinite number of fetishes could be constructed out of it. The question is why these particular ones? What is there in present-day society that provides the good soil for one fetish over another? So far we have only grasped the threads dangling off of the elusive architectural balloon. The point is to anchor them down on good old capitalist terra firma.

What distinguishes one fetish from another? It is most emphatically not the fact that a fetish, which represents a point of view on design is articulated by a particular individual who consistently practices in accordance with this outlook on design. FLLW, whose writings comprised the backbone of the chapter on built form, happens also to have produced some of the classic monuments of his time. We need only mention the S.C. Johnson Wax Company's research laboratories (completed in 1950), the H.C. Price office and apartment tower (1956), the Imperial Hotel (1922), the Guggenheim museum (1959), and finally the famous Larkin Company building (1904). The influence of some of these buildings on the monumentalist school of thought in architecture is unquestionable. According to Vincent Scully, for example, Lois Kahn (a monumental architect if there ever was one) "unconsciously" picked up on some of the themes of the Larkin building in his Medical Research building of 1957-1961.¹ Thus, FLLW produced many different types of buildings, some of which were dominated by a "monumental" logic in design and others (mostly the houses) by

¹Louis I. Kahn, by Vincent Scully Jr. (G. Brazillier publishers, 1962, New York). See pp. 24 and 30.

an "organic" logic. What separates the one from the other?

It has repeatedly been emphasized that the thought process governing the design always differentiates one fetish from the other. But what necessitates these different methodologies? In the final analysis the difference emerges out of the specific demands placed on the designer by the functional nature of a particular type of building. An office building, a city hall, and a church differ in their demands upon the architect from an upper income residence located on a rich natural site (like Fallingwater for example). The latter, in turn, presents the designer with a wholly different problem than the production of profitable low-income housing that will constitute a good investment for an entrepreneur (architect-designed mobile homes). It is not so much the programmatic differences that exist between any two buildings that we are discussing here. Rather the distinction is between whole categories or constellations of buildings towards which the designer adopts qualitatively different methodologies. In the monumental fetish there was a whole range of buildings that called for the "arbitrary method" in design (embassies, TWA terminal, Boston City Hall, Hancock tower...etc.). In discussing this range an indissoluble link was shown to exist between the specificity of the building and the "arbitrariness" of the method. It proved impossible to talk about the one without the other. The dialectic between the method and the particular product was thus forcefully established in this, the "crude" point of view. The problem is to extend this dialectic to embrace the "sophisticated" point of view.

Under capitalism an especially sharp demarcation line is drawn separating the sphere of production from the sphere of consumption. This separation is virtually non-existent in primitive economic formations.² To the sphere of

²When there exist only very crude forms of specialization (division of labour) and no developed trade, the products of human labour are consumed by the same social organization that produced them. Further

production gravitate the raw materials of production, the machinery, the labour force, and within it the actual activities of production take place. The social relations that dominate this sphere are naturally those that derive from this activity of labour (skilled-unskilled, worker-capitalist, white collar blue collar, etc.). On the other hand, in the sphere of consumption (the home, the neighbourhood, the residential suburb) only the finished products of labour find their way (commodities). The social relations that dominate in this sphere on the whole are derived from the needs to consume these products, and reproduce the labour force--hence the nuclear family unit. The home is therefore the unit of consumption in the same way that the factory is the unit of production.

The architect in addressing him or herself to one or the other of these two spheres is faced with two wholly incompatible design approaches (methods). For whereas the sphere of consumption requires a design approach governed by how people use (and thus consume) the sold products of capitalist production ...the sphere of production requires (if it requires architects at all, a dubious proposition!!) a design methodology governed by the exchangeability of those products of capitalism that have not yet been sold. Use in this case includes anything the client (who in this case must be identical with the user) wants or is willing or can afford to pay for (maybe upon the recom^{men}dation of the architect). On the other hand, a building that is designed for exchange and in which the client, by definition, is not the user, on the whole can include only that which the market renders feasible. The built form fetish in design lends itself to an architectural form that is produced

the acts of production and consumption in comparison to a more highly developed exchange economy are not separated from each other in time and space. This does not imply that a primitive economy is necessarily simple and uninteresting. For an extremely entertaining description of an unusually complex primitive economy, see Production And Distribution

on the whole for use (consumption) and in which quality is both a desired and a governing ingredient (example: upper class-bourgeois-residential construction). The technical fetish lends itself to architectural forms that are produced on the whole for exchange (the market) and in which quantity production (mass production) is both desired and a necessary ingredient (example: public housing, mobile homes, warehouses, factories, rental structures...etc.).

A word of caution. When the built form fetish is at work on the design of a building, it is not that the market--as though by magic--has become non-existent. No, it is still definitely an operative consideration. However its importance recedes into the background in proportion to the affluence of the client. If the expenditure on a particular residence (example: Fallingwater) for an extremely wealthy bourgeois (example: Kauffman) constitutes an infinitesimal fraction of what he (Kauffman) owns...then it is likely the market will intrude to a far lesser degree on the design than considerations of use (and/or monumentality). In this case, it might truly be said, that what is available on the market constitutes the "raw material" of design; the "repertoire" of the architect.

Also, when one speaks of considerations of use governing the design, as opposed to market or monumental considerations, the reference always is to a qualitative threshold that gets crossed in a capitalist society with the ownership of wealth. This threshold may very well not be measurable (exactly) but nevertheless it exists and corresponds to the class structure of capitalist society. An architect designing a house for a member of the working class (admittedly, a ridiculous supposition under capitalism) would be restricted to a qualitatively different degree by the straightjacket of the market, than Fallingwater ever was in the design of Fallingwater. These criteria (this

Among the Trobriand Islanders by Bronislaw Malinowski (The Economic Journal, vol. 31., March, 1921)

threshold of quality) must be included in an analysis that concerns itself with the production of architecture.

No fetish ever exists in a "pure" form. This flows directly out of this analysis and the reality of capitalism. All buildings are commodities produced both for use, and in an exchange economy, and all contemporary buildings are in general symbols of capitalist social relations (see p. 32). However, from the point of view of understanding the internal, subjective, dynamic of the process of design (and its reflection in innumerable schools of thought) it proved to be necessary to isolate the ingredients that go into the production of capitalist architecture (use, exchange and monumental considerations) and deal with them separately. This is also the way that these "ingredients" present themselves (i.e. separately) in a given point of view on architecture. Finally, it has become possible to explain how the varying needs of a capitalist system are met, precisely because of a host of warring factions and alliances, the totality of which makes up the architectural profession.³

In conclusion this division of labour within the architectural profession (in its service-like relation to different needs of capitalism) is thus revealed to be the material basis of fetishism (as a phenomenon) in architecture. Here we have the "soil", the "immediate objective foundations" for the flourishing disintegration of the architectural whole, and its "natural" falling apart into "esoteric" schools of thought (all of which is so perfectly exemplified in the cluster organization of the M.I.T. School of Architecture). Nor is this process an "accidental byproduct" of the individuals involved, rather, each mode of thought we have analyzed (built form, technical, monu-

³"...the architect lives in a world which is dominated by fashion and split up into cliques and coteries...As a result faction has become the distinctive feature of architectural politics." See: The Development of the Architectural Profession In Britain, by Barrington Kaye, p. 23.

mental) lends itself in its entirety to the conflicting needs of capitalism (for quality and for quantity).

A final note: this chapter, while concluding Part One on the internal dynamics of the profession--the subjective reflection--at the same time opens up an entirely new topic on how architectural forms actually developed through history. There is a sharp break in continuity between the two parts, as the reader will see. Unfortunately, time considerations have made it very hard to bridge this gap completely. However, as we counter-pose the actual "tradition" to its corresponding "fetish", several themes are simultaneously being developed:

First, the sweeping power and richness of a non-fetishized method of analysis--historical materialism--is being demonstrated.

Second, the peculiar characteristics of fetishized modes of thought are being highlighted, as a result of this counterposition to the actual record of history.

Third, fetishism as a phenomenon in architecture, is shown in its historical evolution out of the nature of commodity production-- as distinguished from its material basis in capitalism. This is essentially a different way of developing the same argument, we have already touched upon in The Technical Fetish. In general, the Marxist method is always to avoid "freezing" or reifying a point of view by developing an argument from several angles. This is what we are trying to do.

PART TWO

THE OBJECTIVE BASIS

PART TWO: THE OBJECTIVE BASIS

I. THE LABOUR THEORY OF VALUE AND ARCHITECTURE¹

It might appear to a reader not familiar with Marxist thought an entirely worthless exercise--following the well-worn paths of semantical argumentation--to insist upon labelling an organic, folk, vernacular, unselfconscious, and primitive built form...The Use-Value Tradition in architecture. It probably also appears suspect to describe the earliest known temples, palaces, and royal tombs as originating an entirely new and distinct category of architectural form called the monumental tradition. Finally, while all of this can be brushed aside as "Marxist idiosyncrasies", it must border on heresy to not only distinguish a third tradition in the production of architectural form--The Exchange Value tradition--but to insist that in the final analysis all the buildings that have ever been produced belong to one and/or another of these three forms. Are we in fact playing semantic games and forcing upon reality a terminology exclusively rooted in our "preconceived" point of view as opposed to in reality itself? We intend to spend the whole of Part Two arguing the usefulness of this approach. But for now we would like to locate the meaning of this terminology in the everyday experience of an individual living in a capitalist society.

¹This chapter is a watered down version of chapter one of the first volume of Capital, by K. Marx. The labour theory of value is the pivot upon which the whole of Marxian economics revolves. Take it away, and the whole of Capital is not worth the paper it is written upon, to say nothing of the following hundred years of theoretical development of Marxism. "Buildings are the product of human labour", that was the slogan with which this venture was opened up. To flesh it out, give it content is the intention of Part Two. But first, the theoretical foundations in the labour theory of value have to be formulated.

The act of working is usually associated with a specific result: a product. This, of course, excludes a sisyphus type of work which must be considered an exception to the rule. The product acquires a given weight, shape, color, texture, proportion, and quality, as a consequence of a definite sequential series of operations that are performed on the materials that go into its production. Masonry, for example, is a skill which by means of coordinating a variety of sensory experiences, transmitted through the human brain and nervous system to the different muscles, enables the individual mason to build a concrete block wall, a brick fireplace...etc. The use to which the final product will be put, is thus determined both by the individual idiosyncracies of the worker and the uniqueness of the operations of the labour process that go into its production. Masonry and a good mason make of a load bearing wall a useful object. There are good and bad masons who nevertheless in the construction of such a wall, still have to calculate its thickness in relation to the load it will carry, choose the appropriate material, lay down a straight line, mix the mortar, line up the building blocks, level off the result, and finish off by pointing the semi-dry mortar joints. No doubt this is all very trivial. But let us go a step further and ask whether under capitalism that is all there is that can be said about the process of labour and its product.

The most striking thing about capitalism is that the product of human labour--the building, for example--assumes the form of a commodity. A commodity, while it is also a specific product of a particular type of labour process (like our masonry wall) is at the same time exchangeable with other commodities. It has a price. Insofar as a commodity is different from all other products of human labour, this pertains to the particularity of the use to which it is put (its special quality) and the particularity of the

labour process that made it. But insofar as something about a commodity is the same as other commodities and finds an equivalent for itself in the form of money...this cannot pertain to the particularity of the use and the labour process which produced it. In short, a price measures something that is the same to all commodities, because we know that dollars and cents do not know how to distinguish between buildings and tubes of toothpaste. We also know that this property of "sameness" cannot be seen, felt, weighed or in any way given a physical form in the commodity itself, because all such physical properties are precisely that which make commodities different from each other, not the same. A commodity therefore has a dual nature.

Where does the necessity for this peculiar duality arise from? When analysing that which makes different products different, all we had to do was describe how they were individually made and what they were individually used for. All we had to look at was the individual relation of the producer to the product. But in order to analyze that which makes different products equivalent to each other and thus exchangeable for each other, clearly a social (as opposed to individual) criterion is coming into play. A price, since it is not physically intrinsic to the products of human labour, must therefore be a socially realized property of commodities. We are not talking about Robinson Crusoe, living off of the land, on a desert island all by himself... but about real people, who produce through their indispensable interrelations with each other a whole stock of wealth (in the form of commodities) which then gets distributed, consumed and reproduced, redistributed and reconsumed ...ad infinitum. The duality therefore arises from the fact that commodity production is, in addition to being an individual form of production, a highly socialized one.

A "primitive" economy, in relation to a capitalist one, is far less socialized, in the sense that any interrelation between villages, or self-

sustaining communities of producers, that does take place happens only occasionally. To the extent that regional dependencies do in fact develop--some villages specializing in one thing, others in another,--to that extent is the primitiveness of that economy being undermined, and its socialization being enhanced. Furthermore, it should be noted that we are carefully distinguishing between social relations of production--which is a term dealing with the internal relations of producers amongst themselves--and a more socialized (interrelated) whole system of production.²

Getting back to that irksome little detail about a commodity--its price. It is possible for the price of exactly the same kind of commodity to vary from one part of the world to another. For example, in some countries of the underdeveloped world, steel for highrise construction is produced, using an American technology, but cheaper "native" labour, with a very low standard of living (relatively). Let us assume, for the sake of argument, that this steel does not differ in quality from that produced in the U.S.A. We will, however, expect it to be cheaper than the steel produced through American labour (although not cheap enough to be imported to the U.S.A.). Here is further proof that that which makes commodities equivalent to each other--and which is reflected in the pricing mechanism--is a socially determined relation that can vary from country to country, according to some social norm. What are these norms?

² Social relations in a primitive economy can be extremely complex. Under capitalism, however, not only are social relations complex, but the economic interdependencies of individuals on each other are made permanent as a result of commodity production, exchange, and the separation of the sphere of consumption from that of production (see footnote 2, "The Final Round"). In this sense capitalism is far more socialized than a primitive economy. However, capitalism is based on a private ownership (not social) of the means of production. This creates a conflict between the integrating socializing dynamic of capitalism and the leaden weight of its anachronistic social relations. Anarchy is thereby produced (see page 7) and socialism as an alternative mode of production is made objectively possible.

Every product of human labour can be reduced to the number of hours, days or weeks that went into its production. All the machines, the maintenance time, and the raw materials that get used up in the labour process can be included in this number of hours by calculating once again how many hours were used up in either their construction, maintenance or extraction. This amount of labour, which goes into the production of a given commodity, is a socially determined norm that naturally varies with the level of productivity, the accessibility of raw materials, the average skill of the workers... etc. It should be intuitively obvious that the greater this quantity of labor--all other conditions remaining the same--the higher the price and vice versa. We have therefore put our finger on the social yardstick against which the infinite varieties of products whose qualities are different are compared and made quantitatively equal to each other.³ (A house = x tubes of tooth-paste = y dollars).

But in the example we gave of two steel industries, that are in the business of producing identical products using the same machines, raw materials, and processes of production... the price of the steel in the underdeveloped region was lower because labour cost less. How therefore can we talk about a given quantity of labour determining a given price? Here are two different sets of prices and what appears to be the same number of hours coexisting

³ According to neoclassical economic theory, the price of--and hence the value of--a commodity is determined by a balancing act, between the available supply from production and the consumer demand for a given commodity. This is not the place to repudiate this mystifying and bankrupt notion. However, it should be pointed out that the fluctuations in market prices which do occur as a result of supply and demand criteria, are integrated into the labour theory of value, which distinguishes between the value of a commodity as determined by the socially necessary number of labour hours embedded into it, and its price. For instance, when Henry Kissinger shuttles in between Cairo and Tel Aviv, the stock market goes up and down like a yo-yo. This does not mean that either the productive supply or the consumptive demand of commodities has changed one little bit. Nor does it mean that more or less labour hours have been put into pro-

in identical products. How can that be? The answer underlines two things that have so far been only implied.

