ATTITUDE CHANGES OBSERVED IN ADC MOTHERS ATTENDING HOME AND FAMILY LIFE CLASSES

By

Joan P. Bowker

A PROBLEM

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF SCIENCE

College of Home Economics

1966

ACKNOWLEDGMENTS

The writer wishes to thank Dean Jeannette Lee and Dr. Alice Thorpe for their help in the formulation and presentation of this problem.

The writer also wishes to thank Mrs. Alfreda McGuire and Miss Frances Jackoboice of Grand Rapids for their aid during the course of the research.

TABLE OF CONTENTS

	Page
INTRODUCTION	1
REVIEW OF THE LITERATURE	5
METHOD OF RESEARCH	13
FINDINGS AND CONCLUSIONS	15
BIBLIOGRAPHY	28
APPENDIX	30

INTRODUCTION

In 1965 the program called ADC (Aid to Dependent Children) was providing financial aid to children in nearly a million American families.[1] In 1959 payments were made to two and a quarter million children in three quarters of a million families. About three and a half children of every hundred were receiving aid in 1959 compared to two and a half per hundred in 1948. Most of the families are in need because of the absence from the home of the father due to death, disability, detention, or desertion.[2] As the numbers of aided families continues to grow, a large proportion of the energies of the social work profession, in terms of money and man hours is devoted to aid to families with dependent children.[3]

The increasing size of this caseload in the nation, the increasing incidence of illegitimacy, neglect of children, and other symptoms of social problems among ADC families has led to a concern about effective methods of helping these families overcome their problems.

One fresh approach to the situation was to work with

---

[1] Paul Glasser and Elizabeth Navarre, "Structural Problems of the AFDC Families," reprinted from Journal of Social Issues, XXI, no. 1, p. 14.

[2] Kathryn D. Goodwin et al., ADC: Problem and Promise (Chicago: American Public Welfare Association, 1960), pp. 6-7-9.

[3] from Henry Miller, "Characteristics of AFDC Families," Social Service Review, XXXIX (Dec., 1965), pp. 399-409, as abstracted in PHRA, I (March-April, 1966), Abstract 68.

these multi-problem families through multi-discipline, group methods. The U. S. Department of Health, Education, and Welfare issued a booklet describing and encouraging the use of this method.[1] With the advent of the federal anti-poverty program many programs are being aimed at rehabilitation of the problem-and-poverty-haunted family. Programs for ADC mothers are more and more often aimed at breaking through the depression, isolation, and immobilization the women often exhibit. The problem is beginning to be seen as one of stopping a waste of human resources as increasing evidence indicates that both the one-parent family structure and poverty are being transmitted from one generation to the next.[2]

In the fall of 1960, the Kent County Department of Social Welfare Family Aid and Service Unit began the first series of Home and Family Life classes in Grand Rapids.[3] In 1962 the program had been expanded to a series of twelve lectures-discussions, with half of the classes being taught by the home economist of the Cooperative Extension Service of Kent County and Michigan State University.

Other lecturers were from the Grand Rapids Department of Public Recreation, Grand Rapids Health Department, Grand Rapids Public Museum, Kent County Health Department, Grand Rapids Board of Education, and Grand Rapids Urban League. The lectures dealt with housing, health, food, money

---

[1] Gladys White et al., Improving Home and Family Life (Washington D. C.: U. S. Dept. of Health, Education, and Welfare, May, 1962).

[2] Glasser and Navarre, op. cit., p. 14.

[3] The information on these classes was made available from the files of the Kent County Department of Social Welfare in Grand Rapids, Michigan.

management, recreation, family relationships and planning for the future. The classes were planned to provide factual information of course, but another aim was to build the confidence of the women in their own abilities to handle their own problems. Providing time and refreshments for a coffee break was an attempt to allow the women to make friends, relax, and practice neglected social skills.

Informal evaluations of the series were made by the mothers, teachers, and caseworkers. They indicated a feeling that the classes had been successful in teaching the women some new ways of handling their problems, reinforcing confidence in their own abilities, and giving them a sense of place in the community. Caseworkers reported some individual improvements for women who had taken the course (e.g., no housing complaints against any of the women during the course). Though these presumed changes were small, the hope is that changes accomplished in one area of life may in turn affect other areas.

Studies testing these impressions of success are rare. It would seem reasonable to attempt to check howwell the expressed goals of these rehabilitative efforts are being met.

A study attempting to measure attitudes and attitude changes of ADC mothers in these classes might also contribute to an understanding of this segment of the population. Henry Miller comments that there is little real information describing what such families are like. Perhaps the most important characteristics of AFDC families, from a professional point of view, are their values, goals, attitudes, and child rearing practices. At present family life data on these families are practically non-existent.[1]

---

[1]Henry Miller, op. cit.

Home economists have a stake in this problem as they work with other disciplines to meet the challenge of helping to create a stable, healthy family life where the odds against it are great. Home economists may be the only ones who see these families as families, rather than as cases to be psychoanalyzed, financially aided, or medically examined. This study was begun as a very modest effort to add to the basic understandings from which we can go forward.

REVIEW OF THE LITERATURE

There is probably no typical ADC family, but in the 773,000 families receiving aid in 1960, studies revealed certain characteristics. Goodwin says that three out of five ADC families are white. Most of the others are Negro. The typical family is broken by estrangement of the parents, and the mother is the parent remaining in 70% of the homes. In about 19% of the homes, the father is present but physically or mentally incapacitated. Forty percent of the families live in cities of 50,000 or more, with more than two-thirds living in towns of more than 2,500. The average family has been receiving aid for about two years. Twenty percent of the families receive assistance because the father was not married to the mother.[1]

Fixel and Wiltse reported on the outstanding characteristics of ADC clients studied in a pilot project in San Francisco in 1958 and 1959. Forty-three heads of households judged to be representative of the ADC caseload as a whole were compared educationally:

Less than 8th grade..... 7
Less than 12.....12
Completed high school.....12
Some college..... 4
Some vocational education..... 6

More than half had worked, mostly housework. About half had health problems severe enough to interfere with normal functioning. In the area of social and psychological

---

[1] Kathryn D. Goodwin et al., ADC: Problem and Promise (Chicago: American Public Welfare Association, 1960), pp. 6-7-9.

characteristics the authors report a "history of deprivation" of many ADC parents. "A large proportion were the children of homes broken by death or desertion; many were born out of wedlock; a surprising number spent many years in orphanages and foster homes, with all the emotional deprivation this experience connotes; extreme poverty is characteristic of many more childhood backgrounds."[1]

A pilot project, sponsored by the Detroit Urban League in cooperation with the Merrill-Palmer School and Wayne County Bureau of Social Aid in 1960, was carried out with thirty Negro mothers (80% of ADC clients in Detroit are Negro). Half of the women were separated from their husbands, six had never married, five were widowed, three were divorced, and three were married (husbands were in hospitals or penal institutions). A study of birthplaces showed that over 80% of the group came from rural or semi-rural communities, which "presented so many problems of adjustment to some members of the group initially that even years later this inability to adjust to an urban community remained manifested." Their education and work experience were similar to that reported in the San Francisco study.[2]

The Pine School Project was initiated at the University of Iowa in 1957. The home economist working with low-income women reported that they were lonely, ostracized women who wished they were not so isolated.[3]

---

[1] Ibid., pp. 23-24-25.

