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A THEORETICAL STUDY OF INDUSTRIAL HOUSING DESIGN POLICIES WITH REGARD TO POTENTIAL SOCIAL CHANGE IN TURKEY.

Mehmet Y. Adam

Ph. D.
University of Edinburgh
1973
ACKNOWLEDGEMENTS

I would like to express my gratitude to Mr. P. F. Crofts and Mr. P. Bailey for their valuable supervision and criticism throughout the duration of this study. I would also like to express my appreciation to the Middle East Technical University for giving me the opportunity of carrying out this research.
ABSTRACT

The aim of the study is to draw attention to the need for a housing design policy forming part of a comprehensive approach to the totality of production and with an understanding that the production activities of an individual or a society are the principal activities for its existence and development. An additional purpose is to define the necessary conditions for this change in production and to propose a process wherein dialectics will be in inherent part.

For this purpose the study approaches the problem from the characteristic features of the physical environment production of a particular section of the community - namely the urban squatters - and establishes the relations between these characteristics with those of production as a whole. This totality - i.e. production as a whole - also shows variations from one locality, one community to another and should be considered as feudal or capitalistic, as rural or urban, and as agricultural or industrial. Since these categories are not all exclusive a further conceptualization also becomes necessary. This we find in the concept of mode of production which embodies all variations according to the state of the productive forces and the nature of prevailing social relations which are derived from the production of the society. In other words the products of a society and their production process with its impact on the society are evaluated within a total which is defined as the mode of production of a society.

This is done in three parts: in the first a particular case of physical environment production is analyzed. This is the squatter housing areas of Turkey which, although the intention, here, is not to provide a detailed review of squatter housing in all parts of the world, can also be found in the other under developed countries.

First these areas are defined by their quantitative and qualitative / characteristics
characteristics, then they are defined as distinct from slums or rural settlements. Conclusions of this first part are based on the analyses of production relations, social organization and organization for physical environment production.

In the second part the process of production is considered as a means for changing various social relations. Firstly the nature of these relations is discussed as an aspect of production in rural and urban societies. Secondly the nature of means in rural and urban contexts is defined with regard to material and conceptual tools of production, and finally the place of production of the environment within the totality of natural and human production processes is described.

In the concluding part a summary of the characteristics discussed in the first two parts is followed by a summary of the requirements of a process of change. Then available means are studied as information and production processes, and a proposal is made in view of the afore discussed role of production. Here, one more factor is taken into consideration and it is that the process of production is also a dialectical process and the roles of dialectical relations, cause effect relations, quantity quality relations and contradictory relations should be regarded as the conditions to be satisfied by the proposed process.

Finally the whole process is described by means of a model where the feedback and control mechanisms account for the requirements of cause effect and dialectical relations. Then the role of contradictory relations is further developed as a sub-process where the transition from one state to another could be materialized.
PREFACE

A number of points require explanation to render the study more understandable. Firstly, as with all studies of interdisciplinary nature, a solution had to be found for solving the dilemma arising from the need to elaborate all the particular concepts and characteristics related to the referred disciplines within the limitations of time and space which made an approach of this kind impossible. Then the text was tried to be put in such a form that it would only include the essential points of discussion. All the elaboration and examples were placed among the notes so that the reader would not be forced to refer to them if the point seemed explicit. This, in turn, made the text so complex that it had to go through a second process of simplification for which I am grateful to Mr. P. F. Crofts for the time and effort he devoted and the valuable suggestions he made.

A second general problem, which is due to the linear order of all written documents, arose with the subject's network type of relationships
relationships. A number of divergences had to be made for the clarification of the main line of thought; these are placed among the notes as far as possible. Various cross references are made within the text; these are represented by the corresponding section numbers in brackets, such as (3.4.1.2.).

Finally, a note of further simplification was proposed by Mr. P. Bailey, that the case exposed in the first part could be sufficient for following the conclusions of the third part for some readers. That is to say, the third part could be read directly after reading the first.
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INTRODUCTION

Although the initial title of this study was "Theory and Methodology of Architectural Design for Industrial Housing Production", due to two primary reasons within this framework it is directed to the definition of a housing design policy. These two reasons originated from the realization that neither the development of design methodology with its efforts to rationalize the decision making process nor industrialization with its rationalization of the production process were able to satisfy the complex problems of housing environments and their production.

Awareness of the inadequacy of the rationalized production methods of industrialization for providing a solution was an earlier one. Considering the problems of an under-developed society with the responsibilities of being a member of that society started a search for possible solutions. This began with a period of study of the social and architectural potentials of that society. Later the
Efforts were directed to the study of industrial production techniques with the conviction that these potentials could not be channelled to a solution unless a scale of production of equal magnitude to the sources of problem was utilized. Yet this also led to the realization that the solutions provided were far from being adequate, both through theoretical studies and through the experience of those environments. Then these inadequacies were related to the unbalanced rates of rationalization of the design process and the production process. If the architectural design process could be rationalized, then the product of a much better quality was thought to be attainable. This, obviously, neglected the complexities of architecture for the sake of rationalizing its design and equating it to the other products whose social content is almost negligible.

The residue of all these phases was the understanding that neither the craft characteristics of vernacular nor the processes of industrial production or the rationalization of the design process was individually able to solve the problems encountered. Yet the functions of each one of them was also an absolute necessity when the problem was considered as a whole. Therefore, the need at this stage is formulated as the provision of a structure within which all these elements considering the demands of all the others could play their partial roles for the realization of a satisfactory physical environment.

These considerations might seem irrelevant to those who are engaged with the problems of industrialized societies. While almost all of the studies related to the conditions of under-development cite an abundance of problem sources none of them mention that there are also a number of inherent potentials for the solutions. And the most obvious is that these societies have the chance of learning from the examples before engaging in a particular line of activity.
This should not take the form of accepting all the new developments with their face values without considering the consequent complexities of the problems these developments have led to. On the other hand, choice of a line of development is further simplified by the absence of complex organizations whose cause and objectives are the preservation of the states which have created them. The significance of these conditions are also relevant for the problems of housing, and the purpose here is to utilize those potentials. This leads us to the reasons for the choice of a context where the problem is analysed and the solutions are envisaged.

Squatter settlements represent an area the problems of which are intensive and therefore the start of a process of change is more probable. Secondly, it is an area formed by a population of rural origin who still has productive, constructive characteristics, which is a potential for direct active participation. Thirdly, the squatters, socially, represent the majority of the industrialized future society, as well as representing the present conditions of underdevelopment.

It was due to these reasons that the study started with an analysis of squatters and went into the description of design process as a stage of production upon which the conclusions and proposals of the last part are based.
PART 1

1.1. Introduction to Part 1

Housing production without a housing design policy is bound to end up with a chaotic accumulation of products which have a relation only with the formal aspects of the need but none with the content, that is the core of the problem.

Therefore, when dealing with a problem of design methodology if a theoretical structure that can be incorporated both with the form and content of the problem is envisaged, special place of housing design and its relations should be credited according to its context and particular characteristics. This demands a series of definitions exposing the characteristics of the context within which a solution is searched and characteristics of the theoretical tool with which a solution can be generated. In physical terms squatter areas, with their population, physical structure and socio-economic conditions, form the physical context.
context where the problem evolves and the concepts of design policy are the tools to solve it.

It is also a fact that in order for a conceptual tool to have a contribution to a solution it should be materialized through the utilization of a process within which the factors of context will not be in contradiction with the concept. Otherwise utilization of the tool will not be beneficial for solving the contradictions creating the problem but will be an addition to the problem creating contradictions of the context.

First section of Part 1 will try to describe this context and the second will try to expose its definitional characteristics. (1)

1.2. Description of Squatter Areas

Physical conditions of squatter areas should be described in both quantitative and qualitative terms. Although these two tend to overlap, and although it is difficult to define an aspect with only one of these features, here we shall try to draw such a picture that both their quantity and quality will be given as a foundation for the subsequent definition of squatter society as a socio-cultural system.

For this, we shall first give the quantitative increase of squatter dwellings, then will define these dwellings from the point of their physical standards and thirdly the social conditions will be defined as far as the available information permits.

1.2.1. Quantitative

Since growth of squatter areas is a function of lack of housing for

1. Explanation of the characteristics of the squatters is not for the purpose of finding an immediate design solution to the problem but for exposing the characteristics of a problem situation from which both the potentials of the problem can be extracted and to which the structure of the theory of architectural production can be applied.
increasing population or population changing location it will be better to start with the rate of population increase, rate of urbanization and the consequent lack of housing.

Turkey is a country with a relatively high rate of population increase when compared to the other underdeveloped countries. Due to a decrease in the death rates, as a result of the improvement of health services, and a policy of increasing the population after the first world war and the war of independence, an increase unexperienced in the past has occurred.

Between 1950-1955 an increase of 2.77% was followed by an increase of 2.85% in 1960-1965. According to the census results of 1970, it is estimated that the population of the country is 35.528 million. When this rate of increase is compared with the other underdeveloped countries it is among the higher rates although not the highest.

Together with this increase in population naturally the distribution of population in rural and urban areas should be considered. Although Turkey is a country where main production is agricultural and the majority of population lives in rural settlements due to the reasons which will be given later there is a high rate of urbanization.

<table>
<thead>
<tr>
<th>Country</th>
<th>1958-65</th>
<th>1963-68 (Projected)</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>2.3%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Pakistan</td>
<td>2.1%</td>
<td>2.1%</td>
</tr>
<tr>
<td>United Arab Republic</td>
<td>2.0%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Iran</td>
<td>3.0%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Irak</td>
<td>2.3%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Syria</td>
<td>3.0%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Israel</td>
<td>3.6%</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

Statistical Yearbook 1966. UN.
Table I  Urban and Rural Population Changes

<table>
<thead>
<tr>
<th>Year</th>
<th>Urban (%)</th>
<th>Rural (%)</th>
<th>Population Total (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1935</td>
<td>16.27</td>
<td>83.73</td>
<td>16,158</td>
</tr>
<tr>
<td>1940</td>
<td>18.10</td>
<td>81.90</td>
<td>17,821</td>
</tr>
<tr>
<td>1945</td>
<td>18.57</td>
<td>81.43</td>
<td>18,790</td>
</tr>
<tr>
<td>1950</td>
<td>18.73</td>
<td>81.27</td>
<td>20,947</td>
</tr>
<tr>
<td>1955</td>
<td>22.54</td>
<td>77.46</td>
<td>24,065</td>
</tr>
<tr>
<td>1960</td>
<td>26.20</td>
<td>73.80</td>
<td>27,755</td>
</tr>
<tr>
<td>1965</td>
<td>29.77</td>
<td>70.23</td>
<td>31,391</td>
</tr>
<tr>
<td>1970+</td>
<td>35.50</td>
<td>64.50</td>
<td>35,389</td>
</tr>
</tbody>
</table>

+ State Planning Organization projection.


This has resulted both in the formation of new urban settlements and the increase of population of the existing cities. As can be seen from the above table the rapid urbanization rate after 1950 has resulted in a change in the national settlement structure.

Table II gives these changes in a larger time perspective from 1935 to 1965.

Table II  Changes in the National Settlement Structure. 1935-1965.

<table>
<thead>
<tr>
<th>Settlement Size</th>
<th>Number of Settlements %</th>
<th>Population %</th>
<th>Average Population/ Settlemnt</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 250</td>
<td>45.83</td>
<td>21.41</td>
<td>14.68</td>
</tr>
<tr>
<td>250 - 500</td>
<td>33.87</td>
<td>36.59</td>
<td>25.63</td>
</tr>
<tr>
<td>500 - 1,000</td>
<td>15.69</td>
<td>28.81</td>
<td>22.53</td>
</tr>
<tr>
<td>1,000 - 2,000</td>
<td>3.29</td>
<td>9.46</td>
<td>9.22</td>
</tr>
<tr>
<td>2,000 - 5,000</td>
<td>0.82</td>
<td>2.61</td>
<td>7.72</td>
</tr>
<tr>
<td>5,000 - 10,000</td>
<td>0.27</td>
<td>0.57</td>
<td>3.94</td>
</tr>
<tr>
<td>10,000 - 20,000</td>
<td>0.12</td>
<td>0.25</td>
<td>3.51</td>
</tr>
<tr>
<td>20,000 - 50,000</td>
<td>0.09</td>
<td>0.21</td>
<td>4.98</td>
</tr>
<tr>
<td>50,000 - 100,000</td>
<td>0.01</td>
<td>0.05</td>
<td>1.52</td>
</tr>
<tr>
<td>100,000 - 500,000</td>
<td>0.006</td>
<td>0.035</td>
<td>1.78</td>
</tr>
<tr>
<td>500,000 +</td>
<td>0.004</td>
<td>0.005</td>
<td>4.49</td>
</tr>
</tbody>
</table>

From these figures we can see that:

1. 0-250 size settlements have undergone a considerable reduction from 45.83% to 21.41% and the average size of settlement has increased.

2. Although the number of 250-500 size settlements have increased there is a decrease in the percentage of population living in them. This is a positive trend against the inefficiencies accruing from the investments made to such small settlements. 19.75% of the total population still lives in settlements of 500 and less while they comprise 58.0% of the total number of settlements.

3. Settlements of 500 - 1,000 and 1,000 - 2,000 population has nearly doubled or tripled in number but the population per settlement has not increased. On the other hand, while the percentage of population living in 500 - 1,000 size settlements was relatively steady, percentage of population living in 1,000 - 2,000 size settlements have increased considerably.

4. In settlements of 1,000 - 2,000, 20,000 - 50,000, 50,000 - 100,000 and 100,000 - 500,000 population tremendous growths are observed.

5. The settlements larger than 500,000 have almost doubled in size in 30 years. (5)

This rate of change inevitably exerted greater stresses on the existing structures of the urban areas. These stresses can be seen on various services as well as the available housing stock. But however the stocks were, no city can cope with an increase of population that is twice its original, unless a production rate of equal magnitude is reached. Because this condition was not satisfied the emergence of squatter dwellings started in mid 1940s around the largest five cities and became an acute case in the

The rates of increase of urbanizing population and dwellings from 1955 onwards shows this.

Table III

<table>
<thead>
<tr>
<th>Years</th>
<th>Total Urban Population</th>
<th>Number of Standard Dwellings</th>
<th>Number of Squatter Dwellings (Estimated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1955</td>
<td>5,324,397</td>
<td>1,000,000</td>
<td>50,000</td>
</tr>
<tr>
<td>1960</td>
<td>7,307,816</td>
<td>1,200,000</td>
<td>240,000</td>
</tr>
<tr>
<td>1965</td>
<td>9,395,159</td>
<td>1,450,000</td>
<td>430,000</td>
</tr>
<tr>
<td>1967</td>
<td>10,437,233</td>
<td>1,650,000</td>
<td>450,000</td>
</tr>
</tbody>
</table>


From 1955 to 1967 the percentage of squatter dwellings within the housing stock increased from 4.7 to 21.4. When the trends of construction of the last years are studied it is seen that the gap between the need and production is widening.

Table IV Urban Housing Deficit

<table>
<thead>
<tr>
<th>Years</th>
<th>Total Urban Housing Requirements</th>
<th>Annual Production of Licenced Urban Housing</th>
<th>Deficit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1955</td>
<td>72,700</td>
<td>58,947</td>
<td>13,753</td>
</tr>
<tr>
<td>1960</td>
<td>100,600</td>
<td>56,227</td>
<td>44,373</td>
</tr>
<tr>
<td>1963</td>
<td>105,400</td>
<td>57,286</td>
<td>48,114</td>
</tr>
<tr>
<td>1964</td>
<td>107,300</td>
<td>60,754</td>
<td>46,546</td>
</tr>
<tr>
<td>1965</td>
<td>110,300</td>
<td>80,461</td>
<td>29,839</td>
</tr>
<tr>
<td>1966</td>
<td>121,200</td>
<td>91,171</td>
<td>30,029</td>
</tr>
<tr>
<td>1967</td>
<td>133,800</td>
<td>99,373</td>
<td>34,417</td>
</tr>
<tr>
<td>1968</td>
<td>141,400</td>
<td>110,263</td>
<td>33,837</td>
</tr>
<tr>
<td>1969</td>
<td>174,100</td>
<td>128,621</td>
<td>48,579</td>
</tr>
</tbody>
</table>


As a result of urbanization and limited production the proportion of urban population living in squatter areas is also increasing.
On the whole, 35.0% of the population of twelve largest cities is living in squatter dwellings. (6)

Table V

<table>
<thead>
<tr>
<th>Cities</th>
<th>Population Living in Squatter Dwellings (%)</th>
<th>Cities</th>
<th>Population Living in Squatter Dwellings (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankara</td>
<td>59.22</td>
<td>Erzurum</td>
<td>35.11</td>
</tr>
<tr>
<td>Erzincan</td>
<td>52.86</td>
<td>Izmir</td>
<td>33.98</td>
</tr>
<tr>
<td>Istanbul</td>
<td>45.00</td>
<td>Antakya</td>
<td>31.73</td>
</tr>
<tr>
<td>Adana</td>
<td>44.95</td>
<td>Bursa</td>
<td>26.75</td>
</tr>
<tr>
<td>Iskenderun</td>
<td>37.89</td>
<td>D. Bakir</td>
<td>9.64</td>
</tr>
<tr>
<td>Samsun</td>
<td>35.71</td>
<td>Mersin</td>
<td>7.19</td>
</tr>
</tbody>
</table>

Source: Ministry of Reconstruction and Settlement. 1968.

On the average 25.2% of the urban and 7.54% of the total population is living in squatter dwellings.

1.2.2. Qualitative

Next, the physical standards of squatter dwellings will be defined in terms of their household size, dwelling size, number of rooms, number of persons per room, availability of various service facilities and types of materials and methods used for construction.

Although information covering all squatter dwellings is not present, samplings made in some cities do provide an idea.

According to a survey made among 6,376 squatter dwellings of five cities it is seen that the average number of households per dwelling is 1.42. This represents a high rate of crowding especially when the size of household and the number of persons per room are considered. But before going into that it will be beneficial to give the distribution of households to dwellings in the five cities

of Bursa, D. Bakir, Istanbul (Anatolian part), Izmir, Samsun. (7)

Table VI

Number of Households/
Dwelling

<table>
<thead>
<tr>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>78.07%</td>
</tr>
<tr>
<td>2</td>
<td>11.76%</td>
</tr>
<tr>
<td>3</td>
<td>4.92%</td>
</tr>
<tr>
<td>4</td>
<td>2.71%</td>
</tr>
<tr>
<td>5 +</td>
<td>2.47%</td>
</tr>
<tr>
<td>Unknown</td>
<td>0.07%</td>
</tr>
</tbody>
</table>

Source: Ministry of Reconstruction and Settlement. 1968.

In a different survey made in the above mentioned cities the number of persons per household gives the following distributions.

Table VII

<table>
<thead>
<tr>
<th>Persons per Household</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.83%</td>
</tr>
<tr>
<td>2</td>
<td>7.28%</td>
</tr>
<tr>
<td>3</td>
<td>10.11%</td>
</tr>
<tr>
<td>4</td>
<td>15.30%</td>
</tr>
<tr>
<td>5</td>
<td>17.03%</td>
</tr>
<tr>
<td>6 +</td>
<td>14.76%</td>
</tr>
<tr>
<td>Unknown</td>
<td>0.37%</td>
</tr>
</tbody>
</table>

Source: Ministry of Reconstruction and Settlement. 1968.

The average household size is 6.14 and average number of rooms per squatter dwelling is 2.89. The distribution of number of rooms per dwelling is given below.

Table VIII

7. Although the survey is made among 6,376 squatter dwellings it represents the total.

Table VIII

<table>
<thead>
<tr>
<th>Number of Rooms per Dwelling</th>
<th>Number of Rooms per Dwelling</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15.07%</td>
</tr>
<tr>
<td>2</td>
<td>36.47%</td>
</tr>
<tr>
<td>3</td>
<td>20.90%</td>
</tr>
<tr>
<td>4</td>
<td>15.67%</td>
</tr>
</tbody>
</table>

Source: Ministry of Reconstruction and Settlement. 1968.

Average number of persons per room is 2.11.

When these figures are considered with regard to the fact that there are on the average 1.42 families per dwelling and that squatter dwellings are not spacious buildings the rate of overcrowding shows the acuteness of the problem.

When services are considered it is seen that most of the dwellings lack most of the primary facilities like a kitchen, bath and a wc.

Table IX  Service Facilities

<table>
<thead>
<tr>
<th>Services</th>
<th>With</th>
<th>Without</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitchen</td>
<td>36.84%</td>
<td>63.16%</td>
</tr>
<tr>
<td>Bath</td>
<td>27.76%</td>
<td>72.24%</td>
</tr>
<tr>
<td>WC</td>
<td>98.69%</td>
<td>1.31%</td>
</tr>
</tbody>
</table>

Source: Ministry of Reconstruction and Settlement. 1968.

It should be added that it is not sufficient to give only these figures for what is defined by a 'kitchen', 'bath', or 'wc' in a squatter dwelling is different from the generally understood facilities.

"A place having some means like a chimney or a fireplace for the extraction of smoke, an outlet for the flow of used water, closed at four sides and with a roof is a kitchen". "A bathroom is a place which has an outlet for waste water, a water resistant floor and walls on four sides and a roof."(8)

When it comes to electricity, water and sewage in three cities (D. Bakir, Istanbul (Anatolian side) and Samsun) 52.82% of the dwellings do not have electricity, 74.52% have no running water, 64.68% of the kitchens and 77.80% of the bathrooms together with 51.18% of the wcs are not connected to the sewage system. (9)

One other feature that is significant from health conditions point of view is the number of windows and dampness of the dwellings. Although surveys covering all squatter dwellings' conditions are not available at the moment some figures pertaining to a number of the cities do give an approximate idea. (10)

Of the 1,560 squatter dwellings sampled in Bursa, lighting conditions of 69.94% were sufficient, 25.45% were partly sufficient and 4.62% were poor. Dampness percentages also showed a parallel. 52.95% were dry, 29.04% were damp at times and 17.94% were continuously suffering from dampness.

Ventilation is also a problem and poor ventilation results both with dampness and unpleasant smells. Findings showed that 29.11% of these dwellings had unpleasant smells due to poor ventilation and dampness, 54.79% were found to be smelling of food, (11) 9.58% were smelling of wc.

Materials used in the construction of squatter dwellings show a great variety due to the fact that they are constructed with whatever is available. It is possible to find mudbricks, stone, bricks or cinder blocks in the same construction. In 4,212 squatter dwellings surveyed in Ankara, 34.67% of the walls were of mudbrick, / 4.62%

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10. Because there are great differences among the different regions of the country the characteristics of the squatter dwellings also change accordingly. A squatter dwelling considered poor in Ankara or Bursa could be acceptable with the standards of a city in the eastern or south-eastern regions.

4.62% stone, 6.38% brick and 9.47% were of cinder blocks.
As flooring 53.17% had earth, 21.18% concrete, 14.74% timber and the rest were combinations of earth and timber, earth and concrete, timber and concrete, and earth, timber and concrete. For roofing in one area 4.71% in another 24.10% and in a third 0.19% had earth roofs. 5.10%, 4.14% and 3.50% of the houses in the above areas were roofed with metal sheets. (12)
Although these figures are far from giving a general idea, a simple observation reveals that cinder blocks, tiles and stone are the most common materials for walls, roofs and foundations respectively due to their familiarity for usage and relative cheapness.
Because squatter dwellings are made in a short time and because most of the squatters are not trained in building trades usage of materials and methods of construction are far from the sophistication of their rural dwellings.
When we look at the standards of social services they also follow the pattern of physical standards. If the densities per room and areas per person are considered, according to the space standards accepted by the French and revised by the Turkish authorities, following conditions are found. (13) In Bursa, where areas of

12. Yörükan, T. op. cit. p. 44.
13. According to French three thresholds are accepted to define the housing space standards. For the normal existence and development of an individual's psychological and social self an optimum size of 16 sq. m. for an individual or 1.5 persons per room is accepted as a normal threshold. Below this two different thresholds are found. First is the critical threshold where 12-14 sq. m. per person or 2 persons per room is found. Below this it is found that individuals with neurotic tendencies lose their peace of mind and their relations with the other members become destructive. Second threshold below the normal is the pathological threshold where the physical conditions of the dwelling create harmful effects on the inhabitants, and the threshold is defined by either 8-10 sq. m. per person or 2.5 persons per room. (See over)
squatter dwellings were surveyed with greater detail. 50.07% of the dwellings were at or below pathological threshold, 35.88% were at critical threshold, 12.12% were at or above normal threshold and 1.92% were unknown. In terms of other health conditions the facilities are very scarce and the areas are a constant threat for the start of an epidemic, for example in a squatter area of Istanbul, which comprises 3% of its population, 6.73% of the contagious disease cases were reported.

If the problem is taken from the point of facilities, while it is necessary to have 7 or 8 health clinics for the 350,000 population of Ankara's squatter areas, there is only a children's hospital, a maternity clinic and a mother-child health centre.

Similarly, the educational facilities are also minimal. In Ankara's squatter areas there are 49 primary schools instead of the required 257. In some squatter areas of Istanbul there are 19 primary schools instead of 77, and in Izmir 23 instead of 82.

Other characteristics like occupation and income level show similar inequalities when compared with the other residential areas. Of the 6,593 households in five cities, 14.88% of the heads of households are unemployed. Employed heads of households are distributed among various categories in the following order: (14)

\[ \text{Small} \]

13. (Cont'd.) These were adapted to the Turkish conditions in the following manner mentioning that they are approximations.

Normal threshold: 2 or less persons per room or 14.01 or more sq. m. per person.

Critical threshold: 2.5 persons per room or 8.01-14 sq. m. per person.

Pathological threshold: 3 or more persons per room or 8 sq. m. or less per person.


Small crafts, production and other qualified workers 51.07%
Workers in services 15.16%
Traders 14.99%
Transportation and communication workers 9.64%
Others 9.14%

This shows that contrary to the generally accepted idea that squatters are unskilled government employees, a large proportion of them is formed by skilled workers.

When their incomes are analysed it is seen that on the average 96.30% of the squatter families of five cities are earning less than 1,000 TL (£25) per month. When the upper limit is taken as 500 TL, then 73.89% of the families are earning less than that. (15)

1.3. Definition of Squatter Areas

Before going into a detailed definition of squatter areas from various points of view it will be helpful to distinguish the general characteristics of these areas in the light of above mentioned physical and socio-economic appearance.

One of these characteristics distinguish squatter dwellings as a specific form of housing found mostly in the under-developed countries, despite the fact that there are few cases of similar nature in the developed countries where homeless families had occupied and used houses not used by their legal owners. (16)

1.3.1 Slums vs. Squatter Areas

It should be made clear that the expression of a housing shortage in developed countries and that of underdeveloped countries show different characteristics. As the terms used to define them are 'slums' and 'squatter areas' and as there is an abundance of information that can be utilized to distinguish the two, it will be sufficient to mention only a single point which is of importance

for the purpose of this work.

The complex institutional structure of the developed countries backed by an organizational structure to carry out the necessary operations for its functioning, creates both a set of barriers and a social psychology that eliminates initiative and prevents the construction of squatter dwellings but results with the formation of slums. (17) Yet in the underdeveloped world as described above because both the formal institutions and their executive organizations are unable to operate and because the population suffering from housing shortage is of rural origin, where they had the initiative to construct, they utilize whatever means they have to build a dwelling. (18) Therefore in broad terms and with present conditions while squatter areas represent the residential areas of urbanizing population, slums represent a population that is socially and economically retrograding. This is also strengthened by the fact that squatter areas are areas of construction whereas slums are areas of deterioration. (19)

17. See p. 122 for the cause of this state.

18. With the present trends of increasing rents population of urban origin is forced to live in squatter areas and the proportion of originally rural population is decreasing. For the urban population this is a decline and its consequences for the squatter areas could be the beginning of a deterioration which could end up with conditions even worse than those of western slums. On the other hand, an interesting development is starting in the west with the formation of social groups indifferent to the complex organizational structure of the western society. Their housing process is worth comparing with that of squatters. See Stern, S. Trouble in Paradise. Ramparts. Vol. 8., No. 5., pp. 22-28.

19. This deterioration is the basic characteristic that differentiates slums from squatter areas, for slums develop in areas which are built with the purpose of habitation to a certain set of standards but have become substandard due to overcrowding and ageing of services and structure.

And the cumulation of these motivations for construction created by the strong contradictions between rural and urban patterns of life is so strong that there are cases in which the squatter houses demolished by the authorities were rebuilt even after ten or more times. (20)

1.3.2 Squatting as an Exposition of Socio-economic Conditions

Having described the socio-economic characteristics of squatter areas it is possible either to take the problem as such and try to find means to answer that problem or to take a few further steps and try to define the causes responsible for its formation. Here we shall try to follow the second in order both to understand the problem better and to find the potentials that would be helpful for the provision of a solution.

Squatter areas are formed by the rural population migrating to urban areas with the hope of finding a better market to sell their labour. So it will be better to start with the prevailing conditions in the rural areas.

1.3.3 Rural Conditions and Urbanization

Turkey is a country where 71.1% of the population lives in rural areas. (21) Since this figure represents the present state, after a period of high rate of urbanization, it will be helpful to go back to the years when this process started to accelerate. In 1950, with a change in the government, greater priority was given to industrialization efforts with a parallel mechanization


21. The figure is of 1965 census and rural areas are defined as those with a population of less than 10,000. State Institute of Statistics.
Although industrialization in urban areas was not realized, for it was left to the initiative of a class that was expected to accumulate its capital from agricultural capitalism, agricultural mechanization was realized with import of agricultural machinery. With an estimated redundancy of 5 to 9 labourers per tractor a large farming population had to find new lands to work on. New lands were made available for cultivation and from 1950 to 1960 cultivated lands increased from 14.50 million hectares to 23.20 million but because of the extensive agriculture, despite mechanization, there was no increase in productivity leading to no increase in general welfare.

Yet even if intensive agricultural methods are used and there is no mechanization in intensive agriculture, it is still unavoidable to have a surplus labour force in the agricultural sector due to the initial proportion of rural population, population increase and lack of new land that can be cultivated.

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22. Number of agricultural tractors increased from 961 in 1936 to more than 54,000 in 1955 in the following order:

<table>
<thead>
<tr>
<th>Year</th>
<th>Tractors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1936</td>
<td>961</td>
</tr>
<tr>
<td>1948</td>
<td>1,750</td>
</tr>
<tr>
<td>1952</td>
<td>31,415</td>
</tr>
<tr>
<td>1965</td>
<td>54,668</td>
</tr>
</tbody>
</table>


An increase of the urbanization rate in these years is attributed to an increase of production in agricultural sector, by some authors and according to them this increase has resulted in this population's decision to move to an urban area. This view neglects the fact that increase of production was due to mechanization which resulted in an increase of unemployment in the rural areas.


We should also approach all these structural changes in the agricultural sector from the ownership pattern of means of production point of view which in this case is the land and other related implements. In some of the most productive agricultural areas 69% of the agricultural land is owned by 6% of the families. (26) This also means that the majority either has a very small land or they are forced to work for a feudal lord on a share crop basis. Furthermore, the small amount of land owned by the majority, due to its immense value, divides up into even smaller pieces with every generation, thus resulting with a further reduction in productivity and a cause for various social conflicts.

Before going to the causes that create an accumulation of migrant population, a cross section of the groups related with agricultural production and with the control of surplus produced in agriculture, it would be helpful to define which of these tend to create the population of squatter areas. These are:

1. Owners of large agricultural lands.
2. Those who had more than 200,000 sq. m. (20 hectares) of land and were able to increase that to 200 hectares or more as a result of polarization and are using waged labour for its cultivation.
3. a. Those who have no land and have become agricultural workers.
   b. Those who have a small amount of land but who also have to work as a wage earner in order to survive.
   c. Those who are working on a share crop basis.
4. Those who are producing on their own land but are under the control of town merchants.
5. Illegal money lenders who do not live in the village but control the agricultural surplus. (27)

Of these five those who are in group three represent the potential squatters according to the order, wage earners, wage earners with small land (these are the ones who look for seasonal jobs when they come to the city) and share croppers.