First of all, not only are the products of labour under capitalism commodities, but the ability to do work itself, labour power, has become a commodity. It has a price, that is commonly called a wage. This wage is exchanged for all the necessities of life like food, clothing and shelter. Another way of putting it (in economic terms) is that this wage is exchanged for all those commodities that go into reproducing the ability to do work. Workers need to eat, sleep, clothe, shelter and rest themselves in order to be sane enough to wake up the next morning and begin work all over again. Once again we are faced with the same duality, that previously existed for us in only the product of labour, embedded now in the personage of a wage labourer. All the different qualities of labour (carpentry, masonry, steel construction) are being rendered--according to a social norm--equivalent to a given sum of money--a wage.

Secondly, the amount of a wage in a given society, determines a "standard of living". This flows naturally from the first point. This standard, however, is not an absolute and fixed category at any one point in time. It roughly corresponds to a given level of economic development. Within a single society, it is continuously changing as economic development engenders new needs and wants and the ability to satisfy them. This drives home our point that a wage like any price is a socially determined norm. In two different societies, the wage for the same type of labour may vary, and this reflects varying levels of economic development. A "standard of living" that is kept down at a "primitive" level (defined relatively) requires for

duction. It simply underlines the important conceptual distinction that has to be made between market price fluctuations and averaged out, socially determined prices (the norm around which fluctuations take place) which are equal to the exchange value of a commodity.

its fulfillment far less investment in labour hours in the production of those necessities that make it up. Therefore, lower wages in this particular example reflect a lower standard of living, or less labour time to be crystallized in the necessities of life.

The price differential in our two steel industries is thus revealed to be--having kept all other conditions equal--rooted in an indirect way to the difference in the number of labour hours that go into the production of the steel.

In conclusion, it can be said that both the products of human labour and the ability to do work, have in their capacities as commodities a dual value to society. On the one hand they constitute a value derived from the very concreteness of how they are utilized, consumed and made. This is their use value. On the other hand, they have a social value derived from the amount of labour that is socially necessary to produce them and which places them in an exchange relation on the market, with all the other commodities. This is their exchange value, which eventually congeals into a price.

Let us concretize this entire discussion in terms of the simple architectural task we started off with--the construction of a wall. To begin with, the materials out of which the wall is to be constructed have to be selected according to various criteria based on use, like: 1) how much load the wall is to carry; 2) how thick it is required to be; 3) whether or not it is required to seal off all of the climactic elements or only some; 4) aesthetic considerations. But these criteria of use are matched by others of exchange, like: 1) how much does concrete block cost compared to brick, which may be "more aesthetic"; 2) the thicker the wall is the more labour hours will have to be spent on its construction, the more costly will be the services of a mason; 3) the more windows are included and the greater the sunshine that

comes in, the more corners are created and the greater is the proportion of the cost devoted to labour time as opposed to the building materials, the more likely will the client be to choose concrete block over brick, etc., etc. These combined design considerations, of use and exchange, still only scratch the surface of what is required in the way of decisionmaking concerned with the production of a single architectural element--a masonry wall.

Quality in the products of human labour has now acquired new meaning. No longer is it possible to merely mold the available resources and building materials to provide for the best possible--the most "organic"--"fit" with the needs of the producers. Questions concerning the particularity of what the individual product is used for are now insufficient. Exchange, and a cost of production, of quality--independent of how things are used or what people want, or what they need. To the credit of this new invisible producer of "quality" are the following building types: the slum, public housing, suburban development, the commercial strip, large-scale Levittown-type of development, the mobile home...Our simple concrete wall has through this kind of analysis begun to shed its "trivial" (p.72.) coat.⁴

In response to this, a technical fetishist will brush aside the whole problem of the duality embedded in a commodity, muttering and stuttering about a misfit between "specialists" and "increasing complexity". Of course

⁴"It is clear as noonday that man, by his industry, changes the forms of the materials furnished by Nature in such a way to make them useful to him. The form of wood, for instance, is altered, by making a table out of it. Yet for all that, the table continues to be that common, everyday thing, wood. But, as soon as it steps forth as a commodity, it is changed into something transcendent. It not only stands with its feet on the ground, but, in relation to all other commodities, it stands on its head, and evolves out of its wooden brain grotesque ideas, far more wonderful than "table-turning" ever was." Karl Marx, Capital, vol II, chapter one, section 4, "The Fetishism of Commodities and the Secret Thereof", p. 71. What Marx is getting at is the root of fetishism as a phenomenon in the commodity character of capitalist production. These notions will be developed further in the "Exchange

there is some truth to this description. But not much. The misfit is between a senile commodity producing capitalist system and human needs, not in the nature of human needs themselves. In the final analysis, the debate is not over whether or not there is a misfit in capitalist society producing anarchic environments, cities, distribution systems and an "urban crisis". It is over becoming conscious of the modus operandi of this anarchy, as it is revealed in the two antipodes of commodity production--use and exchange.

The cultural and economic evolution of needs and of useful products to satisfy them is historically linked to the development of a universal equivalent to all products of human labour in the form of money. But money is the market and competitive relations of production, which have "unconscious" and inexorable "laws" (Adam Smith's invisible hand) tending toward greater monopolization and centralization of industrial production accompanied by increasing outward anarchy in social relations. For example, the more the automobile industry gets monopolized, the greater the economic and political weight of this corporate body, the more highways are successfully lobbied for, the less public transportation is built...the more acute are the traffic jams every morning and afternoon and 9 a.m. and 5 p.m.⁵ It is these very laws of exchange that through their development begin to crack up against the very real needs which brought them into being--cultural and economic progress. Let us pause for a moment and look at this whole phenomenon in historical perspective.

Paleontologists have estimated that roughly equivalent species to ours (we are homo sapiens) have been around for about half a million years. This span in turn comprises only a fraction of the time involved since the formation.

Value Tradition" chapter.

⁵See footnote 2 on anarchy in capitalist production.

of the earth out of nuclear fissions in the sun. Capitalism in relation to this spans a length of 250 years (being extremely generous about the whole thing) or at most 0.05% of the amount of time human beings have inhabited the earth. If we exclude pre-history from such approximate calculations and begin with the first urban conglomerations of human beings in cities (5,000 years ago in Mesopotamia, Egypt and the Indus valley), even then, capitalism only occupies a meager 5% of the historical record!⁶

From a point of view that is bewitched by the capitalist portion of human history alone, clearly such time scales are meaningless. It easily becomes an immutable and unproblematic fact, not only that buildings and masonry walls have uses--which in our opinion is a reasonable assumption worth holding onto--but that they are always equivalent to each other and to all other commodities through a pricing system, though money. Thus social relations of production, based primarily on the exchange of money, have in the case of individuals thinking and practising on the basis of such a point of view become so indelibly stamped on their consciousness...as to render^{er} any talk of an important conceptual distinction between that 0.05% and all the rest of the 99.95% utterly incomprehensible!

The simple fact of the matter is of course that exchange relations of production--and hence the capitalist world of commodities--were born out of use relations of production in a long and tortuous process. The Use-Value, Monumental, and Exchange-Value traditions in buildings are thus the architectural reflections of this developmental undertow...the relations betwe^{en} which we would now like to examine.

⁶Most of these figures were taken from Man Makes Himself, by Gordon Childe, (1951).

PART TWO: THE OBJECTIVE BASIS

II. THE USE-VALUE TRADITION

The tendency of the built form fetish was to posit the organic against the inorganic traditions in architectural forms. This methodologically emerged from considering built form as a separate and thus "frozen" thing-for-itself, distinguishable from its socially primitive context. We will now proceed to reverse this order of priorities by beginning from the social form of labour and ending with the built architectural form. By so doing we hope to "unfreeze" the idealized conception of organic architecture. This entails presenting the problem of built form in its relation to a continuously changing level of economic development. And it entails bringing into the picture human society's continuously evolving consciousness of the built thing itself.

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It is assumed that the earliest men snared and hunted wild animals and birds, caught fishes and lizards, collected wild fruits, shellfish and eggs and dug for roots and grubs. It is also assumed, but with less confidence, that they made coats of skins. Some certainly took refuge in caves, others may have erected rude shelters of boughs.¹

For a quarter of a million years, at least, this is all that can be said by modern archaeology and paleontology about the collection of food, the probable production of clothing and the accidental, animal-like relation of human beings to shelter. Nevertheless, it would be a gross mistake to simply brush aside this pre-history, for it provided the indispensable preconditions

¹V. Gordon Childe, Man Makes Himself, p. 47, (originally published in 1936, and revised in 1951. We are using the Mentor book edition.) This chapter relies heavily on the work and data of the archaeologist V. Gordon Childe. We have extensively quoted from his work, both for corroboration and where what he says cannot be improved upon by re-formulation.

for the possibility of a separation of human history from natural history. The production of crude tools out of wood, bone and stone to serve as extensions of the biological constitution of the human being, in the struggle against nature, brought about the earliest separation of a human, cultural history from a purely organic biological evolution of our species by natural selection.²

To talk about an "architecture" at these very early beginnings, is stretching the point, to say the least...not because "architecture is more than its utilitarian meaning"³, but because shelter is still an accidental, un-systematized need of the human species, that occurs solely in relation to refuge from animals, the climate, and a place to sleep.

The repercussions on shelter of the discovery that fire could be controlled must have been enormous. For the first time, it was objectively possible to defy the climate and darkness, and to cook food. This not only opened up new regions for human habitation which had previously been inaccessible for climactic reasons, but it also implied the beginning of a deeper involvement with the environment, beyond its exclusively "shelter-like" functions. In Upper Paleolithic social formations, for example, elaborate cave paintings have been found of the animals which the Paleolithic hunter lived

²"Man is the last great species to emerge; in the geological record his fossil remains would occur in the topmost layers, so that in this literal sense man is the highest product of the process. Pre-history can watch the survival and multiplication of this species through improvements in artificial and detachable equipment that secure the adaptation of human societies to their environments--and of their environments to them. An archaeology can trace the same process in historical times, with the additional aid of written records..." V.G. Childe, What Happened in History, p. 13, (originally published in 1942, and revised in 1954. We are using the Penguin book edition.)

³This is a common theme in the architectural profession, not only restricted to the monumentalists (see Saarinen, The Monumental Fetish.)

upon.⁴ Also, the existence of ceremonial graves for the dead indicated the incipient development of religion, which in this very primitive form is no more than a way of "explaining" the overwhelming domination of the human being by the "unknown", and hence very mysterious, forces of nature.⁵ Of course the production of fire is several steps away from its mere control and maintenance. In between the two lies a veritable wealth of craft lore, and knowledge of materials that is involved in the systematic ability to subordinate friction to conscious human activity. Add to all of this the continual and never-ending improvements in the usage and manipulation of stone for tools and weapons that the archaeological record amply documents and the implications on the simultaneously developing forms of shelter can be

⁴"Yet the paleolithic sculptures and drawings are not merely expressions of a mysterious 'artistic impulse'. The artist, indeed surely enjoyed executing them, but he did not do it just to secure that joy, but for a serious economic motive. That is most obviously true in the case of the cave paintings and engravings. The pictures are generally situated in the deep recesses of limestone caves whither no daylight can penetrate. No families have ever lived in these fastnesses, they are often very difficult of access. And in executing these drawings had often to adopt most uncomfortable attitudes, lying on his back or standing on his comrade's shoulder in a narrow crevice. Of course he had to work by a dim artificial light; the stone lamps have actually been found; fat maybe assumed as the fuel, with moss for a wick. The pictures are almost exclusively very faithful portraits of individual animals. The artist has evidently been at great pains to make his representation lifelike; we even possess trial pieces, rough sketches on loose blocks of stone, made in preparation for the actual masterpiece on the cave wall." V.G. Childe, Man Makes Himself, p. 55. Modern anthropology corroborates Childe's "economic motives" for primitive art. See discussion of this in Raymond Firth's Elements of Social Organization, ch. 5, "The Social Framework Of Primitive Art".

⁵"They [the Neanderthal precursors of our homo-sapiens species] buried the bodies in specially excavated graves, sometimes placing stones to protect them from the pressure of the earth. The graves were normally dug in the caves that the living used for homes. Sometimes they are situated near to hearths as if in the hope that the fire's heat would restore to the cold corpse the warmth of life. The bodies are placed in deliberately chosen attitudes, generally doubled up. In one grave the skull had been separated from the trunk. Joints of meat and implements were regularly buried with the corpse. Neanderthalers must have imagined that life somehow continued so that the dead experienced the same needs as the living. From middle Paleolithic times ceremonial

readily deduced.⁶

Despite the phenomenal diversity amongst Paleolithic hunters and food gatherers in the production of tools and in their adaptation to the natural environment, which is revealed by the available evidence, there were built-in constraints that imposed themselves on the extent to which these various societies could develop. Hunting, fishing and the collection of food is completely dependent on their natural availability. The more human beings are around to live off of these resources, the quicker does the supply get exhausted. Thus an economic limit is set up on the size of the human population that such a mode of production could support. This limit can be observed at work in the population density of contemporary Paleolithic remnants. The Eskimos in the arctic regions and the aboriginal population of Australia does not exceed .1 to 1.5 inhabitants per square mile. (See population density table, page 104)

The architectural reflection of these economic constraints is revealed by the very forms that have appeared. Caves and crude huts constructed out of roughly hewn timbers (or igloo huts), possibly tents and underground abode dug into the earth---these are the shelters of small, necessarily mobile populations, restricted in what they can do by the availability of food, game, and readily utilizable building materials.

burial can be traced continuously, till today the wreaths, the nodding plumes, and the wake embody a complex of ideas which, however much altered in the transmission, are at least a hundred thousand years old." V.G. Child, What Happened in History, pp. 41-42.

⁶"The earliest stone tools will normally be indistinguishable from the products of natural fracture (stones splintered by frost or heated or shattered by jostling in a river gravel). However, even from times prior to the first Ice Age, archaeologists have recognized pieces of flint that appear to be intelligently chipped, as if to adapt them to serve as knives, choppers, and scrapers. The human workmanship of such 'eoliths' is indeed still disputed, but is admitted by the majority of authorities." V.G. Child, Man Makes Himself, p. 45.

The preceding two pages embrace 98% of our species history. In order to move on to an understanding of the remaining portion (the last 10-12 thousand years), Gordon Childe has convincingly shown that a "revolution" had to take place in the way in which people satisfied their very primitive needs--i.e. in the mode of production.⁷ A hunting and food collecting economy gave way to a food-producing one, in which grains that had previously been collected and directly consumed (ancestors of our wheat and barley) were now deliberately sown and cultivated. Agriculture was born. Closely related with these primitive beginnings in agriculture (horticulture) was domestication^{on} and deliberate breeding of animals. Pottery was also invented:

From their plastic clay the potters built up with skillful hands new shapes, suggested indeed by older vessels cut out of wood or soft stone or gourds, but still free constructions that allow some play for the constructive fancy. From their threads the womenfolk wove fabrics, using an elaborate mechanism--the loom. The new ideas of construction were applied to habitations too; neolithic households normally live in built huts of mud, reeds, logs, stone, or withies plastered with clay. To assist them in these activities neolithic societies manufactured a greatly enlarged assortment of specialized tools.⁸

⁷Childe uses the term "neolithic revolution" in very much the way we commonly use the term "industrial revolution". However, he is so frequently misunderstood on this that we feel we need one more quote: "If the whole long process disclosed in the archaeological and literary records be surveyed, a single directional trend is most obvious in the economic sphere in the methods whereby the most progressive societies secure a livelihood. In this domain it will be possible to recognize radical and indeed revolutionary innovations, each followed by such increases in population that, were reliable statistics available, each would be reflected by a conspicuous kink in the population graph. These revolutions can accordingly be used to mark off phases or stages in the historical process..." V.G. Childe, What Happened in History, p. 29. The reader is suggested to refer to the population density table, p.104.

⁸V.G. Childe, What Happened in History, p. 57.