[2] G. Nelson Smith, "The ADC Strengthening Family Life Series (A Pilot Project) Sponsored by the Detroit Urban League in Cooperation with the Merrill-Palmer School and Wayne County Bureau of Social Aid," May, 1960. pp. 6-8. Mimeographed.

[3] Gladys O. White et al., Improving Home and Family Life (Washington D. C.: U. S. Dept. of Health, Education, and Welfare, May, 1962), p. 20.

Wiltse and Fixel, in the San Francisco study, also report that clients revealed in interviews a combination of depression, isolation, and immobilization accompanied by health problems. They felt guilty about being on relief, declassed, and without status.[1]

The caseload of one city may show specific differences from that of another city, but the studies show that the families share many disabling characteristics. Bradley Buell's study of one community's services includes the observation, "We have seen that the residual dependency load results from constellations of disabilities, the net result of which is to destroy the family's ability to produce income. Understanding is growing that the cause of much behavior disorder is rooted in the family incompetence."[2]

Many studies of ADC families have concentrated on demographic data, which fulfilled the needs of a program once aimed primarily at financial support of distressed families. However, as Glasser and Navarre pointed out, "If poverty and one-parent family structure tend to go together, providing increases in financial assistance alone may not be sufficient to help parents and children in the present and future generation to become financially independent of welfare funds."[3] Federal funds are now available for rehabilitative efforts. Glasser and Navarre state that they know of no program explicitly aimed at overcoming some of the consequences of the one-parent family structure. They echo Henry

---

[1] Goodwin et al., p. 27.

[2] Bradley Buell and associates, Community Planning for Human Services (New York: Columbia University Press, 1952), pp. 413-414.

[3] Glasser and Navarre, op. cit., p. 15.

Miller's comment in pointing out that little attention has been paid to family structure or patterns of behavior. They report that in trying to formulate a special service program for families in the AFDC program in Detroit they quickly found that they needed to know more about the families' problems and their origins.[1] Their study indicated that the mothers saw the scarcity of money as their major problem. They felt helpless about their situation, but knew of no way out of it, and were unaware that they might influence their circumstances by calling on resources at their disposal.[2] They found the women they studied were similar to the ones described by Rainwater and associates in Workingman's Wife. The low-income woman tends to regard herself as acted upon rather than acting. She has a great fear of loneliness and a pervasive anxiety about the future. These feelings may well be increased in the ADC mother who has experienced loss of husband and great economic deprivation. Somewhat unexpectedly, the mothers interviewed by Glasser and Navarre tended not to mention marital problems, although all had experienced separation, divorce, or desertion. Their social and affectional needs and feelings of responsibility tended to concentrate on the children, toward whom they were typically both overprotective and extremely permissive.[3] Their life style might be summed up as "passive."

Two complementary techniques are being tried with multi-problem families such as these. One is using an interdisciplinary team of workers; the other is working with the

---

[1] Paul Glasser and Elizabeth Navarre, "The Problems of Families in the AFDC Program," reprinted from Children, XII (July-August, 1965), p. 2.

[2] Ibid., p. 3.

[3] Ibid., pp. 6-7.

clients in a group setting.

Joseph P. Anderson reports, "Increasing attention is being given to common efforts which will facilitate the adjustment of people one to another, to other groups, and to the changing larger society.

"The development of a constructive and mutually productive cooperative relationship with other disciplines represents another significant trend. The need and responsibility for interprofessional cooperation springs from the fact that life is too complex to permit any one profession alone to meet the wide variety of demands requiring special competence."[1]

Juanita Luck Cogan defines social group work: "Social group work provides the actual group experience in which positive social relationships may be formed in the achievement of group purposes which aid individuals in their social maturation---. Recent developments---include extension of group work into new settings---where the group worker is a member of an interdisciplinary treatment team---aimed at helping---socially disabled individuals and groups."[2]

Edgar F. Borgatta reviews research relevant to group theory and says that the most popular theory is that a member who has a sense of belonging to a group will be subject to coercive influences of that group. Mutual attraction is related to mutual influence, and conformity is related to cohesiveness of the group. Research tends to support the theory and also points up the tendency for conformity to go in the direction of the majority. Persons may be willing to

---

[1] Joseph P. Anderson, "Social Work Status and Trends," Social Work Year Book, 1960 ed. Russell H. Kurtz (Albany: Boyd Printing Co., Inc., 1960), pp. 64-71.

[2] Ibid., pp. 541-547.

oppose one or two others but respond maximally to pressure for conformity from groups of three or more.[1]

The assumption behind work attempted with ADC mothers is that some change is necessary in their life style other than simple accumulation of more money. How group work might affect them is described by Alan F. Klein. "The group seems to meet certain psychological needs, such as the development of independence, the identification of social roles, the development of social skills and attitudes that are acceptable to one's peers and to the larger society. To do as others require is a value in our society, and it has become a value in our group services. Much that is published in group dynamics seems to be based upon conformity and conformity as a value toward which the group strives. Since attitudes and self-images follow roles, changes in positions and status will alter the attitudes and behaviors of individuals. On this point Seymour Lieberman, reporting on an interesting piece of research, states that people who occupy a role tend to acquire a set of attitudes which are consistent with the expectations of that role. As the position changes, the attitudes go along with it."[2]

This present study, in attempting to measure attitudes, assumes the view that attitudes reveal a person's view of his own status or position, and by extension, that attitudes are predictive of actions.

The definition of attitude which supports this belief is widespread through the literature. Remmers expresses it

---

[1] Edgar F. Borgatta, "What Social Science Says About Groups," Social Welfare Forum, 1957 (New York: Columbia University Press, 1957), pp. 233-234.