Summing up all these we can say that:

1. The mechanization of agriculture has created an unemployment in the rural areas.
2. Agricultural production by itself (whether intensive or extensive) created a surplus labour force in the rural areas.
3. Polarization in agricultural land ownership created a rural population who had no means of production. The accumulation of all these factors create the economic conditions that force the rural population to settle in urban areas with the hope of becoming a wage earner. Yet it is not only these briefly defined economic factors that cause the migration, but also the lack of educational, occupational, health and recreational amenities caused by the above factors and which could at least provide outlets for the younger generations to free themselves from this feudal slavery (educational Village Institutes were established with a similar purpose).

What is provided in the city in return for all these needs has only a marginal difference. The doctor there, is still overoccupied but at least it is not necessary to carry the patient for miles on horseback. The school may have two or three shifts of classes to take care of all children but it is at a closer distance. And above all what is earned in return for a unit of labour

28. Researches made on the causes of migration reveal that 73.27% of the heads of households made their decisions on economic grounds.

Yürükan, A. op.cit. p. 5.
labour is far greater than that of agricultural work.\(^{(29)}\)

Finally, the head of the household begins to go to a city on a seasonal basis and tries to find a seasonal job. Usually this is a job on a construction site.\(^{(30)}\) This way of life continues for some time until he finds a permanent job with which he can support his family. During this time his accommodation problem is either solved by sharing a squatter house with some friends or relatives or he tries to spend the nights in a coffee house or in an unfinished construction. But when he decides to bring his family the situation changes for they should be provided with a shelter. Since he is unable to buy or rent one, he finds the solution in building his own on whichever land he can find. Most of these dwellings are built in a very short time, usually at night, with the least and cheapest of materials.

1.3.4. Precautions

The public authorities, on the other hand, accepted different attitudes at different times both in their definition of the problem and in their solutions. At first the whole process of urbanization was

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29. From a number of researches it is seen that the average monthly income of a family increases from approximately 200 TL to 400 TL.


30. The problematic nature of urbanization is also related with the type of job that can be found in the urban areas. Since investment decisions for the utilization of surplus value created by agricultural production is a) made in the urban areas b) made for the provision of highest profits for the owners of capital, although unproductive, 70% of all investments goes to construction due to the high profits they provide and industrialization is never realized.

was conceived only as an increase of population. Since this increase was originating from the rural areas, creation of some obstructions to rural migration was regarded as a possible solution. Without consideration to the fact that this migration was caused by the absence of opportunities in agricultural production, proposals like issuing of permits, taxation of migrants and creation of urban activities in rural areas were made. (31)

Later on with the beginning of national planning a balanced urbanization with the creation of job opportunities in urban areas was proposed. (32) But if the industrialization rate of nine large cities is compared with their rates of urbanization, it is seen that the implementation of the proposals were not successful. (33)

While at the macro scale these are the main aspects of the problem, their implications on the micro scale are also worth mentioning. Furthermore, they are of greater significance from the point of architectural implementations, for the sources of motivations and potentials are at that scale.

/ 1.3.5.

31. Senyapili, O. & others. op. cit. p. 64.
33. Urbanization in Major Cities (1950 = 100)

<table>
<thead>
<tr>
<th>Cities</th>
<th>Index of Number of Workers</th>
<th>Index of Urbanization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Istanbul</td>
<td>240</td>
<td>178</td>
</tr>
<tr>
<td>Ankara</td>
<td>446</td>
<td>313</td>
</tr>
<tr>
<td>Izmir</td>
<td>139</td>
<td>174</td>
</tr>
<tr>
<td>Adana</td>
<td>179</td>
<td>246</td>
</tr>
<tr>
<td>Bursa</td>
<td>154</td>
<td>205</td>
</tr>
<tr>
<td>Eskişehir</td>
<td>170</td>
<td>194</td>
</tr>
<tr>
<td>Gaziantep</td>
<td>115</td>
<td>220</td>
</tr>
<tr>
<td>Konya</td>
<td>242</td>
<td>245</td>
</tr>
<tr>
<td>Kayseri</td>
<td>155</td>
<td>194</td>
</tr>
</tbody>
</table>

Second Five Year Plan. p. 266.
1.3.5. Urban Context

Conditions created by the formation of squatter areas, process of urbanization and the solutions tried should be studied both from the point of squatters' conflicts with the conditions creating the problem and from the point of process of change.

People coming from the rural areas settle in some specific parts of cities according to a set of factors. These can be grouped a) according to their location within the city and b) according to their nature of ownership.

According to their locations within the city they show similar characteristics. They all are close to the central work areas thus travel time and cost to and from work is reduced. Yet because usually these areas have high land values squatters try to utilize the unused land that satisfies these conditions. Therefore they are either on extreme slopes or in flood basins. On the other hand, these areas are also close to the residential areas of high income groups, which provide secondary employment opportunities.

Within the overall urban pattern, previously open areas that were between the centre and the residential areas are filled with the formation of squatter areas - on the available land - around the work areas. In the rapidly changing cities, like Ankara, with the change of location of the centre, a differentiation in its functions can also be seen. While the old centre begins to serve the newly urbanizing population and houses wholesale shopping, the new one directs itself to the demands of higher income groups and retail shopping. The location of squatters within the city is the spatial expression of a class society, for the two represent the location of production source of the surplus value of a society and the location of the decision centre for the utilization of this surplus.

34. Tekeli, I. op.cit. pp. 18-19.
surplus.

One more factor affecting the choice of location for subsequent squatters is the location of previous squatters of the same rural area.

In time, with the utilization of almost all the areas within the central districts, formations on the periphery of the residential areas begin to take place. These are on the outskirts of the city and therefore the inhabitants usually have both the industries and service functions of the residential areas at their disposal for job opportunities. (35)

1.3.5.1. Ownership and Institutional Characteristics

After this brief definition of squatter areas within a city, if we turn to the second set of factors that has an influence both on the choice of land and on the process of social change, which is the ownership characteristics of these areas, it will be seen that there has been a great change in the process of squatting due to the changes in ownership patterns. Although there are no detailed surveys related with this process of change that would mark specific dates in between the phases, it is possible to define the process in two stages. At this moment these stages can be called as the early and present patterns of ownership.

These two phases, within the last twenty years, can approximately be divided into two ten year periods. Thus the early patterns of ownership were common during the 1950s and the present patterns have developed during the 1960s and are still existing. These two patterns of ownership should be studied in two further groups as the ownership pattern of land and ownership pattern of dwellings. In terms of the two above defined periods, land and dwelling ownership patterns show different trends according to the changes of the groups or organizations related to them.

35. Yücel, A. op. cit. p. 38.
Since in the first phase almost all of the squatter dwellings were constructed by their users, they were all owner occupied. Yet from the land ownership point of view they were confronted with various groups which can be defined as:
a) the public authorities and b) private owners. The public authorities can also be divided into two, as the municipality and the treasury. In Turkey most of the land within the municipal boundaries is owned by the municipality unless owned by private individuals. It makes little difference whether the public authority is the municipality or the treasury except for the fact that the municipality has a greater freedom to evict squatters as well as having a greater responsibility for supplying these areas with the required services like substructure, transportation and security. Squatting on treasury land is relatively easier, for eviction requires complicated procedures and court decisions.

As the number of squatters increased various types of organizations began to develop with the purpose of resistance. In most of the cases, except for a few, societies formed for the improvement of the physical environment within the squatter areas were not formal organizations of resistance. Primarily they were formed by the accumulation of population of same rural origin within
within the same area. Later on with the inclusion of people working in various public offices to the squatter population, these organizations began to find ways and means to create forms of resistance other than the utilization of force. One typical form of resistance created by the people is through obtaining information about the ownership conditions of various unused sites. If a number of people are claiming rights of a site the case is subject to long legal procedures which probably will take years, or if a land is owned by the municipality and not used the probability of obtaining its title during elections is high therefore is suitable for squatting. If, on the other hand, a site is owned by an individual who has close ties with the municipal council or other official departments then it is not suitable for squatting.

The condition of these people who were obtaining information and their relations during the second phase will be described later on.

In short, both with the increase of population in these areas and with the creation of physical and formal resistance, the public authorities and especially the municipalities began to look at these areas with a different attitude. The primary factor responsible for this attitude was that these areas began to appeal as sources of votes for municipal and general elections. Squatters, on the other hand, realizing this potential, began to utilize it. Consequently, just before every municipal or general election, hundreds of more squatters began to be built in a very short time. (36) This is followed by the distribution of titles thus providing the squatters with legal status.

36. Since official statistics are made at five year intervals it is impossible to deduct yearly increases to show the effect of elections, but if press reports are studied it is seen that the increase of squatters becomes a first page news just before or after an election. A similar process is also present in the Latin American countries.

The attitude of the private owners during this first phase is also worth studying. But before that, the private owners of land should be divided into two groups according to their mode of utilization of land.

Whatever the purpose, land ownership in Turkey is a speculative activity. Because of the continuously critical condition of the economy, land prices increase all the time at a rate incomparable to the increase of value of other goods. Yet this does not equate all land owners with each other, for some of the owners are not in possession of land with the purpose of speculation although they also benefit from this increase in value. Therefore, while some land owners are passive speculators, others are active.

From the speculation point of view in the first phase, squatters created an indirect effect on the passive speculators. On realizing that eviction was almost impossible, land owners began either to use or to sell their land. This of course was also the beginning of their active speculation. Thus it would not be incorrect to say that the active speculators should also be considered in two groups as those holding onto a land not with the purpose of utilizing it and benefiting from the increase of value without contributing anything and those who are speculating both by holding onto the land and at the same time by developing it through building substructure and even dwellings on it.

In the second phase - which approximately started with the 1960s - we see an increase in the patterns of ownership of both land and dwellings. Since the letting and sale of squatter dwellings is the consequence of a change in land ownership, it will be beneficial to discuss land in the first place.

With the increase of squatters and the distribution of titles

__________________________ /municipalities

37. In the last 20 years land values in large cities has increased 300 times. A site purchased for 2,100 TL in 1949 changed hands in 1955 for 700,000 TL.

Avcıoğlu, D. op. cit. p. 337.

38. Şenyapılı, O. & others. op. cit. p. 93.
municipalities were left with no land under their control. (39)
Consequently, the new squatters were forced outside the municipal boundaries and began to settle either on agricultural lands or on lands owned by the treasury. But because of their political potentials, the municipalities began to enlarge their boundaries resulting in an overall retardation of the municipal services, for although their service areas were enlarging their incomes from these areas were not increasing proportionally. (40)

Squatters, on the other hand, during this phase were faced with the formation of various intermediate groups trying to benefit from the demand for land. One of these groups was formed by some government officials or others who had obtained information about the ownership conditions of sites. While recommending land to the new migrants, they were also threatening them in various ways and forcing them for some payments. (41) Apart from

39. This also had a great impact on the implementation of planning decisions.

This is also represented by the inhabitants of squatter areas by the answers given to the question "what are the problems encountered by the district population?" 88. 37% of the problems are related with the inadequacies of the municipal services.

Yörükân, A. op. cit. pp. 21-22.
Yörükân, T. op. cit. p. 54.

41. In 1968 by-elections, upon promises made by some politicians in Ankara in one area more than one hundred families decided to build squatter houses. They had to find land and materials. Knowing that this demand will be created, a man, who is also a contractor, collected large quantities of building materials that are commonly used in squatter houses - cinder blocks, cement and timber - and created a shortage in the market. It should be mentioned that this market is different for it is based on a) the production of small manufacturers for cinder blocks b) the limited amount of cement found in the free market for most of the constructions obtain their cement from the factories, and c) the absolute necessity for timber which is the only material that can be used for spanning openings under these conditions.

Then he formed a group of strong men and settled on a site (see over)
from these, the two previous patterns of site ownerships are still existing. While the individual owners of land are trying to find a compromise by either selling or letting the sites to owner squatters, public authorities on the other hand are still in the process of legalizing the status of squatters.

From the point of squatter dwellings three patterns of ownership are seen. With the increasing need for housing and increasing values of property, in central areas former squatters began to let a room or part of their houses to the new migrants or to the urban population. This started a new trend as a result of which some owner squatters became landlords and others, realizing the formation of a market, began to sell their dwellings.

According to the surveys made between 1965 and 1969, of the 6,372 squatter households in five major cities (excluding Ankara) 21.72% of them were bought from a previous owner. (42)

Summarizing the patterns of ownership, we can say that at present there are squatter houses both for rent and sale, and squatter houses still occupied by their owners.

Thus we can represent these ownership and tenancy types by the following diagram.

41. (Cont'd.) which was claimed by a number of inheritors, set up border lines around individual lots, left space for streets, etc. and asked the migrants to pay a certain amount for the site as well as compelling them to buy the materials he brought.

After a few days when we heard the incident and went there the houses were finished and the people were calling the man 'emperor'.

42. Other than the ones bought from someone else there are those constructed by a builder for the owners (65.10%), those constructed by their owners (9.81%) and those inherited (2.92%). Yorukan, A. op. cit. p.15.
Having defined the location and ownership patterns of squatter areas in order to analyse them within a social system framework it is also necessary to define some of the institutional characteristics. These are not directly related with the physical environment, like location or ownership patterns, but are useful for they represent the character of the social structure of that society.

It should also be added that these characteristics are called institutional rather than organizational for the term organization generally covers only the "deliberately constructed" social units, while institutions have a larger coverage and it is much more easy to include spontaneous formations to its context.

The institutional characteristics of the squatters can be detected in their relations during the construction of the houses and after their completion. During construction members of the family, their relatives and friends - who are mainly from the same rural area - engage in an activity that necessitates a cohesion both for

the previous squatters and for the newcomers. For the previous squatters, a new family is an increase of power both in physical and in formal terms. (44) For the newcomers, the whole process and the whole context is a new experience. They have to go through a process of change and the only factor that would prevent its degeneration is the product of their relations with those who also had a similar background and had gone through the same process.

After the construction of houses the process does not come to an end. The house, which is the base for this urban existence, has to be protected against the forces created both by the authorities and by the individuals whose interests are harmed. The social relations of this phase are different from those of the previous for its scale enlarges out of the boundaries of family, relatives and people of same rural origin to the relations of neighbourhood and even to the formation of formal societies. These institutions, although limited in number, are related either with the physical environment of squatters or with the general welfare of the population. Since the second is not directly related to the housing conditions, we will concentrate on the first.

The realization of social relations of this phase take shape through the formation of development societies at the neighbourhood level with the hope of raising the physical environment standards in order to be able to demand ownership rights and various municipal services.

Obviously the nature of relations of the second phase are influenced both by the changed goals of the squatters and the social consequences of changing from a rural society to an urban one.

44. There are numerous cases where an incomplete squatter house was saved from being demolished with the help of a pregnant friend or relative whose presence prevents the authorities from taking such an action.
Squatter areas with their physical environment and social characteristics represent a social system of various elements and processes. Since similar to others, the elements of this system are in constant relation with each other and since these relations are also directed to the attainment of specific ends we shall define these relations as relations of production\(^{45}\) for the goal is a product which can be represented in a number of ways.

This analysis will be carried out in three levels each related to a different aspect of the social relations of squatters.

Firstly the production relations of all the classes and groups related with squatter house production will be considered. These production relations have a number of contradictions which arise from the interests of the classes related with production either during the production process or during the use of product. This will provide the definition of the social structure within which there are no internal contradictions related to this aspect of the problem and therefore will define the basic social group where the effects of the proposed approach can be studied.

Secondly the other elements of the social system will be defined to clarify the role of social organizations in the amalgamation of the squatter society. This will be done from the point of four subsystems defining a social organization, namely the cultural system, environmental system, personality system and social structure.

Thirdly the social context will be defined in such a form that only

\[\text{45. The relations existing between the social groups or classes directed to production, are the relations of production of a society.}\]

the relations relevant to the production of squatter dwellings by a single social group will be included. In other words this group is composed of the section of society which through its activities clearly defines its class characteristics excluding others. This clarification, although unconsciously in most of the cases, evolves from the totality of the squatting process. Characteristics which are individual and are due to the specific problems of individual families, through the production process enlarge their frame step by step and finally reflect the class characteristics of the society. Therefore in the third level of analysis squatters of same class origin will be discussed from the point of their organization for physical environment production and its maintenance.

1.4.1. First Level of Analysis (Production Relations of Classes)

When we return to the first level, to study the production relations of the group which has contradictions in some of its relations, it will be evident that these relations are the reflection of the nature of relations existing within the whole society, which in other words is the reflection of the class characteristics. (46)

These contradictory production relations can again be studied as

46. Here, it is necessary to define social 'classes' for in the hands of both sociologists and others the concept has lost its 'social and historical function'. What is being done is to obscure these functions by attributing features which are irrelevant to the principal role played by the positions and relations of different social groups. What is not of primary importance in this context is the occupations, incomes, ages, races, etc. of the members of a social group, but the roles they play and the means they have for the production and distribution of value and the nature of relations with each other from the point of production. Occupations, incomes, ages, races, etc. are not the characteristics that define a class but are the representatives of the conditions existing due to the existence of different classes.


the contradictory relations pertaining to land (means of production) and to dwelling (product of labour). There are various ways of handling these contradictions. The way in which the contradictions related with land are resolved is an example of this.\(^{(47)}\) The two parties are the land owners, either actively or passively speculating and the squatters in need of new land. A third party, the public authorities, which acts as a mediator, has its own contradictions as well. Of the first two, the squatters are in a situation that has two alternatives: a) accepting the situation as it is by going back - which is almost impossible - or living without a shelter, or b) seeing the contradictions of other parties and taking an action accordingly. These two alternatives have no contradictions and the squatter is totally free to decide on either. The land owners on the other hand are in a contradiction for they both want the formation of a demand for their lands to increase their value and they also want the creation of conditions that will prevent this formation. So if the cause of demand is a positive aspect for them, it is because they can control the supply. But if they are not willing to meet that kind of demand then the cause is contradictory to the effect they envisage. They are in contradiction from production as well as from demand points of view, for they are not contributing in any way to the increase of value by production, because more land can not be produced, and are also trying to prevent the production of others (i.e. producers. See Glossary) by withdrawing the necessary means. Thirdly the public authorities are in contradiction for although they seem to be searching for a solution they are also trying to utilize the problematic situation for their political purposes.

As a result of the different natures of the objectives of these three groups, squatters - although unconscious of the nature of the squatters - although unconscious of the nature of the squatters - although unconscious of the nature of

\(^{(47)}\) A process diagram for the handling of contradictions will be developed for this aspect of the problem.
these contradictions - gain a superior position against both the land owners and the public authorities. Naturally it is not the consciousness of the contradictions existing between land owners, public authorities and the squatters that puts them in action but the nature of the conditions they are in and the weaknesses of the parties in contradiction.

Finally, as seen in reality, the solution to the land problem is always to the advantage of the squatters.

Secondly if we turn back to the production relations that are related with the dwellings we should make a discrimination between the purely social relations of production and the socio-economic relations of production.

Since social relations of production is a new term it should be defined. Production of the majority of squatter dwellings is not for the purpose of exchange with other products but for immediate use. And since exchange of products or the exchange of the value of products is a social and economic activity this mode of production can be regarded as an asocial one. Yet the exchange of value of products without considering their production, is a purely economic activity and the production of a product which will represent only a use value, which will not be exchanged with another use value, is the purest representation of an individual activity for it is the materialization of the labour of a social unit whatever that unit may be. Therefore, while it will be wrong to speak of only economic relations of production for without social relations economic relations are unable to produce anything, it is perfectly possible to speak only of social relations of production where an economic exchange does not exist but a social exchange does.


Taking the social and economic relations of production and the different characteristics of contradictions into consideration (50) we can say that there are two groups of relations with principal or secondary contradictions and are related to the two different social groups in squatters.

One of these is the squatters who are the producers of their own dwellings and are the representatives of the social group within which only the above defined social relations of production exists. Hereafter this group will be called the primary group. (51)

Within the group, from the point of relations of squatter dwelling production, there are no principal contradictions for they are all of the same social class and none of them are owners of means of production. This is also proven by the fact that there are no constraint creations within the group from the point of production

50. At this point it is necessary to define contradictions according to the role they play in changing a situation or in creating a new condition out of the constraints of a previous one. The constraints of a situation may not always be the principal factors to create a need for change. On these principles it is also possible to define the contradictions according to their relation to the causes of a problem. If these contradictions evolve from the principal constraints then they are the principal contradictions and the solution directed to other aspects of the problem will not be sufficient to provide a solution. Problem situations arising from some constraints of minor importance do not necessitate a total change. So when a problem is analysed it is possible to define both principal and secondary contradictions according to their relations and according to the roles they play in the creation of the problem situation and in the act of finding a solution. (See Appendix II.)


51. This primary group definition is not related to that of Cooley, which "is a small group of people characterised by intimate face to face association and co-operation" but could include it as well.

of new squatter dwellings.

Yet there are secondary relations which, although not significant, are worth mentioning for clarification. These are the relations that arise from the requirements of the production process and are between the squatters and representatives of the authority or suppliers and manufacturers of materials, etc. The second group of relations evolve from the existence of various other groups who are not the direct producers of their dwellings. These can be divided into four categories according to their relations with the basic conditions creating the problem and their relations within the social classes related to squatters.

Relations of the Squatter Population

(1) Primary Group Relations (Among Original Squatters)

(2) Squatter House Buyers

(3) Squatters

(4) Tenants

(5) Squatter House Speculators

These relations will be defined only in terms of principal aspects because a more detailed investigation necessitates further social surveys with this specific purpose. Our analysis at this level will provide an explanation for the contradictory aspects of these relations, and will define the principal contradictions of them.

a) The first of these groups is composed of those who have bought the dwelling with the intention of living there. Because they are not the builders of their dwellings, relations of production
relevant to the production of squatter dwellings are not of any significance. But due to their class characteristics - which can be approximated from the percentages of employment types (52) - and due to the nature of production relations within the whole society and accepting an equal distribution of occupations among the squatter house owners and tenants, we can say that although they can not be regarded as the potential source for the construction phase and during the actions for demanding legal rights, they become supporters and participants of demands for the improvement of the physical environment and the provision of public services.

b) Secondly there are those who own a squatter house and let it. In terms of their characteristics they can belong to various classes. While some could be the representatives of the new rentiers others could be letting one or two rooms in order to compensate for their low income.

c) Thirdly there are those who are the tenants of the previous group. These again can be categorised into two basic groups according to their occupations and origins which play an important role in their attitudes towards problems. If the tenant is a worker of rural origin then he usually has the intention of building his own house. If he is not a worker but an employee in one of the public or private offices or if he has a small business - which can range from the ownership of a mobile stand to

52. The following percentages for 1962 show the distribution of squatters among various occupation groups in Ankara.

<table>
<thead>
<tr>
<th>Occupation Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skilled labourers</td>
<td>26.4%</td>
</tr>
<tr>
<td>Unskilled labourers</td>
<td>11.4%</td>
</tr>
<tr>
<td>Service workers</td>
<td>15.2%</td>
</tr>
<tr>
<td>Tradesmen</td>
<td>16.9%</td>
</tr>
<tr>
<td>Farmers</td>
<td>1.2%</td>
</tr>
<tr>
<td>Land owners</td>
<td>0.8%</td>
</tr>
<tr>
<td>Government officials</td>
<td>14.6%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>3.5%</td>
</tr>
<tr>
<td>No answer</td>
<td>8.4%</td>
</tr>
<tr>
<td>Unknown</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

These percentages reveal that 56.5% of the population are workers, 14.6% are white collar workers and 18.9% are self employed.

Yücel, A. op. cit. p. 38.
to the ownership of a shop - or if he is a worker with a relatively high status then his aspirations are contradictory to his class position and he longs for the standards and styles of life of 'white collar' workers. Their being not class conscious naturally creates effects on their attitudes towards the problems encountered by the squatter population.

d) Finally there are those who build and sell squatter houses and are no different than the speculative contractors whose primary concern is to make the maximum profit with the minimum investment, risk and responsibility. The motivation and goals of this group are totally different from those of the previous three and naturally from those of the primary group.

Before going into the second level of analysis it will be necessary to define the class characteristics of the various groups mentioned in the above five categories. This will be based on the classification of the types of employment in squatter areas (53) according to the different ownership patterns of the means of production. (54)


54. The population of the squatter areas and the people related with squatter house production are the representatives of the following social classes: proletariat, semi-proletariat, petty-bourgeoisie, middle-bourgeoisie, land owners. The hierarchy of these means of production ownership patterns is such that the members of proletariat have only labour for production and thus sell their labour for a certain wage. Members of the semi-proletariat have limited means for production and are forced to sell their labour to compensate for the limited production that is possible with the means they have; seasonal workers, part-time wage earners are examples. Petty-bourgeoisie is the class formed by those who have some means of production either in the form of capital or tools. They do not employ waged labour for their production. Middle-bourgeoisie is formed by the owners of means of production who employ waged labour in a form that represents capitalist mode of production. Land owners on the other hand represent a pre-capitalist class and exist in the under-developed countries as a consequence of the under-developed mode of production. And finally to all these should be added the lumpenproletarians who actually are classless, morally depraved and prone to all sorts of dishonesty. (See over.)
According to this classification, the primary group is composed of proletarians and semi-proletarians. Owner squatters are either of proletariat or petty-bourgeoisie origin whereas owners who are letting houses include people from all classes. Tenants also include a wide spectrum of classes and there is a tendency of this spectrum to enlarge in time with the coming of the low income groups. Classes of tenants at present are proletariat, semi-proletariat and petty-bourgeoisie. While there are proletarians and semi-proletarians who are taking tenants in order to survive there are people of petty-bourgeois or middle-bourgeois origin who own a number of squatter houses and live on their rents. Then there are the squatter house speculators who are either of middle-bourgeois origin and are in this business due to a number of reasons which could be the ownership of some land in the city or the ownership of a limited capital which inhibit large investments but enable large profits through building and selling squatter houses. Or there are the owners of previously agricultural land which has become valuable for squatting due to the growth of the city.

/ 1.4.1.1.

54. (Cont'd.) It is also worth mentioning that the following factors make the distinction between a 'class' and a 'strata'.
1. Within a class there are role groups, within a strata there are status groups.
2. Within a class there are production relations, within a strata there are consumption relations.
3. Within a class there is a tendency for the union of members, within a strata there is a tendency of division according to the differentiation of status.
4. Class strengthens struggle. Strata acts as a buffer against struggle.
5. A class has control power, a strata has influence.

A strata is defined by occupation, status, income and control power.
Aron, R. Two Definitions of Class, in Social Equality.
1.4.1.1. Classes, Contradictions and Class Consciousness in Squatter Areas

It would be wrong to accept a form of ownership or tenancy and draw conclusions about the squatters' socio-economic relations without considering their class characteristics. On the other hand, to accept class characteristics as the principal factor determining the socio-economic relations of squatter house production would again give a limited view because the production of squatter dwellings is not the only field of activity of this social group.

In this section we shall try to define the socio-economic relations of the squatter population both according to the factors evolving through their production, ownership or tenancy patterns and according to their class characteristics within the society. The method for this definition will be based on the analysis of their position or attitudes towards the principal human activity which is production and the subject of analysis will be:

- the definition of contradictions
- principal or secondary nature of these contradictions
- nature of change in terms of a change of quality
- continuity of change and
- the nature of social unification.

The proletariat has no principal contradiction in terms of their objectives and the means they utilize for their realization but some secondary contradictions can be detected due to the conditions they are in. These are mainly due to the lack of education and the pressures of social and cultural nature. Among these pressures those of the religious circles are especially important for the people of small town origin rather than rural (for the mode of production and related world view is more secular, thus preventing the formation of an orthodox / religious
religious attitude). Their antagonism is with the owners of land prior to the construction of the dwelling and later with the public authorities; in general, the representatives of the ruling classes. A social unification process continues in two different spheres, one with the friends and relatives of the previous environment and the other - although evolving slowly and without strong ties - in the work place and the squatter area. Both of these are started mostly by the leadership of the petty-bourgeoisie which feels closer to the working classes. Although the process of social change is continuous, it is slow in establishing a qualitative change. Within the squatter area, they may belong to the primary group, owner squatters, tenants or landlords, but the majority is in the first, third and fourth groups (see p. 38).

Semi-proletariat shows similar characteristics to those of the proletariat except that the incomes of their members are lower and their connections with the previous environment are stronger due to their ownership of limited means of production.

Petty-bourgeoisie, although has no principal contradictions related to this field of activity, due to the inclusion of a variety of strata within the class secondary contradictions (i.e. contradictions arising from relations which are not directly involved with production) of different characteristics always emerge. It is also the variety of these strata that causes the different patterns of unification. Secondary contradictions, due to the stratification of cultural characteristics, create both positive and negative aspects with respect to their attitudes towards the society. In


other words it is the pattern of socialization, attitudes and nature of their contradictions which define their roles and orientations and the total of which defines their consciousness or alienation. (57)

The process of change is significant from two points of view. Firstly as a result of the increase in the number of secondary contradictions some characteristics gain clarity and help the formation of a social consciousness, secondly this process effects the role and orientation definitions of the other classes.

The fourth class, middle-bourgeoisie, represents capital in the squatter areas and evidently its principal contradiction is that of private ownership and social production. (58) Whether the middle-bourgeois acts as speculator or landlord, the contradiction is always present. Private ownership is for production, yet production which is private - that is not exchanged - has no value, therefore is not able to satisfy the cause of existence of private ownership. Production on the other hand does not necessitate private ownership for the creation of value or the creation of its social nature; social division of labour satisfies this condition. The activities of the middle-bourgeois in the squatter area are for the acquisition of means of production either in the form of land or dwelling, but this acquisition also necessitates the labour of the producers in order to put that means of production in operation. Yet the product of this process is not returned to those who have produced it but to the speculator. This contradiction between private appropriation and social production also creates the antagonism of capital and labour. (59) Behind this principal contradiction, there are various aspects related to specific cases and the strata of the members of this class, like the contradictions


dictions of the officials mentioned above and the contradictions of various professional groups. These aspects create the secondary contradictions of the middle-bourgeoisie which are best examplified through the existence of 'buffer mechanisms' of the underdeveloped socio-economic relations. (60) Their unification is with the ruling classes and their change shows a decrease in quantity, and their transformation into capitalists shows a change in terms of quality.

Feudal lords, the last socio-economic class, has a loose link with the squatters due to the limited size of agricultural land that is utilized in a feudal mode of production around the major cities. While the majority of them are no longer engaged in agricultural production those who still are create conflict between feudal and capitalist modes of production. Again due to underdevelopment they play an important role in the decisions at various scales and are the supporters of various power groups. (61) The above mentioned buffer mechanism functions of the middle-bourgeoisie are also found in the feudal lords' relations with the squatter population. Although they are decreasing in number, through

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60. 'Buffer mechanisms' evolve with the process of change that is taking place in a society. They are created by the social dynamism and are the safety valves against the creation of crises. Beşikçi, I. Doguda Değişim ve Yapısal Sorunlar (Change in the East and Structural Problems). Dogan Yayinlari. 1969. p. 27. "buffer mechanisms ... delay the effects of a variable until some later point in a process."


Both in the rural areas and in the newly urbanizing centres these functions are carried out mostly by the middle-bourgeois who are able to establish contacts with the peasants or the new urban population through exploitation of their needs in return for the provision of some services or support.

61. These are mostly right wing religious organizations and are utilized for political purposes. Their effects on the squatters can not be neglected.
political, religious and above all economic power, their quality is changing towards capitalism. \(^{(62)}\)

1.4.1.2. Conclusions to the First Level of Analysis

Various social classes living in squatter areas and related to these areas are both the representatives of the prevailing socio-economic conditions and the conditions that would provide a solution to the problem. This solution could evolve either through the elimination of antagonistic aspects and solution of contradictions pertaining to the totality of the problem or through the definition of a specific context within which no antagonism exists and within which there are no contradictions that would hinder the activities that will take place in the context.

Since the context of this problem is, first of all, the social group living in the squatter area we have to define the subgroup where the following conditions are satisfied.

1. Within the group there should be no extensive class differences.
2. Goals of the organizational group should not contradict each other.
3. Contradictions creating the problem and preventing a solution should be due to external conditions.
4. Cultural characteristics, personality patterns, environment and the organizational capacity of the group should be distinct and definable.
5. The group should be able to benefit from its own productive activities.
6. Utilization of external contradictions should increase their productivity.
7. Contradictions of other related classes and groups should be concentrated at specific points (urban land problems discussed above is an example of this concentration). Within the urban context

context the social group defined by these characteristics is formed by the new urban population which has recently come from rural areas (satisfying conditions 1 and 3) and which is still productive without the conditions of a complex organizational structure (satisfying 1, 4 and 6) which is in need of housing for its use value (satisfying 2, 5 and 7) and eager to build their own dwellings (satisfying 2, 3 and 6) and definable as a specific group both with their families and with their friends and relatives (satisfying 1 and 4).