This fundamentally new stage of development brought about a sizeable relative increase in the human population (see table at end of chapter). The increase in the size of settlements is a clear indicator of this growth. As compared to the findings of individual caves, we are now dealing with excavatable settlements averaging about $1\frac{1}{2}$ to $6\frac{1}{2}$ acres in area, in Europe and in the Near East. Jericho, the earliest excavated neolithic village, in the Jordan valley, had a "mixed" economy of agriculture, hunting and food collection. It was an exceptionally large settlement--approximately 8 acres--that was surrounded by a carefully planned ditch 27 feet wide and five feet deep, including a stone built rampart. Here is a clear cut departure from an "accidental" need for shelter. Public streets, communal granaries, ditches, fences, stone walls, stockades, and a preconceived deliberately built house are the formative beginnings of the development of a consciousness that henceforth clearly perceives "the building" (or architecture) as a need, distinguishable from food collection, refuge, and shelter. In short, it is only possible to talk about the production of architecture, when in fact buildings are being produced and not just shelter is being "found" (as in the case with caves), or "collected" like a bird will collect together its nest and a Paleolithic human will "collect" together a shelter from the boughs of trees. It would be a mistake to locate this conscious activity of building exclusively in a food producing economy (as opposed to a food collecting one). In exceptionally well-favored natural conditions, Paleolithic societies have developed very ornate and quite complex architectural forms.⁹ However,

⁹In West Africa, in the republic of Dahomey, the town of Ganvie, a remarkable architectural form has evolved as a result of the very favourable fishing opportunities on Lake Nokwe: "The town of Ganvie is built entirely on the lake and the only means of access is by canoe...All the buildings of the town are on stilts embedded in the bottom of the

it is clear that in order for broader vistas in architectural production to be opened up, this revolution in the production of food was indispensable.

In marked contrast to the Paleolithic era, an increase in population is a bonus to a Neolithic society.¹⁰ Children can have economic functions wherease before they were a liability. They can weed the fields, scare off the birds from the crops, and tend to the domesticated animals. But only within certain limits. Primitive forms of cultivation use up the soil's fertility.¹¹ So long as land is plentiful, all that has to be done is to leave the exhausted soil and settle somewhere else.¹² Or, a self-sufficing neolithic village might just sprout off a few extra villages by the departure of some of the extra population to uninhabited areas.

lake and all communication is on water by canoe. For most of the year, Ganvie is a three layer town. The bottom layer is the lake itself, a metre or more of water where the fish without whom the town could not exist find shelter, food and the right conditions for breeding...The space immediately beneath the houses [the middle layer] is used for "parking the canoes". The top layer is...the level of the floors of the houses which is dictated by the height of the flood and which is where all social and family life, as well as much work in food preparation and repair of fishing nets and traps takes place..." From an article by Miles Danby, entitled "Ganvie, Dahomey", reproduced in Shelter in Africa, an excellent compilation of case studies of primitive architectural forms, ed. Paul Oliver. (Praeger publishers, 1971).

¹⁰"To increase the food supply it is only necessary to sow more seed, to bring more land under tillage. If there are more mouths to feed, there were also be more hands to till the fields." V.G. Childe, Man Makes Himself, p. 61.

¹¹See Henri Frankfort, The Birth of Civilization in the Near East, pp. 32-35, for a description of the effects of this on the Egyptian and Mesopotamian peasantry. V.G. Childe has analyzed this phenomenon at length as well.

¹²In Central Europe a complete and fairly typical neolithic village has been dug up at Koln-Lindenthal, near Cologne, which is described by Childe as follows (What Happened in History, p. 62): "The settlement at one time consisted of 21 gabled long houses, neatly grouped parallel to one another in a fenced area of 6½ acres within which were enclosed various irregular hollows, dug originally to provide clay for house walls and pots but later converted into rubbish-pits, pigsties,

The breeding of animals within an agricultural economy can under the influence^{nce} of certain climatic changes lead to the adoption of a pastoral economy in which agricultural plays a relatively minor role. Both agricultural nomadism and a pastoral economy appear to be offshoots from a primitive neolithic economic base, in which agricultural technique does not surpass scratching the earth with a hoe, and is dependent on rainfall.¹³

Architectural forms become hemmed in by such considerations and remain restricted to tents or peasant hovels which can be left behind and built over again under better natural conditions. In addition to the newly imposed limits on the population (see table at end of chapter), the inadequacies of neolithic technical equipment and building materials (stone, wood, skins and bone) meant that these societies were still very vulnerable to drought, famine and floods.

It was only in the later stages (between 6000 B.C. and 3000 B.C.) that ^{the} neolithic communities managed to break through the chains of their own backwardness.¹⁴ The plough, the harnessing of animals and the invention of the wheeled cart transformed agricultural production from its previous garden-

or working places. Some houses measured as much as 100 feet in length with a width of 20 feet, enough to accommodate a clan rather than a single natural [!] family. [The communal relations are clear from this description]. But after perhaps ten years these were deserted; the villagers left the site, only to return again after an indeterminate interval. Presumably they had found they could no longer secure decent crops from the exhausted plots round the village and had shifted bag and baggage to fertile virgin soil."

¹³This argument is more fully developed by Childe, in Man Makes Himself, pp. 68-71.

¹⁴Why and how these changes took place are analyzed in chapter entitled, "Prelude to the Second Revolution" (i.e. the urban revolution) in Man Makes Himself.

like dimensions to the scale of entire fields. Irrigation emerged in the Nile and Mesopotamian valleys as a response to the unpredictability of rainfall and the need to control the annual flooding of the rivers, and extend further the cultivable land. The use of wind as a motive force for transportation (sailboats) accelerated the development of trade and the diffusion and interchange of discoveries. The superior qualities of metals like copper and alloys like bronze replaced brittle stone and made regions interdependent on each other, further intensifying the need for trade. In pottery the wheel replaced the built up pot with a molded one that could be produced in a fraction of the time, although requiring far greater skills and a much deeper more intimate understanding of the properties of clay. Generally, settled forms of social intercourse began to replace the former mobility of whole tribes and villages. Within this developmental framework, architecture burst forward in leaps and bounds:

Sedentary life gave opportunities for improved housing accommodations and paved the way for architecture. The earliest Egyptian farmers had been content with simple windscreens of reeds plastered with mud. The proto-Sumerians dwelt in tunnel-like houses of growing reeds or of mats hung upon bundles of reeds, [similar to those described in footnote 8 of the introduction]. But soon houses built of mud or terre-plesee were being erected both in Egypt and in Asia. And long before 3000 B.C. the brick was invented in Syria or Mesopotamia. It is essentially just a lump of mud mixed with straw that has been shaped by pressing into a wooden mold and then dried in the sun. But its invention made free construction and monumental architecture possible.¹⁵

We are now at the very brink of an urban civilization. It is necessary

¹⁵V.G. Childe, Man Makes Himself, p. 91. It is worthwhile to reproduce the rest of this quote, insofar as it has bearing on the next chapter: "Like pottery, brick put into men's hands a medium of free expression, scarcely restricted as to form or size by the material itself. You have a free choice as to how you shall put your bricks together, just as you have in building up a pot. But the product may now be on a monumental scale. And as such it is no longer an individual creation, but... the collective product of many hands."

to pause for a moment and ask some questions.

Keeping in mind that we are still talking about primitive or folk societies living in small communities based on agriculture, what can be said about the development of social consciousness? Clearly, in comparison to the Paleolithic society, a Neolithic one is more selfconscious. This is reflected in the increased size of human settlements, if in nothing else. Social relations are necessarily more involved and complex as a result of increasing interaction and new needs. But beyond that, the Neolithic individual has developed sensitivities, and a knowledge of the world, a horizon on life, if you will, that no Paleolithic "savage" ever had. Corresponding to the evolution of a shelter of boughs into adobe as a building material (dried mud mixed with straw) and finally into that marvellously precise thing--the brick--is the development of human skills, artistry, sensuality, reflectiveness, speculativeness, science, and above all consciousness. Not to recognize this is to put backwardness on a pedestal and to bow and scrape before it in hypocritical paternalism.

Parenthetically it should be noted that when the built form fetishists and Christopher Alexander in the latter chapters of Notes On The Synthesis Of Form describe the unselfconscious approach to built form, this developing selfconsciousness that is going on within the so-called unselfconscious tradition itself, is completely obliterated. This is not an accidental byproduct of a schematic analysis. Rather, it is the logical outcome of an ahistorical method that counterposes the "ideal" to the "real" instead of seeing the former as derivative of the latter.

A problem arises from the very way in which these pages have been written. In considering these developments of the processes of labour, the formidable

array of technical changes and the heightened consciousness of human society, as it is reflected in the proliferation of new needs...it is imperative that these changes not be understood as sequential and inevitable stages along some "determining" path. That would be a religious conception, for it necessarily entails a god-like architect of this development. History is not made up of convenient little chunks, even though we have to write about it that way. Phenomenal variety and diversification is being produced in human culture as hunting and foodcollecting societies continue to coexist (even up to this day) and interact through barter, trade, and war, with agricultural, pastoral, and nomadic societies. In every little primitive village and settlement, a host of different local factors like climate¹⁶, available raw materials, culture¹⁷, inherited social relations and technology, are at work within the general developmental economic framework we have tried to sketch out. In this sense the motor force of social change in architectural forms as much as in anything else, is the limit set down by the economic constraints of a given stage of development. This notion gets at the heart of the important distinction that must be made between a general economic "law" with a very specific example, taken out of Amos Rapoport's House Form and Culture:

...when the Cheyenne, with the introduction of the horse [mid 18th century] gave up their permanent villages of semisubterranean houses, and became nomads living in tepees; they gave up agriculture for the hunt. This is a reversal of the almost biological [?] evolution from the tent to the hut and then to the house, and also a reversal in economic terms according to early evolutionist views.¹⁸

¹⁶ See Olgyay and Olgyay, Design with Climate for some examples from primitive societies.

¹⁷ See Amos Rapoport, House Form and Culture. The book also has a chapter dealing with climatic considerations in architecture and another dealing with the impact of materials and technology.

¹⁸ ibid.

The author is using this example in order to disprove the economic determinist point of view on the development of primitive architectural forms.¹⁹ According to Rapoport, the Cheyenne "decided", independent of economic constraints, to switch over from "advanced" houses to "primitive" tepees.²⁰ Is that actually what happened?

Unlike Rapoport, we are interested in the reasons why the Cheyenne gave up a more advanced architectural form, before we jump to general conclusions about the role of economics in this change.²¹ Given that the Cheyenne never went beyond the horticultural stage in agriculture (they grew maize, beans and squash) and therefore never surpassed the most primitive neolithic forms... the introduction of the horse was capable of reasserting hunting as a more viable and productive economic base, not according to some absolute criterion of "scarcity", but simply in order to maintain or even increase their standard of living. The horse is a generally useless animal for agricultural methods that lack the plough. But combine a horse with a rider equipped with a bow and arrow, and lo and behold! a hunting and fighting "machine" has been invented

¹⁹Rapoport is a real specialist in that scholastic free-for-all--the straw man approach to critique. Chapter Two is supposedly a refutation of not only the economic determinists, but also the climatic, religious, defense, materials and technology, and the site determinist points of view on primitive built forms. The problem is that one never quite knows who this array of "determinists" is, and what it is they are arguing!

²⁰This is how he reasons: "In an economy of scarcity the need to survive and to use resources maximally is so great that these forces may be expected to wield tremendous power. If, even under these conditions economic forces are not dominant then the argument for economics as generally determining becomes rather suspect." Following this gem of formal wisdom, are five pages of "examples" from primitive cultures that supposedly disprove the economic determinist point of view. Unfortunately, they do not. So we will have to do the job for Mr. Rapoport. We have at random selected the Cheyenne example out of the whole bag of goodies Rapoport has strewn all over the place.

²¹See Douglas Fraser, Village Planning In the Primitive World, for all the necessary facts which will substantiate our argument.

that is a thousandfold more efficient--in very crude economic terms--in tracking down wild bison and buffalo.

Furthermore, let us not so conveniently forget that it was the European invasion of the American continent that brought the horse to the Indians. This external "threat" was from the Indian point of view no different than the droughts, famine, and floods, migrations and wars, whose debilitating action provided such strong "economic" incentives for the development of the productive forces of the Neolithic societies.²² A mobile Indian tribe can elude its clumsy European pursuers and discipline its people far more successfully than a settled...in the already foredoomed battle for survival. Faced with certain death in a semisubterranean home, and a flimsy lease on life in a tepee, which would you take?

It is now possible to distinguish between a truly determinist and a non-determinist materialist approach to architectural development. The former places a given architectural form (a tepee, a hut, a house) into a preconceived mental category--a stage--independent of the particular limits set down by the constraints of a given stage of economic development. This crude determinist point of view, thus, does not know how to separate general historical forces from their concrete and particular applications. In practice what is taking place here is the imposition on reality of a neat and tidy ideal (preconceived) mental construction of sequential economic stages. Our

²²"A sudden drought...may mean starvation for peasants relying on dry cultivation and for pastoralists grazing their herds on the steppe. And the specter of famine may drive its victims to seek food in the river valleys migrations where grain...and fodder...are still obtainable; they may enter as suppliants, like the "Children of Israel", and accept some sort of servitude in exchange for life, or they may find refuge in force of arms and arrive as conquerors wars. In any case, the steppe folk thus set in motion will mix with, replace, or dominate the older valley population." V. G. Childe, Man Makes himself, p. 105.

method has nothing whatsoever to do with such an approach.

Mr. Rapoport, on the other hand, seems to have a lot in common with this crude economic determinism. In Chapter Three, for example, on House Form And Culture, while describing his "basic hypothesis" on architectural forms, he says:

In discussing the reasons for the forms of houses and settlements it may be useful to think of them as a physical embodiment of an ideal environment.²³

We have seen how "useful" this method was in understanding Cheyenne architecture. To compress the diversity and multiplicity of primitive architectural forms, into an ideal mental construction, is to avoid the problem at hand no matter how many "facts" are stuffed into a text. We counterpose to this the following historical materialist method:

There is no "neolithic culture," but a limitless multitude of neolithic cultures. Each is distinguished by the varieties of plants cultivated or of animals bred, by a different balance between cultivation and

²³ Robert Redfield, an anthropologist, is also interested in the "construction of an ideal type of primitive or folk society as contrasted with modern urban society" (see article entitled, "The Folk Society", included in Classic Essays on the Culture of Cities, ed. Richard Sennett, 1969). The two, however, are worlds apart, not in what they think (Rapoport is just a crude version of Redfield), but in terms of the academic integrity of the two authors. Rapoport's method we have already dealt with (see footnote 19). Redfield, on the other hand, has "criticized" V.G. Childe, in The Primitive World And Its Transformations, by a scrupulous adherence to the letter and spirit of his work. The reader will be interested to know that the criticism involves whether or not "the solidarity of the precivilized community" was based on a "moral order". Whereas Childe compares the Paleolithic human being to an animal, Redfield objects, because "for a period of time at least five times as long as the entire period of civilization, man has had the capacity biologically for a life governed by such moral orders as we see in primitive societies today." Unfortunately, Redfield has completely missed the point. It is not a question of the biological evolution of human beings, but of the development of the material prerequisites for a higher level of consciousness than animals.

stock-breeding, by divergencies in the location of settlements, in the plan and construction of houses, the shape and materials of axes and other tools, the form and decoration of the pots, and by still greater disparities in burial rites, fashions in amulets, and styles of art. Each culture represents an approximate adaptation to a specific environment with an ideology more or less adequate thereto. The diversity results from a multiplicity of minor discoveries or inventions, at first purely local and conditioned by geological, or climactic or botanical peculiarities^{es} or from arbitrary, i.e. unexplained, idiosyncracies.²⁴

So far we have only skimmed over the very important effect on architecture of that which mediates in between the mode of production and the architectural form itself--the social relations of production. Let us take a comparative example that illustrates this mediating role.

Some primitive formations like the Haida of the Pacific Northwest, the Mailu and the Trobriand Islanders of New Guinea live in naturally rich and abundant parts of the world, in comparison to the Cheyenne, for example.²⁵ This allows them a far greater amount of leisure time with which to dispose of. The social relations in such favored regions are liable to become extremely complex and more and more indirectly related to the mode of production. Since an architectural form and a village plan are direct derivatives only of the socially sifted through residue of an economic basis, it is to be expected that the final architectural results may only very indirectly reflect hardnosed materialist criteria. The social relations of the poverty-stricken Cheyenne, on the other hand, were as a result of "the pressure

²⁴V. G. Childe, What Happened In History, p. 70.