[2] Alan F. Klein, "Individual Change Through Group Experience," Social Welfare Forum, 1959 (New York: Columbia University Press, 1959), pp. 136-152.

most concisely as "an affectively toned idea or group of ideas predisposing the organism to action with reference to specific attitude objects."[1]

Kuhn and McPartland, the authors of the test used in this study, explain their attitude-action orientation in these terms: "One of many designations of the self has been as attitudes. This conceptualization is most consistent with Mead's view of the self as an object which is in most respects like all other objects and with this further view that an object is a plan of action (an attitude). If, as we suppose, human behavior is organized and directed, and if, as we further suppose, the organization and direction are supplied by the individual's attitudes toward himself, it ought to be of crucial significance---to be able to identify and measure self-attitudes."[2]

The writings and research cited in this review of the literature have presented a picture of the typical ADC family as a group with multiple problems of deprivation and lack of skills for overcoming these problems. Expert opinion has been cited that here is a problem for interdisciplinary cooperation. Specifically mentioned in the literature are home economists, public health nurses, and social workers. Some of the expected results of belonging to a group have been reviewed. Theoretically, it seems possible to give the ADC mother a new frame of reference, and a sense of belonging to a group that will give her a better view of her status or position. Supported by the group she may also have a

---

[1] H. H. Remmers, Introduction to Opinion and Attitude Measurement (New York: Harper Brothers, 1954), p. vii.

[2] Manfred M. Kuhn and Thomas S. McPartland, "An Empirical Investigation of Self-Attitudes," American Sociological Review, 19 (February, 1954), p. 68.

chance to develop socially acceptable skills so that she may begin to utilize her own strengths in dealing with her life situation.

The hoped-for lasting value of such experiences is explained by Helen B. Foster in "Family Centered Services Through ADC": "The mother who learns how to keep her house clean has learned much more than this. She has also learned how to go about something in a planned and orderly fashion. Even more important, she has learned how it feels to be successful. One small success can often provide sufficient incentive and energy for her to go ahead with the help of the workers or independently, to handle more complicated aspects of her situation constructively. Big problems may not entirely disappear, and probably will not, but the mother's successful management of several small problems, of which all big problems are composed, will contribute materially to a better way of life for her family. One constructive measure is the widening of the horizon of the client so that he can see that even though he may be in serious trouble there are some choices still left open to him, he can still move independently, he still has personal resources which he can use. Successful accomplishment in even small but tangible activities is self-generating, and can provide the impetus for the mother to move ahead in relation to other problems needing solution."[1]

Glasser and Navarre sum up these hopeful aims briefly. "The problem areas are so interrelated that intervention in any one can affect the others if it is planned from an all-encompassing perspective."[2]

---

[1] Social Welfare Forum, 1958 (New York: Columbia University Press, 1958), pp. 158-159-161.

[2] Glasser and Navarre, op. cit., p. 9.

METHOD OF RESEARCH

This study was planned as exploratory research to gain insight about women who are single parents in the home, of a low income level, and receiving welfare aid. The objective of the study was to gain an understanding of the images, defined as attitudes, a group of ADC mothers have of themselves, children, and families. A specific objective was to discover any changes in the attitudes the women held after they had attended ten sessions of a course in Home and Family Life.

The testing method was the "Twenty Questions Test" developed by Kuhn and McPartland to directly test attitudes.[1] A questionnaire was to be filled out by the women at the beginning of the first class session, and an identical questionnaire at the beginning of the eleventh class session. Three questions were to be answered: "Who am I?", "What is a child?", and "What is a family?".[2] The women were asked to write down the first 10 to 20 words or phrases that came to mind in response to each question.

Most class sessions were tape recorded. The observer also made notes each week of her personal observations about the individual women and her comments on each class period. This material was then examined to see if relationships could be found between less formal observations and the test results.

---

[1] This test is described in detail in the Kuhn and McPartland article cited earlier.

[2] A sample copy of the questionnaire will be found in the appendix.

All of the women attending the full series of lectures were tested. Fifty women were chosen by their caseworkers to attend. The women were from the ADC rolls. They were similar in having at least one child, having low income levels, and in being a single parent in the home. They were dissimilar in educational level attained, race, age, and the number of children they had. Some were chosen for the class because the caseworkers thought they were managing well and would contribute to the class. Some were asked to attend because they were managing very poorly and the caseworkers thought they needed much help.

The sample, finally, consisted of twenty-four women who attended the full series of classes. Dropouts were due to illness, new employment, difficulties in providing for care of the children, and other unexplained reasons.

The plan for analyzing the data was to examine the original test for common patterns of response. The same analysis was made for the retest. They were then compared for likenesses and differences.

FINDINGS AND CONCLUSIONS

This study was an observation of women attending a series of lectures concerning home and family life. All of the women were ADC recipients. They were divided into two groups. Fourteen women met in the morning and ten in the afternoon.

The morning group met in a community house in a predominantly Negro neighborhood. The members of this group were mostly Negro. The final sample from this group consisted of thirteen Negro women and one white woman. The ages of the women ranged from 40 years to 19. Educational level varied from two years of business college to fifth grade. Numbers of children at home ranged from eleven to one.

The afternoon group met at the YWCA in the downtown section of the city. Of this group seven were white and three were Negro. The oldest woman in this group was 45 and the youngest 26. They had anywhere from 1 1/2 years of college to a seventh grade education. Numbers of children at home ranged from seven to one.

All of these women were invited to attend the classes personally by their caseworkers and again by letter. Both morning and afternoon classes heard the same lecture-discussions with minor variations introduced by the women as they joined in the discussions.

A coffee break was held midway in each two hour session. Refreshments were provided by a service organization and by the home economist attempting to illustrate the use

of surplus or low-cost foods.

The lectures concerned child-raising, recreation, housing, nutrition, health, money management, and education.[1]

The test instrument chosen to discover attitudes of the women before and after the series of lectures was the "Twenty Questions Test." This was a sheet of paper headed by the question "Who Am I?", followed by twenty blank lines. On the reverse of the paper were two questions, "What Is a Child?" and "What Is a Family?".

The test papers were handed out by the instructor as soon as each group had assembled. The women were given oral instructions to answer the questions quickly any way they wanted to and not to worry about spelling or anything else. Other questions were answered as carefully as possible to avoid "leading" the women in any way. The same procedure was followed for the retest. Almost all of the women were compliant and unquestioning about the test. Only one person complained that it had a "psychiatric look about it."