Finally it should not be forgotten that the relations within this group and their contradictory, antagonistic or confirming characteristics are not the products of a frozen set of relations but are the consequences of a continuously changing dialectical process and their study should also follow, consider and change its conclusions in time. Therefore, as stated earlier, the definition of the above group should also be accepted as a section in time and consideration should be due to the overall conditions that are affecting the characteristics of this society as a whole, their impact on the nature of relations and the redefinition of the group with which the implementation will be made.

1.4.2. Second Level of Analysis (Organization of the Social System)

Social organization is responsible for the integration of some elements that constitute a whole which can be defined as a social system. From the point of view of our analysis this organization has the function of shaping relations existing between man and nature and is directed to the utilization of the latter by the former. While man's actions determine the utilization of nature - that is production carried out - his actions are also conditioned by the social context within which he exists and so does the social relations of production. On the other hand, it is not only the relation of man with society and society with man that defines
defines the nature of usage - thus production - but also the relation of man and society with nature. Nature with its resources, conditions and phenomena is also a source of continuous change which inevitably creates changing effects on the state of network of relations.

These three elements that interact with each other constitute a triangle where man (for our purposes will be defined by personality), society (defined by its social structure) and nature (defined by its environmental characteristics) are the principal elements. The interaction that connects these three is the human productive activity, the product of which is the culture. (63)

Before going any further we can represent these relations in the following order:

\[
\begin{array}{c}
\text{(personality)} \\
\text{man} \\
\text{culture}
\end{array}
\]

\[
\begin{array}{c}
\text{(social structure)} \\
\text{society} \\
\text{(environment)} \\
\text{nature}
\end{array}
\]

63. A similar conceptual structure is also present in the critical analysis of Marx. Since consciousness of man can be defined as an awareness of the relationships of the elements of man's internal and external worlds, aspects of alienation also reveal the elements of these two worlds. These four aspects of the concept of alienation are that:

"a) man is alienated from nature;"

b) he is alienated from himself (from his own activity);"

which is due to the "act of production within the labour process" and the product of which is the objects, symbols and values of culture.

"c) from his 'species-being' (from his being as a member of the human species);"

"d) man is alienated from man (from other men)" thereby from the society he is living in.

The components of this triangle can further be divided into subcomponents which both determine the nature of each component and the nature of the whole through their relations. Because these components and their subcomponents will be discussed in greater detail in the following chapters, here we shall confine our analysis to their general characteristics relevant to the description of the context of squatters' social organization.

Interactions among nature, society and man are organized according to the characteristics of a culture. This is also evident from the point of various definitions of culture which differentiates man from other species considering the fact that he "is able to recreate the natural environment. Man makes tools and rules and patterns his life accordingly. He becomes at one and the same time a slave to and the master of his own past creations". (64) And it is this line between being the master or the servant that is significant for the role played by the culture of a social system. An environment, personality and social structure that is alien to a community directs the community's organizational activities to the servitude of that environment, personality or social structure while an organizational activity of which the community is conscious directs it to the mastery of its environment, personality or social structure.

The changes which the social system of squatters go through have both of these elements. While on one hand there are the alienating effects of a changed socio-economic organization as a result of a change from a feudal or semi-feudal to an under-developed capitalist relations of production together with a change from a rural culture to an urban one, on the other there are additional mechanisms, evolving again from this change, which

can be utilized for the creation of consciousness. The formation of squatter areas is one of these processes where each one of the sub-systems of the social system - personality, social structure, environment and culture - shows a change and the positive aspects of which can be developed.

Because these subsystems find their direction through the individual influences created by the organizations of pattern maintenance, integration, goal achievement, and adaptation, at this point it is better to go to the third level of analysis to define the nature of social relations that are determined by the different contexts of different organizations.

1.4.3. Third Level of Analysis (Organization for Physical Environment Production)

Once the social group defined in the first level is accepted as the social nucleus due to its characteristics and potentials, for the definition of a future path that will be utilized for a solution, we can elaborate the nature of social relations of production of this group to understand the individual influences that motivate production and survival.

For this purpose Parsons' social system characteristics will be accepted as a frame of reference and will be elaborated to define the nature of production relations. (65)

Before going to the analysis of this social group it is necessary to give a brief description of this conceptual scheme and the terminology used. Later on, this will be elaborated according to other works related to the organization of social systems within a spatial context.

/ Parsons'

65. Although it was not only T. Parsons who worked on the subject the theory is named after him because the fundamental structure has evolved from his theoretical works. The other principal contributors are Robert Bales and Edward Shils.
Parsons' social system is based upon a unit act which "involves the relationship of an actor to a situation composed of objects".\(^{(66)}\) The unit act, on the other hand, is not considered individually "but as one unit in the context of a wider system of actor - situation relationships." Therefore the social system thus considered is an action system within which a number of actors and various conditions defining their actions in relation to the conditions and actions of others constitute a network of interrelationships.

Since an action is the consequence of a number of conditions it is possible to define it as the role of an individual in a social system where the individual plays the part of an actor.

"Action is thus viewed as a process occurring between two structural parts of a system - actor and situation"\(^{(67)}\) and has a "motivational significance to the individual actor, or in the case of a collectivity, its component individuals".\(^{(68)}\) Furthermore, the concept 'actor' can also be utilized for the definition of "not only individual personalities" but also for "other types of acting units", like collectivities, etc. So within our frame of analysis this unit is the primary group of squatters.

The second conceptual tool necessary for the definition of the theory is the pattern variables utilized for the classification of the "components of an action system". "Each variable defines one property of a particular class of components". These components are firstly categorised as 'orientations' and 'modalities'. "Orientation concerns the actor's relationship to the objects in his situation" and the "modality concerns the meaning of the object for

\[\text{67. Parsons, T. op. cit. p. 194.}
\[\text{68. Parsons, T. The Social System. Routledge & Kegan Paul. 1964. p. 4.}
for the actor." (69) (70) These two sets of categories are conceptualised by the "attitudinal" and "object-categorization" variables of "diffuseness-specificity and affectivity-neutrality" and "quality-performance and universalism-particularism" respectively. (71) In other words, these are the criteria for defining the characteristics of value standards. Yet it should not be forgotten that the presupposition for the utilization of pattern variables, as value standards themselves, necessitates the existence of non-accidental choices. (72)

A fifth variable, "collective or self-orientation" should also be added to the above four variables. Universalism-particularism and quality-performance are directed to the social value systems and are defined by role-expectation. Diffuseness-specificity and neutrality-affectivity are directed to the personal value system and are defined by motivational orientation. (73)

Furthermore, what is defined as an action system is subdivided into four subsystems such as "orientations (pattern maintenance); modalities

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70. "The modalities of objects constitute Parsons' translation of the psychologist's 'stimulus'. Modalities are the socially significant cueing features of objects that initiate the actor's choice of a course of action."

Dubin, R. Parsons' Actor: Continuities in Social Theory. Appendix to Parsons, T. op. cit. p. 525.


72. "as soon as a certain consistency of choosing can be inferred from a series of concrete acts, then we can begin to make statements about the value standards involved and the formulation of these standards in terms of the variables of the pattern-variable scheme."


modalities (goal attainment); their combination characterizing
the conditions of internal stability of a relational system shared
by both actor and object (integration);" and "their combination
characterizing the ways in which that system is stably related
to the environment (adaptation)."(74)

The four subsystems we will use for the explanation of activities
taking place in a social context thus acquire their places. These
concepts of a social system and its subsystems are tools to
define the nature of relations, which for Parsons are action
oriented and which for us are production oriented in the broadest
meaning of the word. In other words, since all social formations
are established with a purpose, this purpose in reality is the
production of those relations.

Therefore it is also possible to analyse the nature of social
relations related to the formation of the squatters' physical
environment from the point of view of the above mentioned
subsystems of social action system and to define the character-
istics of their production relations. Yet, before starting this
analysis it should be mentioned that the Parsonian model is not
based on an acceptance of the process of change and is only
able to answer the nature of a specific state in time. This is
primarily because the change of a society is due to the actions
of individuals, groups or classes whose goals are not necessarily
in the same direction as those of the individuals, groups and
classes who are the representatives of its prevailing order.
Therefore it would be a single sided view to accept this order
only with the "legitimized institutional patterns and processes"
of its power structure but the effects of its own contradictions
should be considered not as "deviant or disfunctional" but as
potential sources for a change.(75)

74. Parsons, T. op. cit. pp. 196-197.
Therefore its usage will be limited only to the examination of a static state of a social group whose relations, not directly related to this field of production, are accepted as non-interfering.

Finally, like all social groups, squatters are also structured for the attainment of a specific goal. This structure is defined as "an interdependent network of roles and hierarchical statuses defining the reciprocal expectations, responsibilities and power arrangements of the membership in a normatively oriented social unit". (77) Two points should be discussed here in relation to the approaches advocated by different people for the definition of scope and of priorities of variables effecting the functioning of an organization. With definitions based upon the differentiation of various social units according to their being "deliberately constructed and reconstructed", social groups defined as "tribes, classes, ethnic groups, friendship groups and families are excluded". (78) This definition also differentiates the organizations according to their being "in control of their nature and destiny" much more "than any other social grouping". (79) On the other hand, there is an abundance of evidence for the fact that all human social groups are structured for a set of purposes as well as the self organizing systems. (81) Thus the determinism with which all the related


79. Etzioni, A. ibid.

80. One such example is evident in a detailed study of the Kurdish tribes of eastern Anatolia. Beşikci, I. op. cit.

parties of human, natural or physical systems are interrelated demands an organization of their activities.

The second point related with various approaches for the definition of organizations arises from the fact that there are different variables responsible for the functioning of an organization. Various approaches place emphasis on different variables and accept them as the independent variables of the network of interrelationships. While for Parsons' analysis, maintenance of a specific pattern is the purpose of organization, (82) for organization theory it is the organization for goal achievement, and for systems related with patterns of settlement it is the distribution of functions in a spatial context. Our analysis of the social organization of the squatter community will be based upon the organization of production, for production is both the cause and the means for the adaptation of a society to its environment and thus is the goal of the organization. Furthermore, it is the only means for the continuation of its pattern and for the integration of its elements.

Just as a social system and its subsystems act according to its four variables (adaptation, integration, goal achievement, pattern maintenance) the organization of relations of this system are also defined by the functioning of the same variables at the organizational level. Therefore the pattern variables defined by Parsons will be utilized at one level for the examination of social relations of production and at another for the examination of the subsystems defining the social system. This could be expressed in the following graphical form where the second level of analysis

82. "A social system is always characterized by an institutionalized value system. The social system's first functional imperative is to maintain the integrity of that value system and its institutionalization."

in this study is the description of the social system and its subsystems, and the third level of analysis is the social organization for production.

Adaptation: Organization for environmental adaptation is the direct utilization of resources and the forcing of limiting factors for the achievement of goals and the continuation of pattern. Therefore, for the squatter it is direct engagement with production. In the meantime, it is beneficial to differentiate the resources into two as: 1) the limited economic means and, 2) rural origin, class integrity and conformity (non existence of contradictions) among various goals. Although in most cases organization for environmental adaptation comprises only economic organization, just as production can not be limited only to the production of goods.
goods and economic organization can not be directed to the maximisation of physical production, the influence of qualitative characteristics and values should also be considered. In other words, while the value systems created by the context conditions of the rural environment influence organization for adaptation in one form, the conditions of the urban context exerts a different process of adaptation for the achievement of goals and the maintenance of pattern.

For the squatter this change of context conditions has a greater significance. While organization for environmental adaptation in the village is basically physical environment oriented, in the city social environment dictates the conditions of adaptation organization. Land, building regulations, legal control and others are the first characteristics encountered in this social environment.

While maintenance of a pattern and the achievement of goals are the constraint creating conditions, other factors due to compulsion for integration create possibilities for a solution.

Goal achievement: Organization for goal achievement can not be examined without considering organization for adaptation. Firstly this is because in social organizations whose goals and structure are not complex goal achievement and environmental adaptation organizations can not be distinctly differentiated.\(^{(83)}\) Secondly because the goal of operation in this case is the formation of the physical environment and because physical environment is the most straightforward expression of environmental adaptation similar conditional differences are also significant for goal achievement organization.

Production is the essential aspect of all activities directed to specific goals. Therefore organization for goal achievement is

\(^{(83)}\) Tekeli, I. op. cit. p. 94.
the organization of productive forces. These include social as well as physical resources necessary for the process of production.

In the village community both the social and physical forces of production have an individual relation with the producer. Yet in the urban community the provision of physical and even social conditions necessary for the solution of an individual's housing problem are not sufficient. The goals of an individual, unless expressed in a social context has no relevance for the problem itself is social. This is not because of the scale or the quantity of the problem but because of its quality. Goal achievement organization, considered according to these demands necessitates an expansion towards the class characteristics and the political aspects of the decision structure that is essential for the best utilization of the resources of production. It is because of this multi-dimensional nature of the problem that although for the new urban settler the primary goal is to provide himself with a shelter, during the process of production the individual starts to establish various relations both within the squatter community and within the urban context.

If these relations are combined with the above mentioned groups of political and class characteristics we can say that the new squatter a) is connected to some external goal achievement organizations, b) is forced to establish solidarity with the other members, thus forming an internal goal achievement organization.

Integration: For the existence of a social system and for its functioning it is essential to have unity among its elements. This need, like other aspects of social relations of production, imposes an organizational character on the system. The nature of integration organization changes according to the context conditions of the system. From the point of housing production
two different contexts can be defined. These are the rural and
the urban environments.

The family is the basic economic unit in a village. Although
the means for production may not be owned by this unit, all
productive activity is carried out by it. This is also true for
the production of dwellings and as long as there are enough
material resources organization of the unit is sufficient for the
production of a dwelling. Conditions change in the urban
context. The highly differentiated production process of the city
demands a higher level of organization which due to its
complexity is not economically available to the squatter. Yet
if they are to stay in the city they have to establish an organiza­
tional structure which will both compensate for the limited
economic resources and will provide a solution to the problems
created by differentiation and division of responsibilities.
Thus integration of the community is the only means for a
solution. The process of integration goes through various
phases some of which are already existing and some others
supporting the previously mentioned goal achievement and
environmental adaptation organizations as well as being a
potential for a change in the socio-economic order.

This process goes through the stages of integration of the
members of a family, relatives, friends, members of the same
rural area, members of the same neighbourhood and same
occupational group. These stages of integration exist and
are the outcomes of a self organizing system. The later stages
of integration of various strata to form the integration of class
members necessitates a conscious organizational activity which
can either come from the social group itself - as in the case of
the formation of various societies - or can come from the other

84. Yorukan, T. op. cit. pp. 31-33.
groups in the society acting with the same interests. (85)

Pattern maintenance: The fourth organization for social relations of production is for the maintenance of its prevailing pattern. It has again different characteristics according to the conditions in the rural and urban contexts. The basic difference between the conditions a squatter undergoes, are due to the patterns of social life in a rural and an urban area. Although it is impossible to give a detailed description of the personality subsystem of the social system of both the rural and urban communities, we can make a few remarks differentiating the patterns of social psychology that are significant from the point of pattern maintenance organization of the social relations of production.

Social relations within the village family are organized according to a kinship pattern where the authority is distributed according to age and sex. This establishes a pattern of relationships among the members and a change in one of the members' condition is determined by the structure of the whole. Therefore the pattern maintenance functions are determined mainly by the attitude of the elders and by the male. The ownership of land, cattle and other means of production are the causes of a specific pattern and a change in their ownership causes change in their relations. (86)

85. A similar case, although in a different context, was carried out by the students of Unite Pedagogique No. 6 in 1970 in Paris. The Road of Excess, ed. Pawley, M. & Tchumi, B. Architectural Design Vol. XLI. pp. 560-563.

86. These two patterns will be defined as internal and external to the family. Since means for production are not owned individually by the members of the family, the pattern of relations within the family are different from the pattern of relations of the family in relation to the owners of other means for production. Therefore it is possible to say that while within the family there can be communal ownership, feudal or other patterns of ownership may exist outside the family.
Outside the family various parties related directly or indirectly with agricultural production, establish socio-cultural and economic organizations (like legal, religious, administrative and financial) which both utilize and preserve the present mode of production through the maintenance of the prevailing pattern. Therefore, in short, it would not be wrong to define the pattern maintenance organizations of the rural context as conservative for it is closely connected with the feudal or semi-feudal socio-economic and cultural structure.

With the migration of the family to the city the effects of these organizations change. First of all they are no longer under the direct control of a feudal mode of production. Their relations to the external organizations of pattern maintenance are different and in many ways can not be considered strictly conservative in comparison with the feudal ones. This is mainly due to the availability of more impartial organizations which are not under the direct control of the owners of means of production. But this should not mean that this is a context totally free from all the organizations which are obstacles to change. The only difference is that their network of relationships are more complex and at times difficult to detect. Pattern maintenance influences of the rural context originate from the religious leader, local administrator, local trader and money lenders. In the urban context the functions of these parties are taken over by the press, radio, politicians, employers and others. But it is also possible to find organizations that are not only advocating the maintenance of a pattern but a change as well. Their functions can easily be seen in the goal achievement and integration organizations.

Within the network of closer relations, that is among the members of a family or among friendship and relative groups, the pattern maintenance organizations play a different role. The process of change from a rural, feudal society to an urban
one does not necessarily mean a change that is always positive. And the pattern maintenance organizations of this scale play an important part by means of eliminating deviations that are contradictory to the positive direction of change and development of the social group.

The effects of the pattern maintenance organizations, at this scale, are more evident due to the subject of production. As was said earlier, because the mode of production, which is directed to the production of dwellings, is not exchange orientated, they are not directly related with the economic productions of the members of the group. Therefore if the pattern maintenance organizations of the relations related only with this activity are separated from the whole of the activities of production, it is possible to find the prevailing characteristics of the non-economic housing production of the rural community in the production of squatter dwellings. In other words, the network of social relations existing in a squatter community are the product of a production activity that is not subject to exploitation. The role of pattern maintenance organizations is not due to their role in the external context of the squatters but is due to the creation of an internal situation where it is still possible to produce in a mode similar to what was existing outside the economic production (agricultural) of the rural community.

1.4.3.1. Conclusions to the Third Level of Analysis

Summing up the four types of definitions of organization according to social relations of production in the rural and urban contexts we can say that:

a) Environmental adaptation in the rural context is primarily a physical adaptation problem and adaptation in the urban context is both a physical and a social problem.

b) Goal achievement (in terms of dwellings) in the rural context is an individual problem and in the urban context, due to its class characteristics
characteristics and political nature, is a social problem.
c) Integration in the rural context (in terms of housing production) is within the family and in the urban context goes through the phases of individual, family, members of same rural origin, members of same neighbourhood, strata, to the consciousness of class structure.
d) Pattern maintenance organizations in the rural context show a conservative character relative to the demand for change and in the urban context becomes a helpful force for the creation of a situation that can be utilized for constructive and productive purposes without unwanted deviations that would occur during the process of change.
PART 2

2.1. Introduction to Part 2

In the first part an analysis of an existing social context that is very closely related with the housing problem and with the social characteristics of the 'artificial' housing environments, was made with the purpose of defining some potentials that can be utilized for a change. Although what will be proposed in the last part will not be directed solely to the problems of that area, characteristics explained there will be a source for the examples in the context of Part 2 and will be the framework upon which the proposed approach will be projected in Part 3. Throughout Part 2, although no direct references will be made to Part 1, its analytical conclusions should be kept as a background upon which the theoretical structure of Part 2 will be constructed and the processes taking place within this structure will be explained. Part 2 is based upon the characteristics that emerged as a result of a process of production, which has to be employed for the production of housing, which also has
has to be considered from the point of the totality of consequences it has created. Therefore the theoretical structure, here, is based upon the definition of production process and its consequent social implications. The significance of this from the point of the objectives of the total study is due to the definition of those objectives not only in terms of change of physical form but also the change of society related to this form and its production.

2.2. Politico-economic Point of View

In this part firstly design activity will be defined according to the elements of political economy for it is a production activity due to a number of reasons. Design is a stage in production, and production is a continuous process which exists from the definition of a need to the usage of various goods, which also extends the process to further stages and creates the sociological and cultural determinants of a social formation. Parallel to this aspect, related directly to the goods, there is a network of interactions which form the foundation of social relations within a social unit.

The second reason is that even if design activity is abstracted from the other facets of production it itself is also a production activity which is directed to the conceptual definition of the thing to be produced. This definition is also a product for it is created by human labour as well as being for usage.

Political economy, on the other hand, is "the study of the social laws governing the production and distribution of the material means of satisfying human needs". With a deeper view it can be seen both by the term 'political economy' and by its orientation

87. Political economy is defined as the theory of production and distribution of wealth.

orientation that it is not only concerned with the economic aspects of production but with the social background responsible for a particular production process as well. This is the point which makes political economy distinct from economics and shows its significance for the definition of problems of housing tackled here. (89) Because the design problems of housing production considered in this study are related more with the overall sociological characteristics, politico-economic aspects of the process gain further significance. This also leads to the fact that because production is closely related to a social background, by defining a specific production process with the aim of changing the social background we can contribute to an envisaged change. This starts from a politico-economic point of view and proceeds with the utilization of available productive resources.

Yet it is also important that the process of decision making becomes an economically significant phase with design, which gains a product nature for industrial production. Human resources - like architects, planners, economists, in short all decision makers - and tools - like programmes, plans and particularly methods of decision making - are both limited in quantity and costly to operate, especially in an underdeveloped country. Therefore it is also necessary to improvise ways with which these forces can be utilized in the most economic way. But it is not only the best utilization of these forces from the point of economics that will enable the production of correct decisions, if their sociological utilization is disregarded. And here the concern will be more with this social utilization, although it is admitted that the economics of the provision of correct decisions is significant.

Starting from these premises it will be necessary to define the elements

elements of production activity in politico-economic terms and establish their role in the formation of sociological aspects of the act of production in a society in order to be able to project this on to the industrial production of dwellings.

All human societies, throughout history, have various 'needs'. These needs are satisfied by means of various material objects which are called 'goods'. These goods are either provided by means of various activities or by nature in a form that demands no further activity except its use. When these goods are provided by means of human activity they are called 'products' and the activity necessary for its provision is called 'production'. So "when we think of material objects as the means of satisfying human needs we call them goods" and "when we think of them as being the result of the human activity of production, we call them products".

One important aspect of production activity is closely connected to our sphere of explanation and it makes human productive activity distinct from the productive activities of other species, as well as showing the importance of design or planning. While in other species productive activity is instinctive, in human beings it has a purposive and conscious character. And it

90. The content of 'material objects' include all forms that can be detected by means of any one or more senses of human apprehension.

91. Natural resources like air demand no human activity for its provision. Such goods are called 'free goods' and the only human activity necessary for its use is the activity of consumption. (In vernacular architecture such resources are utilized in various ways like the utilization of solar radiation or the utilization of materials direct from nature.)

92. Lange, O. op. cit. p. 2.

93. "A spider carries on operations resembling those of a weaver; and many a human architect is put to shame by the skill with which a bee constructs her cell. But what from the very first distinguishes the most incompetent architect from the best of bees, is that the architect has built a cell in his head before he constructs it in wax." Marx, K. Capital. Everyman. 1930. Vol. I. pp. 169-170.
is this purposiveness and consciousness that is the cause of existence of design and planning activities. For the moment let us not go into the nature of design activity but go on with the elements of production.

During production man uses various things which are called the 'means of production'. These can be land, ploughs, machines, cement, steel, etc. With these means he gives shape to various raw materials which themselves could be the products of a previous phase of production or the materials obtained direct from nature or society. Furthermore, these means of production can be divided into two groups as the tools of labour and objects of labour. Means of production can be in various forms depending upon the goals of production which, on the other hand, are determined by the degree of development and the type of need. If the object of labour is a metal then the tools of labour are lathes, drills, milling machinery, etc. If the object of labour is construction materials then the tools of labour are mixers, vibrators, etc. In economic terms these two subgroups of means of production are defined as 'producer goods' and 'consumer goods'. While the first are not used directly for the satisfaction of various needs they are essential for those goods which are used for the fulfilment of certain needs. It is also possible, as in the case of above examples, to find the same tool or object functioning as a producer good or as a consumer good. Therefore this is a functional categorization and a thing used as a tool in one process could be the object being processed in another, both being within the context

94. These materials from nature and society will be defined in further detail later.

95. Some economists define these as capital goods.

96. In Marxist economic terms these are defined as Department I and II of the economy.
context of means. (97)

During production man establishes contacts with the other members of his society to complete the production process and thus the product. Because production requires the integration of the labour of various individuals or groups it necessitates a pattern of relationships which is called 'co-operation' and is realized by the 'division of labour'. Since various aspects of the process of division of labour and its positive and negative characteristics will be discussed while explaining the relations for self-realization (2.3.1.3.), here, let us only mention that there are two aspects to the division of labour. These are expressed by the role of the individual in the society and by the role of the individual "in each work process". (98)

Another aspect of production relations that define the mode of production arise from the fact that production is an economic activity, and the social laws of this economic activity come from the relations of man - man, and man - things. Because relations among men are for production, then these relations take shape through the things they use and produce. From the point of political economy these relations appear in two forms (for the subject of political economy is the social aspect of economic relations)

97. Like the case of a sheet metal used for making a saw and that saw used for cutting a sheet metal and again that sheet used for making a panel and that panel used for making a mixer.

<table>
<thead>
<tr>
<th>Means of labour</th>
<th>Objects of labour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheet metal</td>
<td>Sheet metal</td>
</tr>
<tr>
<td>Saw</td>
<td>Saw</td>
</tr>
<tr>
<td>Sheet metal</td>
<td>Sheet metal</td>
</tr>
<tr>
<td>Panel</td>
<td>Panel</td>
</tr>
<tr>
<td>Mixer</td>
<td>Mixer</td>
</tr>
</tbody>
</table>

relations) and they arise from the production phase which is called the production relations and from the distribution phase which is called the distribution or exchange relations. (99)

On the other hand, during the act of production man establishes relations with nature to satisfy his needs and the form of these relations are determined by the means of production he has and by the way of his co-operation and division of labour at a particular time in history. These relations develop during the process of production both as technical methods of production and as human abilities of production through experience and shared knowledge. These two paths can be named as the physical productive forces and the human productive forces.

Therefore, as means of production are the tools and objects with which and upon which labour is executed, relations of production are the social forces with which these means become operational.

Having defined these preliminary concepts of the theory of production, we can represent their relations in the following form:


Indeed all human relations are production based, but because all production is not and can not be economically defined the value being created during production becomes unquantifiable but nevertheless indefinable value. Products of art, literature and even scientific research can be counted among these.
This network of relations is significant as far as the terminology is concerned. For a further definition of the field of investigation two types of definitions are also necessary. These are
1) the definition of the design activity within this framework, which will be provided when the area of production is discussed and
2) the definition of causal relationships among the elements of this network at a particular level, which will become clear when the nature of production is discussed. Here, for our purposes we can define the field of investigation by pointing to some of the concepts, in the above diagram, in an hierarchical order according to the subject of production and to the aspects concerned. This also provides the levels within which the causal relationships are to be investigated. If the objective is the determination of a design policy then the relevant aspects of the design and production of dwellings include the following levels:

/ Goods
Goods
Products
Production
Mode of production defined by means and relations of production
Tools and objects of labour and the nature of co-operation and
division of labour.

When means of production are categorized as tools of labour or
objects of processing and as objects of labour or objects being
processed, and if design and production are accepted as two
consequent phases, it is possible to see the parallels existing
between the material production and mental production phases of
the process.

Objects of processing during production were defined earlier as
the tools, which can include a whole plant as well as the simple
tools. Objects being processed, on the other hand, include all
the resources like land, materials, etc. for the realization of
production. These two types of means of production also have
their counterparts in the design process. What is being processed
in the design phase is the information, and the tools with which it is
processed are the methods - either systematic or intuitive. So
whether the production is for material ends or for mental the
categories they belong to are the same within the whole of the mode
of production of a society.

Having said this much as an introduction, we can go to the
particular field of design activity to observe more closely the
nature of design production and define the causal relations of
the process after looking at the process in an historical
perspective. (100)

100. Other than the immediate functions served by an historical
perspective, it is also significant that the relationship between a
culture and the socio-economic conditions that create it become
more clear as we go further back in history.
2.3. Aspects of Production

Although an analysis that is true to the title would demand the survey of all variables (social; such as cultural, technological, economic and socio-psychological, physical; such as climatical, material, etc. and psychological; such as motivational, attitudinal, etc.) which are influenced by the mode of production, because of time and space limitations, we shall only consider a single temporal stage where two different patterns of relations exist side by side. The presence of these two patterns is due to urban rural differences, and from this we will try to define the characteristics of a process of change that has affected the relations of production of dwellings. In other words, this approach will consider two social formations with their production characteristics existing at the same time but belonging to different levels of development (if urbanization and industrialization are criteria of development). Naturally this approach also has to take into account a stronger flow of influences due to the co-existence of rural and urban contexts within a larger context which is different from the existence of, for example, either a primitive community that is isolated as a result of natural-historical conditions, or a highly developed society that is alienated from the others as a result of socio-historical conditions. (101) In short, especially under the conditions of an underdeveloped country, the difference between the rural and urban areas is not only that of settlement location but more importantly it is the difference of modes of production which also defines the design environment. Therefore, first the rural context with its feudal or semi-feudal modes of production

101. May be from the historical point of view a study of communities far from the influences of present day conditions would be more relevant. Here, the purpose is not only an historical investigation but an understanding of a population that is passing from one context to another and the extraction of some potentials from this origin.
production and its vernacular architecture will be the subject of discussion. (102) This will be followed by the mode of production within the urban context which, due to the complexity of its relations, will only refer to the product's significant characteristics and to the social relations of the people involved in its production and use.

2.3.1. Mode of Production in Rural Contexts

Within the rural context production activities are directed to the provision of almost all the requirements of the population, except for the industrial or highly complex technological products. Whatever working class they belong to, that is whether they own their land or they rent it from a feudal lord, or whether they are agricultural workers, their production activity shows a general characteristic that is different from the production activity of the urban context.

Although their demands related to their income might seem limited compared to that of an urban population in terms of the basic needs like food, clothing and shelter, they are the same. These similarities and differences of the characteristics of rural and urban products can be detected in two ways. At first, because they are exposed through forms, it is possible to define a difference.

102. Rapoport states that "buildings can be studied in different ways. One can look at them chronologically, tracing the development over time either of techniques, forms and ideas, or of the thoughts of the designer, or one can study them from a specific point of view." Then for the study of vernacular architecture he chooses the building itself as the specific point of view, and adds that "it can also be studied by taking a specific place and trying to understand the forms of dwellings and settlements in the light of history, location, social aspects, climate, materials, construction techniques, and other variables".

To abstract architectural production or products from the common characteristics of all production activities is a limited approach and would not provide insights for the definition of a pattern of change that would direct our activities to a future course.

ence of quality between these products. But the definition of
formal differences alone is limited in terms of the explanation of
responsible causes and therefore for the definition of a new mode
of production. So we shall first see the qualities of these products
and then will try to define the characteristics of the mode of
production that is responsible for their formation.

2.3.1.1. Qualities of Products

Although the characteristic qualities and production processes of
all buildings and craft products can be studied in a number of
ways, here the concern will be more with the dwellings.

These qualities can be grouped into two as physical and socio-
cultural. In physical terms most, if not all, of the character-
istics of these dwellings satisfy the objectives of a successful
product. For example, in terms of climatic requirements all
dwellings of a rural context are able to provide the essential
requirements\(^{(103)}\) whereas in terms of sanitary conditions they
do not. From the functional point of view they provide a better
fit to the needs of its user in terms of the physical use of space.\(^{(104)}\)
From the social and cultural objectives point of view they
represent the patterns and values of rural societies just as the
housing of urban areas or of industrial societies represent the
social and cultural conditions of their contexts.\(^{(105)}\)

\(^{(103)}\) Banham, R. The Architecture of the Well Tempered
Architects' Journal. Handbook of Building Enclosure. 21.7.71
pp. 165-166, 1.9.71. pp. 488-497.