²⁵Brief descriptive accounts of all of these formations are available in D. Fraser's Village Planning...etc. Photographs and drawings of the architecture are also included, which makes a comparison of the building forms easily accessible.

of European settlements forced...to become increasingly warlike."²⁶ They became therefore more directly linked to crude economic criteria, than those of the Haida, the Mailu, and the Trobriand Islanders. A tepee in comparison to the richly ornate Mailu or Trobriand village building in many ways reflects these differences. It is possible from this sort of analysis to appreciate the tremendous variety of architectural forms that may result from a very similar economic base. However, we concur with Paul Oliver in emphasizing that in the study of a particular "type" of primitive built form, nothing can ever substitute for a hard and careful look at the particularities of each case.²⁷ General observations--not ideal stereotypes--are part of the analytical equipment that must be brought to bear on specific idiosyncracies.

Both Neolithic archaeology²⁸ and modern anthropology²⁹ agree that in the fulfillment of needs derived from a "Neolithic" level of economic development, the social relations of production are generally characterized by varying degrees of division of labour across sex and age lines and by a communal organizations of production.³⁰ Let us look at the materialist origins

²⁶ ibid., p. 19.

²⁷ See Shelter In Africa, ed. Paul Oliver (Praeger publishers, 1971) Introduction by Paul Oliver, p. 18.

²⁸ Reference is to the works of Childe and H. Frankfurt.

²⁹ Raymond Firth, Elements of Social Organization (Beacon Press, Boston). See Chapter III, "Social Change in Peasant Communities", pp. 88-89.

³⁰ The simple business of cooking, amongst the Tikopia islanders, is both a cooperative venture and one where division of labour across sex and age lines is operative in the production of the communal meal. See Raymond Firth, Elements Of Social Organization, Chapter II, "Structure and Organization in a Small Community", pp. 58-61.

of both of these factors and then at their impact on the resulting built form.

Historically, division of labour appears to derive from a Paleolithic economy, where women had to produce and cater for more than their individual selves--their children. Naturally there was no such thing as a family unit. Human beings were organized in hordes.³¹ Thus, on the woman's part, an "economic" incentive was set in for the invention of more efficient ways of producing this surplus of food, than simply hunting. It has in fact been proven that the very earliest neolithic inventions (of agriculture, pottery, and weaving,) owe their origin almost entirely to women.³² In a neolithic social organization this division of labour will only tend to reinforce itself, because men --the previous hunters--will gravitate towards animal domestication while agriculture, pottery, and "settled" forms of production are developed by women. Later on, with the further inventions of the neolithic revolution--which are on the whole attributed to men--agriculture asserted itself over animal domestication in economic importance. The role of women was constricted as the field replaced the garden and the farmer replaced the herder and hunter.

³¹"At the moment when tribes start to practice agriculture they are usually organized on the basis of kinship. The oldest form of social organization seems to be that of the horde, such as still exists among the aborigines of Australia. '[A horde] is a body of persons who jointly possess, occupy and exploit a certain defined area of country. The rights of the horde over its territory can be briefly indicated by saying that no person who is not a member of the horde has the right to any animal, or mineral product from the territory except by invitation...' Later the large family, the clan, the tribe as a confederation of clans, the confederation of related tribes, are the normal forms of organization of the primitive peoples." Ernest Mandel, Marxist Economic Theory, vol. I, p. 33. (The quote within the quote is taken from A.R. Radcliffe-Brown, Structures and Functions in Primitive Societies, quoted by E. Mandel. For an in-depth analysis of the development of social organization, see Friedrich Engels' classic, The Origin of the Family, Private Property, and the State, which in turn is based on the researches of the American anthropologist, L. Morgan.

³²E. Mandel, ibid., p. 29. And V. G. Childe, What Happened In History,

Thus the female sex was definitely deprived of control over the source of wealth and power--the land.

As for a cooperative and communal organization of social relations, that was a dire economic necessity imposed on the neolithic community by the very low level of productivity and the fact that the labour of a community is more than the sum of the labours of individuals. So long as the need to combat nature kept on sucking up any surplus that got produced, communal social relations⁴⁵ prevailed. On the other hand, whenever a productive surplus did exist there usually were magicians and tribal chiefs who coordinated and benefited off of its redistribution.³³ It is simply impossible to conceive of self-sustaining productive units being built with subdivisions, streets, communal granaries, fortifications, and storage houses, without a joint effort sanctioned and regulated through custom and religious rites. The unity of production and consumption within a single community of producers is the material basis for communal social relations. Let us now put these general observations into a specific primitive context.

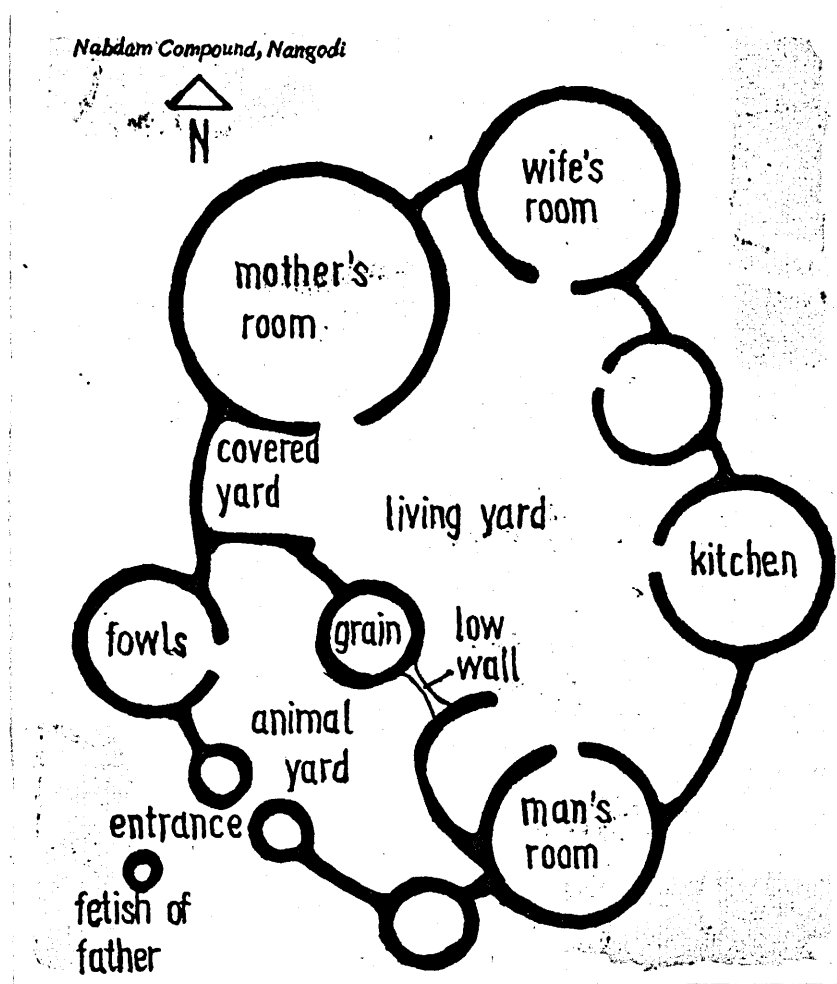
The Nabdum tribes live in North Ghana, Africa. They are sedentary subsistence farmers, living in extended family compounds. Polygamy and patriarchy are combined with male control over the agricultural product:

The basic farming unit, which is to a large extent self-sufficient, is the joint family. This, in its smallest terms, means a man, his

³³"The chief...has in the Trobriands a definite over-right over all the garden land within the district. This consists in the title of "master" or "owner"...and in the exercise of certain ceremonial rights and privileges such as the decision on which lands the gardens are to be made, arbitration in garden disputes...The garden magician also calls himself the "master of the garden" and is considered as such, in virtue of his complex magical and other functions, fulfilled in the course of gardening... The chief, the magician, and the notables, also own individually a number of garden plots each, independently of their general over-rights." Bronislaw Malinowski, The Primitive Economics of the Trobriand Islanders (a tribe in New Guinea).

wife, children, and related older women, but sometimes it means the family head, his brothers, sons and their wives and children... The size of the economic unit, although it is to an extent the result of social and political segmentations, has a basis which is related to farming techniques...³⁴

When the family head dies, it is common for his eldest son to remain in his father's compound, while the brothers leave to build new ones. These may be adjacent to each other, although with separate entrances (because each is self-sufficient) and cooperation between compounds is common. The compounds, are made out of laterite and plastered over with clay and dung. They require yearly maintenance if they are to avoid dissolving back into the ground from the rains. An unoccupied compound thus "naturally" disappears. We reproduce below the plan of a compound that physically illustrates our verbal descriptions:



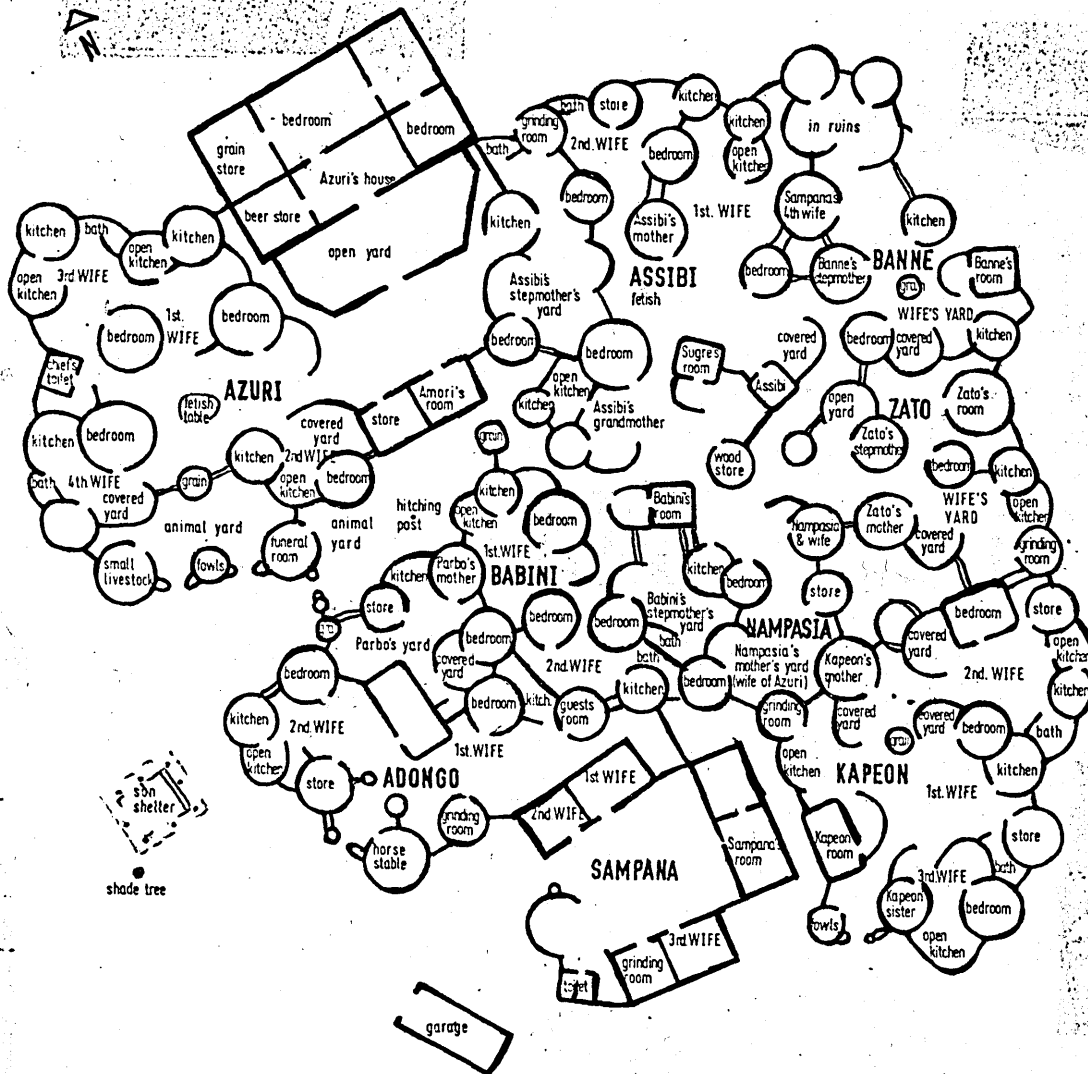
An object of great economic importance, and thus symbolic significance is the granary. In a small compound this is usually situated between the animal yard and the living area, and appears on the plan as the hub around which the living areas are radiused [unity of production and consumption]. Playing such an important role, especially as grain supplies hover between being insufficient and being at starvation level, the granary becomes an object of status. By saying of brothers living in the same compound that each has his own granary, it is implied that they are running separate economic units, with the status that goes with them. The granary is also the symbol of unity for the joint family; when a joint family breaks up, it is usually on the pretext [?] that the parties require an independent grain supply. In a society of farmers where the fruits of all labour is stored in the granary, and when one's very existence depends on the proper storage and management of grain, it is not surprising that the granary becomes the conceptual and physical centre of the farm, and is closely identified with the head of the joint family.³⁵

A Nabdham compound is therefore a loosely organized and amorphous form which is easily expandable to accommodate a growing family. In fact, Ian Archer has shown us the process of growth and change in his article. There are, however, limits on the extent of growth that can take place, and therefore, after a while, the compound will stop expanding and a break will occur as a family moves away to new unoccupied land. The "unselfconscious" and "organic" processes that are at work here are clearly discernable in this building-use plan of a fairly saturated compound which we reproduce on the next page.

³⁴ From an article by Ian Archer, "Nabdham Compounds, Northern Ghana", printed in Shelter In Africa, ed. Paul Oliver. All the information on this tribe is from this source, including the two plans of a typical residential compound (p. 99) and a site plan of an agglomeration of compounds (p. 101).

³⁵ ibid., p. 49.

Compound, Nangodi. Showing building use



Beginning with a primitive mode of production engaged in a continual, never-ending confrontation with nature, and leading into communal and cooperative social relations, we finally ended up with a quality in architecture that is "organic". Any other way around the problem is fraught with dangers. It should at this point be noted that the chain of events will be broken as soon as trade, coupled with the production of a sufficient surplus that can be exchanged, develops. The communal social relations will come to an end and with it the subordination of human society to the natural world. Thus as one battle is won, the other is about to begin. For purposes of understanding

this development it is imperative not to idealize the primitive community, through spectacles tinged with the living experience of capitalist alienation. Unlike almost all the literature we have read on this subject, we have adamantly refused to scatter excuses left and right for our usage of the term primitive. People with a paleolithic and neolithic level of economic development lived and still live a miserable backward and hovel-like existence in comparison to us today. In fact they were (in comparison to us) barbaric in their sensitivities, emotions, psychological perceptiveness, and in their understanding of the world. In this regard, the usage of the term "primitive" is right to the point.

At the risk of being repetitious we would like to conclude this section with the following story about the social relations and architecture of the Egyptian fellah (peasant), as told by Henry Habib Aryout, author of The Egyptian Peasant:

Within the confines of the village, he lives and works more in the open than in his house. Nowhere is there privacy. The women fetch water in groups, children swarm everywhere; the daily life is collective and communal. The village or its quarter, not the house, makes up the entity, a community more important in many ways than the family or clan. It happened that the author once drew on the blackboard of one of our village schools the outline of a hut, as a test of observation, and asked: 'Now, my children, what must we add to make a real home?' 'A door! Windows! Stairs!' they began to call. We thought the house complete, and were ready to erase it, when a little girl cried, 'No, it needs something more'. 'And what is that?' 'The neighbours!'³⁶

In conclusion, the Use-Value tradition in architecture is enormous in its scope and variety. It has been forming and reforming, changing and metamorphosing for the overwhelming part of human history. It springs out of

³⁶ Henry Habib Aryout, The Egyptian Peasant, p. 87.

whole variety of economic forms. Therefore, if one is to permit all the texture and detail of this variety to make itself felt, one must avoid notions of a static and fixed "ideal" primitive tradition.

Beyond everything else, primitive buildings and organization of buildings are objects of use, produced by a community of users exclusively for their own internal needs. There exists no separation in the minds of primitive people and in the final built result between their labour, its means and its product. None of the buildings we have touched upon are commodities, in that they are either the products of wage labour or produced for a market. Nor are any of them monuments to the privileges and wealth of one class at the expense of the others.