The "Who am I?" test data can be analyzed in many ways. The first analysis made was a simple tabulation of the total number of responses.

Morning		Afternoon		Total	
pretest	post test	pretest	post test	pretest	post test
70	85	58	44	128	129

The scores seem to indicate that the morning and afternoon classes were responding differently.

The next analysis of these same responses was to discriminate between two types of responses. Kuhn and McPartland describe them as consensual and subconsensual. The

[1] A schedule and description of the classes is contained in the appendix.

terms objective and subjective might describe these two types also. A consensual response would be "woman," "mother," or other objectively verifiable term. A subconsensual response would be "pretty woman," "good mother," or other terms which could only be verified in a subjective, evaluative way. The consensual response represents a person's anchoring in the real world, his role image, his attitude toward himself in the world. A comparison of numbers of consensual and subconsensual responses was made. Consensual responses are identified by C. and subconsensual responses by S.

Morning				Afternoon				Total			
pretest		post test		pretest		post test		pretest		post test	
C.	S.	C.	S.	C.	S.	C.	S.	C.	S.	C.	S.
56	14	69	16	39	19	42	2	95	33	111	18

The consensual responses increased, more for the morning group than for the afternoon group. The noticeable fact about the afternoon group was the drop in subconsensual responses.

The next step in sorting the data into a meaningful pattern was to identify the most often used responses. More than fifty different consensual responses were made by the women. All those with more than two mentions were tabulated for frequency of response.

The responses showing the most increase in frequency of use on the post test compared to the pretest were "mother," "friend," "homemaker," and "teacher." The increased use of "friend" and "teacher" on the post test was attributable mostly to the Negro women.[1] Only half of the women in the morning

[1]The increased use of the response "friend" by the Negro women was a surprise, and perhaps illustrates the pitfalls of informal evaluations. The observer's notes and

Response	Pretest			Post test		
	morning	afternoon	TOTAL	morning	afternoon	TOTAL
Mother	7	8	15	12	9	21
Friend	2	2	4	6	2	8
Homemaker	0	1	1	4	3	7
Teacher	0	2	2	4	3	7
Woman	1	2	3	3	2	5
Own name	3	3	6	1	4	5
Have children	3	0	3	2	2	4
Nurse	1	1	2	2	2	4
Housekeeper	0	2	2	2	1	3
Housewife	1	2	3	1	1	2
Doctor	1	0	1	3	0	3
Cook	1	2	3	2	1	3
Wife	2	1	3	1	1	2
Neighbor	1	0	1	2	0	2
Maid	1	0	1	2	0	2
Lady	3	0	3	1	0	1
Father	3	0	3	1	0	1

class used the word "mother" on the first test. All but two used it on the retest. The term "homemaker" is not commonly used by lower-class women. The increased frequency of response seems to indicate, whatever understanding the women may have had of the term, that they were attentive to what the lecturer thought was important.

Finally, a check was made to count the number of women who showed increased consensual responses, decreased consensual responses, or showed no change.

---

conversations with the lecturers after each class session emphasized continuing disappointment over the lack of friendliness of the morning class compared to the afternoon class. Perhaps we were seeing a response of the women in the afternoon class to the lecturer as well as to each other; while in the morning class the women were mostly not able to identify with the white authority figures. Their outreach efforts were possibly only to each other and the observer was not sophisticated enough to see it.

	Increased	Decreased	No Change
Morning	9	4	1
Afternoon	5	3	2
Total	14	7	3

More women expressed an increase in consensual images than expressed fewer or did not change. Since we have defined these consensual terms as anchors in the society or real world, we will call those women who increased their responses "successes" in terms of one of the aims of the class. Proportionately, a few more successes occurred in the morning class than in the afternoon. Two-thirds of the women of the whole sample were successful in the sense we have described.

There were some noticeable relationships between behavior in class and successful responses. Two women who showed strikingly improved responses brought to class items they had made to show what they could do. One of them gave a party for the class at her home and the other made gifts for the home economist, social worker in charge, and the observer. Two other "successful" women described to the class how reluctant they had been to come to the first lecture and how they had become so interested that they hated to miss even one session. One of these women had the highest educational level of the entire sample and the other the lowest, which was one indication that success was not related to education. Another successful woman remarked that the class made her feel for the first time that she really was someone.[1]

[1]Unfortunately, it was not until the tester was thoroughly familiar with the data that this technique of predicting success or failure and then checking the predictions against the data suggested itself.

Those who showed no change were not a surprise. They came, they sat, they rarely spoke even when spoken to. The body was present, but apparently not the spirit.

Some of those with decreased responses presented a puzzle. A search of the tape recordings and notes on the class sessions provided material for some guesses about factors operating to inhibit these women.

One of them was painfully ill with gouty arthritis toward the end of the series. She was also the one who had complained of the psychiatric look of the test and handed both tests back with comments that she'd better quit before she said too much or said something fantastic. Probably this is an indication of deep and severe problems, quite outside the scope of this type of group.

Three of the other "failures" were the only ones of the entire sample whose responses included the terms "warden," "judge," or "lawyer." Again this hints at problems too complicated to respond to a simple approach.

Another of the "failures" gave a small feeling of confidence in the test instrument. She was originally listed among those showing increased responses. However, the weekly notes on her said, "sullen," "surly," "uncommunicative and uncooperative." A check of the seating chart for the retest, and a check of the questionnaire of the woman beside whom she was sitting, showed beyond a doubt that she had copied the items on the retest.

No explanation suggests itself for the remainder of the "failures."

The subconsensual responses to "Who am I?" will not be treated here extensively. The first set was so random as not to be amenable to any summation.

The subconsensual responses on the retest were made

almost exclusively by the Negro women. The responses were almost all alike in expressions of love for the self and for others, and expressions of affection and happiness in various terms.[1]

In summary, the question "Who Am I?" seemed to elicit responses tending to show that some changes of attitude did occur during, and because of the series of lectures, and that most of the changes tended to be in a positive direction.

The second question of the test was "What is a child?". It was hoped that this question would elicit a response showing the mother's views of her relationship with the child.

There were fewer total responses than for the first question, either indicating lessening interest in the test or greater difficulty in thinking of an object other than oneself.

Only a few observations can be offered after attempts at analysis of the responses.