\(^{(104)}\) Özgürer, O. Kodye Mimari (Village Architecture, Eastern

\(^{(105)}\) This is a fact of great importance from the point of theories
and lines of practice that are directed to finding a solution to the
social and cultural aspects of the housing problem.

The social and cultural problems encountered in the housing
areas are not the products of the physical environment. They are
the products of a prevailing socio-economic and cultural order just
like the physical environment. This opens three lines (see over)
In order to be able to expose the characteristics of this context we shall turn to the mode of production prevailing in these rural societies.

2.3.1.2. Production of Products

The principal production activity in a rural society that is directed towards the exchange of goods is agriculture. Rural society, here, refers to mostly feudal or semi-feudal, non-cattle breeding societies working on land, and which constitute the majority of settlements in a country like Turkey. Although it is possible to see the production of other goods that are taken to the market they never are comparable to that of agricultural crops.\(^{(106)}\)

\(^{(105)}\) (Cont'd.) of practice to the physical environment research. If the problems of the physical environment are accepted as discrepancies between the physical needs and their solutions then the line of research will be directed to the betterment of the physical envelope, its partitions and elements. If the problems of the physical environment are accepted as unsatisfactory social and cultural relations and expressions, then there are two paths to be followed, and they both originate from the consciousness that these unsatisfactory conditions are the products of the socio-economic and cultural problems of the mode of production of the society and not from the physical environment. Then one of the paths is to engage in activities that will change the society and will eventually change all its aspects including the physical environment, or to engage in activities that will not change the whole but will start a process or will strengthen the already existing process that will materialize a change as a result of an accumulation of changes in all of the fields and aspects of production including mental and material.

\(^{(106)}\) This aspect of production becomes more evident when the production activities of settled rural communities are compared with the travelling tribes whose main production is through animal husbandry. When these tribes are able to settle their main production changes from husbandry to agriculture although almost all of the agricultural producers are also producers of dairy products. And the power structure of the classes depends on the amount of these means of production owned. Number of cattle is the factor determining the class of tribesman and area of land owned is the factor determining the class of an agricultural producer.

Therefore whether the land is owned by the peasant or not, it is usually the agricultural products that are produced for exchange; the rest is produced for immediate use.\(^{(107)}\) This naturally results from the relatively short time required for agricultural production, and the surplus time being utilized for the production of other goods including the dwellings. This, in terms of labour, means that the amount of labour - either taken by the landlord for production of surplus value\(^{(108)}\) if the land is not owned, or utilized for the production of exchange value - that is required for the production of commodities (i.e. products exchanged) is relatively smaller than the total amount of labour that can be utilized in a unit time. This is due to the types of forces of production available. The land has a naturally defined production capacity and this necessitates a certain production process during which it is possible

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107. This distinction between production for exchange and production for immediate use in politico-economic terms is defined at two levels; first, within historical perspective, is the existence of natural economy, where the determining factors of production were the direct needs of the user, and has changed to commodity production, where the determining factor of production is not the direct needs of the producer but the expected needs of another producer with whom the exchange will be made. The other level of definition is related to two different spheres co-existing at all times throughout history. One of these is defined as household activity which is determined again by the needs and the other is defined as gainful activity directed to the only aim of obtaining monetary income.


108. Surplus value is created by the difference between the value of machinery, materials and labour power, and the value of the product sold at the market. In capitalist socio-economic formations surplus value turns into profit.

possible to save some time for the production of other goods. (109)

Naturally, under these circumstances, the user, being more aware of his own requirements and conditions, was able to produce goods that were appropriate to his needs. Therefore in the rural areas, although the prevailing mode of production - that is oriented to exchange - can be feudal or semi-feudal, and is determined by the pattern of ownership of means of production, it is possible to see another line of production being carried out by the secondary means of production that could in a sense be defined as socially owned. (110)

Within the family - which is the basic productive unit - these means of production are commonly owned and used, and among the members of the rural community they are either shared for individual usage or are utilized for the production of commonly owned products or services. (111) This eventually creates a basis for the development of social relations together with a specialization through division of labour that is not alienating but creating a co-operative consciousness.

As we shall be turning back to these aspects in further detail

109. This surplus time acquired through the natural production capacity of land is later acquired through the increased production capacity provided by developed technologies, and has started the 'do-it-yourself'.

110. This 'secondary means of production' is an improvised term to include the means not owned by the class who appropriates surplus value and because they are not economically significant ownership rights and claims on them are not strictly defined like those of land.


111. This mode of production is called "imece" in Turkey, and shows different forms according to the conditions. If the main means of production - land - is owned by the peasant then it is possible to see the formation of "imece" for the harvesting of crops and if the land is not owned by the peasants still "imece"s are formed for the construction of public buildings like schools, or for public services like roads, water-works, etc.
let us suffice with this much here, and glance at the conditions within which the craftsmen of the rural community are producing. First of all these conditions should be grouped according to the level of specialization prevailing in the community. While in some rural areas it is possible to find skilled craftsmen engaged in the production of a specific product, in others this degree of division of labour may not be present, and it would be possible to find a large number of craftsmen who can deal with a variety of products. The reason for this differentiation is the level of development of the mode of production. As was said earlier, the two constituents of the mode of production are the relations of production and the means of production. Although the development of mode of production necessitates the development of both, it is possible to find societies, both in history and at present, where due to some specific conditions the tools of production had developed more while the relations of production are the same as in other communities. Similarly, there are societies where the relations of production have developed but the tools of production have not. Naturally the scope of the term 'developed' is very limited when it is related either only to the relations of production or to the tools of production and covers only a marginal difference that is not potentially strong enough to alter the mode of production totally.

One specific case, that is significant from the point of specialization of craftsmen, shows this change in relation to the nature of available materials. One of the variables of the development of building technology is the potentials of available materials and if these potentials are limited then the development of means of production (of which technology is an aspect) can not be realized.

In the Eastern Black Sea Coast of Turkey, which is a region rich in timber resources, a special building technology has developed purely out of the technical potentials of timber as a construction material. As a result of the characteristics of a material resource,
professional specialization started and this motivated the development of the technology which also necessitated the development of tools and a technical vocabulary for the transfer of information related with its various complexities.\textsuperscript{(112)} The need for special tools and know-how, on the other hand, also affected the professionalization of the craftsmen for it was impossible and unpracticable for all the families to acquire those tools and knowledge which they would need only once or twice in their lifetime.

Naturally the level of specialization, here, is very limited when compared with the specialization requirements of industrialized processes of production. And it is possible to find a large proportion of population who are aware of the intricacies involved in the work of these professionals. But when the nature of this technology is compared to that of another region, where it is not possible to find similar potential resources, the difference becomes more apparent.

In South Eastern Anatolia, where building materials obtainable from nature are much more limited, it is impossible to find the degree of specialization existing in the Black Sea Coast. Here, due to the potentials of the materials the degree of technological development is still at a simple level with a parallel simplicity of tools and vocabulary. And every family builds its own house without the help of a professional craftsman because the necessary know-how is available to every one due to its simplicity.

These conditions emerging from the natural characteristics of two geographical regions can be extended to the characteristic conditions created by the social environments as well. These simple conditions, which are determined by the natural environment,

\textsuperscript{112} Fischer gives a clear definition of the roles of tools and language in the development process of man and his work.

ment, become effective when combined with the determinants of social environment and historical accumulation of influences. This creates a pattern of specialization which involves not only the shaping of materials but also the patterns of human relationships.

This is a point of crucial significance because the determination of the objectives of a production process, which will produce more or better things should not do so at the expense of undermining the self-realization of man. (113) "It is easy to forget" wrote Marx "that the production of too many useful things produces too large a useless population". (114)

Here, if we pause for a moment and turn back to the concepts of political economy we can develop the conceptual relations represented there with the characteristics that are revealed from the mode of production of the rural or pre-industrial context.

2.3.1.3. Relations for Self-realization

If, in the light of above mentioned process of production of the rural context, we define the mode of production as composed of relations of production of the social environment, then their development should lead to the development of co-operation and division of labour, considering the social nature of these relations. In other words, the development of relations of production should lead to the self-realization of man. (115)

113. It should be mentioned that the concept of self-realization used in this study is in no way related to the idealist ethical theory of self-realization of the 19th-20th centuries.


115. It should be made clear that the process of division of labour and its development later into specialization has close ties with both the process of self-realization of man and with the relevance of productive activity. Because specialization and division of labour has the purpose of development of means of production, which is determined by the needs, specialization for the (see over)
On the other hand, the nature of means of production is the primary force for the determination of the state of the product. It is obvious from the case of formation of the professional craftsman that the development of tools and their specialized knowledge generated the development of the product. But without the necessary social relations it is hard to realize a production process however developed the means may be. So the relations of production are the motive behind the realization of a product by its amalgamation with the means of production as well as being the motive for the self-realization of man by its amalgamation with a form of co-operation and division of labour.

From these two facets of production we shall define a balanced development of production in the following order (and stress that the essential thing is the creation of a balance mechanism that will provide equal weight on both ends at every stage in time).

/ Product realization

115. (Cont'd.) development of a social means of production as a result of the definition of socially insignificant needs - as real needs - leads to the alienation of the specialist from the social process of production. This can be represented with the following:
Both product realization and self-realization necessitate an awareness for the environment of products and that of society at two scales which we shall term as macro and micro. These environments again are in the form of relationship patterns and will be defined as the relations between:
- man and man (micro)
- man and sociocultural environment (macro)
- man and materials (micro)
- man and nature (macro)

Awareness of these relationships tend to show changes and the changing process of design is a reflection of this in one area. Because these changes are the product of changes in the man-man, man-sociocultural environment and man-materials man-nature relations, here, we shall pass on to the conditions of the urban context to see the changes of the social environment responsible for the changes in the process of production. This then will be followed by the formulation of the principal factors that demand a further change in the process.

2.3.2. Change from Rural to Urban (Industrialization)

Change of societies, from rural to urban, has been the subject of numerous
numerous studies. (116) While almost all of these studies are naturally related with the implications of this change upon the society itself, our concern is to draw attention to the products of this society as well as to the changing characteristics of its own. But it is also a fact that the societies do not change neither their place of settlement nor the nature of their relations unless a motivating force that is related to their productive activities is present. Nevertheless it is not sufficient to state that the different characteristics of the rural and urban societies and the characteristics of their products are due to a transition from feudal to semi-feudal or to capitalist mode of production unless the change is considered specially from the point of the society and its technology. Then we can relate these characteristics to the mode of production and define the factors necessitating a new process.

For the definition of these characteristics we shall take fifteen of the twenty five variations defined by Frankenberg for his rural and urban models. (117) These variations are based on the major concepts of sociological analysis and are investigated through the case studies of societies in this process of change. Although their significance may vary from one society to another their existence can not be denied if one considers the case of societies in time and space. These characteristics, on the other hand, are also in a number of ways related to the previously mentioned 'pattern variables' defined by Parsons for the definition of the state of a social system. The reason for their not being used

for this analysis is the fact that, as stated earlier, they are not for the definition of a process of change but for the definition of a specific state in time. Therefore, when the objective of analysis is the change of conditions that create a new need, a model for a static state ceases to be functional. (118)

Because the variations of Frankenberg are for the purposes of analysis of a changing society, it deals more with the man - man and man - socio-cultural environment relations of our second conceptual scheme. Therefore we shall first look at the change of society and then turn to the change of man - nature and man - materials relationships, to be able to define the implications of this change on production in general and housing in particular.

2.3.2.1. Change in Society (man - man, man - socio-cultural environment)

Change in society expresses its characteristics in two specific lines. These can be represented by two processes; one related to the context of a mode of production and the other to the mode of production itself. The change of context, here, will be studied from the point of change from a rural (pre-industrial) society to an urban (industrial) one. (119) And the relation of these two with

118. Here, the question why this model was not used for the analysis of that context may seem relevant. While the subject of this analysis demands the limits of variations, the analysis of the squatter community needs to point to specific features. Therefore while the limits of variations are the representatives of dialectically opposing characteristics which expose a "continuum" and are necessary for the definition of a change, they are not meaningful under the conditions where a state is tried to be defined not the variation. See p. 53.

119. Combination of rural with pre-industrial and urban with industrial may not be an all inclusive one. But in most cases, and especially in the case of underdeveloped countries with a semi-feudal mode of production the change from one mode of production to another (from feudal to capitalist) follows the change from rural to urban societies and also incorporates the change from pre-industrial to industrial techniques of production. Therefore, despite the possible existence of cases not fitting to this rule, one end of this (see over)
the mode of production itself (that is whether it is feudal or capitalist) will, for the time being, not be considered for the sake of clarifying the sociological characteristics of the two societies. Of the twenty five themes mentioned by Frankenberg we shall take the following fifteen (see p. 92) which are directly related with the mode of production of the physical environment within the rural and urban communities. These themes can be divided into two levels, one being more particular within the covered scope of relationships and the other more general. This can also be defined as those belonging to the roles, status of the members and the other belonging to the relations of classes. Both of these, on the other hand, also necessitate functional descriptions which define the operational significance of these characteristics.

In terms of overall characteristics of the two social contexts "rural societies have a community nature; people are related in diverse ways and interact frequently" while the "urbanized societies have an associative nature". And what is meant by associative is a network where relationships do not overlap and where "there is often comparative infrequency of interaction" and

119. (Cont'd.) spectrum will be defined as feudal, rural, pre-industrial and the other as capitalist, urban, industrial. Although this generalization can be a source of problems for the study of some other aspects - like the study of agricultural production - from the point of the area of production related to our subject, it proves to be a useful tool. And it is this problem of overlapping characteristics (like the existence of rural characteristics in an urban context or the existence of capitalist production units in a rural area or the utilization of industrial techniques in a rural community) that has made it necessary to define the 'urban' as 'less rural' in the models of Frankenberg.

Frankenberg, R. op. cit. p. 286.

It is also because of the parallels existing between these three characteristics that the analytical studies related to the condition of man in western societies define the context with the three, one always implying the other two, as well. Fromm's definition of western society is an example of this.

the members "tend to feel they have needs, rather than interests, in common". On the other hand, "in (a) rural society a small number of people make up the total social field of an individual" while "the number of people met by an individual" in (an) urban society may be large". These different 'social fields' also define the nature of social contacts existing in the two societies.

Although an individual living in an urban environment has more means of establishing contacts through the available transportation and communication networks, this quantitative increase prevents the formation of dense contacts, thus reducing their quality.

Arising partly out of these different densities of relations and partly from the prevailing production relations of the two environments we have the characteristics related with the roles and status. The degree of division of labour determined by the nature of production relations defines the different roles, role relationships and 'dense' or 'loose textures' of these relationships, as well as the nature of status due to the relation of different classes and among their members during production. (Here the relation of status groups to classes should be remembered. Cf. pp. 40-41 and note 54.)

The state of division of labour in rural and urban societies is

120. Frankenberg, R. op. cit. pp. 286-287.
121. Alexander puts this as "as the individual's world expands, the number of contacts increases, and the quality of contact goes down".


122. "Roles refer to aspects of interaction among individuals, not to individual attributes", "role relations refer to patterns of reciprocal behaviour and associated expectations between two or more individuals that are characteristic and recurrent in interaction of consequence to them".

defined as "a high percentage of overlapping jobs (generalization)" in the rural societies as opposed to the "extreme differentiation and specialization" of the urban societies. (123)

As a result of differentiation and specialization, roles played by individuals in an urban society become inadequate for the accomplishment of various activities necessary for the existence of total relationships. This lack of total relationships is the product of a process of 'individuation' (124) and results in the 'loose-knit networks' of relationships of the urban society as opposed to the 'close-knit networks' of the rural societies (125) and are defined as 'dense' or 'loose textures' of relationships. Which in other words is due to the frequency of interactions between the members and the number of members involved.

Specialization of particular roles, on the other hand, results in the playing of 'different roles' by the people to 'different people'. This is called the "overlapping role relationships" which is contrary to the playing of 'different roles' by the individuals 'to the same person', defined as "multiple role relationships of the rural society". And is due to playing one of the five possible types of roles during an interaction in an urban society and due to presence of all five types at all interactions in a rural society - the five types of roles being "(i) kinship and ethnic, (ii) economic, (iii) political, (iv) ritual or religious, and (v) recreational." (126)

One more theme that arises from the state of specialization and

124. Bott, E. Family and Social Network. Tavistock Publications. 1957. "Individuation means that the elementary family is separated off, differentiated out as a distinct, and to some extent autonomous social group".
Quoted by Frankenberg, R. op. cit. p. 247.
126. Frankenberg, R. op. cit. p. 287 and 249.
the nature of role relationships defines the involvement process of the members. While for the rural individual it is the same people with whom the new relations are established, for the urban individual it is the new people with whom the new relations are formed. This, of course, results with the intensification of the relations in time in rural societies and with the quantitative increase of relations in the urban societies, and furthermore this quantitative increase gives way to an overall qualitative change.

This nature of involvement also leads to the formation of social actions which are either rich in content or are the direct representatives of their aims. This, due to the existence of dense relations between the members, is an action which gains further significance in time in terms of the functions it is supposed to serve; in the urban society because no such dense relations exist the significance of each action is defined only with that which it directly signifies.

In terms of functions of social actions, in rural societies actions tend to have 'latent functions', whereas in urban societies they have 'manifest functions'.

When it comes to the status of members of the society "in rural societies status spreads from situation to situation. A man's status is the same whatever activity he is engaged in". Yet in urban societies "a man's status may be high in some activities and low in others". And the reasons for the existence of these 'total' functions have been explained by Merton.


Merton defines manifest and latent functions as "the first referring to those objective consequences for a specified unit (person, subgroup, social or cultural system) which contribute to its adjustment or adaptation and were so intended, the second referring to unintended and unrecognised consequences of the same order". Merton, R. K. Social Theory and Social Structure. Free Press. 1967. p. 63.

and 'partial' status are the previously mentioned states of division of labour, role relationships and the intensities of role relationship networks. Furthermore the 'total' or 'partial' nature of status affects the relations of the members of society with the mental and material products. (This point will be discussed when man-material and man-nature relations are considered.)

Although the ownership pattern of means of production - that is production directed to exchange - defines the class characteristics of the members of a rural society, economic class characteristics constitute only one difference among many. In an urban society "economic class tends to determine all other differences". (129)

Because in the urban industrial society owners of small or limited means of production are forced to one end of the spectrum of social classes and the owners of capital and/or other means of production are forced to the other, "eventually capitalists as a class face workers as a class nakedly, with their conflicts stripped of the cloaking effects of cross-cutting ties". (130)

The implications of this polarization in the urban environment is the settlement of different classes in totally different areas. (See Part 1. pp. 24-25.)

In the rural environment because economic class characteristics is not the primary factor of differentiation of classes and because polarization is not this sharp, it is possible to find a mixed settlement of classes within the same physical environment.

When organizational characteristics of the squatter community, discussed in the first part, is studied from the point of view of not only the squatters but the change of relationships from a rural origin to an urban one it is possible to see the remnants of rural organizational characteristics.

130. Frankenberg, R. op. cit. p. 258.
The formation of an organizational structure, either at family level or at the level of the whole community, is alien to the formation characteristics of urban organizations. While in the rural society organization is formed by 'general unanimity', in the urban it is by a 'voting system' which in general terms is totally different, for one depends on direct participation of the members and the other is based on a representation system. The direct implications of these two ways of organization on the design and production of dwellings will be discussed later.

Finally we have the concept of alienation, which involves all four aspects of man - environment relations arising from the different modes of production and which in the strictest sense is due to the relation of the producer (who is not the owner of capital but the producer of material or conceptual products) to the product of his labour. Because we shall discuss the producer product relation later we shall conclude the study of fifteen characteristics which are differentiating the change of the societies and summarize these characteristics so that they can be analysed from the point of their implications on the changing process of production.

/ Characteristics

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<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Rural features</th>
<th>Urban features</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Nature of society</td>
<td>Community nature</td>
<td>Association nature</td>
</tr>
<tr>
<td>2. Interactions/time/actor</td>
<td>Frequent interaction</td>
<td>Occasional interaction</td>
</tr>
<tr>
<td>3. Field of relationships</td>
<td>Few people</td>
<td>Many people</td>
</tr>
<tr>
<td>4. Quality of interactions</td>
<td>Deep</td>
<td>Superficial</td>
</tr>
<tr>
<td>5. Nature of division of labour</td>
<td>Generalization, integration</td>
<td>Specialization, differentiation</td>
</tr>
<tr>
<td>6. Relations</td>
<td>Total</td>
<td>Single</td>
</tr>
<tr>
<td>7. Relationship textures</td>
<td>Dense</td>
<td>Loose</td>
</tr>
<tr>
<td>8. Role relationships</td>
<td>Multiple role relationships</td>
<td>Overlapping role relationships</td>
</tr>
<tr>
<td></td>
<td>(different roles played to the same people)</td>
<td>(different roles played to different people)</td>
</tr>
<tr>
<td>9. Involvement process</td>
<td>Same people - new relations</td>
<td>New people - new relations</td>
</tr>
<tr>
<td>10. Functions of actions</td>
<td>Latent</td>
<td>Manifest</td>
</tr>
<tr>
<td>11. Relation of status to activities</td>
<td>Same status for all activities (total status)</td>
<td>High or low status for each activity (partial status)</td>
</tr>
<tr>
<td>12. Significance of economic class for differences</td>
<td>One difference among many</td>
<td>Principal difference determining others</td>
</tr>
<tr>
<td>13. Settlement of Classes</td>
<td>Mixed</td>
<td>Segregated</td>
</tr>
<tr>
<td>14. Organization</td>
<td>By direct participation</td>
<td>By representation</td>
</tr>
<tr>
<td>15. Nature of relations with products</td>
<td>Integrating</td>
<td>Alienating</td>
</tr>
<tr>
<td>(material, social, cultural)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Due to the causal relations among these characteristics it is possible to define the significance of each characteristic according to the number of interactions it has with the others. This of course, unavoidably, accepts all characteristics of equal weight. Furthermore the nature of interactions can also be differentiated according to their being one or two directional. When these relations are expressed in the form of an interaction matrix it is possible.
possible to arrange them according to their significance from the point of man - man and man - socio-cultural environment relationships. A matrix of this kind is given in Appendix I.

It is possible to see, from this matrix, that the most influential factor is the 'field of relationships' in terms of the effects it creates upon the other characteristics. (See Appendix I, Table I.) Second important characteristic is the 'nature of division of labour' and the third is the 'nature of relations with social, cultural and material products of labour'.

When these characteristics are arranged according to their causes another point becomes significant, and it is that some characteristics although being influential on a large number of other characteristics they themselves are also strongly influenced by others. Third important characteristic, namely the 'nature of relations with the products of labour', is an example of this. Although it determines a lot of other characteristics it is also determined by the influence of others. This is done either through one way or two way interactions.

One more point arising from the utilization of the interaction matrix is the definition of dependent and independent variables of change which is significant from the point of choosing a line of action among a number of alternatives. Although the definitions, dependent and independent, can not be made strictly it is possible to extract the relatively independent ones for a particular problem. Third characteristic, 'field of relationships', is an example of this case. It is caused by only one characteristic but it determines the nature of ten others. Yet for the fifteenth, the 'nature of relations with products', it is impossible to define the groups to which it belongs. In Appendix I, Table I, importance ratings and dependency rates of these characteristics are given.

2.3.2.2. Change in Technology (man - nature, man - materials)

Change from rural to urban societies has a second aspect
defining society's attitude towards the making of physical products which is expressed through the techniques used.  

Just as the nature of man - man, man - socio-cultural environment relations are the reflections of the 'relations of production' of a socio-economic mode of production, the reflections of rural or urban characteristics of a society, the change in technology is also the projection of change of means of production. The characteristics of change of means of production are reflected both in change from rural to urban societies and in change from pre-industrial to industrial production.

Again in the analysis of this change we shall for the moment not consider the mode of production itself (as expressed by its being feudal or capitalist) but will study the change of means of production in rural and urban societies.  (See note 33.)

Naturally for this change it is not the physical context, like rural or urban areas, that is significant but the method of production, being industrial or pre-industrial, that is relevant to the nature of man - materials, man - nature relations.

Technology is the collective product of the development of available means of production of a social, cultural and economic environment. Since it is the means of production that determine the shape of man - materials, man - nature relations, we shall study the development of means of production to see the change in these relations. Means of production incorporate two spheres of tools which we had defined as material and conceptual. The change of man - materials, man - nature relations is also significant from

132. "Technique realises the goal of an activity by evoking causes which have the effect of realising the end. ... The achievement of this end, or the effectiveness of the technique, consequently depends on the employment of such means which, as causes, in accordance with the causal laws existing in that particular field of activity, have the intended effect."

Lange, O. op. cit. p. 150.
the point of both products and their producers. So summarizing it, we can say that the tools of production will be considered (1) as material tools, (2) as conceptual tools, and they will be defined (a) in pre-industrial, (b) in industrial environments from the point of their significance to (i) products and (ii) producers.

2.3.2.2.1. Material Tools in Pre-industrial (rural) and Industrial (urban) Environments

In broad terms the tools of all pre-industrial process of production are defined as the processes of 'craft technologies' and the industrial processes of production are defined as 'machine industries', 'assembly-line industries' and 'continuous process technologies' or 'automated industries' following the historical sequence of development. (133) Although this classification can be substituted by others, in terms of its basic characteristics, it is sufficient to include various other aspects which are significant from social and material points of view. Some of these are the scale of production (134) defining the quantitative and qualitative aspects of the problem, productive and constructive characteristics as opposed to consumptive characteristics of the social order, and relative to these the alienating or integrating aspects of the prevailing mode of production of a society.

Because these aspects were discussed within the subject of relations for self-realization (2.3.1.3.) here only the definition of these tools will be made.

The development of material tools shows different trends accord-


134. A classification made according to the scale of production is that of Woodward and has strong parallels with the types defined by Blauner although made with a different purpose.

ing to the nature of object produced. In general terms the change can be defined as an increase of the quantity of products at first through the use of more inorganic energy, such as electricity, etc., and secondly through the use of processes which can function at more continuous patterns within a controlled environment.

This increase of production is motivated by different factors depending on the mode of production. Among them the division of labour is the primary factor that exists in all forms of production whether pre-industrial or industrial. The productive capacities of the individual are only minimal as long as his productive activities are not based on the division of the use of tools. Therefore when we consider the material tools of production it is essential to see the division of labour as the primary means that has developed production technology and will define the future line of development.

With craft technologies it was the division of human labour that provided the development and later it was the use of tools utilizing inorganic energy. What is provided by industrialization is a division on a larger scale, in a more controlled environment and naturally with far greater complexities.

From the point of products the change from pre-industrial to industrial technologies has both quantitative and qualitative characteristics. Although the qualitative differences between the products at present are far greater than what they were at the beginning of industrial production, the origin of these differences

135. Both in profit oriented and social need oriented modes of production, it is the increase of production that can provide the capital with greater profits or satisfy the social needs while greater number of products in a capitalist mode of production is the only means that can convert surplus value into profits. It is again the greater number of products that can satisfy the needs of a socialist society especially if it has an abundance of accumulated needs.
differences rests in the quantitative differences. The need for more products (136) forced owners of means of production to organize the production process according to the demands created by the available means such as mass media. The value of the product is the only appropriate media for exposing the quantitative and later qualitative differences between pre-industrial and industrial production. In craft technologies the producer is also the owner of the tools. At first this, together with the existence of the family as the only productive unit, was producing use values for their own needs, and later on with the development of tools they became able to produce more which they could exchange for other products. This started the production of exchange value. (137)

Once the producer and the owner of means of production became segregated the whole of production activity became exchange orientated. The primary concern for the owner of the means of production was the increase of production which brought an increase of total exchange value. The significance of exchange value is that it is the only form through which the exchange value created by labour

136. This need could originate either for the provision of more profits as in the case of individualistic modes of production or for the satisfaction of greater social needs.

137. Another factor starting the exchange among small communities was the production of different products according to the characteristics of location. In the primitive communal society the common ownership of means of production, products and cooperation in production prevented exchange within the community. Audry I. Richards notes that "the environmental conditions of the Bemba account to some extent to their poor development of trade, since conditions are, generally speaking, so uniform in this area that there is little reason for one district to exchange goods with another". And Mandel adds that "the origin of exchange is ... outside the primitive social unit, ... Within it there prevail originally mutual aid and labour-cooperation, which exclude exchange."

labour can turn into surplus value and thus into profit in market economies, therefore once a qualitative change took place and the craft technologies were transferred to industrial processes then it became a quantitative development that followed and provided the use of more and more developed techniques to increase production. Just as the surplus created from agriculture gave way to craft technologies the profit created through industrial processes provided the emergence of a new mode of production which utilized this profit by making a capital out of it. The process of quantitative changes accumulating to form qualitative changes was also effective in the development of the mode of production, thus providing one of the potentials of a dialectical change. (138)

All three industrial processes (which are machine tending industries, where the majority of production is carried out by workers who look after certain machines and use tools at appropriate stages and the subjects of production include simple units to customer's orders, complex units, large equipment, small batches and components in large batches, assembly line industries and continuous process technologies) are nothing but the development of these quantitative characteristics and are the sources of qualitative changes (see Part 3 for a more detailed definition). Since qualitative changes are not like the partial changes of quantity their impact on the production process is a total one and involves both relations of production and means of production thus transforming the whole mode of production. (139)

/ The

138. The other principal potential that is the motor of change is the contradictions existing within the situation or process. The contradictions of the social environment within which the housing problem existed were given in Part I.

139. This dialectical change was defined by the following three processes of Lange in further detail. "The first is to be found in the continual emergence of contradictions in the interaction between man and nature, in that 'exchange of matter between man and nature' in the social process of labour .... These contradictions are eliminated by a change in activity, i.e. by a change in productive (see over)
The differences between pre-industrial and industrial processes, the quantitative changes of one leading to qualitative changes of the other, can be seen in the production of dwellings although not as evident as in the development of other products.

In the craft technologies of pre-industrial processes, people building their own dwellings are creating use values for their own use. The tools they use are simple and not differentiated according to the numerous tasks they do. Later, with production becoming more differentiated, as a result of division of labour, professional builders begin to appear with their specialised material and conceptual tools. Their production is exchange oriented and they are also the owners of their means of production.

As a result of greater division of labour and the emergence of owners of capital who can acquire means of production and labour we see that the process reaches a state where the two parties related with production (namely the owners of capital and owners of labour) are establishing a new relationship pattern at a further stage in the line of development. Here the product is exchange oriented but the means of production are not owned by the producers. This marks the beginning of industrialization in other fields of production. Although the production of dwellings did not follow the development of production of other products, the phases of industrialization show similarities. These phases are generally accepted as the stages in a transition from one type of production

139. (Cont'd.) forces which, however, produce new stimuli and consequently, new contradictions, and so the whole process goes on continually. The second dialectical process starts with the appearance of a contradiction between the new productive forces and the old production relations. This contradiction, which at first hampers the productive forces, disappears when the production relations have been adjusted to the new productive forces. The third dialectical process starts with the emergence of a contradiction between the new production relations, i.e. the new economic base, and the old superstructure."

Lange, O. op. cit. p. 40.
to another. Traditional building, rationalized techniques, and industrialized building are the existing stages and the use of techniques resembling assembly line industries can be seen in some special cases.\(^{(140)}\) It is also possible to see, although in a conceptual stage, the line of development of the tools of dwelling production following the line of continuous process technologies which are realized in various fields that have a resemblance to the production of dwellings.\(^{(141)}\) Therefore if we summarize the characteristics through which the production of buildings, and especially dwellings, have gone, we can draw the following parallels among the characteristics of the development of production in general and the development of dwelling production in particular.

During the pre-industrial eras and in rural contexts in general the production of vernacular building is with the utilization of craft technologies. Yet it is not only the vernacular where we find the use of craft technologies. Traditional building methods and also rationalized methods recommended especially for the transition to industrialization also utilize craft technologies due to social and economic conditions of a specific context.\(^{(142)}\) Furthermore it is also possible to find traditional building utilizing machine industries where either the components or materials of building are industrially produced but the building itself is traditionally constructed.