From an architectural and planning point of view, the final productions of the use-value tradition achieve their very integrated and organic qualities precisely because of an unconscious and gradual assimilation, by human society of nature into human needs--and not the other way around. This organic balance however, is very precarious. At the slightest whim of the natural forces, it threatens to fall apart. But every level of economic development is a limit not only on what human society can do and be, but also on just how severely the natural world can inflict itself on human society. Because of this dialectic, nature can and has been subordinated to human activity and consciousness. Historically however, this has shifted the problem from one between nature and human society to one buried within the contradictory folds of society itself. Civilization is thus heralded by the primacy of the class struggle on the arena of human practice. A new epoch is thereby opened up.

TABLE OF POPULATION DENSITY

This table is a slightly simplified version of the one developed by the geographer Ratzel, in his Anthropogeography, vol. II, pp. 264-265 (1st German edition, 1891). Ernest Mandel has simplified it and included it on p. 38 of vol. I of Marxist Economic Theory, which is where we took it from.

.....

	Inhabitants per square mile.
Tribes of hunters, and of fishermen in the peripheral parts of the inhabited world (Eskimos)	1-3
Tribes of fishermen and hunters inhabiting steppe-land (Bushmen, Australian aborigines, Patagonians)	1-1.5
Tribes of hunters with rudimentary agriculture (Dyaks, Fapuans, Indian hill tribes, the poorest Negro tribes)	1-20
Tribes of fishermen settled on coasts or river-banks (North-West Amer. Indians, peoples of small Polynesian islands, etc)	up to 100
Nomadic shepherds	40-100
Agriculturists with beginnings of crafts and trade (Central Africa, Malay Archipelago)	100-300
Nomads with agriculture (Kordofan, Persia, Sennaar)	200-300
Peoples carrying on extensive agriculture (Moslem countries of W. Asia and Sudan, E. European countries)	200-500
Tribes of fishermen carrying on agriculture (Pacific)	up to 500
Regions carrying on intensive agriculture (peoples of Central Europe)	2,000
Regions of S. Europe where intensive agriculture is carried on.	4,000
Regions of India where irrigation agriculture is carried on.	over 10,000
Regions of W. Europe where large scale industries are carried on.	over 15,000

PART TWO: THE OBJECTIVE BASIS

II. THE MONUMENTAL TRADITION

In the chapter on the monumental fetish we laid the emphasis on the symbolic qualities of a monument. This symbolism is on the one hand very "arbitrary" in that it may be a "bird in flight", the "tallest building"...etc. And on the otherhand it is very specific in that it always pertains to the need to conceal the fact that a monument is the product of a class society. The "subjective arbitrariness" of the imagery is immediately exposed once the "objective specificity" of what is being concealed is brought out into the open. In our opinion, nothing underlines the fact of this "objective specificity" more completely than locating the historical origins of monumental architecture in the existence of a social surplus product. The first monuments were temples and the first temples were granaries...in the same way that today's monuments are "architecture" and "modern architecture" is the product of the capitalist exploitation of wage labour. These are the linkages we are trying to build up through the counterposition of the monumental fetish to the monumental tradition.

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The city and its houses, from its foundation to its top, I destroyed, I devastated, I burned with fire. The wall and its outer wall, temples and gods, temple towers of brick and earth, as many as they were, I razed and dumped them into the Arakhtu Canal. Through the midst of that city I dug canals, I flooded its site with water, and the very foundations of I destroyed. I made its destruction more complete than that by a flood.¹ [The king Sennacharib's inscription on the total annihilation of Babylon.]

¹From Ancient Near East Texts, ed. J.E. Pritchard (Princeton University Press), as quoted in Lewis Mumford, The City in History, p. 68, Pelican

A wealth of information is revealed in this ancient Mesopotamian text. The city as a distinctly different architectural "context" from the village has appeared. Correspondingly, Sennacherib the king has replaced the former tribal chief. The city has houses in which people live which are distinct from the temples where the gods live. It not only has walls, but outer walls to separate it, not from natural dangers, but from a socially organized competitor, lurking somewhere out there, in another city, or maybe much closer to home...The population is concentrated, centralized, and organized around a new social invention--the canal. Water has been irrevocably controlled... to the point that it can wipe out an entire city. And so Babylon was devastated not by nature--a flood--but "more completely" by war--by socially organized violence. What are the origins of all these new phenomena?

It is commonly overlooked that the ability to wield force--and hence the usage of power in general--is a byproduct of historical development and hence incapable of making history all by itself. Force is only the "midwife" of history as Marx has so brilliantly put it. Therefore, organized warfare as a historical phenomenon is only capable of facilitating the emergence of that which has already become objectively possible. For these reasons an urban civilization and warfare are symmetrical phenomena, that develop hand in hand, and not in cause and effect relationship.²

² Lewis Mumford, for one has not been able to understand this: "As soon as war had become one of the reasons for the city's existence, the city own wealth and power made it a natural target." [emphasis added, p. 56 op. cit.]

A serious consequence of this "analysis" is the wild speculative assumptions that it can lead to, concerning the psychological effects of urbanization: "Backed by military force, the King's word was law. The power to command, to seize, to kill, to destroy--all these were and have remained, "sovereign powers". Thus a paranoid psychal structure was preserved and transmitted by the walled city: the collective expressi^{on} of a too heavily armored personality." (ibid., p. 52)

Precisely the same argument holds true for the development of religion or ideology in general. Christianity and Islam, for example, could only unify a world whose furthestmost parts had already been put into contact with each other through trade and international commerce. The emergence of organized warfare and a unifying state religion, are thus conditional upon the development of the prerequisites for an urban civilization. Hence to explain any one of these phenomena, using the others--as Lewis Mumford does for example³--is simply to beg the question.⁴ Some other way of tackling the problem must be found.

The singlemost striking feature of the very earliest urban civilizations--in contrast to primitive societies--is that a significant layer of people have been relieved of the necessity to do agricultural labour in particular.⁵ But if full time craftsmen, scribes, merchants, officials, priests,

³ Lewis Mumford has explained the "historic development of Kingship" and its natural corollary, an urban civilization, with the peculiar observation that a "collective shift" occurred "from the rites of fertility to the wider cult of physical power." He therefore concludes that: "The urban institution of war...was rooted to the magic of a more primitive society: a childish dream that, with the further growth of mechanical power, became an adult nightmare." This sort of an argument inevitably ascribes to human beings mystical and innately violent psyches. Furthermore, it is in flagrant contradiction to this same point of view's romanticization of primitive folk societies. If the religious "idea" has historically been the motive for social change as Mumford argues, then he has yet to explain why and how this "idea" itself germinated, let alone its unexplicable metamorphosis from a naive "respect for the dead" (p. 14) and fertility rites to a hungry "cult for power". Let us even go along with the Mumfordian notion that the Mayan, Peruvian and Aztec civilizations were no more than the figment of a cultivated neolithic imagination--what about the very first Mesopotamian city? How did it develop? and why?

⁴ Lord Raglan has put even Mumford to shame in his book, The Temple and the House. We will do nothing more than let the author speak for himself "In this book much evidence is adduced to suggest that the custom of building houses did not arise independently in different parts of the world but spread as part of a religious complex [1] or series of religious complexes [!!], originating somewhere [?] in the Ancient East." (Preface, pp. ix-x)

soldiers, officers and a full time king are to survive, they will still have to eat. And since the production of food is still based on agriculture, a transformation must have taken place that enabled a fewer number of peasant labourers to produce an immensely greater quantity of food stuffs. In other words, both the "urban revolution"⁶ and its "civilized" religious appendage, presuppose a qualitative increase in the productivity of labour, and in the consequent ability to accumulate a greater surplus product. This simple truth is at the heart of understanding not only what a civilization means in terms

5"...a sizeable food surplus (over and above the reserve needed for sustenance between harvests) is required before cities can emerge; imperative is a relatively advanced technology, one that can multiply greatly the agricultural yield and thus free some persons from primarily agricultural pursuits, or from "extractive" activities such as hunting, fishing and collecting." (p. 28)
 "Unquestionably for cities to expand and diffuse, the level of technology had to be such as to ensure the surplus of food and raw materials necessary to maintain non-agricultural specialists." (p. 64)

Both quotes taken from Gideon Sjoberg, The Preindustrial City, Past and Present, (New York, 1960), emphasis added.

⁶This term was originally coined by V.G. Childe. See article in April, 1950, issue of Town Planning Review, entitled "The Urban Revolution." It has, however, been frequently objected to both by eminent archaeologists like Henri Frankfurt in The Birth of Civilization in the Near East, p. 35, (in footnote 23), who says, "...an impression of violent, and especially of purposeful change is made which the facts do not suggest." And by historians like L. Mumford who claims the term "does not accurately indicate the process; for a revolution implies a turning things upside down, and a progressive movement away from outworn institutions that have been left behind." (op. cit. , p. 42.)

For V. G. Childes' own and undistorted intent in employing this extremely apt and descriptive phrase see footnote 7 in the Use-Value Tradition section. What amazes us...is the extent to which the conservative mind can project back (five thousand years, in fact) its own conservatism. Furthermore, Mumford himself has vigorously polemicized against the notion that organized warfare existed in primitive societies. "The primal war of 'each against all' is a fairy tale: Hobbes' bellicose primitive man has even less historical reality than Rousseau's noble savage." (p. 34-35, op. cit.)

Given this argument and the discourses we are already familiar with, on the development of "paranoid psychal structures" in cities as a result of the "cult of physical power" (p. 52) what else is this transformation if not a revolution even in the crude "violent" meaning of

of a massive increase of population⁷ and social wealth, but also what it entails in terms of the development of the class struggle and organized warfare.

Whereas a dispersed and scattered neolithic peasantry could get along with enough surplus grain to last a productive unit of a handful of individuals through the winter, the concentrated urban community presupposes both a centralization of these scattered tidbits of surplus and a revolution in how much got produced. Urbanization facilitated the necessary centralization, while large scale irrigation farming brought about the revolution in the productivity of agriculture.⁸ The coincidence of these two factors in Mesopotamia, the Nile and Indus valleys as a result of a particular combination of natural factors and coordinated human activities to overcome them has brought about the first great social division of labour, between the town which lived on the surplus--including its component parts, craft industries, and commerce--and the country which produced the surplus through agriculture. The material basis for social conflict between classes, organized warfare, and a "unifying" state religion--ideology--was thus laid.

Architecture is not left untouched by these advances. From the very earliest times the fruits of human labour had to be protected from marauding animals or human invaders. However, so long as a permanent settlement is not

the term? Either there has been a change in population densities, economic organization, and consciousness, or not. You cannot describe the thing and then refuse to call it by its name.

⁷"The inclusion or exclusion of the agriculturalists greatly affects the population estimates for the early Mesopotamian cities...We would suggest figures of from 5,000 to 10,000 for the larger cities of this era (only part-time, not full-time farmers being included)..." p. 37, Sjoberg, op. cit.

⁸"Hydroagriculture, farming based on small-scale irrigation, increases the food supply, but it does not involve the patterns of organization and social control that characterize hydraulic agriculture and Oriental despotism.

the prevailing norm and the size of the population and consequently the aggregate of the surplus is small, the impact on the built form of defense considerations is bound to be small and accidental. The urban revolution definitively changed all that:

The need for comprehensive works of defense arises almost as soon as hydraulic agriculture is practiced. Contrary to the rainfall farmer, who may shift his fields with relative ease, the irrigation farmer finds himself depending on an unmovable, if highly rewarding source of fertility. In the early days of hydraulic cultivation, reliance on a fixed system of water supply must in many cases have driven the agrarian community to build strong defenses around its homes and fields. For this purpose hydraulic cultivation proved suggestive in two ways: it taught man how to handle all kinds of building materials, earth, stone, timber, etc., and it trained him to manipulate these materials in an organized way. The builders of canals and dams easily became the builders of trenches, towers, palisades, and extended defense walls.⁹

We have seen how architectural production is revolutionized as a result of the new needs imposed by large scale irrigation and defense of the by now very settled communities. There remains the corollary aspect of centralizing the surplus, whose impact on architecture is best revealed by tracing the evo-

These patterns come into being when an experimenting community of farmers or protofarmers finds large sources of moisture in a dry but potentially fertile area. If irrigation farming depends on the effective handling of a major supply of water, the distinctive quality of water—its tendency to gather in bulk—becomes institutionally decisive. A large quantity of water can be channeled and kept within bounds only by the use of mass labour; and this mass labour must be coordinated, disciplined, and led. Thus a number of farmers eager to conquer arid lowlands and plains are forced to invoke the organizational devices which on the basis of pre-machine technology—offer the one chance of success: they must work in cooperation with their fellows and subordinate themselves to a directing authority. " Karl A. Wittfogel, Oriental Despotism. p. 18.

⁹ ibid., p. 34. Also on p. 39, "...a governmental apparatus capable of executing all these hydraulic and non-hydraulic works could easily be used in building palaces and pleasure grounds for the ruler and his court, palace-like government edifices for his aides, and monuments and tombs for the distinguished dead. It could be used wherever the equalitarian conditions of a primitive tribal society yielded to tribal or no longer tribal forms of autocracy."

lution of the "village green" to the "square of a cathedral city"¹⁰, as it is actually revealed in the archaeological record.

The plains of the Mesopotamian river valleys are scattered with artificial hills that are the accumulating debris of ancient settlements. As old and used up villages would slowly collapse with heavy rains and particularly severe climactic conditons, the new village would get built on top. Archaeologists have explored a few of these "tells" by digging down from the top a deep shaft that pierces right down to the bottom--the oldest layers. A multidimensional snapshot of millenia of historical development is thereby opened up for our investigation. At every stage in this deep descent into ancient time are broken pieces of pottery, tools, building materials, and foundations, artifacts of various kinds, etc. These can be dated and as a result each layer of settlement will reveal a given level of technical proficiency. The qualitative breakthrough of the urban revolution can be observed in a truly uncanny way:

Erech [a Sumerian city] began as a village of neolithic farmers. The decay and ruin of successive villages...gradually formed a mound... The first fifty feet of this artificial hill starting from the bottom consist entirely of the ruins of reed huts [see Introduction, footnote 8] or mud brick houses...The village is growing in size and wealth, but it remains a village. But then, instead of the walls and hearths of modest huts, appear the foundations of a truly monumental building--a temple or group of temples... The temple at Erech fell into disrepair, and was rebuilt at least four times. Each successive temple is grander than its predecessor.¹¹

¹⁰See V.G. Childe's description of the Sumerian city of Erech in What Happened in History, p. 99.

¹¹See pp. 117-119, Childe, Man Makes Himself, The description of Erech, as its ornamental qualities unfold, is worth continuing.

"The pots hammered into the walls of the first ziggurat are replaced by

What has happened in this cumulative buildup, to the social surplus? In the neolithic village, we have already passed by an example--the Nabdam compound--in which the receptacle of the communal surplus, due to its economic importance, had been given a symbolic and religious expression by the community that produced it. This was not such an uncommon example and furthermore, the magic involved in fertility rites--which was very common--is simply a different expression of that same importance of the agricultural surplus. By the time we have reached an urban civilization, the granary has become the temple,¹² and the priests are the "caretakers" of the surplus for the god. The social functions of our simple little storage pit have mushroomed almost beyond belief:

...each god has an earthly dwelling, the city temple, a material estate, and human servants, the priestly corporation. The oldest decipherable documents from Mesopotamia are, in fact, the accounts of the temple revenues kept by the priests. They reveal the temple as not only the center of the city's religious life, but also the nucleus of capital accumulation. The temple functions as the great bank; the god is the chief capitalist of the land. The early temple archives record the god's loans of seed or plow animals to cultivators, the fields he has let to tenants, wages paid to brewers, boat-builders, spinners, and other employees, advances of grain or bullion to travelling merchants.

cones of baked clay, the ends of which are painted black, red and white. These are stuck into the mud brick walls so as to make mosaic patterns. By the beginning of the historical period inlays of mother-of-pearl and carnelian on black bitumen replace the mosaic of clay cones. The inner walls of the sanctuary are decorated at first with figures of animals molded in clay. Later these are replaced by friezes of plaques cut out of stone or shell and mounted in bitumen. At the dawn of history large size groups of animals in copper, cast or beaten up over a core of bitumen replace the molded clay figures." p. 119.