The word "love" recurred frequently in answer to the question. It was used more often in the morning group:

Morning		Afternoon		Total	
pretest	post test	pretest	post test	pretest	post test
10	8	2	12	12	10

[1] The racial difference that shows up here leads one to speculate. There are many possibilities. One is that the white woman is able to express her feelings through her roles. When she writes "mother" she assumes the world accepts the fact that she probably is a good, loving mother. The Negro women may feel more inhibited by societal, discriminatory judgements and must therefore express her roles in a more subjective way. She may feel she must "prove" she is a good, loving mother by writing it just that way. It might make an interesting problem for research.

Children were also described as gifts of God,[1] as the most important part of a family, what keeps a family together, and, most poignantly, as "The only thing you can call your own." The responses suggest that whatever problems there are do not necessarily lie in lack of love for the child.

Another analysis made was to determine the frequency of use of negative terms in answer to the question.

Frequency of occurrence of negative terms:

Morning		Afternoon		Total	
pretest	post test	pretest	post test	pretest	post test
10	2	2	1	12	3

The drop in the use of negative terms (e.g. mean, pest, nuisance) by the Negro women may indicate that they had found ways of coping with or accepting these feelings, or perhaps that they were echoing the lecturer's positive view of children.

The data were examined for evidence of the mothers' recognition of the children's needs. The same concept might be expressed as the mothers' recognition of their responsibilities to the children.

Frequency of "Needs" responses:

Morning		Afternoon		Total	
pretest	post test	pretest	post test	pretest	post test
16	20	1	5	17	25

[1] This response may be taken as an expression of joy in children, religious conviction, or passive resignation about family size.

There was a slight increase in this type of response in both groups. The more noticeable fact is the racial differentiation of the responses. The Negro mothers made their responses in the form "a child needs," or "a mother must--for the child" more often than the white women. This may indicate only that the Negro women are more accustomed to dealing with ideas in a subjective manner and the white women more accustomed to concrete, objective use of language because of cultural factors. It should be remembered that the Negro women made more subjective responses to the question "Who am I?" too. This may be a factor tending to obscure basic agreement between the two groups. Two other guesses about the different responses might be made. One is that the Negro family in America has historically had a matriarchal structure. This may tend to make the women more accustomed to accepting the responsibilities devolving on the head of the household, while the white women are still not accepting of the loss of husband and its implications. Or we might take the data flatly at face value and say that Negro women are more aware of the needs of the children than the white women. This in turn suggests the thought that Negro children are more threatened by the society and "need" more from protective adults.

It is of interest to note that all statements were in terms of psychological needs. There were no statements indicating that a child is someone to cook for, buy clothes for, or keep house for.

In summary, the question "What is a child?" elicited items which suggested that change accomplished during the lecture series was in the direction of lessening negative concepts of children.

The last test question "What is a family?" got the

fewest responses. This may indicate fatigue or disinterest in the test or the question. Analysis of the data seems to suggest, however, that the responses were few because the women found it a difficult question to answer.

Illustrative of this is the response of one mother (who was regarded as successful based on her responses to "Who am I?"). On the first test she made no answer to the question. On the retest her response was, "A person have more than herself to take care." This is a good response in itself but hardly comprehensive.

Analysis of the test and retest data showed a static quality in this area. Numbers of answers did not increase markedly, and the similarity of answers from first test to second was noticeable.

That the question did not necessarily suggest to them the families they themselves are a part of is suggested by the fact that on the first test three women defined a family as having a father, husband, or man in it. On the retest, the number had increased to five making this sort of response. This suggests that their image of themselves as being part of a family unit (that is socially acceptable even if not socially comfortable) is not strong and was not successfully reinforced in class.

The majority of items were expressed in psychological terms. They apparently understood the work of the family as meeting emotional needs. Even the expression "working together" was most often used in a context suggesting emotionally supportive aid rather than physical help. Only one response specifically mentioned physical family needs: "to keep house for."

Terms used most frequently in describing a family

	Pretest	Post test
Love in family	7	7
Understanding	5	5
Working together	5	5

However one interprets the use of these terms, it seems apparent that concepts of the family did not change as a result of the series of lectures.[1]

There were only two negative terms used in answer to the question. One was a "family disagrees" (on the first test, the response was not repeated). The other was "a family fights, for and against." This response was made on the retest by one of the "failure" mothers who had described her memories of Christmas for the class: that was when her husband used to start to put up the tree, and then they would fight about it and he would stomp out of the house, leaving her and the children to do the job. Now that the husband was gone she had a cousin who was keeping up the "custom." She was the only woman who described or alluded to any marital problems at all.[2]

The only other deviation from the very positive tone of answers to the question were the more neutral words "problems" and "sometimes confusion" used by a "successful" mother.

---

[1]The women seemed to answer the first two questions in fairly personal terms so it seems unlikely that they would assume this question was about what other families are like. This is a possibility. But it only suggests that they cannot face what their own families are like.

[2]Glasser and Navarre, as mentioned earlier, also found the mothers they studied did not mention marital problems.

In view of the fact that all of these women had broken marital relationships, the answers indicate that this is not an area they are willing to explore or share.

An examination of all the responses to the question "What is a family?" reveals no basis for thinking that any change of attitude in this area took place during the lecture series.

The evidence of the test seems to indicate that about two-thirds of the women who completed the course showed positive changes in attitude. These women who made simple increases in numbers of consensual responses can be thought of as showing improvement in self-image. It might be hoped that increased awareness of who they are will lead to increased awareness of whatever strengths they may possess.

The chief reinforcement for the group seemed to come in the image of themselves as "mothers." Since this is probably the chief role that society expects of them, and what the child needs most, this was a most important result.

Two other responses that increased slightly in the group were "teacher" and "homemaker." Both of these concepts imply action and responsibility and are valuable images for the women to have of themselves.

On the other side of the ledger are the almost one-third of the women who showed a decrease in number of responses. A study might well be devoted to these women in an effort to uncover the factors that make them feel even less status after attending classes.

With the exception of the apparent lessening of negative concepts of children, the tests do not reveal that changes took place in ideas about children and families. If the test results are not completely misleading, this is a

most disappointing result of the courses. If it is true that little or no change took place, more work is needed to determine how best to communicate in these crucial areas.

The test instrument chosen seems to have revealed some facts that can be at least partially validated by observation of behavior. However, it is recognized that differently worded questions (e.g. "What is my child like?") might have brought forth information quite different in nature and import. A different arrangement of the questions, such as allowing a separate sheet for each one, might have suggested subtly that more answers were expected about children and the family. Different test instruments and follow-up procedures to check on observable behavioral changes would all be valuable in this area.