140. Box construction methods used in USSR and production of standard building elements like doors, windows, etc.

141. Techniques used for automobile production is a frequently quoted example.

142. Utilization of craft technologies may also exist under conditions of full industrial production, but this should not be mixed with the utilization of these technologies as a result of real needs arising from production potentials. Craft technologies in full industrialization is more due to stylistic considerations, and its examples can be found both in production processes and in the form of new materials. Formal imitations of this kind - like Formica sheets with wood finishes - do not only belong to simple materials but more significantly involve the acceptance of fake expressions for the totality of approaches.
constructed or both the building and the components and materials are industrially produced (using mostly machine industries) but the whole process in general is pre-industrial. These general characteristics involve the productivity of labour (in terms of the mechanization of labour), speed of production, cost of total building, and the level of standardization of products. Therefore an industrialization process that is limited to only one sector or a process that is not satisfying all of the related aspects and that is not arising from the totality of all of the relations of the development of means of production is a pseudo-industrialization. (143)

There are three stages on the line of development which are rationalization, prefabrication and full industrialization. In terms of the industrialized techniques utilized by these processes we see the utilization of machine industries in rationalized building and prefabrication, the latter of which can also utilize assembly line techniques like the fully industrialized processes. Finally, despite its limited application we have the utilization of continuous process technologies for fully industrialized building, such as the box (see note 140).

143. Pseudo-industrialization is a phenomena related not only to building but to the whole of production and is especially significant in under-developed countries.


Measures to prevent pseudo-industrialization were formulated as "the policy of walking on two legs" by the Chinese and is defined as "the large-scale development of productivity .... calls for further organization of production, co-ordination, close combination of state industry with commune industry, of big enterprises with medium and small enterprises, and of indigenous methods with modern methods of production".

Kuan Ta-tung. The Question of Organising Production Coordination and Combined Enterprise in Urban Communes.

The whole process of transition from pre-industrial to industrial means of production can be represented by the following table.

<table>
<thead>
<tr>
<th>Types of Building</th>
<th>Pre-ind.</th>
<th>Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Craft Technology</td>
<td>Machine Industries</td>
</tr>
<tr>
<td></td>
<td>Parts Whole</td>
<td>Parts Whole</td>
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<tr>
<td>Vernacular</td>
<td>xxxxx xxxxx</td>
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<tr>
<td>Traditional</td>
<td>xxxxx xxxxx</td>
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<tr>
<td>Rationalised</td>
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<tr>
<td>Prefab.</td>
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<td>Fully ind.</td>
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Of the above four techniques of production, in craft technologies both the parts and the whole of the building are the products of the technique, whereas in machine industries it is only the parts that are produced with this technique. For assembly line industries, used in prefabrication, the parts are assembly line produced but the whole can either be the product of this or another technique. Finally in continuous process technologies it is both the parts and the whole that are the product of the technique. Next, when we turn to the impact of these changes in production on the nature of products we can define some specific trends that strictly follow the lines of change of technology and building type. Because this change of products is the result of their way of production, the change in conceptual tools (see Glossary) become the cause responsible for defining the products. In other words, material tools under the control of conceptual tools produce the products which, therefore, are the reflection of these tools and the change of products is the reflection of the changes in tools.

From the point of architectural design and production of dwellings, although in reality there is no distinction in the relations of products and producers with material and conceptual tools, in most / cases
cases material tools are related to the products and the conceptual tools to the producers. Conceptual tools are the tools of the architect and the material tools are significant for the buildings. But in case of squatters, simply because the subject is based on direct user involvement (by the process of squatting), the place of the architect and the labourer should be defined in relation to both material and conceptual tools. The labourer is the producer, he is the user as well as the architect of the product. So in the final analysis he is a labourer using both material and conceptual tools. (144) The architect, as professionally defined, also uses conceptual tools to define the product but the relation of material tools to him is not like that of the labourer, so as said earlier the significance of material tools goes only as far as it is related to the product.

Under these conditions the generally accepted line of approach for architectural studies becomes inadequate to expose and utilize the potentials of squatters. The approach for the proposal is utilization of potentials of the context which is also the source of problem. In order to be able to do this it is necessary to understand the way the presently available material tools are operating. The operation of these material tools in the case of squatter house production necessitate not only the conceptual tools of industrial, urban environments, but also an understanding of the pre-industrial conceptual tools due to the socio-cultural origin of the relevant society. Therefore we shall start with the definition of conceptual tools of the pre-industrial contexts and will go on to the definition of the character of tools available at the moment.

2.3.2.2. Conceptual Tools in Pre-industrial (rural) and Industrial (urban) Environments

In rural social environments where pre-industrial production / processes

144. These conceptual tools obviously are the tools of pre-industrial production and specifically the tools of vernacular concept formation. For a different definition of the tools of vernacular concept formation see note 145. pp. 24-25.
processes prevail, processing of information for production is defined by various characteristics. Before defining the characteristics which are significant from our point of view we shall describe the ones in the other fundamental approaches to design.

One of these is the definition brought by Alexander (145) for the explanation of the function of conceptual tools of the 'builder' - who is placed in opposition to the designer. Conceptual tools are for the formation of a concept of a form which later materializes through the operation of material tools. Therefore in order to understand these tools we have to analyse how they operate.

According to Alexander, in the rural context "the process which shapes the form is a complex two-dimensional interaction between the context C, and the form F, in the world itself. The human being is only present as an agent in this process. He reacts to misfits by changing them; but is unlikely to impose any 'designed' conception on the form". (146) Later on in his definition of the 'self-conscious' process of the designer he postulates that the formation of a conceptual model, which is separated from the actual world and "the self-conscious designer works entirely from the picture in his mind" and adds that "this picture is almost always wrong". (147) Then in order to free this mental picture from the "bias of language and experience" of the intuitive designer, he proposes a third scheme where "the form is actually shaped ... by a process at a third level "which is "out in the open, and therefore under control". (148)

A similar hypothesis is also put forward by Jones (149) to the

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146. "the form is the solution to the problem; the context defines the problem" Alexander, C. op. cit. pp. 15-16.


question on the common characteristics of the 'new methods' of
design - which we treat as the conceptual tools of the industrial
urban context as opposed to the pre-industrial, rural - and is
formulated as the externalization of the design process with the
purpose of making the process more manageable.

Criticism of Alexander's model can be carried out at two levels.
What he defines in the 'unselfconscious situation' is true if the
role of man in the process between a context and a form was
equal to the production of any other living organism in nature,
such as birds' nesting. But being aware of past experiences
and being able to make each new product more developed than the
previous one creates the second level, where the 'actual world'
is represented in a 'mental picture', which according to him
belongs only to the 'selfconscious' process of the designer not to
the builder. Therefore what he defines as 'the unselfconscious'
process and which he relates to the rural, vernacular context
can only belong to the production activities of species other than
man, or a new-born infant.

Because selfconscious and unselfconscious are the reflection of
the nature of consciousness of the individual and because these
concepts, like those on concept formation, will be utilized in the
description of the proposed design process, it will be fruitful
to define them briefly at this point.

In broad terms conscious and unconscious modes of mental
functioning belong to two processes which were defined as 'primary'
and 'secondary' by Freud. Primary process governs all
thought which "has been drawn in to the unconscious" and "which
has suffered repression". It is characterized by 1) 'condensation'
which is the intensification of various ideas "in a single conceptual
unit" 2) 'compromise' which is due to the formation and emotional
stressing of new ideas which are "intermediate among existing

ones" 3) "the use of very loose connections as associative channels" and 4) "toleration of contradictions" which enables the co-existence and combination of all thoughts. (151) The secondary process, on the other hand, is "conceptually organised" (152), and develops in time, through experiences, toward "reality oriented thinking". (153) The primary and secondary processes of Freud, which led to unconscious and conscious thinking, was later extended by Kubie with the inclusion of a middle category which he called 'preconscious'. He claimed that "preconscious processes are assailed from both sides. From one side they are nagged and prodded into rigid distorted symbols by unconscious drives which are oriented away from reality ... From the other side they are driven by literal conscious purpose, checked and corrected by conscious retrospective critique." (154)

In view of these definitions the thinking process of both the builder and the designer can neither be related to the primary nor to the secondary processes totally. The reason for this is that, characteristics related to both processes can be found in their information processing. On the other hand, the existence of the preconscious state and the secondary processes are both closely related with the formation of concepts, enabling the establishment of an awareness of the totality of relationships and the conceptualization of a formal solution in the case of problem solving activities. Therefore, we can pass to the second point related


related with the formation of forms that fit the demands of a context. This is also related with Alexander's proposal.

For the elimination of bias, arising from the designer's way of conceptualizing the context and the form, the postulation of a third level, by Alexander, where the "formal picture of the mental picture" develops is inadequate due to the fact that the contradictions between the 'actual world' and the 'mental picture' are not totally due to the conditions that are directly related to the designer. In other words, due to the conditions prevailing within the context, it is not possible for the designer to make an "abstract picture ... which ... retains only its abstract structural features". (155) These are best expressed by the transformation of the context conditions which in general are defined as rural and urban. (156)

Therefore when the physical surroundings of man are not considered only as the products of architects but as an environment formed by the products of vernacular architecture, then it is these environments that we almost always find better fitting to the conditions of the context. (157) The shift of focus in


156. In another place Alexander, although indirectly, defines this change while discussing the context conditions of the urban environments that are significant from the point of view of design and human contacts.


157. Here, the distinction among the two types of conceptual tools should be made. While one group of tools defines the context of a problem the other defines the form that will be appropriate for that context. Therefore while one is empirical the other is normative. The trend of development of sciences and especially the social sciences clearly defines this change. Natural sciences on the other hand have mostly been empirical due to the nature of their subject matter. Disciplines related with design or more appropriately synthesizing disciplines have always been related with both of these aspects, but stressing the normative (see over)
archaeology, history of art, etc. to vernacular with the purpose of understanding the societies which produced and uses these products is sufficient proof for the fitness of the products of vernacular. (158)

For an understanding of the conceptual tools of production of pre-industrial and industrial contexts it is necessary to define the way in which the concepts are formed. One of the methods accepted by experimental psychology, for this purpose, is to analyse the primary stages of formation in childhood. In the case of a child this is strongly related to the formation or learning of a language through which the concepts are either established or standardized and socially accepted. When concepts are accepted as tools of thought then it becomes an essential element for one's communication with others (159) and for the realization of the thought process by one's self. (160) Yet it is not possible for one...

157. (Cont'd.) side more due to the basic fact that the definition of a form is a norm defining production. Yet, this nature also shows two different trends, one belonging to the physical and the other to the social norms and the architect's involvement with the complexities of the context tends to place him on a line that is getting more and more related with the physically normative.


159. Sherif and Sherif mention the experiments carried out by them on children of about five years of age and conclude that "the group sessions demonstrated the tendency for interacting individuals to standardise names for novel and desired objects in order to deal with these objects and communicate with each other about them". And in terms of concept formation in actual life they state that "the formation of concepts ... is a social process in which the motivations of the participants, interaction among them and the functional uses of the linguistic response are essential. Thus" they conclude "the concepts are both cognitive and motivational in their very origins" - (italics added).


to start forming concepts without the existence of a social environment within which experiences will accumulate. The concepts based on such experiences will be 'standardised' and 'communicated'.

Because the formation of concepts is also a social process the conditions, within which this process prevails, also determine the nature and the mode of utilization of these tools.

Since changes in these conditions will be dealt with under the change of mode of production we can, at this point, focus on the characteristics that define the conceptual tools of pre-industrial and industrial contexts.

Under some specific circumstances the ownership pattern of conceptual tools, like material tools, determines the nature of products and the relation of the producer to them. An analysis of these circumstances requires some primary definitions which provide a number of frameworks as well as the necessary lines of approach for the characteristics of the designer's conceptual tools. At this point the previous distinction of pre-industrial and industrial which had arisen from technological and social differences ceases to be sufficient. This is due to the fact that transition from one to the other does not carry with itself all the other differences that are related to the conceptual tools. (161)

Just as the formation and development of the material tools absolutely require the consideration of necessary social and historical conditions relevant to a social context, the conceptual tools should also be considered in the light of same context conditions. Therefore what is conceptually possible can not be realized

161. The technological nature of industrial, pre-industrial eras are primarily related with the material tools of the respective eras, and is insufficient for the definition of change in conceptual tools. This is due to the discrepancies between the developments of theoretical and practical knowledge and is the outcome of division of labour as mental and physical.
Rosenthal, M., Yudin, P. op. cit. p.450
realized unless it can be materialised in physical terms. This property within a social context brings a further distinction to the definition of all tools, if those tools are expected to be physically and socially meaningful. (162)

Therefore from the point of the conceptual tools of production, the level of material tools which are specifically defined as industrial do not find their exact counterpart in the realm of conceptual tools. As a result of this a more general differentiation, as traditional and new methods, is made in the field of design methodology. (163) Yet this also is not precise in terms of the inclusion of all conceptual tools within these two general groups.

The general characteristic of the development of conceptual tools reveals a process of differentiation in which the tools become more specialized at each stage.

Here, we shall first describe this process of differentiation and later define the consequences in terms of their impact on the products and the producers. Stages of this process can be defined under various categories. From the point of historical analysis these categories should also represent the changes that are the stages in a time perspective.

In an outline form this process of differentiation can most easily be seen in the description made by J. C. Jones. These stages are defined as:

1. Craft evolution


Flow of experts equipped with specialized conceptual tools from one society to another (brain-drain) is due to this discrepancy between a society's real needs in terms of those tools and that society's potentials for the utilization of those tools.

2. Design by drawing
3. Black boxes
4. Glass boxes
5. Self organizing systems. (164)

The first two of these are descriptive of the process whereas the latter apply to the designer. This also arises from the fact that while the traditional conceptual tools, due to their totality orientated characteristics (which, on the other hand, is claimed by all types of conceptual tools but has greater relevance to traditional tools partly because of the simplicity of products) are more complex and can not be handled as the individual operations of a tool, the new conceptual tools due to their externalized and parts orientated characteristics can be directly related to their users instead of the whole process. Furthermore the fifth stage of designer's operation as a self-organizing system is an extension of the previous stage where due to abundance of alternatives and the externalization of the process the examination of all the alternatives become an almost impossible task. Then, in order not to revert to intuitive or black box choices, 'available design effort' is divided into two parts:

"1. that which carries out the search for a suitable design.
2. that which controls and evaluates the pattern of search (strategy control)" (165)

This naturally eliminates the unnecessary task of going to the final stage to evaluate an alternative. While the advantages of the approach are evident, its limitations within situations where the "outcome of each sub-action" can not be evaluated without considering the constraints imposed by the total are also important. Therefore within situations where the social factors of a problem

constitute the majority of constraints, the introvert character of the designer's 'self-organizing system' ceases to be functional and becomes significant only as far as a means for the simplification of the problems of glass box methods.

When we turn to the general characteristics of the process of differentiation, in craft evolution we can see the simultaneous development of product and the concepts related to it. If the material product is analysed at each stage of its production it reveals the stages of development of the concepts relevant to its materialization. This is especially true with products which are produced in a longer span of time, such as buildings or in products which have a definite beginning and an end corresponding to the beginning and the end of the production process, such as tapestry. Yet in small or complex products which are produced in a short span of time or are composed of interdependent parts because the interaction between the operations of material and conceptual tools is so integrated and because there are so many back and forth processes, it is impossible to disintegrate the parts of the process. (166)

Then among processes utilizing an intermediary between the concepts and the materials, we have drawing as a tool (which differentiates it from specifications) which is also the only process that establishes the link between traditional and new conceptual tools. Its more sophisticated versions can be found in computer applications. Here, the development of the concept is relatively externalized and can be followed on paper, etc. Studies of the sketches of masters, such as those of Leonardo da Vinci, are

166. Production of simple farm implements or more complex products, like the wagon described by Sturt, are examples of these.


Another case of even more complex products was exposed by the study of houses in the eastern Black Sea coast.
endeavours in this direction. The most significant aspect of this process is that it still is the only process that can come closest to the pace of creative thinking and this is due to its great flexibility of expression through various ways of abstraction which also is determined by the way the problem is perceived.\(^{(167)}\)

Furthermore, drawing, through the socially accepted and understood meanings of forms, provides an externalization of the process. By the help of this team work and exchange of concepts is realized.\(^{(168)}\) and a greater division of labour is made possible.\(^{(169)}\)

In the process of systematization of the usage of conceptual tools, although they were not introduced for design purposes, there is the case of 'black boxes'. Its significance or difference from the previous ones is that although the constituents of this process are no more known than the others, it is accepted as a totality by itself and its inputs are tried to be controlled with the aim of obtaining the desired outputs. Thus although the 'black box' itself, from the point of systematization, does not provide anything different by controlling the context within which it operates and from which the inputs to the 'black box' are produced, the process as a whole gains a new definition. Although from the point of differentiation and specialization the process can be more determinate, from the point of an analytical study of development it provides less material to expose the steps that are taken during the evolution of an idea.

Yet these characteristics, when compared with more systematized processes,

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167. This is directly related to the experiences one had gone through and perceived.


processes, provide great opportunities for creative and innovative thinking. (170)

Fourth, we have the 'glass boxes' where the process is totally externalized and rationally explicit, but its applicability is limited and its productivity can not be generalized when the different natures of different problems are considered. This also is a fact which shows that these processes are more specialized in their general characteristics and create a different process of operation for the externalized stages that can be distributed among various members of a group and can be repetitively used for products of similar nature. (171) The development of the whole, with the utilization of 'glass box' processes, can not be detected by an outside observer unless special action is taken by the members of the group to expose the partial solutions as a whole.

What is significant about this development process of the conceptual tools is that the more systematized they become the more they are in need of quantifiable inputs so that the tools can be operational despite the complexities they have and they need. Yet the compulsion to express the problem only in quantifiable terms is a simplification that is contradictory to the essence of the problem, especially when the problems of present time social and physical contexts are considered.

Therefore we can make the following statements on the consequences of the process of differentiation and specialization of conceptual tools:

1) from the point of products, as the conceptual tools become more specialized in some specific areas the products tend to become more refined in those areas in reverse proportion to the refinement of the whole. Specific areas that are suitable for

specialization and for the development of specific tools are usually the parts that can be considered relatively independently. The development of these parts create specific demands on the whole and their satisfaction with the available specialized tools is usually not possible.

2) from the point of producers' specialization as the users of conceptual tools related to specific areas of the product, it leads to a process of alienation which is similar to that of the specialized users of material tools - manual workers.

Having defined the change in society and in material and conceptual tools of production, accepting them as the constituents of technology we have covered the whole ground of man - man, man - socio-cultural environment, man - nature and man - material relations we can turn to the synthesis of these relations. Mode of production, in other words, is the synthesis of all these relations and the consequences of the process of change at this level of generalization brings forward new aspects to the problem. These are also significant for the condition of housing in the underdeveloped countries as distinct from that of developed ones for the modes of production of these societies are different and the line of development of housing design and production in underdeveloped countries should be considered in view of the consequences that would arise.

2.3.3. Changes in Mode of Production

When societies are defined according to their socio-economic orders, both in time and space, a definite change is seen due to the changes in their prevailing relations of production and due to the state of their means of production. Among various combinations of relations and means of production that have existed in history there are three which are significant for describing the societies of the present time. These are defined as feudal or semi-feudal societies, for describing the underdeveloped countries, capitalist societies for describing mostly the developed countries of the western world
and the socialist societies for describing the countries either developed or in a process of development.

In feudal societies, because the principal production activity is agriculture based and owing to this, because the majority of settlements are rural, characteristics closely connected with capitalist mode of production are either not as strong or not self-evident, due to the reasons given in the description of rural societies. With capitalist development some of these characteristics gained further strength, some others gained a new existence. Of these characteristics we shall take:

- alienation
- consumption and
- exchange orientation, which are significant both from the qualitative aspects of design and from the sociological aspects of a mode of production.

The concept of alienation has a historical character which defines two things. It appeared in European thought and can be seen in a purely religious form as being "alienated from God" and belongs to what Meszaros defines as the "common heritage of Judeo-Christian mythology". (172) Within this religious context the concept was referring to things and man was distinct from this unless the man is a 'stranger', an 'enemy' or a 'foreigner'. With Christianity this discrimination was erased for there was no segregation between 'my people' and 'strangers' but it still was unable to resolve the principal contradiction arising from the existence of different classes within the society. (173)
Later, the concept's relation to things as alienable objects was enlarged by turning everything into saleable objects. And it was this aspect that made alienation a problem in the present day society and enlarged its frame of reference to a social scale. While this religious character of the concept's development brings it to a dilemma due to the religious definition's purposefully broken ties with the socio-economic process, it also brings the second aspect of the concept which establishes its relation with the socio-economic process, and redefines its historical significance, through saleability.

Alienation is not a contemporary problem which has arisen from the changes that have taken place in technology nor is it the problem of a purely industrial society. These are the means and contexts that have intensified the nature of other factors which themselves are the real causes.

When Adam Smith mentioned "the vassal (who) could not alienate without the consent of his superior" the need for saleability without the limitations imposed by feudalism was for the elimination

173. (Cont'd.) "Spirit of Judaism" in the sense of "the internal principle of European social developments culminating in the emergence and stabilization of capitalist society".

Meszaros, I. op. cit. p. 30.

It is both interesting and fruitful to see the essence of 'hippie' communities within the present oligopolistic capitalist socio-economic order in the light of these aspects of the early Christian faith.

174. "Alienation is ... characterized by the universal extension of 'saleability' (i.e. the transformation of everything into commodity); by the conversion of human beings into 'things' so that they could appear as commodities on the market (in other words: the 'reification' of human relations); and by the fragmentation of the social body into 'isolated individuals' who pursued their own limited, particularistic aims 'in servitude to egoistic need', making a virtue out of their selfishness in their cult of privacy.

Meszaros, I. op. cit. p. 35
tion of the obstacles that would retard the development of capitalism. (175) And thus alienation incorporates 'estrangement' together with the 'transference of ownership' which can only be the labour of the individual when estrangement is not of things but of man. Yet, this also necessitates the 'objectification' of labour for its externalization. (176) Through becoming a 'thing' it also becomes a commodity in a new market where everything can be bought and sold. This constitutes the primary distinction between feudalism and capitalism from the point of alienation because under feudalism, at least the labour of the producer had not become a commodity in spite of the fact that the means of production like land, implements, etc. were not under the labourer's ownership. (177) With industrialization and the concentration of all means of production in the hands of the capitalist, the distinction between private ownership and labour became more accentuated. (178)

While this situation provides the basis for a general process of alienation, within it two other aspects can also be detected. One of these is related with the general pattern of life of individuals or communities formed by those who are alienated from their productive, constructive abilities for now these have become the 'things' they sell to survive. This aspect of the process is a problem at various levels and naturally has

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177. This is an aspect, which misleads various groups both in theory and in practice in their endeavours to change the prevailing mode of production in capitalist socio-economic formations. e.g. Pawley, M. The Need for a Revolutionary Myth. Architectural Design. Vol. XLIII. Feb. 1972. pp. 73-80. For a conclusive criticism of this approach see Tod, I. Capitalist Swine. AD. Feb. 1972. Vol. XLIII. p. 120. Review of Pawley, M. Architecture v. Housing. Studio Vista.

implications on the people's relations with the physical environment as well as on their relations with each other. (179)

The second aspect of the problem of alienation is related directly to the work process which is the process from where

179. A distinct example of the process is seen in the attitudes of younger generations, within defined physical environments like the new towns or housing estates, in comparison to the attitudes of the grown-ups. The grown-ups having gone through a process of assimilation and having reified all their productive abilities for their saleability, retreat into a seclusion. This state exemplifies one of the leisure hypotheses defined by Wilensky as a) an "auto-worker goes quietly home, collapses on the couch, eats and drinks alone, belongs to nothing, reads nothing, votes for no one, hangs around the house and the street, watches the 'late-late' show, lets the TV programmes shade into one another too tired to lift himself off the couch for the act of selection, too bored to switch the dials. In short, he develops a spillover leisure routine in which alienation from work becomes alienation from life; the mental stultification produced by his labour permeates his leisure." And in the other b) "In an up-to-date version the Detroit auto-worker, for eight hours gripped bodily to the main line, doing repetitive, low-skilled, machine-paced work which is wholly ungratifying, comes rushing out of the plant gate, hell ing down the super-highway at eighty-miles an hour in a second hand Cadillac Eldorado, stops off for a beer and starts a ball-room brawl, goes home and beats his wife, and in his spare time throws a rock at a Negro moving into the neighbourhood. In short, his routine of leisure is an explosive compensation for the deadening rhythms of factory life."


The second case above should also be considered in the light of the characteristics of that society at a larger scale. e.g. Bell, D. Crime as an American Way of Life. Antioch Review. Vol. XIII. Summer 1953. pp. 131-154.

In the case of the young, on the other hand, the loss of production unit characteristics of the family and the community ended the existence of an environment within which they can develop their constructive and productive abilities. And the utilization of the surplus energy became problematic, for it began to direct the individual either to a seclusion at a more concise level than that of the adult workers, or to vandalism and destructiveness.

it evolves. While in most of the sociological studies concerned with the problem of alienation, attention is directed to this work process, it has only focused on the problems of the industrial manual worker. Beyond this the problem is ignored or at least not found interesting. Yet the problems of alienation related to the intellectual are no different and no less important than those of the manual labourer.

The importance and similarity of these problems arise from the fact that they are in a situation which is defined by their socially significant production activities. Multiple causes connected with various cases create situations in which the individual develops either a partial consciousness which leads to partial solutions, or a true consciousness which arises from the establishment of correct relations among the causal factors. This puts the user of conceptual tools in a different position within the network of socio-economic relations. A specific example of the first case is provided by the definition of "good art" as "the objective representation of feeling to a beholder's direct perception." (181)

180. Alienation within the work process also shows a specific pattern which is directly related to the state of the means of production. Blauner, as a result of his researches among printers, workers of textile, automobile and chemical industries (to represent the four types of technologies in historical perspective as the pre-industrial, early industrial, mechanized and automated technologies) reaches the conclusion that at one end of this spectrum printers, provided with opportunities of freedom of a relatively primitive industry, and at the other end operators of an automated chemical plant, having no connections with the process of production, do not feel alienated.


Although the above conclusions are perfectly relevant to the conditions prevailing at a work place, with automation the worker who is freed from the monotonous, non-creative tasks is still not equipped with the necessary power and responsibilities to define the social function of his activity. Thus as a result of automation and the consequent increase in leisure time, alienation has grown beyond the limits of the factory and has made itself a social problem.

This necessitates the conscious perception of that feeling by the artist and from the beholder's side and distinction between the "political" and other views of the artist and "the strictly aesthetic factors of his work". (182) This, actually is another aspect of the common dilemma between the form and the content. Form, in the final analysis, is the product of the tool and that tool is the bridge between the formal requirements of a content and the form itself. Form can further be analyzed according to its architecturally relevant aspects as the elements and their relations. (183) Form is an outward expression; it can be easily perceived and changed yet its perception without any relation to content and its change if not based on the change of the content is bound to create internal contradictions. (184)

When we turn to the nature of alienation, the discrepancy between the socially relevant forms and their relation with their contents is the product of the context within which the decisions related with the products of that context are made. In more specific terms the production of the alienated designer is bound to produce artifacts which are formally appealing within a limited context and are irrelevant from the point of the characteristics of their contents. (185) Since the designer is also the

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184. These aspects, which are directly relevant to the design process will be dealt with in greater detail in the third part.

185. Mills, defining the multiple roles of the designer as a mediator trying to compromise the socially significant needs of the society and the individually significant profits of the capitalist, shows that the contradiction between the two is antagonistic and the provision of a socially relevant solution is impossible unless some preliminary conditions that will eliminate the contradiction are satisfied.

creator of artifacts of cultural significance, due to the cultural values they possess the products of his activity are both the representatives of existing cultural values and are the creators of new ones. (186) His alienation is the creation of barriers that will stand between the cultural and material needs of his social context. Being unable to perceive the existing and expected values of his cultural environment he also is unable to transfer and to create those values within his own products.

Alienation, naturally is not the only cause of this situation, because it is the product of a specific mode of production which is also the cause of other factors mentioned above. But this is the first level of the problem where only the outward activities of the designer are involved. On the other hand there are the internal contradictions of the designer as an individual. Having lost his identity as an individual of multiple capabilities due to his relation to the variety of theoretical and practical aspects of the work - which the pre-capitalist craftsman had - and being left with only a skill that can be turned into a commodity, he now has a limited world and that is if he still has some productive, constructive abilities. These are irrelevant within his socially significant production, that is his work process, and are pushed back to his leisure time in the form of hobbies. (187)

This brings the case to a specific point which will be further exposed with the characteristics of the mode of production through consumption and exchange orientation. And just as the tools of

186. Rapoport shows the significance of these socio-psychological values not only in artistic activities but also in the supposedly value-free scientific investigations.


the manual labourer are the physical implements, the conceptual tools of the designer are the information he uses; and as the labourer is alienated from his production through the private ownership of these tools, the designer is alienated from the social essence of his own production by the formation of barriers between himself and the origin of his information - that is the direct representation of that context with all its particulars. (188)

With the change from craft technologies to industrial production the role of the labourer also changed in the process. This change has two aspects one of which is our concern. Initially, the craftsman was both the labourer and the decision maker of his product. The industrial worker is only a labourer. Therefore there is a separation between the material and the conceptual aspects of the process. This brings the second aspect which originates in the conceptual side of production. The craftsman as a designer was performing in a social context and was utilizing all the means to establish direct contacts with that context. The reason was that he was an active participant, a member, an integral element of that context however small it might be. And more importantly the information he was receiving from that context was not abstracted by an intermediary, even if there was an abstraction that was also under the control of the craftsman and the context itself. Conceptual and material production processes were united in his action.

Decision maker of the industrial urban context, on the other hand,

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188. Broady puts forward this aspect in a different situation. Industrial sociology, where greater research effort has been spent, has shown that the relations between an industrial organization and the workers were neither one directional nor concentrated only on the relationships among the members of a working group but were related to both, as well as to the context of a greater network where relations seemingly external to the industrial organization were also involved.

is in a totally different situation. Firstly, his decision has a different value than that of the material product. The architect is paid for the project he designs not for the building itself. This is a natural outcome of the processes of division of labour and specialization. And its being natural is not due to its being the only alternative but due to its being not controlled for the achievement of specific goals.

Other than the differentiation of the values of products and decisions we have the quantitative size of the problems and the rigidity of the solutions as the source of a second group of problems related with the fitness of the products. The gap between actual demands of the context and the features provided by the product is never closing because of the absence of means that could have changed the 'natural' consequences of the previously mentioned division of labour and specialization. Furthermore, because of the alienating characteristics of the totality of the mode of production, the context itself is turned into a process of deprivation within which the capacities previously able to provide means for closing the gap are also eliminated.\(^{(189)}\)

When we turn to the second characteristic - consumption - that defines the nature of design activity and the qualitative characteristics of design in a specific mode of production we are confronted with a feature that has economic forces at its origin but is significant for its social and psychological outcomes.

Definition of consumption requires the definition of some further concepts. Some of these are related to the context within which production and consumption are carried out, others are related to the process itself. Unless the contexts and the nature of the process are defined the significance of consumption, with its social

\[^{(189)}\) A principal example of this case was given in the discussion where the characteristics of squatter housing areas were compared with those of slums.
and psychological implications, is difficult to comprehend.

The context defines the nature of production according to a prevailing set of relations and tools. In politico-economic terms the primary feature that distinguishes one form of production and consumption from another is its orientation. In a capitalist mode of production the primary motive is likely to be the profit which is created by the appropriation of surplus value which in turn is created by the social nature of production itself. The social nature of production is defined by the labour that is used for the production of a commodity. (190) A worker, in whatever society he is (except in the most primitive) produces more than the equal of what he gets as wages in a certain production time. So "a working day can be divided into two parts, necessary labour and surplus labour". (191)

On the other hand for the materialization of this surplus value in the form of profits, there should be an equal demand for consuming the products of this process. Therefore for the increase of profits either the wages have to be lowered so that the corresponding surplus labour time and thereby the appropriated surplus value will increase or consumption has to be increased so that the marketing of more products with the same surplus labour will enable the provision of more profits. Because of the direct social consequences of the first a choice in favour of the second is made, without considering its long term effects. Now that these causes have accumulated the effects are also becoming more sensible.