¹²"Inasmuch as the land that supported the city was considered to belong to the chief, the farming populace was expected to return to him part of the "surplus" crop; this tribute was held by the city's main temple where it was stored in the granaries attached to it." G. Sjöberg, op. cit., pp 34-35. /emphasis added/

The god is the richest member of the community. His wealth is available to the community from whose piety, he, in fact, derived it. But the same piety required that the borrower should not only pay back the loan, but also add a little thank-offering. The god's ministers were doubtless careful to remind you of your duty, and even stipulated in advance what decency demanded you to offer. Such thank-offerings would today be called interest, and the temple's tariff might be styled usurious by the impious.¹³

Monumental architecture--in our opinion--will remain an eternal mystery to those who would inquire into its origins, unless the indissolubility of its early links with the social surplus product resulting from a revolutionized mode of production are established. In fact, the earliest monuments, which best reflect these origins, are almost an architectural objectification of the vessel into which the surplus was to be poured. We will even speculate that the staged tower--the ziggurat--which accompanied every Sumerian temple was the staircase leading down from heaven...the existence of which prompted the god of the city to stroll down and pick up "his" surplus! Why not?

Truly monumental buildings...symbolize the concentration of the social surplus. Every Sumerian city was from the first dominated by one or more stately temples, centrally situated on a brick platform raised above the surrounding dwellings and usually connected with an artificial mountain, the staged tower or ziggurat. But attached to the temples were workshops and magazines and an important appurtenance of each principle temple was a great granary. [emphasis added]¹⁴

Alongside the priesthood--the organizers of the surplus--a new political power was developing in the form of the chief defender of the surplus, the increasingly independent military commander of the city. The surplus, as was pointed out earlier, has to be protected...and by the way it can very conveniently be increased by that very civilized labour saving invention: organized plunder.

¹³V.G. Childe, Man Makes Himself, p. 124.

¹⁴Childe, The Urban Revolution.

Civil rule is a natural extension of a commanding military function. Thus kingship develops out of the army and asserts itself gradually until the absolute monarch eventually becomes the god (as was the case in Egypt, for example). The architect, amusingly enough, is no tail-ender in this process:

Early kings boast of their economic activities--of cutting canals, of building temples, of importing timber from Syria, and copper and granite from Oman. They are sometimes depicted on monuments in the garb of bricklayers or masons and of architects receiving the plan of a temple from its god.¹⁵

It is self evident that once the economic surplus exists and can be stored and used at the will of those who control it, then the only limits on what can be done with it are those imposed by the size of the surplus itself. Probably the two biggest drains on the surplus in ancient times have been warfare and the construction of monumental buildings. The former was a means for collecting more surplus by unifying and subjecting the peasantry of larger and larger regions while the latter became the objectified symbol of the size of the surplus that the owner of the monument controls. It is important to stress, however, that without the production of this surplus and its centralization, absolutely no social progress beyond the stage of barbarism could have ever been achieved. The production of a monument is a tremendous step forward, not only from the technical standpoint,¹⁶ but also when one takes into account

¹⁵Childe, Man Makes Himself, p. 125.

¹⁶"The construction of a temple was a cooperative task. The labour of the hundreds of participants must be coordinated and directed. The whole must be planned accurately in advance. The outlines of the temple were in fact laid out with strings before the walls were begun [an important innovation in construction technique]. The ground plan of a temple, marked out on the bitumen floor by the thin red lines left by a coloured string, has actually been found on the summit of the artificial mountain at Erech...From other cities and later times we have temple plans drawn to scale on clay tablets." Childe, What Happened... p.101.

the needs which monumental building techniques engendered and fulfilled.

Apart from the lavish palaces, tombs, temples, and defense structures which got built to gratify the needs of the new ruling classes...canals, aqueducts, reservoirs, sluices, and dikes were constructed for irrigation purposes. Drainage canals and dikes protected the city's residents from the threat of floods, while giant aqueducts could provide them with a more accessible water supply. Navigation canals and highways accelerated commerce and the diffusion of ideas. Precision in the measurement of lengths and distances and in the calculation of weights, was an advance directly associated with the need to divide up the surplus and construct monumental buildings.¹⁷ In the hands of the Greeks a wholly new aesthetic was developed from the hair-line nuances of finely tuned measurements (the proportions of the Acropolis, for example)¹⁸. The written word, originally no more than a way of recording the surplus, was now a marvelous vehicle for both self expression and the development of ideas. It should be unnecessary to describe further the invigor-

¹⁷"...brick architecture quite soon made a contribution to applied mathematics. A brick stack admirably illustrates the formula for the volume of a parallelepiped. Even though ancient bricks were hardly ever cubes, it was easy to see that the number of bricks in a stack could be found by counting the number in three adjacent sides and multiplying the three quantities together." Childe, Man Makes Himself, p. 91.

¹⁸The extent to which monumental architecture represents a different kind of quality in built form (in comparison to primitive architecture) is best shown in the worlds of Vitruvius, a contemporary architect of the Roman emperor Augustus: "Architecture depends on Order, Arrangement, Eurythmy, Symmetry, Propriety, and Economy". (p. 13). The reader is also informed that: "Propriety is that perfection of style which comes when a work is authoritatively constructed on approved principles." (p. 14, emphasis added), Vitruvius, The Ten Books On Architecture (Harvard University Press, 1914 edition) tr. M.H. Morgan.

ating impact on human consciousness of writing. Also heating and plumbing systems were now possible and in fact the Romans did experiment with them. Ceramics, mosaics, marble, cement and concrete are only a few of the new textures, colors and qualities introduced into the architectural repertoire, as a consequence of the production of monuments.

All of this is only too familiar to the student of architectural history. We would rather move on to that which is not normally covered in the study of monumental architecture. Namely, the indisputable fact that once the absolute monarchical state had asserted itself over the communal kinship mode of social organization, all monuments became the product of forced labour.

Slavery is a progressive step in the development of human society, when compared to cannibalism and the outright slaughter of entire neolithic villages by other tribal invaders. Its incipient beginnings are already to be found in primitive societies with the assertion of patriarchal kinship relations over matriarchal ones and the total individual subjugation of the female sex to the male population, in correspondence with male hegemony over the material sources of wealth and power. Urbanization, however, facilitates the germination of these "latent" seeds, by institutionalizing and socializing slavery to such an extent that it begins to prevail over every aspect of civilized life. From accidental decisions to spare the lives of a few individual captives, to organized expeditions for the rounding up of hundreds of thousands of people and finally to the organized onslaught by the barbarian tribes put in "contact" with an urban civilization "looking" for slaves...this cycle has repeated itself over and over again in the ancient world, from Sumer and Babylon to Greece and Rome. The fortunes and misfortunes of monumental architecture follow the ebb and flow of this pattern, much like the health of a leech is conditional upon the quality of the blood off of which it thrives.

Let us look at this cycle of events a little more closely.

The extraction of tribute (tithes, taxes, "offerings" to the gods, payment in kind, corvee labour...etc.) from a subjugated peasantry was--as we have seen--the principal source for the further accumulation of a surplus in the ancient world. But a surplus has to be worked upon and put into use, if it is to mean anything beyond a heap of spoiled grain. Thus ownership of surplus and control over its usage without a labour force to own and control is as likely to occur as a temple is, without the "executors" of the holy will. On the other hand, wage labour, on the basis of a "free" exchange of labour power for money is out of the question, because the means of production (the land and the tools) have not yet been separated from the peasant producer. Land is not too scarce and given a "free" choice, all a peasant has to do is pack up and leave. Productive methods are still primitive and simple enough--technically--to make this a very viable alternative. There is only one solution to this historic dilemma, from the point of view of those who would increase their surplus as well as protect it, and that is to forcibly subjugate and "tame" a wild free people--to enslave them.

There are innumerable variations on this general theme that are best understood when we look at two extreme cases. It is possible that the "forced" labour is taken primarily from the formerly independent peasantry. This happened in Mesopotamia and Egypt, leading to so-called "oriental despotism". Private property in agricultural land is unlikely to develop very far in such a mode of production, because the surplus is still "communal" in the sense that "the despot" owns the whole business. Under such circumstances, monumental architecture can become extremely monumental (witness the scale of the pyramids, the sphynx, etc.).

The second case usually occurs at a more developed stage, when trade

and commerce are more fully formed and slaves can be imported from outside the domain of the city state in such massive numbers that makes it possible for the original urban inhabitants to completely give up agricultural work. They can henceforth devote themselves to some of the "higher" things in life like philosophy, the arts, science, sports and last but not least...monumental architecture. The "golden" age of Greece (the Periclean age) is the classic example of this case. Here was a situation where the Greek citizenry were so completely relieved of the need to engage in physical labour that they could afford to be democratic about the whole thing--amongst themselves of course, and not in their relation to the slave class.

The indisputable truth that some slaves were treated very nicely and kindly while others languished in abject misery is of course interesting, but completely irrelevant to the point we are trying to make. The thread we are following leads from the existence of an agricultural surplus--the most important kind of surplus in a pre-industrial era¹⁹--to the monumental building, and it happens--not by accident, as we have attempted to show--to pass through slavery (ancient world), serfdom (feudalism), and all the other ingenious methods civilization invented to force human beings to produce over and above what they needed to live on.

¹⁹E Mandel, Marxist Economic Theory, vol. I, pp. 36-37:

"Already the ancient Greeks of Homer's time regarded civilisation as the product of agriculture. The Chinese of the classical epoch attributed the "invention" of agriculture, of trade and of civilisation, all to the mythical emperor Chen-Nung. It is interesting to note that in Aztec tradition the origin of the people's prosperity is to be found in a communication received by the high priest in a dream, a communication which ordered the Mexicans to dam a great river which flowed round the foot of the hill, so that the water spread over the plain'. Over and above these limited examples, the historian Heichelheim does not shrink from stating, with justification, that agriculture has been the foundation of all civilisations down to modern capitalism. And the American Encyclopaedia of the Social Sciences says: 'History and archaeology have so far brought to light no great civilisation not largely dependent upon one of these three grains (wheat, maize and rice)' ".

But slavery, once it develops beyond a certain limit--by irrevocably replacing a free peasantry with slave labour--turns back on itself and undermines the very civilization that it gave birth to.²⁰ This takes place because slave labour is technically inferior to free labour in agricultural production and only remains a profitable alternative to the latter when slaves are very abundant and cheap.²¹ The organized imperial army that procures the slaves and the surplus from the provinces is itself recruited from the free peasantry. Thus as the peasants get used up in war and the slaves replace them in agriculture, an equilibrium point is bound to sooner or later be reached. In the Roman Empire this peak appears to have been reached with Augustus when the empire reached its maximum geographical spread. Monumental architecture flourishes alongside this economic trajectory:

The two chief functions of the state in those days [Imperial Rome] were warfare and the construction of edifices. If it would increase the outlay for the former, without increasing taxes, it must necessarily neglect the latter, and this it did. In the period of its wealth, and when there was a great surplus produced by the labour of great numbers of slaves, the state had been rich enough to execute great building operations, which served not only for luxury for religion, for hygienic

²⁰"Many small peasants were being driven off the land [analysis of decline of Greek civilization] by prolonged military service in continual war, by the actual devastations of their farms by hostile armies, and by the debts these circumstances forced them to incur and prevented them from repaying. Industry offered no outlet to such as these. For the small craftsmen could not compete with the slave-manned factory. The internal market for industrial goods contracted; for usury and slave-owning concentrated wealth in fewer and fewer hands...", V.G. Childe, What Happened in History, p. 237.

²¹Odysseus has said that: "Servants, no longer spurred on by the imperious master, negligent at once they become, to do the work that he gives them. Fully one half of his virtue the divine providence of Zeus takes from a man as soon as the day of serfdom overtakes him." Quote is taken from Karl Kautsky's analytical masterpiece on the economy of the Roman empire and the development of Christianity entitled Foundations of Christianity, p. 60, Monthly Review Press, 1972.

purposes, but also for economic needs...When the financial power of the Empire weakened, its rulers preferred to neglect the maintenance of all these constructions rather than place a curb on militarism. The impressive edifices became impressive ruins, and their disappearance was hastened by the increasing lack of labour power which made it easier to take building materials for such new structures as had to be raised from the ruins of the old structures, than obtain it from the remote quarries. This method of building did more harm to the works of ancient art than did the devastation of the invading Vandals and other barbarous tribes.²²

In conclusion, once the material root of a monumental architecture is the existence of a social surplus is asserted, then its symbolic function is easy to understand. The owners of surplus have needs, associated with this ownership and control, which necessarily have to be "formed" in such a way as to differentiate them from the producers of the surplus--the forced laborers.²³ In this sense, a monument is most definitely a use value, just like the primitive varieties of built form which we have looked at. However, they differ from the latter in that a monumental separation (to coin a phrase) has taken place between the sphere of production and that of consumption. The product of labour has been forcibly ripped out of the hands of the class that produced it, to serve the new needs of the class that owns it. It is easy to see from this analysis how private property tends to become increasingly a concomitant

²² ibid., p. 82.

²³ Vitruvius has put it into a nutshell in his book of rules on architecture "...we have to plan the different kinds of dwellings suitable for ordinary householders, for great wealth, or for the high position of the statesmen. A house in town obviously calls for one form of construction; that into which stream the products of country estates [think of this as the flow of social surplus "streaming" into a monumental architectural form!] requires another; this will not be the same in the case of money lenders and still different for the opulent and luxurious; for the powers under whose deliberations the common wealth is guided dwellings are to be provided according to their special needs; and in a word, the proper form of economy must be observed in building houses for each and every class." op. cit., p. 16.

part of this mode of production. Property relations have changed along with social relations and labour relations. All of these changes are discernible in the process and final result of monumental production. A monument is very definitely an object that is owned by some notable or other. It is not at all coincidental that we talk about Hadrian's villa, or Menes' tomb...etc., when referring to monumental works, while we refer to primitive architecture using geographical and cultural designations. But ownership of a building imbued with a monumental architectural quality is inseparable from the quantity of surplus owned. Thus the grandeur, elegance, refinement, and ornamentation of a monument is an objectified expression of the size of the surplus its owner controls in contradistinction to the other classes and owners in society.²⁴ From here derives the symbolism of monumental architecture and its affinity with monumentalism under capitalism. In a sense the owner of a monument^{at} is the opposite side of the coin of the miserly hoarder of gold and wealth--the Silas Marner of architecture. For what else is a monument, in the final analysis, if not so much surplus labour hoarded up in elegant stone and marble, handsome columns, ornately worked upon rooms, fancy grounds...It may not be wealth stuck under the floor boards, to be sure, but still it is wealth that has been given an objective and physical existence in architecture, no

²⁴ibid., p. 182: "...men of every day fortune do not need entrance courts tablina, or atrioms built in grand style, because such men are more apt to discharge their social obligations by going around to others than to have others come to them.

"For capitalists and farmers of the revenue, somewhat comfortable and showy apartments must be constructed, secure against robbery; for advocates and public speakers, handsomer and more roomy, to accommodate meetings; for men of rank who, from holding offices and magistracies, have social obligations to their fellow-citizens, lofty entrance courts in regal styles and most spacious atrioms and peristyles, with plantations and walks of some extent in the, appropriate to their dignity...

"If, therefore, houses are planned on these principles to suit different classes of persons, as prescribed in my first book, under the subject of Propriety, there will be no room for criticism; for they will be arranged with convenience and perfection to suit every purpose."

less real than Silas' glittering gold coins!

In pre-capitalist economic formations wealth (excluding usurious methods of procuring it) was not like capital, capable of a continuously accumulating and expanding motion. Wealth had to get used up as quickly as it was produced and made available--otherwise it would spoil. Thus it had to be given a physical form expressive and physically reflective of its existence. There were as a result no reasons to put a curb on the production of monuments, other than the need to make sure that the surplus kept on coming. (This translates into the need to keep an army.) Art and architecture are consequently united into one, and architecture naturally became the grand art.. almost entirely the cumulative product of an ornamental, whimsical, sculptural and formal aesthetic. The advent of capitalism was to change all that.