Several references have been made in the analysis of the data to apparent racial differences of response. This might suggest that really much more investigation should be made of possible subcultural differences which would suggest other methods of working more successfully with these families.

Differences between middle class lecturers and lower class students might also be classed as subcultural, and amenable to further study. Differences of expectations, language, all the implications of the phrase "life style," may all be involved in whether one experiences success or failure.

BIBLIOGRAPHY

Books

Buell, Bradley, and associates. Community Planning for Human Services. New York: Columbia University Press, 1952.

Goodwin, Kathryn D., et al. ADC: Problem and Promise. Chicago: American Public Welfare Association, 1960.

Kurtz, Russell H. (ed.). Social Work Year Book, 1960. Albany: Boyd Printing Co., Inc., 1960.

Remmers, H. H. Introduction to Opinion and Attitude Measurement. New York: Harper Brothers, 1954.

Social Welfare Forum. New York: Columbia University Press, 1957.

Social Welfare Forum. New York: Columbia University Press, 1958.

Social Welfare Forum. New York: Columbia University Press, 1959.

White, Gladys, et al. Improving Home and Family Life. Washington D.C.: U.S. Department of Health, Education, and Welfare, May, 1962.

Articles and Periodicals

Glasser, Paul, and Navarre, Elizabeth. "The Problems of Families in the AFDC Program," Children, XII (July-August, 1965), reprint.

_____. "Structural Problems of the AFDC Families," Journal of Social Issues, XXI, no. 1, reprint.

Kuhn, Manfred M., and McPartland, Thomas S. "An Empirical Investigation of Self-Attitudes," American Sociological Review, XIX (February, 1954), 68-76.

Miller, Henry. "Characteristics of AFDC Families," Social Service Review, XXXIX (Dec., 1965), 399-409.

Other Sources

Files of the Kent County Department of Social Welfare, Grand Rapids, Michigan.

Smith, Nelson G. "The ADC Strengthening Family Life Series (A Pilot Project) Sponsored by the Detroit Urban League in Cooperation with the Merrill-Palmer School and Wayne County Bureau of Social Aid," May, 1960. Mimeographed.

APPENDIX

WHO AM I?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

WHAT IS A CHILD?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____

WHAT IS A FAMILY?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____

ADULT EDUCATION PROGRAM NINTH SERIES

HOME AND FAMILY LIFE CLASSES

1. UNDERSTANDING AND ENJOYING YOUR CHILDREN
   Instructor: Kent County Home Economics Extension Service. Michigan State University Cooperative Extension Service.

2. HOW DO I LOOK TO MY CHILDREN
   Instructor: Home Economics Agent

3. FUN ON A SHOE STRING (Public Recreational Facilities)
   Instructor: Director, G.R. Department of Public Recreation

4. FUN ON A SHOE STRING (Family Activities)
   Instructor: General Supervisor, Grand Rapids Department of Public Recreation

5. HOW TO MAKE A HOUSE A HOME
   Instructor: Housing Inspector, Grand Rapids Health Department

6. LET'S TOUR OUR MUSEUM
   Instructor: Supervisor of Children's Activities, Grand Rapids Public Museum

7. EATING FOR HEALTH AND HAPPINESS
   Instructor: Home Economics Agent

8. THREE SQUARE MEALS A DAY
   Instructor: Home Economics Agent

9. HEALTHY WAYS MAKE HAPPY DAYS
   Instructor: Assistant Director of Nurses in Grand Rapids and Kent County Health Department

10. HOW TO LIVE BETTER WITH WHAT YOU HAVE - Class I
    Instructor: Home Economics Agent

11. HOW TO LIVE BETTER WITH WHAT YOU HAVE - Class II
    Instructor: Home Economics Agent

12. PLANNING FOR THE FUTURE AND GRADUATION
    Instructors: Director of Industrial Arts and Vocational Education, Grand Rapids Board of Education; Director of Community Services, Grand Rapids Urban League

Thesis
Gedon, Master of Urban Planning, 1965

ngdon, Master of Urban Planning, 1965

Clifford Richardson Bragdon, Master of L


Clifford Richardson Bragdon, Master of

URBAN CULTURAL EVOLUTION: AN HISTORICAL PERSPECTIVE

Thesis for the Degree of Master of Urban Planning

MICHIGAN STATE UNIVERSITY

Clifford Richardson Bragdon

1965

ABSTRACT

URBAN CULTURAL EVOLUTION

AN HISTORICAL PERSPECTIVE

by Clifford Richardson Bragdon

Our present day city represents a product of cultural evolution. Cities embody and transmit culture, since they are meaningful expressions created by mankind to fulfill certain needs. Culture in itself represents the sum of man's values, knowledge, and other meaningful symbols expressed by his social institutions and artifacts.

There are two significant characteristics of culture affecting city formation and evolution. One major feature is that culture can be accumulated, transmitted, and as a result, differentiates or expands over time. Secondly, it consists of non-material components, such as man's values, meanings and goals, while also having a material component consisting of physical objects or artifacts. These cultural components are inseparable, and together they portray the history of man.

As a consequence, the various urban cultures appearing almost since man's beginning, depict varying degrees of development, which are referred to in this thesis as levels of awareness. Every awareness level has certain modes of perceiving, or cultural subsystems which man has employed to understand life. These modes, so to speak, have been his senses, both materially and non-materially.

Clifford Richardson Bragdon

Within the history of the western world, four cities have been chosen to depict this evolutionary development. Each city type, including the Greek city-state or polis, the medieval, the paleotechnic or industrial revolutionary city, and our present city, represent the possession of different awareness levels with specific modes. Urban man in each city-type has had distinct artifacts, which have expressed a particular urban form.

Certain modes have predominated in urban culture. The pre-industrial culture possessed lower awareness levels, but comprehensively viewed life through synthetic and symbolic modes. Since urban industrialization, the less comprehensively based analytic and practical modes have contributed in segmenting urban life, although a higher awareness level has been obtained.

It is the purpose of this thesis to explore the material and non-material components of urban form as they have evolved through time. Our present day city lacks cultural balance since two modes are dominating man's awareness level. The remaining two modes, synthetic and symbolic, found during the pre-industrial time are greatly suppressed today.

The writer belives that by understanding more completely what our city has inherited, and what it expresses, a more desirable city can be constructed. Urban planning offers probably the greatest potential in the comprehension of these many cultural aspects. This goal can be reached only when the profession understands that man's artifactual forms are spatial expressions of cultural modes of perceiving with representative institutions.