Packard and others give plenty of examples of the means utilized for the increase of consumption (192) and what is more significant for

for us is not these means but their implications on the social and socio-psychological characteristics of a society. Yet because the problem is recent and because the available means for scientific quantification in the field are limited and above all because "modern psychology is little concerned with the critical analysis of needs" (193) the consequences of the process within

193. Fromm makes the point that modern psychology "accepts the laws of industrial production (maximal production, maximal consumption, and minimal human friction) by assuming that the very fact a person desires something is proof that he has a legitimate need for the desired thing." And furthermore adds that it is impossible for both modern psychology and Freudian psychoanalysis to make a sound distinction between "human and inhuman, real and imaginary, helpful and poisonous needs", "when their model is the alienated man, when the fact that modern industry creates and satisfies more and more needs is taken as a sign of progress, and when the contemporary concept of freedom of the customer to choose between various and virtually identical brands of the same commodity."


Marcuse, on the other hand, goes further to the definition of these needs and states that "the intensity, the satisfaction and even the character of human needs, beyond the biological level, have always been pre-conditioned. Whether or not the possibility of doing or leaving, enjoying or destroying, possessing or rejecting something is seized as a need depends on whether or not it can be seen as desirable and necessary for the prevailing societal institutions and interest. In this sense, human needs are historical needs and, to the extent to which the society demands the repressive development of the individual, his needs themselves and their claim for satisfaction are subject to overriding critical standards.

We may distinguish both true and false needs. 'False' are those which are superimposed upon the individual by particular social interests in his repression: the needs which perpetuate toil, aggressiveness, misery, and injustice" and further adds that "as historical standards, they do not only vary according to area and stage of development, they also can be defined only in (greater or lesser) contradiction to the prevailing ones."

the socio-psychological framework is difficult to express. The absence of these means on the other hand do not eliminate the problem. The significance of this specific aspect might seem to be irrelevant within the context of architectural production, due to the fact that these products, as yet, are not consumer goods despite the existence of efforts to make them so.\(^{(194)}\) But still both the effects of consumption orientation on the physical environment and the products of the interaction of this orientation with the environment can be detected in the creation of 'one dimensional society'.\(^{(195)}\)

Profit orientated consumption changes the characteristic constituents of a social structure as well as the nature of production. On a practical level the change in the nature of production through profit orientation gives priority to areas of maximum profit thus leaving aside an abundance of problems that are not individually profitable.\(^{(196)}\)

The expansion of this attitude to the level of individual's decision motives puts the individual at a target which is subject to the influences directed to the increase of consumption; thus making the decisions irrational in relation to the actual needs. On the other hand assimilation of the individual within this process of \(/{ }\) consumption

\(^{(194)}\) The approaches of various groups like Archigram towards architecture provide examples for such efforts.

\(^{(195)}\) Marcuse gives a detailed description of this process with reference to its social and physical aspects.


Robinson, on the other hand, discusses the problem in both capitalist and socialist societies.

consumption eliminates the productive and constructive aspects of such relations which are established either with the social or the physical environment.

Therefore, consumption orientation coupled with alienation of all four categories - that is alienation from man, nature, society and culture - forces the individual to a state of unproductive seclusion. There are two processes related with the physical environment which strengthens this state; one is the production process and the other is its use. With regard to production neither the architect nor the other parties related with production are immune to the effects of the context within which the process takes place. Because of alienation the designer is unable to perceive the values of the social context and creates an environment that is also alienating the user through the value systems it represents. The second process - arising from usage - is more significant in view of consumption oriented characteristics. The product from the user's point of view, is a closed system to which no further decisions of productive or constructive nature can be supplemented, but which can be consumed until it is polluted and destroyed. This situation, like the alienated designer's alienating product, also shows its effects on the social and psychological characteristics of the society and even leads to extreme cases of socio-psychological disorders. (197)

The third characteristic, namely exchange orientation, is based on the mode of production and is directly responsible for the nature of products as well as the nature of relations that take shape during the process.

Because exchange orientation is related with the nature of products at this point we have to turn back to the criteria with which the products are evaluated.

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Every product has a place in a context according to the value it possesses. Yet this value is not a single feature and therefore is defined according to the differing functions of the product. First, one of these functions arises with the usage of the product, and creates its use value. Every product, whether material or conceptual possesses this function. Yet if we think in terms of a social context where each individual is occupied with a productive activity and each individual is in need of various products, use values of individual products gain further significance for comparing them with the products of other producers. Here, the use values of the products are not sufficient to define an overall value. This eliminates the primary form of use value and creates an exchange value that represents a medium of comparison among the products and thus among labours of individuals.

Use value has no social significance from the point of social relations related with exchange of products. It defines the characteristics of products with regard to their ability to satisfy needs. This feature makes it significant for design and production problems, but can not be regarded as the only factor for handling the problem because production takes place in a social context.

Exchange value of a product on the other hand is its relative nature due to the existence of two or more products, producers and a medium of exchange. What is being compared in this medium is not the use values of the products but the products of the labour of individual producers. Therefore, since all production is made in a social context, specifying exchange value as if it were a different form of value would imply a misleading conclusion. As long as exchange of different products of utility exists and as long as these products represent a form of labour, when

198. Sweezy, P. op.cit. p. 27.
when they are abstracted from their use values - for it is the common property of all products - what is represented by their exchange values is the value. (199) As a result what we have for the determination of the characteristics of a product is its value and use value, for exchange value is represented by the value itself. The designer's task, on the other hand, is to determine and increase the use values of the products.

With exchange products turn into commodities. Commodities are produced solely for the purpose of exchange and theoretically what enables their exchange is their use value. But if the social context enables the user to put the product into a use that is socially irrelevant then inevitably the producer of that product will try to increase the use value of his product by increasing its value in that socially irrelevant direction. (200)

The other nature of commodity production directly involves the relations of the producers of these products. Because production is made by individuals and because they come into contact for the exchange of commodities their relations with each other become commodity oriented, thus attributing a new character to the objects exchanged and to the relations they have. (201)

The nature of these relations become clearer during a process of social production and is relevant both for the stages of production of material goods and for the stages of decision making and production of a design project or any other mental product. On

200. What Fuller defines as the development of 'weaponry' as opposed to the priorities of 'livingry' is another description of this line of production.

the other hand since production is not an individual operation
social relations during the exposition of a need, definition of this
need, utilization of it for the decisions of production, process of
production and the use of this product also define its social
significance. As a result of this a two sided question gains
importance. Firstly, the commodity production creates an
influence on the nature of the product and changes its character
placing a greater emphasis on its exchange value. And secondly
by commodity production the producers' relations with each
other changes its orientation from relations for production to
relations for exchange.

The impact of these two factors on the formation of the physical
environment and on the social relations within the social environ-
ment becomes obvious when the case of squatters is analysed.
This involves the nature of value because the physical environ-
ment and the social relations evolve with the creation of value.
If we rephrase; the processes related with individualistic
production and squatter house production show that the first has
three stages and the second has two. In individualistic production
these stages are production, exchange and use, in squatter house
production they are production and use. In the first case although
all three stages may have social significance because exchange is
the stage where the highest value is attained social relations
relevant to this stage are the most significant. And the social
relations of the society are transformed into relations for exchange.
In the second case because production is the stage where the
product and its use is determined it is the stage where the socially
significant value is produced and the social relations are trans-
formed into relations for production. It should also be clarified
that the purpose, here, is not to eliminate exchange but to show
that even in a situation where all production is commodity oriented
and there is no awareness of the forces operating in the social
order, there is a potential for the formation of a production process
which is not producing commodities but use values and the social

/ relations
relations are for production if the contradictions of the prevailing order are suitably utilized.

Finally if we turn back to the highly developed processes of production it will be seen that it is impossible for individuals to produce all of the use values that are necessary and yet it is essential that the products should have the use values that are relevant to their users.

The contradiction of these two is the internal contradiction of the present technology and the principal contradiction existing in the endeavours to sustain commodity production and to increase the necessary use values. (202)

2.4. Nature of Production

Production activities of a society as a dialectical process is the expression of social and technological structures. With regard to the total, this is only one of a number of other processes which are interrelated. In broad categories these can be defined as the physical environment production processes which include all material productions, natural production processes and human production process. Within this, the area of our concern - that is housing production - constitutes only a marginal significance and is one of the subgroups of physical environment production processes. At every scale of production the process always has two outputs. One related with the form of the product, the other with its content. If we take housing production as an example, we can see the operation of a two way process which in one direction produces a material environment and new material needs related to it, and in the reverse direction produces the characteristics of a social structure. The physical structure defines the form and the social structure defines the content, and similarly the relations of the form and the content create the need

202. See Appendix II.
for a change in both. Yet the existence of need will not create a change spontaneously. The realization of change according to the needs requires the superimposition of a further process which is the process of gaining a consciousness of the situation with its contradictions and antagonisms for they are the potentials of the future states. If this condition can be satisfied - by the creation of a mode of production which is representative of a specific ideological structure and is the product of a substructure defined by the relevant relations of production and forces of production - then the whole would be in a continuous cycle of development.

At this point let us summarize these characteristics in a diagrammatic form.

First, the sociological structure and the technological structure of a society are the elements of its substructure. The sociological structure is defined by the relations of production and the technological structure is by forces of production. The superstructure on the other hand is defined by the ideological structure and attitudes, and is formed by the previous sociological and technological structures. (203) Thus we have the following pattern of relations:

![Diagram](image)

203. This is based on the amalgamation of definitions brought by White who defines culture as composed of the four main aggregates of ideological, sociological, attitudinal and technological and gives the definition of a cultural system by its sub and super (see over)
Secondly, a dialectical production process is formed by a number of sub-processes which themselves are defined by even smaller processes. The elements of the production process are material production, natural production and human production processes which can be represented in the following form:

![Diagram of production processes]

Thirdly, the production process of a physical environment (or any other product) creates two outputs which are the form and the contents of a product, and it is the discrepancies between the two which creates the need for change. So there is a two way process which creates the product and the need for change. Creation of a need is the by-product of a process of gaining consciousness which with regard to production as a whole and the development of man is much more important. (204) This

203. (Cont'd.) structure by Marx.


in terms of the physical environment formation process can be represented by the following relations:

Output 2 in present practice is not a predetermined, consciously designed product but a natural outcome of existing production processes and the problem is to incorporate it into the system in such a way that it will be an integral part of the main line of flow so that there will be no possibility of a shortcut and no risk of pseudo-consciousness.

And finally when we combine all three processes around a dialectical structure we can represent the total network of interrelated processes in the following diagram, which is grossly simplified for it is represented in a two dimensional form.
Environmental Production

Relations of production

Mode of production

Design

Forces of Production

Man

Depreciation

Adaptation

Culture

Awareness

Society

Production

Nature

Construction

Material Production

Utilization
PART 3

3.1. Introduction to Part 3

In this final part proposals for the physical environment production process will be developed in the light of the context defined in Part 1 and the nature of production defined in Part 2. These proposals are not in the nature of a final solution due to two reasons. One, the problem is not due to a single cause that is alterable by the activities relevant to a single discipline like architecture. It is absolutely necessary to establish a production network where all the elements of a comprehensive approach will find a place and be operative. In other words what is proposed for architectural production should find its counterparts in all production activities of man in order to satisfy the conditions of overall development. Secondly, the level or scale at which the problem is defined here is a theoretical one and it requires to be enlarged for practicality. This necessitates further studies clarifying the relation of theory and practice. For this purpose, here, an hierarchical form has been adopted.

/ Further
Further development of the theoretical structure can only be possible with the projection of this structure on to real problem situations. This can be shown with the following diagram where a number of world views can be described as philosophical definitions and underneath them there are a series of theoretical, disciplinary, specialized and implementational definitions.

General

Different World Views

- A world view's Philosophical definitions
- Corresponding Theoretical Definitions
- Corresponding Disciplinary Definitions
- Corresponding Specialized Definitions
- Corresponding Implementational Definitions

(These levels could vary in number.)

1. Socialist
2. Social democratic
3. Capitalist housing Programs

Differences in Implementation

/ If
If we represent the development of general definitions with a lateral movement, the development of a philosophy can be represented with a vertical one. On this vertical a movement from top to bottom - that is from general to particular - is the development for implementation and a movement in the reverse direction is the development of the general according to the experience gained.

The problem in most cases is the absence of corresponding particulars for different generalizations. An example of this could be the considerations for the design of a joint, where the alternatives for a particular case could be riveting, bolting or welding. If the problem is considered only at the particular level there could be no criteria for choice. Yet at a more general level constraints arising from underdevelopment would demand a non-consumptive attitude and bolting with its possibilities for replacement and re-use would provide a better solution.

Absence of corresponding particulars for different generalizations results in the superimposition of different world views on the same type of implementation. And even if there are efforts for the establishment of different types of implementation, in most cases the difference is not more than a formal one. Russian Constructivism is an example of this. (205)

If we leave these problems aside - for they are present in all cases of change and are unavoidable due to the priorities of practicality - and turn back to the objectives of this final part, we should make it clear that the purpose here is not to set the procedure which will directly lead to a level of implementation, but to clarify the principal characteristics of a tool which could provide an answer to the requirements of a process that is directed to the provision of two outputs defined previously as material product and man's self-realization.

realization, through the utilization of existing potentials.

For this we had defined the context where these potentials are concealed, with the characteristics of its three elements - namely the process of squatting, the process of production and the process of design.

All these three processes are synthetical in the sense that they are purposefully designed by man and their objectives are man oriented rather than nature.

The survival and success of man-made systems, on the other hand, are determined by their relation to a higher level system within which they exist as a part. Higher level systems in the final analysis are either the parts of a natural system where they have functional relationships or are within the same context which demands an exchange with that system at specific points which are the boundaries of the parts of the synthetical and the natural system. Therefore whatever the nature of relationship that can be apprehended at first sight, for the success of a man-made system it is essential that the principles utilized for its functioning should correspond to the principles of natural systems.

There are a number of conditions which should be considered for changing the man-made systems. These conditions arise from the following four relations: dialectical relations, cause effect relations, quantity quality relations and contradictions. Two of these have a special significance because we find it essential that the process of change should evolve from within the system and that it should not be a superimposed change and that the process should have a continuity with which it would utilize the conditions of one stage to pass on to another. And they are the dialectical relations of the processes of change and the contradictions existing in the relations of a particular state. Therefore we will develop the tool characteristics of these conditions to define the possibilities and
and the limitations of change in a design situation. This will be done in the final paragraphs but before that there are a number of steps that should be taken to render the process functional. Therefore as a third step - after redefining the context and the necessary conditions for change - means and presently available tools will be studied to be able to see the potentials of the available means.

These means - for design - had been defined as design information and production processes. Here, the proposed change will be elaborated, in the light of given context conditions, as far as the limitations of the theoretical scale, and the partiality of housing design among the totality of man-made systems permits.

3.2. Aspects of the Context

Here, the characteristics of the context of industrial housing production problem will be stated again in a manner more systematic than that of the first and second parts. This definition will incorporate both particular and general levels of abstraction. The characteristics of the particular (i.e., squatters) are chosen for the exposition of a general situation. In other words the conditions existing in squatter areas of the underdeveloped world, are the outcome of similar modes of production but at different levels of development, where the contradictions of the system exist and where the potentials for change can be found.

Therefore the following 72 statements about the processes of squatting, production and design are restatements of the characteristics of the problem for reminding the reader about the discussions of the previous two parts.

3.2.1. Squatting

The context conditions created by the process of squatting are summarized in the 25 statements listed below:

1. Squatting is a special form of physical environment production process.
process.
2. Squatter areas are distinct from slums.
3. Squatting arises from the transition from one mode of production to another.
4. Squatting arises from a change of location.
5. Squatter areas are areas of construction.
6. Squatters are against the characteristics of the prevailing mode of production.
7. Squatting is contradictory to private ownership.
8. Squatting is against profit.
9. Squatters are against speculation.
10. Squatters create a change in tools of production which can be a positive or a negative change depending on the conditions in their previous contexts and the conditions prevailing in the urban context.
11. Squatters create new relations of production.
12. Squatters show a change in class characteristics (proletarianization).
13. Squatters are not class conscious.
14. Squatters are not conscious of prevailing contradictions.
15. Squatters are faced with a social adaptation problem.
16. Squatters are faced with a physical adaptation problem.
17. Squatters are faced with an economic adaptation problem (transition from rural self-sufficiency to exchange based economic activity).
18. Squatters' goal achievement is a social problem.
19. Squatters' goal achievement processes are motivated by material incentives.
20. Squatters' goal achievement has political aspects due to the urban context and the class characteristics of the proletariat in comparison to the labourers of feudalistic production.
21. Squatters' goal achievement is determined by their class characteristics.

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22. Squatters' integration process is an expanding one (from individual to class).
23. Squatters prevent unwanted deviations in value systems through pattern maintenance.
24. Squatters' production of dwellings is pre-industrial in an industrializing context.
25. Squatters' organization is through direct participation at the level of the community and through voting system at larger scales (combination of rural and urban characteristics).

Although this list can be further expanded, we find these characteristics sufficient to show the contradictions between the goals of the prevailing mode of production and the characteristics of the context, so that the means for the transition from what "is", to what "ought to be" can be realized ("is" and "ought to be" refer to the existing and expected conditions of a context and will be dealt with greater detail in the last section (3.6.)).

3.2.2. Production

Characteristics of the production environment are closely related with those of the design environment. The statements made here, therefore, will create the framework within which the design activities take place as well as defining the social conditions that are related to production.

1. Production is a social activity.
2. Production is an economic activity.
3. Production is a cultural activity.
4. Production is the creation of value.
5. Production directed to exchange (commodity production) reduces use value.
6. Mode of production is defined by tools of production and relations of production.
7. Relations of production create the social nature of production.
8. Division of labour and co-operation create relations of production.

9. Tools of production create the technological nature of production.

10. Ownership pattern of the tools of production define the nature of relations of production.

11. Tools utilized for production are the material and conceptual tools of production.

12. Conceptual tools belong to design production.

13. Pre-industrial and industrial production differ according to the ratio of exchange value to use value.

14. In pre-industrial production, production of use value has a higher proportion due to the differentiation of necessary labour and surplus labour.

15. In industrial production all production is for exchange.

16. In pre-industrial production means of production used for the creation of use value are socially owned (either at family or community level).

17. Specialization in production could be the result of two processes
   a) social division of labour
   b) individualistic division of labour.

18. Production with specialized tools and individualistic motivations, in specific areas, leads to alienation.

19. Specialization, with individualistic motivations, leads to the loss of identity, for identification necessitates a cultural and social environment as a reference. (206)

20. Consumption through the exaggeration of unreal needs leads to the loss of productive and constructive abilities.

21. Commodity production changes relations of production from relations for production to relations for exchange.

22. Process of production has two outputs as the material product and the self-realization of man.

From here we can pass directly to the definition of design for it is both within the production process and has the power to define the nature of production.

3.2.3. Design

1. Design is a production activity.
2. Tools of design are information and technical expertise.
3. Relations of design production arise from direct participation.
4. Design in vernacular architecture is use value oriented.
5. Fitness of vernacular design is due to its non-commodity orientation.
6. In vernacular design specialization is social and physical environment based.
7. In vernacular, non-commodity oriented design specialization adds to self-realization.
8. In vernacular design the producer is not alienated.
9. Design provides the conceptual tools of production.
10. Design has its own conceptual tools, as well.
11. The user, designer and labourer are the same in most pre-industrial contexts.
12. User, designer and labourer are differentiated and specialized in industrial contexts.
13. Design process is externalized in industrial contexts.
15. Specialization of conceptual tools in design leads to the alienation of their users through abstraction.
16. Specialization of conceptual tools should be for social needs not for products. (207)

207. Assumption that the provision of better products for individuals will create better individuals and thus a better society is a false one.
17. Systematization of design is the specialization of conceptual tools.
18. Systematization externalizes the design process.
19. Externalization is also a requirement for systematization.
20. Systematization of conceptual tools demands the quantification of the problem.
21. Systematization of conceptual tools refines the product in those specific areas.
22. Total systematization and quantification is not possible for complex, dialectical problems.
23. Systematization of conceptual tools results in the abstraction of the context.
24. Specialization of the designer as a result of focusing on specific areas leads to alienation.
25. Design should provide the means through which both the realization of a material product and the self-realization of man will be possible.

All these statements incorporate both existing and expected conditions as well as the ones representing general characteristics of the processes of squatting, production and design. In other words what "is" and what "ought to be" are listed without differentiation. Yet the transition from one to the other requires two further definitions that are related a) with the process of change itself (3.3.) and b) with the conditions of the context (3.4.). The latter of these involves the provision of a much larger quantity of information (both quantitative and qualitative) relevant to all the aspects mentioned in the statements made above. Here we shall exemplify the process by taking only two aspects, namely the case of design information (3.4.1.) and the case of production processes (3.4.2.), and show the utilization of contradictions from the point of these two.

Prior to discussing the aspects related with these two means we shall describe the four conditions that should be satisfied for the realization
3.3. Conditions to be Satisfied by a Process of Change

Processes of change, in general, have to satisfy the previously mentioned four conditions which are necessary both for the analysis of a state and for the structuring of a process where a change that is not only related to the form but to the content as well is envisaged. The satisfaction of these four conditions, in natural systems, provides the fitness of the new state within the context of a larger one which might have some of its previous characteristics. This is because the change of the whole is not a sudden one, but has stages where a sudden change takes place.

Here, these conditions will be considered from the point of various characteristics of the housing production process for the clarification of the proposals related with the design policy of the squatter housing production.

3.3.1. Dialectical Relations

Throughout the definition of squatters made in the first part, it is seen that the process of squatting, starting from an arbitrary moment in time, has created a number of effects both on the socio-economic and cultural patterns and on the physical environments of the urban context of an underdeveloped country. At a general level of analysis the process of squatting was due to the contradictions of a development policy which created an unbalance in the economic developments of rural and urban areas, at more specific levels the consequences of these unbalanced aspects were reflected within the production processes of both the rural and urban populations. And again from the analysis it became apparent that mechanistic investigation of the problem was not sufficient to define the causes because the processes creating the problem were not linear. At present the authorities consider the problem in an isolated context without any consideration for the dialectical interactions of the variables involved. Whenever
change in the existing relationships is made to stop the problem creating process, the process itself is also creating counter changes and adapting itself to the new conditions and continuing to exist. An example of this dialectical interaction arises with the demolition of a squatter house or an area which neither eliminates nor stops the process, but restarts it and prolongs its duration.

This suggests that the problem of squatting has a dialectical nature and the solution should have a dialectical nature as well. That is to say the solution should fit to the problem context. This naturally does not eliminate the possibility that the goals of the two processes creating the problem and providing a solution might be contradictory and the continuation of the problem-solution interchange could lead to a conflict situation. If one accepts that a conflict is better than the continuation of a problem situation it is essential that the two processes and especially the solution process should provide alternatives which are flexible and which will eliminate unnecessary conflicts. This can be possible with an understanding of the continuously changing counter processes.

If the problem is accepted as one which has its own potentials as a production process where the creative productive features of a society are recreated, where production is not commodity orientated and where a social and individual consciousness is developed as well as a material product, then the dialectical mechanisms of the proposed process become much more significant than the finished product. (208)

3.3.2. Causes and Effects Relations

Second condition to be satisfied arising from the characteristic

208. See the diagrams in the last section on the transition from 'is' to 'ought to be' and its internal cycles for product realization and gaining consciousness.
of this dialectical nature of the problems and the solutions make it necessary to consider the proposed causes as a whole in order to be able to foresee the probable reactions that would be created at the problem source. If the problem were a linear one then this requirement could have been easily satisfied. Yet because of the complex structures of the causes creating the problem system the effects creating the solution system become more probabilistic. The structuring of the problem by the designer with consideration to all relevant aspects and the inclusion of the activities of other disciplines within the same framework should minimize the probabilistic character of the situation. This does not mean the creation of a closed system where all the inputs and the outputs could be pre-determined because it would create a new problem situation due to the segregation of the designers of the solution system and the integral elements of the problem system. Proposals made in the development plans and their unsatisfactory implementation could give examples where the problems and their solutions are defined as closed systems. (209)

Therefore, in the proposal for the definition of a policy that has a place before the start of a design process, causes which create the problem are not considered with their surface values

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209. This becomes apparent in the development of industrial production which has the outwardly expressed aim of providing the society with more and better goods appropriate to a higher standard of living. (Although the maximization of profit is also expressed, the seemingly social end of raising the standards justifies the means.) Yet for this end "as the commodity becomes universally dominant", and "as the labour is progressively rationalized and mechanized his lack of will is reinforced by the way in which his activity becomes less and less active and more and more contemplative. The contemplative stance adopted towards a process mechanically conforming to fixed laws and enacted independently of man's consciousness and impervious to human intervention, i.e. a perfectly closed system, must likewise transform the basic categories of man's immediate attitude to the world."

Lukacs, G. op. cit. pp. 89-90.
such as the number of dwellings needed) but are regarded as interwoven processes which have a number of social, cultural and psychological aspects. The effects designed for these causes are also considered from the point of these aspects as well as the material ones. Yet it is also important that although the problem is revealed through physical objects the provision of physical solutions will have a marginal significance for the source of the problem is not that physical object but the mode of production that materializes it. In other words it is the process which creates them. It was due to these considerations that the significance of squatting as opposed to the formation of slums was accentuated and the role of this productive initiative with its loss in urban-industrial contexts was considered for the definition of a production process where both design and the consequent aspects due to its politico-economic nature, was tried to be defined in the first part. Furthermore, the loss of this productive initiative in the urban industrial contexts was considered due to its effects on the design and production process which is the cause of further consequences due to the politico-economic nature of design.

Let us now consider these designed causes and effects at two levels; the first is the open ended design and production at dwelling scale where the user is able to utilize his own design and construction decisions and develop his productive and creative abilities. And the second is the feedback mechanism of the whole process which enables the user to gain an awareness by participating and becoming effective in the control of productive forces related with squatter housing production. (210)

3.3.3. Quantity Quality Relations

Thirdly we have the nature of the stages in a transition from one

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210. Some of these processes are already existing (see Part I pp. 26-27, 31-32 for organizational aspects and Part II pp. 74-81 for products and production) and for a more detailed description of the proposed process see pp. 183,188.
state to another. In other words the accumulations of one character at one stage change into a new character after a certain point. This transition is generally defined as the accumulation of quantitative features which bring a qualitative feature. Although this character of change has not been necessary for all branches of scientific investigation the definition of quantitative and qualitative characteristics is a helpful tool in cases where specific definitions are not present. In relatively value free disciplines it is possible to find quantitative characteristics relevant to all stages of change and it would be unnecessary to define a qualitative difference as distinct from the quantitative ones. But in others because only the principal characteristics of the subject of investigation is known it is not possible to define the behaviour of each individual characteristic to quantify the change. Social changes and the emergence of squatters is an example of this. Due to the transition to an urban context goal achievement and integration of squatters as a result of a numerical increase change from characteristics of individual significance to characteristics of social significance and gain a new character which we call qualitative. This is due to the class characteristics and political nature of the problems of the urban context for goal achievement, and due to the development of consciousness of class structure for integration (see pp. 57-59 and 62-63).

The effect of changing quantitative characteristics on the formation of new qualitative characteristics is also related to the way in which a situation or a problem is perceived. "A change may be qualitative in respect to some (less general) properties, and more quantitative in respect to other (more general) properties .... Any process of development is at the same time both continuous and discontinuous. Discontinuity appears in the form of a qualitative leap, and continuity in the form of a
quantitative change. "(211)

Furthermore a specific stage of a process can be defined by both quantitative and qualitative characteristics of it. Quantitative characteristics in a process of change include the characteristic relations and elements of both the previous and the subsequent stages.

This leads to a theory of development which connects the two aspects of change. While in the first phase (evolutionary) small, individual, quantitatively definable changes take place, in the second phase (revolutionary) as a result of changes of the evolutionary phase a sudden change which involves all aspects of the previous stage takes place.

Numerous examples could be given for this nature of development and the most appropriate is the one related to production where there is a continuous development and the stages are often defined with the purpose of change of quality. With the development of the means of production and the expansion of this development to all areas of production, an instantaneous change in technology was brought about with the industrial revolution and the related qualitative characteristics of it.

This nature of change is also seen in both squatter housing and in industrial housing production and the analyses made in the first and second parts show these qualitative differences.

In the case of squatters while at first the individual families faced with a housing need were confronted with individual problems which they had to solve by individual means, now the quantitative increase of these families has provided the means for a potential that could bring a qualitative change.

On the other hand, the development of housing production / technology

technology to a state at which all the available resources could be utilised for maximum production has brought with itself a physical environment problem that can only be solved by a qualitative change and the means for it are the potentials of the context that is ready for this.

3.3.4. Contradictions

Finally, we have the principal condition for the existence of dialectical processes namely the contradictions between the different aspects of either a thing or a situation. Because a brief description of the role of contradictions is given in Appendix II here their significance from the point of their relations to productive activities and change will be defined.

Every productive activity is for the elimination of a set of discrepancies that are prevailing between the existing conditions and the expected ones. Yet these discrepancies should always be considered at two levels, one belonging to the context of a problem situation and the other to the specific problem itself.

But before going into the characteristics of these two levels we should state that contradictions, as opposing aspects of things and phenomena have two features defined as the universality and particularity of contradictions. Universality of contradiction arises from the fact that "it exists in the process of development of all things" and "that in the process of development of each thing a movement of opposites exists from beginning to end". (212) Particularity of contradictions, on the other hand, is determined by the particular characteristic of each single process and within these characteristics there is one which is central to the others and is called the principal contradiction. (213)

These two features are based on the understanding that every system is a continuous process of change and the structure of the system is formed by the interrelated processes.

The first of the two levels mentioned above, and the mode of tackling the problems with regard to this level creates the dialectical nature of the handling of the problem, because the interactions related to this level create a two way relation which continuously holds the tie between the specific and the general, between the form and the content, between the quantitative and the qualitative, between the practical and the theoretical and above all between what "is" and what "ought to be".

Whether under the influence of designed causes or not everything goes through a process of change and the causes of this change are the causes of discrepancies mentioned above. Human intervention to this process of change, then, should provide such a hierarchy of goals that the product of the process - which can be a state arrived at or an object obtained or both - should not create a conflict with the states that could have been arrived at if the intervention had not existed. This, of course, accepts the fact that the processes beyond human intervention are in mutual harmony both within themselves and with the contexts within which they exist.

So, if we consider a natural change (which is free of human intervention) then the two aspects, one preserving the existence of a thing and the other providing the conditions for its adaptation to the changing external conditions are in operation. These two aspects, therefore, are due to the relation of the thing to itself and the relation of the thing to its context, and the process of change could either start with the change of the context and force a change on the thing or could start in the thing and force a change of the context.

A thing within a context, due to the changes that take place in the context, develops new relations with the context which are contradictory to the nature of previous relations that are within the thing itself and which had provided the previous form or state of the thing. While the relations that are within the thing...
are at a balance (for the thing at this stage preserves its integrity) they are also confronted with relations that are without. Therefore, we have two types of relations and two types of contradictions. While both the thing and the context have internal relations they also have internal contradictions due to the nature of these relations. On the other hand, there are relations between the thing and the context, and they create the external contradictions.

Contradictions arise from two (negative and positive) aspect characteristics. Within a natural process as a result of an accumulation of new characteristics and therefore new relations, the positive characteristics, in time, gain such a power that the internal relations give way and the thing reaches a new state. Again in natural processes this new state can either be more developed than the previous one or inferior.

When we turn to processes that are subject to human intervention or are artificial in their totality, the role of contradictory aspects become even more important. Firstly, because in the final analysis the designed processes are also operating and existing within natural processes, the designed process must be expedient at least within a predictable time span. Absence of this leads either to the rejection of the designed process by the natural ones or, if the designed ones are in surplus of the natural processes, to the creation of an unbalanced state which could even lead to the formation of natural but destructive processes. (214)

In view of the contradictions belonging to the internal relations of a specific problem, because the designed process by itself

214. While microbial diseases created by chemotherapy provide examples for the rejection of the designed process by the natural ones, the effects of environmental pollutants are examples for the inadequacy of the natural processes to eliminate the harmful effects of the designed processes.