PART TWO: THE OBJECTIVE BASIS

IV. THE EXCHANGE VALUE TRADITION

The transformation of the physical environment into so many commodities was a momentous event in the history of built form. Once the building becomes a commodity the producers of architecture are irrevocably torn apart from the users, and the architect can be permanently inserted in between the two. This process of development occurs along two complementary lines. On the one hand a fundamentally new quality in built form is gradually imparted to the physical environment as a result of the percolation of exchange criteria right into the architectural object itself. On the other hand the subjective consciousness of built form on the part of the architect-designer becomes increasingly reified, to the point that we end up at the starting point of our analysis...the generalization of the phenomenon of fetishism in architect

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From as far back as paleolithic times, accidental forms of exchange have emerged from the occasional interaction of primitive communities with each other. This "simple" exchange" as Ernest Mandel has called it,¹ does not originate from within the primitive social organization, whose members are bound together by communal and cooperative bonds that exclude exchange relations in the economic sense of the term. It originates from without through the accidental encounters of whole social formations (hordes, tribes, and clans).

¹See Ernest Mandel, Marxist Economic Theory, vol. I, chapters 1-3, Monthly Review Press.

In a slightly later stage, these incipient beginnings become more regularized. They take the form of ceremonial gifts organized between social groupings that might once have had a common ancestry and after splitting up due to population pressures, instituted a periodical and more systematized interchange of gifts and presents. Another more regularized form of exchange is "silent barter", which appears as the earliest form of tribute exacted on a weaker social grouping by a more powerful one.²

Regional specialization of interrelated parts of the primitive world can lead to more developed forms of exchange. However, it was not until the neolithic revolution had made possible the formation of more or less permanent surpluses that exchange could generalize itself to the point of including the products of whole regions, being brought together in local markets. A regular dependency on foreign products thus begins to develop within the neolithic community. The metallurgical revolution accelerated these processes of dependency, because unlike stone, metals are rare.

So far architectural production remains virtually untouched by these developments. But with the rise of full-time craft producers and their concentration in an urban context, the situation decisively changes.

Like Siamese twins, trade and craft production (first metallurgy and later on pottery and ornamental-luxury production) emerge, thriving upon one another as well as upon the agricultural surplus that has been immensely

²"Experience teaches the weaker groups that it is wisest to flee before the approach of formidable strangers. To the latter it teaches that if they decimate weaker groups whose products they want, this entails the risk of losing all chance of obtaining these products. Thus conventionally regulated exchange relations, known as silent barter, are established at the borderline of open hostility. The weaker group leaves its products for exchange in an uninhabited spot and goes away until the partner has left its own products in the same place."
ibid., p. 50.

increased with large scale irrigation techniques. The specialist craftsmen of necessity live by exchanging the whole of the product of their labour for means of subsistence. From now on the motor force behind the activity of craft labour is the desire to get rid of the object of production, not to retain it as in the use-value tradition. Meanwhile, the specialist merchant has conveniently become situated in between the distant consumer and the crafts producer. Commodity production therefore begins on a small scale in the urban milieu's of the ancient world. The first great division of labour between town and country increasingly begins to reflect two competing arenas of production. On the one hand the country, continuing to produce exclusively use-values and on the other hand the town parasitically living on the expropriated surplus of the country, but at the same time gradually perfecting the techniques of commodity production.

Parallel with the development of exchange, standards of measurement of that which is being exchanged are also developing. At first, of course, the products of labour were compared very arbitrarily, according to the whims and desires of the community of producers. Such "crude" criteria remain perfectly sufficient as long as exchange was an accidental activity, resulting from the occasional interaction of primitive groupings. However, with the further development of division of labour (even within the primitive formation) a common yardstick had to be chosen, in order to avoid the emergence of privileged groups. The ethnographical and historical evidence shows that the common measure for labour cooperation was an economy of labour time. In other words, social life is organized around commonly agreed upon and calculable expenditure of labour hours by the members of the

community.³

With the appearance of petty commodity production and the beginning of the dissolution of the primitive form of social organization the social need for more exact methods of measurement increased. It is at this point that the amount of labour needed to produce the commodity crystalizes into the exchange value of a commodity--into money--or into its price.

The peculiar natural properties of the precious metals--they are transportable, durable, divisible, recognisable--facilitated their transformation from an occasional equivalent to the products of human labour, into a universal equivalent. Trade could now surge forward as gold and silver coins became the universal standards for the measurement of wealth. The objective prerequisites for accumulation on a massive scale now existed. Usurer's capital based on interest and merchant's capital based on unequal regional exchange (buying and selling at different prices) thus became the cornerstone of late medieval economies.⁴

³"In the economy of the Japanese village, 'the principle of exchange is people and days. Thus if household A has two people at work on household B's field for two days, household B is expected to provide its equivalent on A's fields--this may be three people one day and one person another day or any other combination that equals two people working two days...When four or five families work together in one Kattari group [team for transplanting rice], the figuring is on the same basis. This requires a book to check days and workers!" ibid., p. 60-61; the quote within the quote is from J.H. Boecke, De Theorie der Indische Economie. The reader should note the remarkable way in which this example points to the confirmation of the labour theory of value.

⁴"The ships of Genoa and Pisa kept the sea routes open. They patronized the markets of the East...But their progress immediately aroused the jealousy of Venice. She could not bear to share with these newcomers a trade in which she laid claim to a monopoly. It was of no moment that she professed the same faith, belonged to the same people, and spoke in the same language; since they had become rivals she saw in them only enemies. In the spring of the year 1100 a Venetian squadron, lying in wait before Rhodes for the return of the fleet which Pisa had sent to Jerusalem, fell upon it unawares and ruthlessly sank a number of vessels. So began between the maritime cities a conflict which was to last as long as their prosperity." H. Pirenne, Medieval Cities, (p. 91)

Henri Pirenne has shown the importance of the revival of trade and international commerce (and thus the development of merchant capital) on the growth of medieval cities in the twelfth century:

Under the influence of trade the old Roman cities took on new life and were repopulated, or mercantile groups formed round about the military burghs and established themselves along the sea coasts, on river banks, at confluences, at the junction points of the natural routes of communication. Each of them constituted a market which exercised an attraction, proportionate to its importance, on the surrounding country or made itself felt afar...

...They [medieval cities] had, in fact, become indispensable to society. They had introduced into it a division of labour which it could no longer do without. Between them and the country was established a reciprocal exchange of services...

The physical life of the burgher depended upon the peasant, but the social life of the peasant depended upon the burgher. For the burgher disclosed to him a more comfortable sort of existence, a more refined sort, and one which, in arousing his desires, multiplied his needs and raised his standard of living. And it was not only in this respect that the rise of cities strongly stimulated social progress. It made no less a contribution in spreading throughout the world a new conception of labour. Before this it had been serf, now it became free...⁵

Finally, the reader will ask, what does all of this have to do with the development of architectural forms?

It is undeniably true that the further back in history we go, the more does the impact of exchange on architecture recede in importance. To such a degree is this true that when talking about primitive architectural forms--the use-value tradition--these considerations did not enter into the picture at all. This was precisely because of their "accidental" impact. Even monumental architectural forms were produced, on the whole, through forced relations of production which are distinguishable both from primitive "communism" and from exchange economies. In order to understand

⁵ ibid., pp 102-103, chapter entitled "The Revival of Commerce".

these pre-capitalist forms all we had recourse to were criteria of use.

However, the development of trade and international commerce out of simple exchange, completely changes this picture. Cities and whole civilizatio^{ns} rise and fall with major dislocations of the trade routes. The power of exchange relations are such that, like magic, they can oversee and dictate where, when, and to what extent an entire city will flourish. Trade wars between merchant cities like Venice, Genoa, and Pisa were struggles over the very life blood of the urban population concentrated in them. Global settlement patterns are no longer being shaped directly by natural conditions (as they were in neolithic times) but only indirectly, in so far as these conditions affect international commerce. Therefore, in a general distributive sense, architectural forms are being located, concentrated, and on the whole shuffled around inexorably through exchange. This is an important step away from the use-value tradition.

Internally the medieval city form is accomodating itself to new institutions like the merchant and craft guilds, that are organising and regulating craft production and trade.

In time, each of these institutions found its expression in the city; the first in the Town Hall of Market Hall, the second in the Guild Hall, sometimes built by a single guild, as in Venice's numerous small halls, sometimes a great edifice built by joint effort. Probably the early guild buildings were modest houses or rented rooms, long since destroyed... ⁶

To the extent that these institutions are being built into the physical fabric of the city, to that extent is the architectural quality of the city being modified and molded by exchange relations. On the whole, however, this internal restructuring of the form of the medieval city appears

⁶Louis Mumford, The City In History, p. 313, (Pelican paperback ed.).

to be slight, in comparison to the more general--and external--locational and density effects of these same relations. An organic, "unselfconscious" architectural form is undoubtedly still being preserved in the internal relations of the buildings and their uses to each other.⁷ Louis Mumford has described this particular quality very well:

Aesthetically, a medieval town is like a medieval tapestry: the eye, challenged by the rich intricacy of the design, roams back and forth over the entire fabric, captivated by a flower, an animal, a head, lingering where it pleases, retracing its path, taking in the whole only by assimilating the parts, not commanding the design at a single glance. For the baroque eye, that medieval form is tortuous and the effort to encompass it is tedious; for the medieval eye, on the other hand, the baroque form would be brutally direct and over-unified. There is no one "right" way to approach a medieval building...⁸

The transition from medieval feudalism to modern capitalism, passing, as it did, in the realm of ideology and consciousness, through the Renaissance and the Reformation, wrought powerful changes in the quality of

⁷ "There is indeed a sound reason for thinking of medieval plans as usually more informal than regular. This was because rugged rocky sites were more frequently utilized, for they had decisive advantages for defense until effective cannon fire became possible in the sixteenth century. Since streets were not adapted to wheeled traffic and neither waterpipes nor sewage drains needed to be provided for, it was more economical to follow nature's contours than to attempt to grade them down: note the tilt of the broad market place in Siena. By building on barren hilly sites, moreover, the thrifty citizens did not encroach on the rich agricultural bottom land." *ibid.*, p. 347.

"The other source of the organic curves in the medieval town was the emphasis on its central core...What one finds...in most cases, is a central quarter or core, surrounded by a series of irregular rings, which have the effect of enclosing and protecting the core while, by devious passages, approaching more closely to it...It is only with the baroque planners who worked to overcome the medieval pattern that the street drives headlong into the town centre, as in the asterisk plan..." *ibid.*, p. 349.

⁸ *ibid.*, p. 352.

architectural forms. These new invigorating "rational" and "ideal" modes of thought (when compared to the "irrational" or transcendental ascetic morality of medieval christianity) were brought about through the triumph of commercial capitalism and the incipient growing needs of manufacture and industrial capitalism. In this sense the Renaissance and Baroque architectural "styles" are also transitional architectural forms reflecting these changes in the economic and ideological spheres. The organic qualities of medieval forms have thereby begun to dissolve in the face of an increasing penetration of "exact" exchange relations right into the heart of the physical layout of the city:

The symbols of this new movement [the Renaissance] are the straight street, the unbroken horizontal roof line, the round arch, and the repetition of uniform elements, cornice, lintel, window, and column, on the facade. Alberti suggested that streets "will be rendered much more noble if the doors are built all after the same model, and the houses on each side stand on an even line, and none higher than the other. This clarity and simplicity was enhanced by the two dimensional facade and the frontal approach; but the new order, while it was still alive, never was carried through with any overriding consistency, such as the seventeenth century introduced, with its strict rules of composition ["stricter" is more appropriate], its endless avenues, and its uniform legal regulations.⁹

It is not within the scope or capabilities of this thesis to deal very competently with the complexity involved in the development of capitalism

⁹ibid., p. 400. "Within the shuttered world of specialist art criticism, and even of city design [and even of architecture!] these changes from Renaissance to baroque are often interpreted as changes in taste or aesthetic insight alone: but what gave them the influence they have actually exerted on the planning of cities is the fact that they were supported at every point by profound political and economic transformations...To understand the baroque plan that took shape finally towards the end of the seventeenth century, creating new urban quarters and even new residential cities for royalty, one must follow the shifts in authority and power that took the place at the end of the Middle Ages." (p. 402)

out of feudalism. A few words, however, are in order insofar as they bear on the sequential development of this chapter.

Industrial capital could come onto the economic scene in one of two ways. Either the former merchant would decide to invest the vast amounts accumulated from international trade, into petty commodity (craft) sector of production in the towns as opposed to burying this capital in the landed agricultural sector. Or, accumulation could begin in the craft sector of production and gradually expand itself by independently moving into trade--instead of under the auspices of a merchant intermediary. In both cases a "primitive accumulation" of capital is presupposed before manufacture proper could take off from craft production. Manufacture essentially centralized the scattered foci of craft production under the roof of single large so-called "manufactories". It was a precondition of the industrial revolution as well as a consequence of its early phases, in much the same way that urbanization was a precondition for the necessary centralization of surplus which in turn gave the impetus to a revolution in agricultural productivity.¹⁰ The story of the Industrial Revolution, accompanied as it was by a qualitative leap in technical and scientific knowledge and experience, has been frequently told. We will content ourselves

¹⁰"Thanks to manufacture it becomes possible to subdivide each craft and each production process into an infinite number of labour operations, mechanized and simplified to the uttermost. This makes it possible at one and the same time to increase output, to increase the number of finished products completed in the same period of time, and to reduce the cost of production by substituting an unskilled labour-force of women, children, sick or old persons and even lunatics. This is the fact which appears as an entirely new social phenomenon, especially as regards the manufacture of textiles: the labour force is largely composed of these wretched people. It is above all the low cost of such labour power that makes it profitable to concentrate wage-earners in such numbers under one roof. One can compare the situation to some extent to the mines and large-scale state manufacturers in the ancient world, in China, India, and elsewhere, in which slave or semi-slave labour predominates." Mandel, Marx.Ec.Th. p.115

with summarizing some of the basic structural economic results of this revolution, insofar as they have an important bearing on the further transformation of quality in architectural forms:

First, the advent of capitalism essentially means that the central focus of the production of social wealth has shifted from the country with its agricultural surplus to the town or city with its industrial surplus. The flow of surplus has been reversed. Instead of the town feeding off the country, the latter is tailending the town. Agriculture itself becomes industrialized to the extent that it requires machinery (e.g. tractors) and industrially produced raw material (e.g. fertilizers and chemical insecticides) and to the extent that agricultural production is achieved through wage labour. The industrial city has therefore to accommodate productive activity on a massive scale. The factory complex, buried right in the heart of the city becomes the architectural expression of this shift.

Second, a population exodus from the country to the city naturally corresponded to this shift in the major arena of production, both as a cause and as a consequence of the latter. The miserable proletarianized peasant survivors of this dislocation became the earliest ancestors of the present day working class. It was this process of uprooting the peasantry from their land that dealt the final death blow to the use-value tradition in rural architecture. But, at the same time, it freed the former seffs from the increasing intolerable yoke of forced relations of production--from feudalism. Only by gripping hold of both of these horns of the dilemma can the revolution in architectural form that subsequently occurred be accurately understood. Oscar Handlin's description of the flight of Irish immigrants from certain starvation and persecution in Europe, into American cities, and the subsequent "physical adjustment" of these cities

and the population which took place, aptly underlines the duality involved here.¹¹

Third, the individual craft producer was stripped of ownership of the means of production in the very rapid metamorphosis of these from mere implements and handtools to whole machines and huge factories. As a result of this leap in the productivity of labour, only those classes which had previously undergone a "primitive accumulation" of capital during the period of expansion of commerce and crafts, could now afford to own the new means of production. Once again capitalist architectural forms reflect the two sides of this persistent contradiction in the ensuing forcible counterposition, right in the heart of the city, of extreme poverty--the slum--against extreme wealth--the rich bourgeois residence.