Clifford Richardson Bragdon

The urban planner can act as the problem stater and clarifier, showing the various public and private policy makers how they can have more desirable cities. Man's present cultural resources can only be more fully utilized by the successful integration of all his institutions and modes of perceiving.

URBAN CULTURAL EVOLUTION:

AN HISTORICAL PERSPECTIVE

By

Clifford Richardson Bragdon

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF URBAN PLANNING

School of Urban Planning and Landscape Architecture

1965

Let us not forget that the man of today is a civilized being, the inheritor of a great legacy of thought, art, and faith, accumulated in the course of over five millennia of cultural civilization. Let us not offer him, therefore, a standard of life based on mere survival, but one great enough to satisfy his culture. We must live by an idea that satisfies the exigencies of civilized existence and not merely those of material subsistence.

Irvin Lazzlo

ACKNOWLEDGMENTS

I wish to make acknowledgment to the imaginative and successful partners, Ruth and Emmet Layton, who introduced me to, and fostered my interest in, urban planning.

To the School of Urban Planning and Landscape Architecture of Michigan State University I am grateful for the opportunity to learn from outstanding teachers. In particular, I would like to thank Professor Sanford Farness who directed, counselled and encouraged me so thoughtfully.

My special acknowledgment to Mrs. Ruthe Kombrink for her invaluable assistance in the preparation of this thesis for the press.

Thanks, also, to Denny Neilson for his help in the selection and processing of the photographs used.

The intangible, but nonetheless real help called inspiration was provided in ample measure by Sarah Jane Vaughn.

No acknowledgment would be complete without recognition of parental cooperation, without which it is difficult to have, much less plan, a career.

Clifford Richardson Bragdon

TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENTS	ii.
LIST OF FIGURES	vii.
CHAPTER	
I. INTRODUCTION	1
Framework	5
Greek City State	8
Medieval City	9
Paleotechnic City	11
Present City	16
Purpose	18
Limitations	19
II. THE GREEK CITY STATE	21
Form Shapers	25
Artifactual Forms	28
Geomorphology	28
Acropolis	29
Agora	29
Intellectual Growth	30
Local Market Economy	31
Illustrative Summary	33

CHAPTER PAGE

III. THE MEDIEVAL CITY 35

Form Shapers 37

Town Form 42

Related Form Shaper Influences 45

Artifactual Form 49

Space 50

Scale and Movement 53

Market Place 55

Medieval Guild 57

University 59

Conclusion 61

Illustrative Summary 62

IV. PALEOTECHNIC CITY 65

Paleotechnic Sketch 66

Institutional Perspective 72

Cultural Subsystems: Institutional Form Shapers 75

Analytic 75

Synthetic 77

Symbolic 79

Practical 81

CHAPTER		PAGE
IV.	Cultural Subsystems: Institutional Forms	83
	Analytic	83
	Synthetic	85
	Symbolic	86
	Practical	88
	Illustrative Summary	91
V.	THE PRESENT CITY	94
	Institutional Framework	95
	Definitions	97
	Values	97
	Goals	97
	Methods	97
	Dialecticism	98
	Artifact	99
	Examples of Institutional Dysfunctioning	100
	Inter-Institutional Dysfunctioning	100
	Inner-Institutional Dysfunctioning	104
	Relationship of Economics to Government	105
	Relationship of Economics to the Artistic Institution	106
	Relationship of Economics to the Health Institution	108

CHAPTER		PAGE
V.	Summary of Institutional Dysfunctioning	110
	Urban Scale: Institutional Origins	111
	Aesthetics	113
	Congestion	115
	Health	118
	Illustrative Summary	123
VI.	SUMMARY AND CONCLUSIONS	126
	Step One: Education	127
	Step Two: Investigation	128
	Step Three: Suggestion	129
	FOOTNOTES	130
	BIBLIOGRAPHY	139

LIST OF FIGURES

FIGURE		PAGE
1.	The three characteristics of the definition of culture as viewed in an historical continuum	3
2.	The four principal levels of awareness occurring in the process of urban cultural evolution	4
3.	The urban cultural framework of city types: their representative level of awareness, and dominant-subordinate modes of perceiving	7
4.	The mythical level of awareness represented by the Greek city-state	9
5.	The intellectual level of awareness represented by the medieval city	11
6.	Comparative pre-industrial and expanded industrial urban cultures with their modes of perceiving ..	14
7.	The self-conscious level of awareness represented by the paleotechnic city	16
8.	Present urban cultural dysfunction represented by dominating individual consciousness in practical and analytical modes of perceiving	17
9.	The extended self-conscious level of awareness represented by the present city	18

FIGURE		PAGE
10.	Dominant and subordinate levels of awareness influencing the polis	23
11.	Urban artifactual forms and form shapers prevalent within the polis	33
12.	The Greek city-state and its archetypical form	34
13.	Urban form shapers prevalent within the medieval city	62
14.	Urban artifactual forms prevalent within the medieval city	62
15.	Pre-industrial collective consciousness. An ordered, but not rigid, urban development	63
16.	Medieval modes of perceiving as expressed by the dominating ecclesiastical focal point	63
17.	Medieval enclosure of physically defined meaningful artifactual forms	63
18.	Analytical industrial cultural subsystem and principal institutions	73
19.	Synthetic industrial cultural subsystem and principal institutions	73
20.	Symbolic industrial cultural subsystem and principal institutions	74

FIGURE		PAGE
21.	Practical industrial cultural subsystem and principal institutions	74
22.	Urban form shapers prevalent within the paleotechnic city	91
23.	Urban artifactual forms prevalent within the paleotechnic city	91
24.	An entrepreneur's industrial Utopia. Suppressing symbolic-synthetic perceiving by emphasizing practical-analytic modes	92
25.	The emergence of a new urban focal point, industrial manufacturing, dominating paleotechnic man ...	92
26.	Industrial individual consciousness. The appearance of competitive form shapers and artifactual forms .	92
27.	Principal institutional components of each industrial cultural subsystem	96
28.	Urban form shapers prevalent within the present city .	123
29.	Urban artifactual forms prevalent within the present city	123
30.	Reduction of the health and aesthetic institutions with emphasis upon economic institutional values	124
31.	Maximizing individual self-consciousness, resulting in physically meaningless urban expression	124

FIGURE PAGE

32 The present city. Our disrupted urban pattern with multiple, but independent, artifactual forms and form shapers 124

CHAPTER I

INTRODUCTION

Our present day city represents a product of cultural evolution. Cities embody and transmit culture, since they are meaningful expressions created by mankind to fulfill certain needs. Throughout city history a few prominent needs have included shelter, protection, and exchange. Culture itself is the sum of values or interests, knowledge and other meaningful symbols created by mankind and expressed by his social institutions, customs and artifacts, or tools.[1] There are, however, several characteristics of culture that should be examined in regard to city formation and evolution.[2]

1. Transmission

Culture is a learning process, symbolically meaningful, originating with man's values and knowledge. Succeeding generations add to the accumulated knowledge in their lifetime, and pass it on through the language and tools they have inherited, improved upon, or created. The city itself, is a carrier of culture, depicting man's most meaningful past and present.