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should maintain a wholeness between various elements and characteristics, consideration should be given to the relations that are internal to the process. Unless a designed process has resolved its internal contradictions and has created its own equilibrating processes, one should not expect from that process to create a change in the external relations - that is relations with the context and within the context. The seemingly paradoxical situation, on the other hand, created by the demand for both an equilibrium and a change within the same system, is resolved by the design of not a state but a process. The states of the products, therefore, are the temporary forms obtained by the process which in reality is the content of those forms.

While this is true for the systems that are to be designed, it is also a necessary means for the analyses of the problems involved. And it was due to this reason that the analyses of squatter housing formation was carried out at two levels. Firstly from the point of an individual's means and relations. And secondly from the point of mode of production to identify a process of change and the role of contradictions within this process when as a whole the process is not subject to human intervention (in the form of social planning) but is only the sum of individual purposeful activities. Yet it is obvious that however purposive the individual activities are, they are not able to provide a comprehensive change unless the goals of the activities are tackled as a whole. This holds true both for the nature of contradictions (where different types of contradictions belong to different aspects of a system of processes) and for system characteristics. The primary characteristic accepted by all system definitions is that within a system the whole is more than the sum of its parts and that this is due to the structural or organizational characteristics which create the dialectical relationship between the parts and the whole by way of not only elements and relations but processes as well. The nature of individual changes in means and relations is related to
the internal contradictions of squatters' social and physical environment. On the other hand, the nature of social change in means and relations is dependant on the principal contradictions of both the immediate context of squatters' social and physical environment and the total context within which this environment is existing.

If we turn to the discrepancies of a specific problem situation the designer of a new system will be confronted with a number of paths depending both on the type of change that is expected and the nature of contradictions that are prevailing within the context of the problem. Type of change is determined by the distance between the above mentioned existing and expected conditions or the phases that are envisaged for the transition from one to the other. Nature of the contradictions, on the other hand, determines the available alternatives and strategies that would bring about a solution. Due to the existence of various scales of problems, like the scales of design and planning activity, the contradictions' relation to the principal one also differs. What is significant is that all contradictions are related to the principal contradiction and the productive activity should always be directed to it. This would be realized either by the direct effects of the productive activity on the principal contradiction or by the exposition of the secondary contradictions that will lead to the strengthening of the principal one. What would be misleading is to accept the principal contradiction as the only goal and to refrain from engaging in the others. (215)

As an example the real problem of squatters in an underdeveloped country

215. Economism, which is based not on the principal contradiction but on one of its appearances, is an example of this. It relates social change to the change of economic structure and expects that the change of this superstructure element will change the substructure spontaneously (see super and substructure definitions pp. 132-134).
country would make it possible to define the nature of the prevailing contradictions of the process (for the contradictions of the social classes related with squatter housing see pp. 42-46).

In the process of squatting the principal contradiction arises from the existence of private property and the social need for housing and this leads to the formation of secondary contradictions. And an example of this arises with the squatters' changing into property owners as a result of distribution of titles, and also shows the contradictions of the total context due to the relations of squatters with the public authorities. The secondary aspects of the principal contradiction, on the other hand, result with the formation of characteristics like alienation, lack of fitness between products and needs, retardation of constructive productive abilities. These characteristics find their expression in physical form, socio-cultural patterns and psychological characteristics, in other words, in the material and non-material culture of the society and in the personality structure of the individual.

Solutions, trying to change these expressions, therefore will always be limited as long as they dwell upon these aspects without relating them to the principal contradiction.

It was due to these considerations that this study of housing problem was undertaken within the prevailing mode of production in order to be able to indicate relevant changes both in the physical

216. The social nature of housing need strengthens the contradictions even more, for the prevailing mode of production is mostly profit oriented (95%).

217. Loss of intimate social contacts in urban residential areas is a problem accepted long ago. Solutions to eliminate it are bound to be unsatisfactory as long as they try to re-establish the contact at the point where it manifests its absence or presence. Alexander's proposal for the provision of some means of physical form to establish these contacts is an example.

3,3,5. Conclusions

As a final summary to the conditions to be satisfied, we can make the following conclusions.

- In order to satisfy the requirements of dialectical relations the proposals for the problems of industrial housing should be directed initially to the creation of a process rather than a product. And the process should provide the simultaneous operation of both the technological structure elements and the sociological relations (see p. 183).

- Due to the complex cause and effect relationship patterns of the problem and due to the probabilistic nature of individual needs the solution systems - in order to satisfy dialectical requirements as well - should utilize open-ended processes and provide feedback mechanisms through which the individuals will attain a higher level of consciousness by production.

- For the provision of a new qualitative state the quantitative potentials created by the previous stages (like industrial production and the experiences gained by squatting) should be utilized.

- And finally for the transition from existing to expected conditions, the design and production processes should concentrate on the contradictions of both the specific problem and its context. Furthermore, the solution systems should be provided with the means to direct the whole production process (both material and conceptual) to expose the principal contradiction. This, from the point of housing and physical environment, is a central question due to the ownership patterns of land and the size of available resources (i.e. means of production). Although housing is not regarded as an economically productive sector, the principal contradiction of a mode of production may quite possibly reveal itself through this field of activity. An example of this is the individual ownership of land. Although it can not be produced,
due to the principal contradiction between individual ownership and social need, it can have a continuously increasing value.

3.4. Characteristics of Means

Here, we shall define the characteristics of two of the means available for the realization of production and therefore the transition from "is" (existing conditions) to "ought to be" (expected conditions). These are design information and production processes although they are not the only essentials. Number of other requirements could also be listed, and the first of which would probably be the material means. Yet it is our conviction that these two are the only ones that are significant for drawing up a design policy. Although both information and production processes should reflect the true context conditions, at present what is being produced in all parts of the world is essentially the same in terms of their formal characteristics. For example, despite the tremendous gaps and differences between the context conditions represented by Turkey and UK, the material products produced in both are the same. In other fields of production (that is other than architecture) this is due to the monopolistic nature of capitalism but in architecture, which could be free from this coverage, due to its locality based characteristics, it is the reflection of world wide standardization and assimilation by capitalist production on the socio-psychological and cultural variations. In other words, the expansion of markets on a much larger basis and the flooding of these markets with products of a production process that is alien to local characteristics is eliminating the cultural values and variations that had developed through centuries.

Therefore if we leave aside the material means for the purposes of this study, and concentrate on information and production processes in general, a theoretical structure defining the nature of these processes can be developed. And furthermore, since the material resources will also be introduced to the process in
the form of information, the theoretical structure will always be able to accept such means.

3.4.1. Design Information

Design information includes all aspects of both the context and the specific problem. As the amount of information relating the context to the specific problem increases it becomes more probable that the solution will be more fit to the conditions of the context. Yet increase in the amount of information also leads to the difficulties of handling it. As a result of an exceptional increase in the amount of information, search for methods with which this information can be utilized began, and provided tools especially suitable to planning scales and quantifiable design problems. Development of planning and engineering design methodology is an example of this. Then began the realization that neither the amount nor the method of processing had any validity as long as the content of information was not relevant. (218)

Solutions based on this information, processed by the most rational methods, provide a fitness that is significant only within its own accepted limits of reference and these limits usually exclude long range views and, to a lesser extent, immediate socio-cultural variables and individual needs.

In view of these considerations it becomes essential to treat different types of information in different ways and produce products accordingly. Then classification of information becomes essential, despite the difficulties arising due to the possibility of alternative patterns of classification. In order to eliminate some of these difficulties, first the scale of the design problem will be defined then information relevant to a specific problem will be considered from the point of five possible types of classification.

Both in classification according to scale and in the five types of classification of information relevant to a specific problem, (see p. 165) some points should be considered in order not to create confusion and not to eliminate the chances for the satisfaction of four conditions necessary for change.

3.4.1.1. Scales Related to Design Information

All planning, design and development activities belong to two scales; one of which is related to implementation and the other to the nature of decisions. The segregation of the two is due to the existence of contradictions between two parties in a single context and each trying to achieve different goals.

The implementation scale also represents a physical scale and has the three basic parts of planning, design and development. Development, here, is not the development of design and planning but an implementational one related to the final realization of a policy.

Planning scales are generally defined as
- national
- regional
- metropolitan
- town.

Architectural design scales are concerned with
- building complex
- building
- components and systems.

Development scale directs focus onto
- materials.

These scales represent a distribution of tasks and create a process of specialization within which information relevant to each scale is both created and utilized within the scale. Because the whole is not the primary concern of each individual scale (except the national plan scale) the sum total of all individual scales
scales' activities produce a whole which is not totally pre-planned or designed. In other words, the total development is left to the arithmetic sum of individual developments.

On the other hand, the levels determined by the nature of decisions also represent the nature of change that could be implemented. These levels are represented by the following - policies - plans - programs - projects.

While it is possible to achieve great changes through policies, rational decision models employed at project level are only able to provide small changes through repetitive administrative and technical decisions.

Specialists functioning within this system also represent a similar hierarchy, and the segregation of macro and micro scale decisions and their implementation results in a sum of disjointed activities, whose contribution to an overall development and change is highly questionable. In the case of a centralized planning and design structure, the levels at which the macro decisions are made usually find themselves in such a state that they are neither flexible enough to adapt themselves to continuously changing conditions nor sensitive enough to comprehend the multiple goals of the parts of the system including the individuals.

This creates a contradictory situation due to the need to have a centralization of decisions to be able to consider the totality of relations, and a decentralization to be adaptable and to be able to consider the individual cases according to their individual goals.

The contradiction can only be resolved by the creation of control mechanisms not at the macro scales but at individual levels by engaging in 'conscious activities' that will provide a coherence between the goals of the total system and the individual. This means
means that the contradictions and antagonisms between the parties related both to higher levels of decision making and the lower levels of implementation must be resolved.

3.4.1.2. Classification of Design Information

Classification of design information becomes significant not only due to the factors stated above but also due to the fact that the conditions, which can create the above defined objective of conscious activities, can only be the outcome of a process of change that involves all aspects of production and social relations. Starting from any level of development the attainment of consciousness is only possible through production, and production that is gainful with the two outputs mentioned earlier has to be based on the existing conditions' potentials. Therefore, the information which transfers these potentials, and its utilization becomes an important means for the formulation of a policy that will be able to bring forward a change and will be free from the vicious circle of repetitive administrative and technical decisions.

It has already been shown (2.3.3.) that specialized production and extreme division of labour hinders the development of consciousness through alienation, and that this, in design, is through the alienation of the designer both from the product of his labour and from the context from which the product will acquire its use value. In terms of the information used by the designer this process of division of labour → specialisation → exchange value → alienation clearly shows its effects both on the designer and naturally on the product. A process, that is solely directed to the rational use of information, is not able to close the gap between the things that are expected of the product, the production process and the social context where the products and the processes exist. Although when development is considered with the totality of social, economic, cultural, political, historical and other aspects, it is possible to find other tools that could bring a process of change. This, with
regard to design is design information about the context, and the production process that bridges the gap between the society and the designer.

Five methods of classification of design information, which have been referred to previously, have the purpose of defining a possible grouping of characteristics. The problem is to decide on one so that its use within the present conditions of squatting, will enable the designer to work with the squatters to exploit the contradictions of the context. To achieve the latter, it is essential that the parties related with production should not trespass upon the others' area of decision making. Yet this should not be through the creation of rigid limits but by encouraging direct participation of the two sides. This, on the other hand, also eliminates socially irrelevant specialization and exchanges alienating division of labour with mutual exchange of help.

If we turn to describe these possible types of classification they are according to the:

- disciplinary characteristics,
- scalar characteristics,
- quantifiable, unquantifiable characteristics,
- general and particular characteristics,
- objective, subjective characteristics.

Some of these define strict boundaries between their groups, thus leaving no area of undefined information. Some others are probabilistic relative to time and space. And furthermore the classification pattern of information should not hinder the four conditions, mentioned earlier, that are essential for the realization of a process of change. There are a number of cases of decision making where, for example, for the sake of quantification, crucial information relevant to the principal contradiction was discarded.
discarded, or for the sake of objectivity subjective observations of the inhabitants of an area were not considered.

These five basic methods of classification which obviously do not include all of the possibilities are described as follows:

1. According to the disciplinary characteristics.

These are represented by the interaction of various scales of implementation with various stages of investigation. Scales of implementation are similar to the scales of planning, design and development described in the scales related with design information (3, 4, 1, 1.) and namely are the national, regional, metropolitan, town, building complex, building unit, components and systems and materials' scales. Scales of implementation on the other hand range from pure research to implementation and has the intermediary stages of applied research, development, design and production organization. Furthermore, when these scales are represented on a row and column form and ordered from general to particular, various disciplines cover areas which are both wide in range and frequently overlapping with each other as is seen in the following chart.

This interaction among disciplines is fruitful from the point of people participating in planning and design of the physical environment, but from the point of the users of this environment is not able to provide distinct classes where the information relevant to the different aspects of a context can be put. Despite this limitation this method of classifying and processing of information is widely used.

219. From the point of the social conditions in suatter areas none of the cultural, sociological and sociopsychological characteristics are investigated and attention is focused on quantifiable aspects (like sanitary, educational conditions). The provision of schools with no teachers, health centers without equipment or staff are the examples of this negligence.

220. The diagram representing the relations of various disciplines and their scales of implementation was produced as a result of (see over)
2. Classification according to the scale of the specific problem.

This is a further step of the previously defined scales (see p. 162) that discriminate architectural, planning and developmental activities. This, in other words, is the subdivision of a system into its subsystems and designing each subsystem so that it can deal with information relevant to the appropriate scale. There are two ways of achieving this; one is to design the subsystems within the context of another system, define the boundaries of the parts of various subsystems within this context and let the whole system be composed by the elements of the second system. The other is to design the elements and provide in them the means to combine with the other elements to form the whole.

An example of this classification is given below for one of the elements of a dwelling unit.

If a dwelling unit is composed of a structural, spacial, heating, ventilating, sanitary, lighting, and power systems, then each is designed according to its own constraints and with information relevant to it. Then the design problem is mostly that of the design of joints problem. Industrially produced subsystems like heating units, sanitation units are examples of these.

3. Classification according to the quantifiable, unquantifiable characteristics.

This method of classification has a number of advantages if it can be realised together with some other methods of classification. The main advantage of this approach is due to the possibility it creates for the definition of type of information that is significant within a process of interchange between the

/ designer,

220. (Cont'd.) discussions with the members of the various faculties of Middle East Technical University with regard to the educational policies of the faculties involved. Although the purpose there was educational it also represents the fields of practical activity.
designer, the product and the user. What is quantifiable can be left to the use of the designer if it can also be the representative of general and objective characteristics. Although quantification can be possible at more specialized levels - which are closer to implementation scale - it is not possible to be sure about the usage of this quantification in assessing the objectivity of more general definitions. These properties will be more explicit when the other modes of classification are considered in the light of the characteristics of a production process.

4. Classification according to general and particular characteristics.

This is especially significant in the case of housing design where individual and social realms intersect. The general covers information that is representative of the social and physical contexts of the problem and also creates a distinction between the socially and individually used elements of the physical environment. Furthermore, some design factors of both social and physical origin have particular characteristics which are due to the micro scale personality characteristics of the social factors, and according to the characteristics due to the individual locations of the physical factors. (See the list of design factors in Appendix III.)

Therefore, general characteristics of design information is due to the social and physical nature of the problems. Yet this does eliminate the need for individual solutions within this social and physical context, and classification of information with consideration to these aspects of the problem provides means for directing the conceptual tools to a production process, that is both individually and socially relevant.

5. Classification according to the objective and subjective characteristics.

Objective and subjective, in this classification, is related to the designer and the user of a product. Yet it is also necessary to define these characteristics by means of the other methods of classification
classification because objective and subjective are not absolute categories.

User of the product could also be the user of subjective information and that which is produced by the designer as the user of objective information should not be a finished product and should provide the means for the realization of the subjective decisions of the user.

This classification, on the other hand, is also related to the quantifiable unquantifiable characteristics although all of the unquantifiables are not subjective. Through practice subjective information is also objectified and with the process of gaining consciousness the nature and characteristics of the previous stages are more objectively evaluated.

When the content of design information is considered with regard to various scales like society, community, family for social aspects and like regional, macro and micro environments for the physical aspects from the point of problems tackled in this study classification according to general and particular characteristics seems to be more suitable. This, on the other hand, should be supported with some means of control such as using quantifiability and objectivity for determining the general.

Since the product of this classification will be used within a production process we should at this point define production processes and make a projection for a possible change.

3.4.2 Production Processes

Here we shall briefly describe the nature of production processes from the point of our interest. The social and cultural nature of the processes were defined earlier with the industrialization and urbanization of the rural societies. The purpose here is to generalize about their technical characteristics so that the proposed process will be easier to define and will be able to show
its transitional characteristics for changing the prevailing mass production for masses, to individual production for individual needs.

Production is realized through the utilization of two resources by human labour. These resources are information and materials. Information processing produces design, material processing produces products. Information belongs to three sources: society, nature, man. Until industrialization information sources effective on the product were nature and man - man being totally integrated with society although the field of relationships was small. With industrialization this socially integrated man was replaced by an abstracted generalized notion of society.

This has significance from two points. Firstly, the origin of information has shifted from man to society and secondly the control of the processing of information has transferred from craftsmen to specialists. As a result of these changes the significance of the user for the decisions of design and production became negligible. This situation will be defined as mass production for masses, where the designer processes the abstracted information of social and physical origin and produces a project according to which a material processing process produces a finished product which is not sensitive to each individual user's subjective information.

While this has been the case since the beginning of industrialization, other developments \(^{(221)}\) in the line of automation were also

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221. "We have, potentially, a production system with heavy industry capability which can produce two-of-a-kind as easily and cheaply as 100,000-of-a-kind .... To put such a tool to work effectively we must relate it to the larger system of which production is only a part. By further developing both tool control software systems and the computer applications being studied by design methodologists we can work toward direct dialogue between user and production system. Presently, NCMTs need 'part programmers' to translate drawings onto tape, although examples do exist of direct dialogue between design computer and (see over)
beginning to show ways which would change the nature of this process in a number of ways. One of these changes provides alternatives to the problems discussed here and utilizes the two sources of information simultaneously before the material processing commences. Although, especially for the production of housing, this might seem as a far away dream, its general characteristics are significant and can be represented by the following diagram where the two sources of information - the designer and the user - one embodied with technical, physical and general information and the other with information on the particular aspects of a problem.

![Diagram](image)

\(\text{CRT} = \text{Cathode Ray Tube}\)

Furthermore, two points should be mentioned about this process.

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221. (Cont'd.) NCMT. GM's DAC system is one example of this extremely significant development.

Work is in progress on the following techniques, all of compatible with the concept of user/production dialogue:

Conversational modes to allow client participation through direct computer access.

Simulation techniques to display any aspect of form, light, colour.

Integration techniques to accommodate changes and alert designer and client to their consequences.

Cost-effectiveness programs to show cost per unit of performance."

The first is that it enables the recreation of the user/designer relations of the craft,technologies with the added advantage of quantitative increase of the number of products being produced. On the other hand, as long as it has a finished product at the end of the process, the product is still not sensitive to changes that will arise through usage and will not be able to provide feedbacks to the appropriate stages of the production process. This can be provided only if the end product has an adaptability, otherwise the processes' adaptability is limited and advantageous only during the production stage. A process of this kind may be described as individual production for individual needs.

The transition from mass production for masses to individual production for individual needs is of significance from the point of newly industrializing societies to prevent them from falling into "the dreary boredom and dehumanization of personal relationships" (222) that accompanies industrialization in all western societies.

In the proposal for transition from mass production to individual production the process is divided into two distinct phases and this involves both design and production stages. In the first phase, design information that is general, quantifiable, objective and mainly of social and physical origin is processed by the designer (here the utilization of contradictions play an important part and will be discussed later). When this is applied to material processing the product is an unfinished one, its boundaries are defined and it is a subsystem. This is the materialization of information of social and physical origin, (223)


223. Information of social and physical origin includes the effects or constraints created by macro scale definitions relative to the scale of the design problem. These involve the allocation of resources, priorities in production, expected situations due to the other fields of production and their projections, (see over)
processing of which has complex characteristics and is the subject of an appropriate discipline. Then the user with his particular, subjective and unquantifiable information composes the system with the subsystem elements produced previously. At the end, a finished product representing both social and physical conditions and individual demands is created, and is adaptable to a wide variety of forms according to changes in time and usage. (224)

223. (Cont'd.) population, etc. In short, they are the decisions relative to national, regional, metropolitan and town planning scales. This classification is given at the end of Appendix III where the design factors are listed and defined according to their relations to various scales of implementation.

224. This model for housing design is similar to that of Ashby's "cybernetic model" where the system is "open to information but closed with respect to entropy" transfer."


The design information is bisected as those related to the partial system namely the elements and those related to the final system formed by individual considerations and change in time.

\[
\text{Designer's Information} \quad \text{User's Information}
\]

\[
\text{Closed System of Elements} \quad \text{Open System of Element Composition}
\]

Dwelling composed of two systems of elements and composition

(x) Entropy expresses the probability of a state of a system, and the growth of entropy implies the transition of a system from less probable states to more probable ones. This is also related to the scale of the system. The concept of entropy derived from the second law of thermodynamics loses its applicability either when the system is too small (which means that it is bound to be the subsystem of another and thus can not be closed) or when it is too large (see over)
This, we shall represent with the following diagram:

![Diagram of design process]

This process can be compared to a number of other proposals one of which is the Beck's model, represented below:(225)

```
Design nucleus

Techniques

Materials, etc.

User requirements

Materials, components and devices

Manufacturing process

Equipment

Information flow -------- Material flow
```

This regards "materials, techniques and user requirements" as similar

224. (Cont'd.) where infinite number of elements interact and the system's approach to a more probable one loses its meaning.

Rosenthal, M., Yudin, P. op. cit. p. 143.

similar in terms of their origin and in terms of their location in
the theoretical structure of design. This may be true for
electronics design but for architectural purposes the nature of
these three sources gain importance for they embody different
characteristics when utilized as decision tools. In architectural
terms their social and psychological status can not be disregarded.
Negligence of this content will result in the rejection of the product
by the society or, if it is not rejected, will result in various side
effects discussed earlier as alienation, consumption and exchange
orientation. (226)

With regard to the produced physical environment, the proposed
process has a close resemblance to the process of self-help,
do-it-yourself experiments or the proposals made by Habraken (227)
except that the first two approach the problem from the labour
costs point of view and try to utilize the conditions created by the
acute need for an immediate solution and for the third the
motivating force is the disunity between the architect and the user.

None of these consider the problem within the totality of the
prevailing modes of production and therefore never direct attention
to the socio-cultural aspects of these environments or to the
social relations that arise from a particular relations of
production.

When these are considered the characteristics of the individual
contexts and their potentials for change bring a totally new aspect
to the problem. Self-help and do-it-yourself approach the
problem with consideration to only a specific group in the society

/ and

226. The handicaps of most cases arise from the assumption that
what is defined as user requirements are real, objective
requirements without accounting for a number of factors which
condition the unconscious user to a specific state. Packard gives
plenty of examples of this conditioning.

Packard, V. op. cit. 1968.

and this group is almost always composed of the underprivileged of the underdeveloped countries and the solutions seek to provide these people with shelters without changing their underprivileged status. The contribution of the architect to the process of production is limited to the extent that the process will provide only a physical product, and from the point of their level of consciousness no change takes place and their deprivation is continued despite the provision of some material goods. \(^{(228)}\) This can even be extended to areas of production other than building where the cost of labour plays an important part and the products are provided in an unassembled form. \(^{(229)}\)

In none of the processes a change is envisaged and the flexibility and adaptability of the products (or subsystems) is in most cases nil.

In a similar fashion Habraken's principles are also aimed at changing the nature of products without changing the whole process that is responsible for the present state. The difference from the self-help and do-it-yourself is that it is in a more sophisticated form and that it is envisaged for the conditions prevailing in an industrialized western society, forgetting that this stage of industrialization has also brought with itself a number of other characteristics which can not be changed with only a change in its physical structure.

All this leads to a need for change that is integrated with the processes of design and production, and will have its significance

\[^{228}\) This is also the case within richer societies where the deprived even possess cars, houses, television, etc. The case of the two workers described in note 179 is an example of this.

\[^{229}\) This extension leads to the condition of underdeveloped countries which are not allowed to establish their own industries but are provided with assembly plants where products of the industrialized states are brought in kit form and assembled with cheap labour.
under all conditions and within all contexts of change.

When what is expected from a solution is put in these terms then the essential element in all process of change, namely the contradictions existing in problem situations become important. Therefore, their way of utilization for the design process should be put forth.

But before going into that let us once more turn to the process of self-realization, for without it all processes of material production will have no relevance in the overall development and change of man and his products; whereas this should be the primary aim of all design and production policies.

3.5. Process of Self-realization

When the mode of production of rural contexts was discussed, self-realization was defined as one of the byproducts of the relations of production. The development of the relations of production was introduced as the motivating force for the self-realization of man.

When considering the development of production processes it becomes essential to review the problem once more but in a wider framework. When the three phases of production were defined the emphasis was on the development of the material product. This starts with the education of all the parties related with production and goes through all the stages of involvement with the process. Because all professional activity is directed to a production of one kind the negligence of the immaterial aspects of the production process makes itself visible in all kinds of activity. Yet in some fields the distance between what "is" and what "ought to be" is small and in some others it is vast. Whereas the distance should not mislead one for the goals of the total productive activity.

230. It was this misconception that had led Engles to the conclusion that the provision of better housing to the proletariat would lessen their zeal for bringing about a revolution.

Products, on the other hand, as physical entities are not the direct representatives of the discrepancies existing between what "is" and what "ought to be". From the point of self-realization what "ought to be" naturally includes not only the effects of the production process on man but also the expected qualities of products as well. The designer is not able to provide a total description of the expected material products that will be fit to the context, neither is he able to define the future state of the self-realization process. Yet what he can do is to start the process and take part in it with his production just like all the other members of the society - with their productions and their own specific moves from "is" to "ought to be".

The requirements for the materialization of this process, on the other hand, are complex and specific according to the individual conditions of individual production activities. But in general it is nothing but the utilization of relations among the context conditions both from the point of conforming and contradicting relations. Since contradictions themselves are the causes of and the effects for both the existing and expected conditions, then conforming relations are nothing but the sum of resolved contradictions of the previous stages. Furthermore because contradicting relations are the only means for a transition from one state to another and because creative and productive activities are the only processes where man's total relations between self and matter are involved, then it is inevitable that the self-realization of man will materialize through involvement with the contradictions within a productive process. Since design is where the process is given an orientation then it becomes essential to provide the means of change at that stage.

3.6. Structure of the Production Process and the Utilization of Contradictions

At the end of the second part the production activities of a society / were
were shown to be the expression of social and technological structures. The requirements for the realization of change were formulated as the creation of a process of production representing a specific ideological structure which has been shown to be the product of a substructure defined by the relations of production and forces of production (see p. 133 for the diagram of relations). The significance of this production process is that it is also a process of change instead of being a process representing a series of repetitive cycles which do not impose a force on the context within which it is operating. Here, we shall describe this process of production and change.

Every production process, whether designed with that purpose or not, has two outputs which are the material products and the awareness of the nature of the production process. This is due to the fact that the process which creates a product is also a product itself. Thus a production process utilizes the elements of the society's substructure (i.e., sociological and technological structures) for the creation of these two products: 1) a physical environment and 2) a consciousness of the nature of the production process.

The process of gaining consciousness necessitates the individual's engagement in direct productive activity. The scope of consciousness is also related to the variety of productive activities with which the individual is involved. Since consciousness of the nature of production process is attained by an awareness of the complex interrelationship of the constituents of a process and by the principal causes of this interdependency, the only means of knowing the nature of the production process is a multi-directional approach to production instead of a single-directional one. An awareness based solely on abstracted information (obtained only through indirect theoretical studies) has a limited significance due to the fact that it can only consider a part of the causes prevailing in the real world. The case of extreme specialization is an example of the effects of the alternative process where despite the full

/ knowledge

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knowledge of a specific field the individual is unable to establish the relevant relations to have a total consciousness of the nature of the mode of production.

Awareness of the relations of production in terms of housing is an awareness of a number of patterns and structures; such as the awareness of the patterns of ownership of land, materials and tools of both a material and conceptual nature. It is the awareness of existing class structure and is the awareness of the significance of these patterns and structures on the process of decision making and creation. In order to gain this level of awareness it is essential for the individual to participate in the process. The act of participation has a number of aspects. First there is the question of absence or presence of participation. Because production is a social process, without participation there will be no basis for the creation of the social character of production, there will be an absence of a medium where the social nature of the tools and relations can be exposed and there will not be a socially significant process of creation or a process of gaining consciousness.

The principal argument against direct participation of the architect with the society for which he will be designing the physical environment is grounded on the supposition that a more intense involvement with the context will eliminate the possibility of him remaining objective. On the other hand if for the sake of objectivity all the internal relations of the community are discarded neither the process of production nor the products of the process will be of significance to the real needs and to the potential change of the society. There is however a means that will enable the objectivity of approach together with direct participation. It is the act of criticism and self-criticism. This will not only provide a test for objectivity but will also enable the creation of a process where both sides will have equal chances of participating in decision making and production. If both the architect and the society give each other the chance to criticise and if both parties are willing to / use
use self-criticism as a means to control their own acts, the grounds for objection to this apparently subjective approach will no longer exist.

Other aspects of participation are related to the forms in which it may be realised. These could be defined either as negative forms or positive forms.

Among the negative forms two distinct approaches can be seen. One of these is related only with the product. The process is of secondary importance and the object of participation in this case is to seek a different product within the conditions set by the prevailing processes. The other approach can be defined as a limited participation and it can be related either with the product or the process, but more importantly is not related with the interactions of different processes providing different products.

Participants are organized with the purpose of realizing a specific end and once this is achieved participation no longer exists. An example of this kind of participation can be given from the field of housing where the aim is the provision of dwellings and the participants are not concerned with the other problem areas which exist together with the housing problem and which are due to the same causes. A production process that employs participation only at this level without exposing social structure characteristics is a process that is using the participants as a tool. Similarly an awareness of the forces of production also necessitates the clarification of the nature of tools etc. that are employed and the patterns of ownership of these tools.

Positive forms of participation on the other hand are involved with both the products and the processes and furthermore are concerned with the patterns of relationships and forces that are responsible for the existence of different processes. Although the development of processes might in the short term give unsatisfactory products for the long term it guarantees the development of improved products as a result of the development of the processes.
If from this discussion of the requirements for gaining consciousness we turn to a process of production which has change oriented, participation based characteristics and which will focus on the two outputs (namely physical environment, consciousness of the nature of production process) of a production process we can represent it by the following conceptual model.

A SPECIFIC MODE OF PRODUCTION

Social Structure

- Who owns the land?
- Who owns the materials?
- Who distributes the titles?
- Who works where?
- Who are the neighbours?
- Who are the relatives?
- Who are the guests?
- Who lives where?
- Who came first?
- Who else will come?
- Who are the politicians?
- Who are friends?
- Who are foes?
- Who defines the rights?
- Who knows?
- Who shares?
- Who works?
- Who uses?
- Who buys?
- Who grows?

Technological Structure

- What is urban land?
- What is ownership?
- What are the tools?
- What are the materials?
- What are the methods?
- What is rural production?
- What is industrial production?
- What is construction?
- What is maintenance?
- What is recycling?
- What is growth?
- What is design?
- What is intuition?
- What are the systems?
- What is innovation?
- What is vernacular?
- What is improvisation?
- What are the rights?
- What are the rules?

Control Mechanisms for the Simultaneous Development of the Social and Technological Structures of the Society

Operations for Production

Creative Models + Decisive Models + Productive Models + Constructive Models

Built Environment
The two outputs of this process are a material product, which is the outcome of operations for production, and a consciousness of the social and technological structures of the social context. Consciousness of these structures of the society is the outcome of operations for awareness. These operations are based on the feedbacks of both the product and the process itself.

Material production by itself is a one way process within which a social structure and a technological structure are defined as particular relations of production and forces of production (see p. 133 and note 203). Further in the process these relations and forces provide creative, decisive, productive and constructive models which are significant both for material and mental production. 'Creative' and 'decisive' therefore are related to the mental nature of production activity while 'productive' and 'constructive' are related to the material nature of production activity. These two aspects of production activity at the end find their physical expression in the physical environment.