On the one hand, a vast new wealth of building techniques, materials, systems, and a range of possible alternatives in the production of architectural form that simply have no other parallel in history. On the other hand, the concentration and control of these possibilities in the hands of the class that owns them, thus necessitating the usage and deployment of architectural form and quality to further entrench, expand, and symbolise this ownership.

Fourth, the final separation of the labouring class, not only from their products--as happened in petty commodity production--but also from the means of production (with capitalism) logically ends up in the transformation of the potential to do work into an exchangeable commodity--labour power. Thus exchange relations have worked their way through

¹¹"By their immobility the Irish crammed the city/Boston/recasting its boundaries and disfiguring its physical appearance; by their poverty they introduced new problems of disease, vice [V] and crime, with which neither they nor the community were ready to cope."
Oscar Handlin, Boston's Immigrants (Atheneum, N.Y., 1972, p. 88.)

from the sphere of distribution (barter, simple and developed exchange, trade) and consumption (buying from the market), right into the heart of the productive process itself (working for a wage). Exchange now has a say over the relations of human beings to each other, within the home, and on the market, and in the factory. With the consummation of this process an irrevocable victory over the organic and unselfconscious quality of primitive architectural forms--marked as this quality was by the overriding unity of production and consumption--is achieved.

The capitalist city is thereby created and it is distinguished in its quality from everything that preceded it by these four results of the industrial revolution which we have just summarized.

Sam B. Warner in his book The Urban Wilderness describes this new quality in the following way:

The typical American city dweller is a commuter. He lives in one place, and from there he drives or takes a bus or subway to another place, where he works. For him there are two cities: a city of homes, a city of jobs. In daily alternations he delineates two of the essential elements of city growth for it is the interaction between jobs and homes that shapes the city. The jobs pay for the houses and in part determine their location, but in part the location of jobs is governed by proximity to the houses. The interdependence speaks of much of the growth and development of our cities.¹²

Corresponding to this generalized penetration of exchange relations into production, is the fragmentation of the community of workers into isolated--nucleated--family units (units of reproduction) independently and individually linked by means of a wage, to the mode of production. In the architectural realm this means that through the course of capitalist development the individual building--the home--is increasingly becoming

¹²Sam Bass Warner, Jr., The Urban Wilderness: A History of the American City, (published by Harper and Row, 1972, p. 55, chapter entitled "The Engine of Private Enterprise".)

differentiated from, and in fact opposed to, the neighbourhood--the community. This differentiation eventually gets architecturally crystallized in that uniquely capitalist "type"--the metropolitan residential suburb. The dissolving action of exchange has not stopped, therefore, after having conclusively separated "jobs" from "homes". No, it has ~~fallen~~ right on into the sphere of consumption, separating, progressively isolating, and finally pitching one home against the other. As one neighbour competes with another over the size of their backyards, so too does the individual building begin to compete with the rest of its ^(physical) environment.

The megalopolis is the most developed form of the capitalist city to date. Here the processes of fragmentation and isolation have reached their crowning peak:

In land use, the clusters of the megalopolis have become more and more specialised and segregated. Shopping strips, one-class suburbs, black ghettos, and industrial parks dot the urbanized region. Even the old industrial metropolis' downtown, so formidable a monument fifty years ago, has turned into an office and financial center, while its retailing, wholesaling, and manufacturing, have been scattered all over the megalopolis. Residentially, various kinds of segregation have replaced the single-centered geographical organization of races and classes of the former era.¹³

As the individual building is increasingly separated out of the physical fabric of the city, and at the same time generalized to the point of becoming the physical and socially accepted norm of capitalist architecture... a field day is opened up for the architectural profession. Historically, the specialized practice of architecture has always concerned itself with the production of individual buildings. These have on the whole corresponded with the personal or symbolic needs of individual members of the

¹³ ibid., pp. 63-64.

priveleged and ruling classes.

However, in the course of the development of the capitalist system itself for the first time, problems have arisen in architecture and planning that go beyond the limits defined by the needs of the ruling classes. Housing, large scale transportation systems, health care, community facilities and social planning...all these are new needs that are being regularly and systematically produced and which capitalism, precisely because of its perpetually isolating and fragmentary dynamic, is unable to fulfill.

The planning and architectural professions are thus always torn apart. On the one hand they are financially and ideologically tied to the apron strings of particular interest groups, institutions and corporations, that insist upon solutions that meet their own individual needs. On the other hand, the further development of capitalism imposes on even the most localized problem the need for solutions that go beyond the confines of particular interest groups. The reconciliation of the former tendency towards fragmentation with the latter towards socialization, within the subjective individual consciousness of the professional architect...is the material basis for reification and the phenomenon of fetishism.

The more that the architectural profession "perfects" and "isolates" the peculiarly architectural problems of the singled out problem of built form, in the way that for example FLLW and Le Corbusier tried to do, the more deeply does the individual solution become opposed to and in conflict with the social whole. One need simply reflect upon the "irrelevance" of Broadacres city, Corbu's city of the future, Soleri's monoliths... etc., for this to become clear. But it must be emphasized that the quality of being irrelevant which characterizes much of modern architecture derives

in the final analysis from the all embracing and pervasive social fragmentation of capitalism--not from the nature of the endeavour itself. It is not surprising that the architectural profession hardly ever recognizes that it was to FLLW's credit that he tried to solve the world's problems through designing Broadacres city. The fact that what he ended up with is totally irrelevant to the problems he was grappling with is rooted in the individual, isolated, and totally fragmented context out of which the problems were both conceived and "solved".

From this kind of an analysis it becomes clear that the apotheosis of capitalist architecture is finally arrived at when the preoccupation with the building-object begins to reflect the alienation of architects from their own selves. To such an extent have exchange relations--through commodity production--permeated the physical and social environment that now they have intruded upon the structure of the architectural consciousness itself, thrusting the architect ever deeper into intellectual and psychological isolation, not only from the rest of society, but also from the other members of his profession. This is the final reason for the "natural" falling apart of the architectural "whole" into clusters, and finally into completely reified individuals and fetishized "schools of thought".

The architectural fetish which appears in the form of a partial and completely reified "truth" derived from an aspect of the actual historical experience of architecture (which we have outlined), is thus finally grounded in the two-fold character of the commodity which we analysed in chapter one of Part II. The fact that the commodity is a use-value produced by wage labour and for exchange on the market corresponds to the fact that the users, the producers, and the designers of buildings are all different

individuals, using, producing, and designing for completely isolated and fragmented individual reasons.

Further important conclusions can be drawn from this line of reasoning. As commodity production--and thus exchange criteria of design--continue to develop...two contradictory trends gradually unfold in the properties of the ensuing final products of architectural design.

The first trend is towards an increasingly despotic quality in the designed products of the increasingly alienated consciousness. This movement towards despotism in the formal quality of architecture logically derives from the tendency of capitalism towards fragmentation. To see this in the built form, one need simply compare the architectural quality of Louis Sullivan's high-rise office buildings from the late nineteenth century with the average S.O.M. designed corporate headquarters of today. The latter is more despotic than the former.

The second trend unfolding in the production of architectural forms corresponds to the socializing demands capitalist development engenders. This is the trend towards increasing anarchy of the physical environment. The chaotic state of transportation (traffic jams, no mass transportation), housing, community services, etc., is anarchy on a grand, planner-like scale. The forced "irrational" juxtaposition of buildings that have absolutely no formal architectural affinity with each other (e.g. the Hancock Tower and Trinity Church), is anarchy on the architectural scale. Parenthetically, it can be shown that in the John Hancock Tower of Boston the two "scales" of anarchy come together in the fact that the city of Boston is completely unprepared for the 5,000 (approximately) new commuters all of a sudden travelling back and forth in between the building and their homes. Despotism (the John Hancock Tower) and anarchy (the problem of mass transportation) are thus "elegantly" combined in this example.

In conclusion, it is hoped that our analysis in Part Two has begun to link up in the readers' mind with our starting point in Part One, the crisis of theory and practice of the architectural profession (the subjective reflection of the objective basis of capitalism). The tortuous route we have chosen to come back to this starting point, derived from the imperative need not to fragment the socialist point of view, if it is to serve usefully as a guide, pointing the way out of the morass of capitalist society. Unavoidable considerations of time have unfortunately led to a sliding over on many important issues, especially in this last chapter. However, if this thesis has done no more than spark the readers' interest in the Marxist method and approach, it will have been well worth writing.

CONCLUSIONS

I. THE SUBJECT-OBJECT RELATION IN ARCHITECTURE

By pitching the "fetishes" against the "traditions," at the same time we were able to penetrate into the meaning of fetishism itself. Thus Part II logically brings us back again to Part I. What has been achieved through this counterposition?

The built form fetish now is revealed to have fixated and idealized a quality in primitive architecture (the organic) that never historically existed in such an ideal and static form. The use-value tradition in architecture, as we have shown, does not begin with contemporary Italian hill towns and picturesque African villages. In fact, these are the historical dregs of an era long since passed. Furthermore the built form approach affirms the usefulness of buildings and the quality of form only by denying the positive achievements of that other characteristic of the building commodity--its exchange-value. The processes of exchange through their development have so thoroughly dissected and penetrated the "essence" of architectural forms that it has enabled our consciousness of the physical form itself to be tremendously heightened and uplifted. As a result architecture must be considered to have forever lost that primitively organic quality it once had. To lament this "loss of innocence" is akin to lamenting the triumph of a positive reductionist science over medieval religious transcendentalism.

The technical fetish, on the other hand, has perfected a method the logic of which derives from this "scientific" urge to reduce all relations of quality to ones of quantity. This logic finds its crystalline form

in the development of commodity production. Corresponding to the dissolution and subordination of all the useful qualities of commodities (including buildings) into that universal arbiter of quality, the exchange value of a commodity...is the architectural drive towards the technical method.

In the exchange value tradition the historical evolution of architectural form in relation to commodity production was outlined, thereby once again underlying the symbiotic relation of the technical fetish to the capitalist system. Having, on the whole, described this relationship in Part I, it now becomes possible to claim we have analyzed it by putting it into a historical context.

Finally, the monumental fetish is the most directly linked to its "tradition". Its origins and development stem exclusively from the beginnings of class-differentiated social formations to the present. In a sense it is a very important fetish well worth further analysis, because right from its very inception it has nurtured and reared the architectural profession. The history of architecture has until recently been written in the form of a history of this fetish. However, partly because of this preoccupation we have leaned over in the other direction. It should be remembered that there is nothing exclusively capitalist about the monumental approach. If anything, the mentality this fetish exudes is archaic. Nevertheless, these archaic attitudes are conveniently accommodated within capitalism, rooted as it is in the iron necessity of having at least two classes--the bourgeoisie and the proletariat. This much, at least, concerning the monumental approach has been brought out.

The subjective reflections of the objective processes of historical development are, in the final analysis, only explicable if we link up the former to the progressive accumulative dynamic of the latter. The re-

flected motion of architectural production is like that of a cork bobbing along the ocean top. One must begin with the "thing" itself...but finally one must refer back to the economic undertow. This is what we have tried to do.¹

II. THE USE EXCHANGE PROBLEMATIC IN ARCHITECTURE

The dual nature of a commodity and consequently the labour theory of value have formed the structural backbone of this thesis. First, this duality was investigated in the "ideas" of two schools of thought (built form and technical). Then, we traced the historical evolution of exchange out of use relations of production. This made the "abstract" ideas more concrete, and it put them in a definite historical relation with each other. Furthermore, we showed that abstract ideas and concrete building types thrive on each other very comfortably within the context of a capitalist division of labour inside the architectural profession itself (see The Final Round). Finally, we argued that as exchange molded and shaped the useful qualities of buildings, it ended up penetrating the architectural consciousness of built form, thus reifying it into the "fetisnes" which we

¹"The materialist conception of history starts from the proposition that the production of the means to support human life and, next to production, the exchange of things produced, is the basis of all social [and physical] structure; that in every society...the manner in which wealth is distributed and society divided into classes or orders is dependent upon what is produced, how it is produced, and how the products are exchanged. From this point of view the final causes of all social [and physical] changes and political revolutions, are to be sought, not in men's brains [especially not in architect's brains!], not in man's better insight into eternal truth and justice, but in changes in the mode of production and exchange. They are to be sought not in the philosophy but in the economics of each particular epoch." F. Engels, Socialism, Utopian and Scientific.

began our analysis with. In the course of this last point, two antithetical trends in the capitalist evolution of architectural forms were derived-- the one towards despotism and the other towards anarchy.

It therefore can be concluded from all that has preceded, that in the final analysis the useful qualities of buildings are fundamentally opposed to being incorporated into the exigencies of exchange and the market.

This is the chunk of truth upon which fetishized perspectives on architecture squabble. But far more important than these squabbles is the motion of whole layers of oppressed users of the environment against the despotic and anarchic poles of architectural production. Let us take an example of this unfolding problematic between use and exchange as it has posed itself in recent American history.

The turbulent years of the sixties (civil rights, ghetto riots, "urban crisis", the Black, Chicano, women and antiwar movements...etc.) had a profound impact on the accepted values of the professional world. The after effects of those years on the architectural and planning professions can be seen today in the lip service that is continuously being paid to "community participation", "user needs", "representative community groups", etc. A challenge was flung down by the spontaneous movement of the oppressed right where it hurt the most...in the fragmented and despotic solutions that were being churned out in the service of bureaucratic and corporate clients. Urban Renewal programs became an appropriate symbol of these "solutions". The historically handed down--and "perfected"--exchange relation that is expressed in the architect-client relationship was thrust aside as the users of the physical environment forced themselves in between the client and the architect. A professional "crisis of confidence" began to develop around the issue of architect-client relations which

ended with the splintering off of the advocate architect or planner. Such was the effect on the "architectural" and "planning" consciousness of the independent motion of different sectors of American society (Blacks, Chicanos, women, students). From now on the advocates could--and did--"professionally" counterpose the very technicalities of traditional and fragmented solutions to the real socialized needs of the population. As a direct consequence of this counterposition, the very role of the professions of architecture and planning was brought into question. Stripped of its fetishized form the problematic that we have been analyzing began to reveal its crucially important essence--the incompatibility of a mode of production based on exchange with human needs and thus with the usefulness of human productions.

This same line of reasoning can and should be taken one important step further. The notion of "users participation" in design which became the rallying call of the activist advocate planners and architects in our opinion proved to be the Achilles heel of this movement. Why?

The answer is buried in realizing that "users participation" in decision making is no more than a watered down version of the demand for the users' right to control and direct the production of quality in the environment. Users participation schema (much like workers' participation in Sweden and elsewhere) tend to institutionalize and replace one set of bureaucrats with another...the only difference being that this time they are chosen from the "participating" community itself. So involved do the participants themselves become with the intricacies of setting up institutionally acceptable "structures for participation", that they tend to lose sight of--assuming that they were originally conscious of--the fundamental problematic that we insist is at the root of the whole crisis. The tendency of this approach therefore is towards trying to reform

capitalism, while keeping intact the economic structural shell of commodity production.

On the other hand, "users' control" over the environment, when coupled with the other side of the coin--"workers' control" over production--points the way out of capitalism. It capsulizes and puts in a nutshell the whole logic of socialism, at the same time that it takes as its starting point the capitalist dichotomy between use and exchange. The question is no longer being posed as one of users participating in the management of their own oppression. On the contrary the very right of the capitalist class to control and thus own the means of production is being put into question. The unity of producers and consumers is thus reasserted over its capitalist fragmentation.

In a very important although incomplete sense this is what the socialist movement is objectively all about. Unfortunately we have to terminate this "conclusion" right where the whole discussion should be beginning. Right at the point at which the rigid hard lines dividing politics from architecture have begun to dissolve, we have come to an abrupt halt. The abruptness of this conclusion is thus deliberate in that we want to underline that this is an unfinished work.

There are myriads of questions and problems that eventually have to be addressed by socialists seriously engaged in changing capitalism. There is a whole lot that has yet to be developed on the relationship of architecture to a socialist mode of production. Furthermore the fundamental problems of the socialist revolution and the period of transition from capitalism to socialism must be made the focal point that precedes all speculation on life and architecture under socialism. These are all

issues that are too complex for us to grapple with alone...especially when we are working against a deadline that ends tomorrow !

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