There are two requirements for this process to be functional. One is that the two sides of the process i.e. social and technological, should run parallel to each other and should control each other. In terms of organization this usually is the function of planning bodies. The absence of this simultaneity, through the single sided development of the technological structure results with a socially redundant technology and a body of technocrats alienated from the society. "Brain drain" from societies where there is a conflict between the technological and the social structure is the result of a specialization in a field that actually is redundant from the point of real needs of that society.

The second requirement is that if the process has no feedback mechanisms then the process of gaining consciousness has no chance of taking place (which in terms of architectural problems is an obvious case in Turkey due to a process of conditioning on the part of the architect who is primarily under the influence of / western
western publications, is unaware of the real needs of the social context, is unable to impose a change on the prevailing direction of development of the technology and who has not developed feedback mechanisms in order to be aware of the unnecessary conflicts he is creating between the technology he is fostering and the social structure that is existing).

If the feedback and control functions of the model are established we can have the following cyclical system.

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If we consider this cyclical system as that of a single product and if it has no relation with the totality of production activities then a change in this system will be a function of the changes that are taking place in the context within which this is an individual case. In other words the system, when considered from the point of a single productive activity, is not able to create its own future states but is subject to the other purposive processes of its context.
context and a total change is external to its structure i.e. the second generation products may not differ from the first generation products without an external force.

An example of this could be the case of a squatter family building a house. If their activities are individual and if their process of production is in isolation their influences on the context will have a marginal significance and they will not be able to change the context in an advantageous manner. This can easily lead to an introverted society which itself is going through a process of change within a context which is not following a purposive pattern of change. The isolated change will not create a change in the whole and the relation between the introverted society and its context will not be a profitable one. In the case of the squatters, as things stand at present, the nature of change after a point will be determined by the context elements that are outside the control of the squatter. The municipality, for example, will give titles of the land they have squatted upon but other facilities like a school or a road will not be forthcoming. Or if these are provided the squatters will not be able to alter the nature of relations pertaining to other aspects of their life such as work conditions.

If, however, through the production of their dwellings they become aware of the nature of production relations and means of production their second generation production activities will involve the consideration of the problem of change in the nature of these relations and tools.

This need for awareness also brings out the need for a second process that has to take place within the production process, namely the utilization of contradictions. This also is a requirement for the satisfaction of one of the four conditions for the materialization of change (these conditions were discussed previously as dialectical relations, cause and effect relations, quantity quality relations and contradictions in 3.3.1. - 3.3.4.) emerging from the inherent potentials of a context.

/ Contradictions

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Contradictions of a context are reflected in the relations of factors that are significant in a design problem. Therefore the first thing required for starting the process is to establish the relevant design factors. These factors whether they represent the existing conditions or the expected ones, are related to each other in a number of ways which in turn are also related to the social, political, economic, cultural, socio-psychological, legal, administrative, educational, organizational and environmental conditions of the context. The relations of the factors are evaluated by taking these conditions into consideration. This provides the definition of existing and expected relations of the design-production process.

As described in the following diagram, existing relations reveal what "is" and expected relations reveal what "ought to be". "Is" and "ought to be" can be represented as the two sides of a vertical line and the transition from one side to the other of this line passes through a number of stages according to the conditions of the context. The number of stages could arise from one or combination of two or more of the following conditions.

1. If an action for transition creates strong reactions in the context and if the resolution of these reactions impose unnecessary deviations from the main line of change.
2. If an act for transition necessitates qualitative changes which have to take place after quantitative changes and which have to wait for the accumulation of quantitative changes.
3. If the transition has to complete a full dialectical cycle, in other words if it is not possible to make shortcuts between various points on the sinuous line of development, or,
4. If a transitional act creates other contradictions within the context which will be subject to change then the number of stages through which the process will go will increase accordingly.

"Is" represents the set of resolved contradictions of the previous / stages
DESIGN FACTORS

EVALUATION OF RELATIONS

"IS" "OUGHT TO BE"

POTENTIALS LACK OF INFORMATION

CONFORMING RELATIONS CONTRADICTING RELATIONS

(3 ESSENTIALS OF APPROACH)

(1) (2) (3)

SOLVABLE CONTRADICTIONS ANTAGONISTIC CONTRADICTIONS

(C) (B) (A)

RE-EVALUATE RELATIONS DESIGN IN SPITE OF ANTAGONISTIC RELATIONS CHANGE CONTEXT

CONFLICT

FORMULATE DESIGN PROBLEM

PROBLEM DEFINITION MAY NOT BE SOUND

DESIGN (INTUITIVE AND SYSTEMATIC SYNTHESISING)
stages and are the conforming relations of the present problem context. Utilization of only these relations results in the provision of solutions that are meaningful only within the context of existing conditions. When a design problem is defined according to these relations its goals are set and a synthesis is reached through the utilization of various intuitive and/or systematic methods.

The other side of the "is" "ought to be" line is a challenging one. Relations that define "ought to be" are contradicting relations. The next thing required is understanding the nature of these contradictions. But before going any further with the way in which these contradictions are treated let us mention a feature of a problem situation arising from the interaction between the existing conditions and the contradicting relations, and the interaction between the conforming relations and the expected conditions.

The interaction between the existing conditions and the contradicting relations shows the potential of the existing conditions for change. This potential is due to the inherent contradictions of what has already been done as previous solutions. The meaning of this is that the resistance to change, existing in the prevailing conditions, is not a coherent one. This is probably due to the design of previous phases of production which were carried out despite the antagonisms of the relations.

The interaction between the expected conditions and the conforming relations represents an area within which there is a lack of information. This is due to the fact that what is represented by "ought to be" is not totally based on the contradictory relations of the factors but is partly due to the unsatisfactory conditions created by the previous phases because of the unavailability of information. In this instance the relation of "ought to be" and conforming relations show an area where there will be no opposition to the formation of a solution from the point of the nature of relations. It simply is that a possible solution, in the past, was rendered improbable due to a lack of information.

/ Further
Further analysis of the contradicting relations provides two groups, one being solvable contradictions and the other antagonistic contradictions. Solvable contradictions do not necessitate a special action and they can be directly interpreted as the constituents of a design problem. An example of these is the demolition of squatter dwellings with the reason that they do not meet certain standards. The conditions created by this relation can be satisfied by a design which will raise the standards. But since these solvable contradictions do not constitute the totality of the relations, other aspects of the problem will still require a special action. These aspects are due to the antagonistic contradictions of the context.

Antagonistic relations are usually related to the principal contradiction of the context (see Appendix II) and may necessitate a more comprehensive approach. There are a number of such alternative approaches.

One of them (A) is to change the context so that the process could be started from the beginning with a new set of relations. The other (B) is to proceed with the process in spite of the antagonisms. This approach, probably, will create a number of conflicts, and if the nature and result of these conflicts can be foreseen they could lead to the exposition of the principal contradiction and thus to the change of the context. The third alternative (C) occurs together with the second one (B) and is the re-evaluation of relations which could also be defined as the problem of finding the right strategy. The significance of this third alternative (C) is that it provides different ways of approach to the problem and enables the hierarchical structuring of sub-problems (due to the hierarchy of contradictions and priorities).

Finally having defined the structure of the proposed production process (process diagram p. 183) and the process of utilization of contradictions (process diagram p. 188), the relation of these two should be explained. When the nature of the production process was examined it was shown to be a cyclical process, and the process
of change was shown as the result of external forces acting upon it. If this process of change is defined as the transition from "is" to "ought to be", as in the case of the second model, then the feedback mechanisms of the first (i.e., production process) would create the means for internalising the process of change which otherwise is subject to the changes that are external to it. This, in terms of the total process, would mean that every cycle of the production process will form a step within the transition from "is" to "ought to be". In other words, operations for production in the production process (represented by downward arrows in the diagram on p. 183) represent the evaluation of relations, formulation of a design problem and/or the other necessary steps for the resolution of antagonisms and synthesising. These are also the stages of the process of utilization of contradictions for design prior to the act of designing. The physical environment constructed from this synthesis will be the product for the stage which is defined as a transitional one from mass production to individual production (see pp. 174-175 for the description of this stage). Then the second cycle of the dialectical process is started with an awareness of the further contradictions revealed through the established relations of production and the tools of production used in the first.
CONCLUSIONS

In this final section we shall once more review the whole study with the purpose of pointing the characteristics of the production processes which are responsible for the problems so far discussed, and shall describe the basic features of the proposal, and will examine the necessary future steps in terms of the possible alternatives.

As a result of studying the nature of social and architectural problems existing in the physical environments of contemporary societies - both in the developed countries and in the underdeveloped ones - it has become obvious that at the centre of the problem lies the alienating processes of production. Physical environments are one of the most expressive products of these processes.

On the other hand there are processes which are not alienating and which are not consciously designed to eliminate the effects of the alienating characteristics of prevailing production processes, but has evolved as a result of the contradictions of the socio-economic structures.
structures which signify the established orders. One of these processes existing in the underdeveloped countries is the process of squatting. The study of this process in the first part showed its organic formation and its potentials as a resource for arriving at a more satisfactory solution to the problem of housing. Despite the economic difficulties and amidst the strong social influences due to the process of urbanization these people were able to retain the positive social characteristics of their rural communities through a work and production process that is essential for their survival. Yet it is obvious that this is significant only at the scale of their immediate physical environment.

In the second part of this thesis these characteristics, which are due to the presence of different modes of production, were exposed in more detail through the study of nature of production in the rural contexts. The reasons behind the different characteristics of the urban (industrial) and rural (pre-industrial) societies are studied from the point of their different ways of production. The implications of these characteristics and the role of change in this production process is considered both from the point of the physical environments and from the point of the quality of life. The change of the way of production, both in terms of change from mainly agricultural to industrial products and in terms of change from feudal to capitalistic relations of production showed the intensification of the alienating characteristics. Furthermore this comparison also revealed that the rural communities were able to establish strong social contacts through a production process (the products of which were not expropriated by the feudal lord) which provided the participants with products that are important both to their producers and to the other members of the community.

Squatters, although in a limited way, were also successful in the creation of these contacts through a similar process. But the process of squatting is a limited one and involves only a part of the productive activities of the participants. With the aim of enlarging / this
this field a production theory is proposed. The essentials of this theory are that the process of production, i.e. work, should be an integral part of the residential environments of the participants and the products of the process should have a material and social significance to its producers.

In the third part, after summarizing the various aspects of the context, this theory is further described in the form of two process diagrams. One of these describes the process of production as a whole and the other is a sub-process of the first for initiating change by way of utilizing the two types of relations (conforming and contradicting relations) that exist among the factors which define a problem context.

There are two obstacles to the direct implementation of these processes at this stage. One is due to the lack of similar studies and definitions in areas of production that are closely related with physical environment and especially housing production. These areas belong to the planning scale where overall decisions, pertaining to the whole of the housing sector and to the residential area at a larger scale, are taken. The other area of production that needs similar definitions is that of materials and components that are significant from the point of dwellings themselves (see the classification made on p. 167).

The second obstacle is related to the problem context itself. Detailed information about the nature and type of relations that are existing within the squatter areas and that are related with the origin of the squatters is very limited at the moment. This is especially important when social, cultural and technological determinants are considered. It is because of the absence of this information that the models previously described can not be used directly and this is especially true if the user of the models is not one of the participants of the process that is already functioning. In other words the squatters by being present in the process have this information in an unclassified form. What is necessary for
the designer is to obtain it without distorting it in the process of classification and without making it irrelevant by generalization. These and other considerations that would make an immediate implementation of the proposed models irrelevant will be discussed further below.

The nature of the above two obstacles and the possibilities for overcoming them indicate alternative ways of approach in tackling the problem. In view of the limitations put by the scope of a study of this kind the definition of the means for the creation of what is expected is considered as a termination point for this study and a beginning point for what will be following in the future. This brings us to the subject of this final part, one of the purposes of which is the discussion of these alternatives of future action.

Before discussing these alternatives we shall once more outline the basic features of the proposed solution.

What is reflected in the residential areas of both the developed societies and of the societies which regard the developed ones as a model is the segregation of socially significant production activities of the members from their living, that is, the segregation of exchange oriented, co-operation based production from living. In other words this is the expropriation of the productivities and the products of the individuals which give them a social identity and through which they become the conscious members of a society. One of the physical expressions of this segregation is the house designed only for a biological living. The work in the house is minimized with the intention to maximise the saleable productivity. Due to the conditions created by the prevailing socio-economic orders the commodities sold in the market get a far greater priority than the processes which produce them. And the participants of these processes begin to give greater priority to the saleability of their productivities with the intention to obtain the necessary money income to purchase the commodities of the process. As a result neither the work process nor the environment where this process / takes
takes place and where the surplus time from this work is spent gives satisfaction. Work itself, on the other hand, becomes an externalized thing which is sold in the market and is of no intrinsic significance for the worker. The interests of the worker and of the one for whom the work is done are totally alienated. Thus both the work environments and the residential environments become the places of alienation.

The solution lies in a process which will eliminate this alienation through developing a consciousness of its nature and purpose so that what is experienced and gained in the residential environments can be the source for the demands to be made from the total environment.

The only means available to the architect to change this situation is the architectural production where the two processes, i.e. work and living, can be integrated. One such process, that can be integrated with the residential environment, is the production of dwellings.

This process in an organic form and at a micro scale is already existing in the squatter areas. The purpose is to be conscious of the essence and to rationalize it so that both parties, i.e. the architect and the users, will approach the problem with an awareness of the true potential.

This brings us to the second point related with the immediate implementation of the models.

If what is expected from such an implementation is not just to change the formal aspects of the problem without considering the role of the contents which produced the previous and present forms, then a direct implementation at this stage of this study would provide no more than the previous exercises that replaced one form with another. In order to change the content further analysis of the forms (of social, economic, political relations and cultural characteristics of the social context and the physical technological, material characteristics of the rural and urban residential environments)
ments) should be carried out. This, in more detail, is the need for further research into the causes and effects of various factors that play an important role on the way a physical environment is created and used both in the rural and in the urban squatter areas. What is being done in architectural terms at the moment is to study the artifacts of the relevant environments only from a limited point of view which is directed only to the physical characteristics without going deeper into the above mentioned social, economic, political relations and cultural characteristics. Yet a squatter coming from a rural area is subject to a long list of influences and is under the influence of long settled values. All these influences and values at first sight do not seem to be related with the architectural problems of a housing scheme, but when it comes to the acceptability and usage of these schemes they begin to emerge both in physical forms and in socio-cultural problems.

Therefore it becomes essential to conduct studies both in the rural and in the urban areas on these influences and values from the point of their role on the productive activities of this population to answer how these factors shape the social, economic, political relations and cultural characteristics and what role would these factors play upon the future physical environment. This study of influences and values will show the existing and expected relations pertaining to the forms and the contents of the environment which from there on will be subject to an analysis for the clarification of the nature of these relations as conforming, contradicting or antagonistic. Unless this is undertaken the real nature of relations and thereby the specific contradictions of not only the form but also the content will never become apparent.

If we turn back to the discussion of the characteristics of the proposed residential environments we see that the house, the neighbourhood are not the only products of a human society. But they are the products whose production processes are at least partly under the responsibility of architects and thus they are the means with which
the architect can contribute to a process of change through production. The essence of this contribution is the utilization of a prevailing production activity - i.e. the production of squatter houses in the case of Turkey - for the amalgamation of the members of a society or a social group through the clarification and strengthening of the socially significant production activities of those members. What is essential for this is that the products of the process should have a direct significance to the participants of the process. Thus the house of a family could be a product whose production process involves the interests of the members of that family. The external spaces could be the products whose production involves the interests of a number of households and this could lead to the other elements of the physical environment such as the playgrounds, educational facilities, work spaces whose production processes could be the media through which the socially significant production activities of the members of a society could take shape.

The organic processes of squatters again provide examples for this pattern of involvement. The case of Turkish squatters where the production of individual houses mobilizes the family, relatives and friends finds its counterpart in the case of Peruvian squatters where the communal buildings are built before the dwellings and the whole community is mobilized for their construction for it provides a precaution against eviction and creates the necessary solidarity among the squatters.

Yet we should once more stress that the built environment is only one of the products of a society. Unless the totality of production of a society is based on these principles the scale of production activities taking place within a residential area will be limited in terms of the elimination of the alienating characteristics of present processes of production. The purpose is to create a consciousness about the nature of causes of the problem and to create the social demand for their change.

Having covered the basic features of the proposed course of action / we
we now can discuss the possible alternatives in terms of the necessary future steps.

These steps are related to two levels of interaction. One is an individual level of interaction and includes professionals from various disciplines related with the housing problem and the other is a communal level of interaction which involves the relation of people from different classes who find themselves close to the squatters and the squatters themselves.

First one of these two levels necessitates the integration of the work of individuals with their immediate surroundings, so that the form of alienation due to the segregation of work and living environments will be minimized. This naturally will not be a complete solution and cannot be applied to all disciplines, but the establishment of various workshops and design and planning offices within the squatter housing areas and the residence of people from various disciplines for the execution of this kind of work will create a consciousness about the causes of alienation. As a result, while the members of a squatter family become the participants of an individual production process, members of a community become the participants of a social production process.

Interaction with the society is a process of integration with the specific social context in which the problems will be shared and with which the solutions will be sought. For this kind of integration close contacts with the community and long discussions of the previous experiences of the squatters is essential. The contacts will at first be in the form of surveys which will enable the architect to make objective assessments of the activity which is already going on.

Once these observations and assessments accumulate to give sufficient information on the various aspects of the prevailing process and once this information is in a form which can again be turned to the squatters the material basis for the start of discussions is ready. Furthermore these observations should not be confined to the activities
activities of the squatters but should also consider the other parties related to the production of squatter dwellings and range from the activities of various government bodies to the speculators of land and building materials.

Through the discussions will develop the understanding of past experiences, the type of relations that were existing and the nature of the context conditions that are existing at the moment. These contacts will also give the chance to the previous squatters to review their experiences and to draw conclusions about the nature and consequences of their activities as a whole, thus creating one of the feedback mechanisms of the process.

Observations into the nature of relations and discussion about the patterns of change of the relations will define contradictions which effect the patterns of behaviour of the related parties. Only after these preliminaries can the models defined earlier be used successfully.

Another aspect of interaction with society involves the relations of the professional groups with the specific social context. The potentials of the organizations play an important role both tackling problems related with a larger field and in providing data that is important for the interdisciplinary approach and more importantly to cover the area of all factors that influence production, to define the totality of relations existing among these factors and to specify the nature of these relations in terms of their being conforming, contradictory or antagonistic.

Finally the alternatives open either to the groups or to the individuals for approaching the problem should also be mentioned. These alternatives are defined by two conditions. One of these is determined by the place of architectural (or any other) production within the whole of production activities and the priorities it has. And the other is determined by the hierarchy of objectives of a specific branch of production.
In order to make these relations more clear we should go on to the definition of these branches of production and the place of architectural production among them.

All production activities of a society can be grouped into the following four:

1. Physical environment production (including public works, industrial plants and housing),
2. Agricultural and food production,
3. Power production,

While these four represent the totality of production activities there are a number of other investigations which enable the functioning of these. If we take physical environment and scrutinize housing production within it we shall see that although the products of other branches (such as power production, machine production) are essential for the production of housing they are not completely sufficient. In order to establish the relations among various branches and to enable the functioning of an individual field of production (such as housing) it is essential to have the collaboration of various fields of investigation (such as legal, financial, administrative, political, cultural, technical) which will form the building blocks for the structure of the processes of production.

Since the envisaged change involves both architectural and other production activities, the relation of architectural production with the collaborating fields and the relation of all production activities with each other gain a specific importance.

If these two sets of relations are considered as parts of a larger process that will initiate a total change in the relations of production the ordering of activities becomes important. This ordering will be based on the scope of the objectives and while those related with a limited scope are for a specific area of production, those related with a wider scope are for the totality of productive activities.
While for the realization of long term objectives it is essential to develop theories similar to that of housing production in the other fields of production, for the short term objectives it is possible to engage in a production activity that will provide an exemplary role for the others. Although production activities for short term objectives also require a number of preliminary studies we shall assume them to be complete and proceed with the discussion of alternatives.

The conditions which determine the available alternatives arise from: a) the particular characteristics of a field of production, b) the state of scientific knowledge pertaining to collaborating disciplines (i.e. legal, administrative, financial, political, cultural and technical fields of enquiry) related with that field of production, c) the condition of the problem context in terms of its readiness for change and in terms of its being devoid of internal contradictions.

Under these conditions:
1) If the collaborating disciplines have the necessary information about the nature of factors that define the problem by establishing the relations among these factors and specifying these relations as being conforming, contradictory or antagonistic, tackling them accordingly is one of the alternatives. This necessitates the collaboration of an interdisciplinary team with the residents of an area with the particular objective of establishing the relevant relations among the factors that define the problem. The result of this activity is twofold. On one hand there is a real production, on the other new information is provided to the collaborating disciplines through a practice in a real context.

2) If on the other hand there is no information available to the other disciplines, the squatters with a practical knowledge from their past experiences can be of great value since they have been involved in all aspects of the production process. The choice then is to engage in production and to learn directly by experimentation with the squatters in house building. In other words this involves the
direct participation of the two parties related with the problem.

3) If neither of the previous two is acceptable as a choice and if it is essential to have the tools of the other disciplines then the third alternative is to engage in research in other disciplines, produce more information there and then engage in production and try to be as comprehensive as possible. Naturally as this is not the only alternative, its provision of a satisfactory solution is highly probabilistic as well.

Of these three, considering the prevailing conditions and the information that is available, the second alternative seems to be the most appropriate from the point of an approach to the case of the squatters of Turkey.

When these three approaches are considered within a larger framework and with regard to the complexity of the problem it becomes evident that any alternative that resides upon individuals' initiatives is far from bringing about a comprehensive solution unless it is supported by a large scale, non-profit organization. Yet, on the other hand, as was stated at the beginning of this study one of the principal characteristics of an underdeveloped country is that it has a simple institutional structure and that the creation of institutions with a specific goal is a difficult task. Although this is true for the creation of new organizations potentials of the already existing and organically formed organizations is promising as well. Therefore although the characteristics of the three alternatives mentioned above will be of some help, what is more important is to try to find a solution that will utilize the organic organizational characteristics of the squatter community together with the benefits that would be acquired through the formation of interdisciplinary organizations. Yet when we turn back to the requirement that these new organizations should be able to tackle large scale problems and that they should be non-profit orientated the only alternative turns out to be the relevant directories of the government or the research units of the universities. At this point we should once more stress that
what is expected from either the government, the universities or other organizations should not be an overweening role towards the problems of squatters as it had been in the past but a co-operative one aimed to a solution that will be the product of both parties.

Since the purpose of this study was neither the development of alternatives nor the detailing of a program of implementation for an alternative let us conclude by saying that what will be followed in the future will be the continuation of this study in the light of this understanding. In other words it is the theoretical tool that is of significance at this stage and not the theoretical or implementational deficiencies of the previous approaches. If an awareness of the nature of causes is achieved it should be the core around which the future search for the realization of this understanding will be woven.
APPENDIX I

Interaction Matrix for Rural Urban Characteristics
(Numbers represent the characteristics listed on p. 92.)

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Table I Importance Ratings of Characteristics According to the Number of Causal Relationships

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APPENDIX II

Characteristics of the Dialectical System's

The dialectical system approach places focus on the processes related with the formation or change of structure. (231) It regards systems as parts and processes which bring these parts together. (232) Processes can neither be separated from the system nor added. "There is no concept as system+movement". (233)(234) Systems contain opposing actions connecting parts of the system. (235) These interconnected parts and processes exhibit themselves through various forms of manifestation. When analysing the system and making decisions on it consideration should be given to these forms.

Relations pertaining to a system define its appearance. Analysis of processes forming the system with the help of above stated relations reveal the real system. The difference between appearance and reality exposes the difference between relations and processes. (236) The concept of similarities and differences between the processes is also related to the concept of isomorphism (237) utilized by other system approaches. The need to understand the proposed concepts of similarities and differences of dialectical systems also necessitates the development of scientific perception. (238)

/ Another


233. Tekeli, I. op. cit. p. 32.

234. "... The structure of the movement is not distinct from the movement."

Lefebvre, H. op. cit. p. 108.


236. Mao Tse-tung. op. cit. p. 316.


Another pair of concepts providing an explanation to the nature of dialectical systems are the concepts of form and content. Form represents the nature of relations which are exposed by their appearances, in other words it is the mode of interaction between the processes. Content, on the other hand, represents the type of processes. (239) Since in dialectical systems, the system is composed of processes and relations between these processes, continuity and development of the system puts forward two types of relations. One of these is the internal relations of the process which form the internal dynamism of the process, and the other is the relation between the processes of the system and the processes of the environment of the system which form its external dynamism. (240)

In a system formed by processes which are continuously changing, rate of change and characteristics of change play an important function. Thus in a dialectical system, change is formed by two phases; namely quantitative and qualitative changes. Quantitative changes turn into qualitative change as a result of their accumulation in time. (241) Although this change at first sight looks similar to that defined in system theories based on the relations of parts and wholes, which states that the accumulation of changes taking place in the parts finally makes a change in the whole, in dialectical system approaches parts going through a quantitative and qualitative change are not static elements having only structural relations

239. "Content is the basis of development; Form is the mode of existence of a thing; Content possesses its own motion, Form depends on it; Content contains the intrinsic possibility of boundless development, Form limits it; Content plays the leading role in development."

Rosenthal, M., Yudin, P. op. cit. p. 164.


Mao Tse-tung. op. cit. p. 341.
relations but the elements themselves also have a dynamism of their own. Explanation of change as a process of accumulation of quantitative changes forming a qualitative change also puts light onto the continuity of change. With the study of real characteristics of the processes, discontinuous appearances of change ceases to be unexplainable leaps, and gains a definition of a continuous process of accumulation of quantitative changes. \(^{(242)}\)

Nature and causes of change create the fundamental difference between the other system approaches and that of dialectics. Theories based on the relation of parts and wholes dwell upon the system's flexibility as a condition of change. Although flexibility is a necessary condition for change, it is not the cause of it. For dialectical systems contradictions among the processes constituting the system is the causal force. It is "the struggle of opposites". Absence of contradictions is the elimination of causes of change in a system. Since change is a factor of development, systems without any change are bound to come to an end. \(^{(243)}\)

With the division of system's processes into two fundamental groups contradictions of the system become distinct. These groups can be named as the positive processes and relations as against the negative ones. Contradictions between the two can be resolved in two ways. Either with power transmission from the negative to the positive the system reaches a new order or as a result of a transfer in the opposite direction the system turns back to a previous state. Other than these two conditions, as a result of an equilibrium between the negative and positive aspects of a system, a temporary equilibrium situation, which is relevant only to one level of relations, may be created. A situation of this kind is also related to the level of perception.

\(^{242}\) Kuusinen. op. cit. p. 89.

While as a result of a simple observation it may be thought that the system is in such a state, a deeper analysis would reveal that there is a transfer of power from some processes and relations to the others as a result of conflicts prevailing among the contradictory aspects of lower level processes. With time the accumulation of the relations of processes form the fundamental contradictions of the system. (244)

Contradictions of the processes which form the system create reactions at different levels. These reactions can either be the relations between individual contradictory processes or can belong to a specific negative or positive aspect as a result of the inclination of its characteristics. Contradictions related to such individual processes are specified as the particular contradictions of a system and contradictions related to opposing aspects of a system are specified as the general contradictions. (245)

Although a change could be brought about by solving the contradictions of a process, as a result of the denseness of contradictions it may not be possible to solve them without a conflict. Situations having such dense contradictions are called antagonistic. (246)

While contradictions can be resolved without a conflict, antagonisms can not. (247) The nature of contradictions of a process, at the end of a conflict, are defined by the accumulations made prior to the conflict. This accumulation is formed by the definition of general and particular contradictions and by the way these contradictions are handled.

244. Mao Tse-tung. op. cit. p. 342
GLOSSARY OF TERMS USED

1. Antagonism: a state defining the nature of a contradictory relation which can not be resolved without a conflict.

2. Black box: a general term used to identify design processes which are partly out of reach of conscious control but are capable of producing successful outputs as a result of controlling certain inputs.

3. Bourgeoisie: a social class composed of those who are not the workers of someone else and who are able to be productive with their own means of production. The term originated from Medieval French referring to the freeman of a burgh and who were distinct from both the peasants and the gentlemen.

4. Commodities: products produced by the members of a society with the purpose of exchange.

5. Conceptual tools: means used for the production of a project, a design or an idea. Scientific, artistic, heuristic, etc. methods of problem solving, decision models, and information and knowledge relevant to the primary definition of a product are examples.

6. Conformity: a state defining the nature of relations among the factors relevant to a problem context where there are no contradictions. Conformity among the relations is due to the resolved contradictions of the previous stages and does not necessitate a change in the context.

7. Consciousness: "the sum total of mental processes which actively participate in man's understanding of the objective world and of his personal being"
8. Contradiction: a category in dialectics arising from the recognition that the source of all change and development in nature, in society and in the personality system of an individual is the existence of two aspects in the same object, one being positive and the other negative.

9. Dialectics: is the law of the formation of nature, society and consciousness. It originated as a rule for the development of ideas by way of questions and answers, and as an art of dispute and debate with the purpose of classifying concepts, and dividing things into genera and species. The essence of the law is in its potential to expose the contradictions by way of stating various aspects and considering the things and phenomenon within a context involving the totality of their relations in a dynamic form. "Dialectical knowledge is an awareness of the nature of maximum number of relations pertaining to a relevant subject."(249)

10. Exchange value: the economic value of products determined by the exchange of different products (i.e. different use values). Similar products can not be exchanged. What is exchanged is the equal use values of different products. What determines the value of products of same use value during this exchange is the average social labour that has gone into their production.


11. **Externalisation:** the process by which the internal aspects of a thing or a phenomena are exposed. These internal aspects can not be immediately perceived although they are the essential aspects. In design process externalisation is tried to be achieved by way of systematisation and the use of glass box methods. Externalisation also enables the socialisation of the decision process.

12. **Feudalism:** is a socio-economic formation which developed after the disintegration of the slave owning societies. Feudal lords and peasants are the main classes of the society. Feudal lord is the owner of essential means of production and the peasant is expected to work for the feudal lord. The distinct character of feudalism from that of other socio-economic formations is that a certain proportion of the labour time or the means of production is used by the peasant for his own needs and this helped the development of means of production which later led to the development of vernacular art and architecture.

13. **Glass box:** a general term for identifying design processes which are systematic and all the stages and features of operations can be consciously controlled for the purpose of achieving certain desired outputs.

14. **Goods:** a category defining all material objects which can be used for satisfying human needs. They are considered in two groups as the products of human labour and the things obtained direct from nature. Then they are called products...
15. Material tools: all implements used in production by means of physical human labour. This is one of the sub-categories of means of production, the other of which is the conceptual tools of production.

16. Means of production: the totality of tools used in the productive activities of men. Land, buildings, roads, tools and machinery are the means of production of a society. The degree of development of means of production is the index to the degree of human society's power over nature. It is not the products processed by a society which defines its state of development but the means of production it has created and developed.

17. Middle-bourgeoisie: the socio-economic class formed by the owners of means of production who employ waged labour for production.

18. Mode of production: "a historically conditioned manner of obtaining the necessities of life. Mode of production is the determinative basis of a social system. Society, its dominant ideas, political views and institutions depend on the mode of production"\(^{(250)}\). The mode of production of a society is determined by the state of the productive forces and the nature of production relations.

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19. Petty-bourgeoisie: the class formed by those who have some means of production either in the form of capital or tools and who do not employ waged labour for their production.

20. Primary group: in general the term is used to distinguish "an aggregate or category of persons possessing some common features .... Very often the expression 'social group' is applied to a small face-to-face group of persons" (251). Here it is used to distinguish a certain category of squatters who are the producers of their own dwellings and are the representatives of the social group within which only a social exchange exists (i.e. the relations of production are not economic exchange oriented but are based on social exchange from the point of the production of dwellings).


23. Proletariat: a socio-economic class formed by those who have no means of production except their own labour and who are compelled to sell their labour for a wage income.

24. Relations of production: social and economic relations which develop among the members of a society or different societies in the process of social production, exchange and distribution of wealth. 'The basis of the relations of production is the relation of the ownership of the means of production" (252).


25. Semi-feudal: a socio-economic characteristic relevant to the description of societies which are in the evolutionary stage of a process of change from feudal to capitalist mode of production.
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