2. Accumulation

Cultural evolution is also an accumulative process, since man is capable of retaining and developing transmitted culture. As centuries have elapsed, the two primary aspects of culture, material and non-material, have enlarged. Non-material values , such as knowledge and language, become meaningful when they are associated with material objects, such as artifacts or tools. Time, for example,

has little meaning for us today until it is associated with some material way of measurement. It is understood because we have artifacts that include watches, time clocks and calendars which give it a physical expression.

3. Differentiation

In early urban cultures man viewed life very simply, though due to man's ability to accumulate and transmit culture in many ways urban life has expanded in succeeding generations. Initially, knowledge and the meaning of life were portrayed chiefly through nature, because life involved the satisfaction of biological needs. Nature clothed, fed, and protected man. The artifact of time in early urban civilizations, as an example, was the rising and setting of the sun. Only later came the sundial. All artifacts were closely connected to nature.

During later urban cultures man began to realize life was more complex. Nature could be shaped and, to an extent controlled, by man. In addition to the biological, there slowly developed spiritual, social, economic, and psychological needs because of man's growing awareness of what life meant. Our pictorial image of life grew to include discursive or written imagery, which began to reflect the process of logic. Cultural differentiation became apparent with the expansion of human knowledge. In contrast to the earliest stages of human existence, then, material and non-material culture grew, offering more avenues for understanding.

In an effort to view these three cultural characteristics comprehensively, Figure 1 appearing on Page 3, indicates their inter-relatedness. The ability of the human being to communicate, hence transmit culture physically through symbols has enabled later man to have the opportunity to improve his existence. Our capacity for retaining transmitted culture by accumulation, in turn, has given

man different urban perspectives because of cultural differentiation.

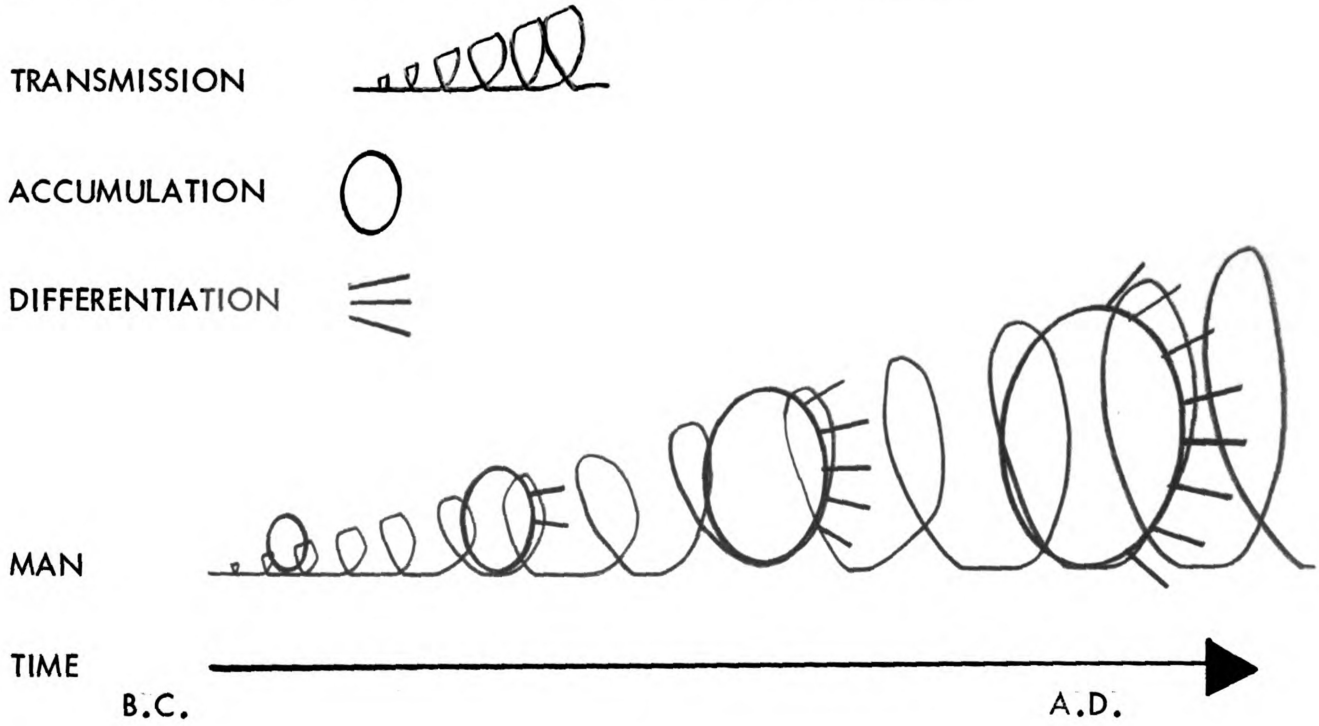


Figure 1. The three characteristics of the definition of culture as viewed in an historical continuum.

To understand cultural evolution more completely, especially in regard to several key terms advanced in the following "Framework" section of this thesis, Figure 2 is offered. The term "level of awareness" is defined as a stage of cultural achievement. It is this writer's contention that four different levels have appeared in the urban development of western culture. These include, the mythic, intellectual, self-conscious, and the extended self-conscious levels of cultural awareness. Certain civilizations fit these various levels, although it would be erroneous to say all our cities can be conveniently placed in one of these four levels. A more important observation is that:

1. Cities in history differ from the standpoint of cultural compostion.

2. The more modern day cities have inherited a larger collection of material and non-material cultural aspects than earlier ones.

A second term presented is "mode of perceiving". Modes are simply subsystems of culture that are subordinate to the prevailing level of awareness. They represent various ways individuals of each respective urban culture view their lives. Cities are shaped by these modes, since they indicate the predominant values the urban populus possess and the artifacts associated with people's values.

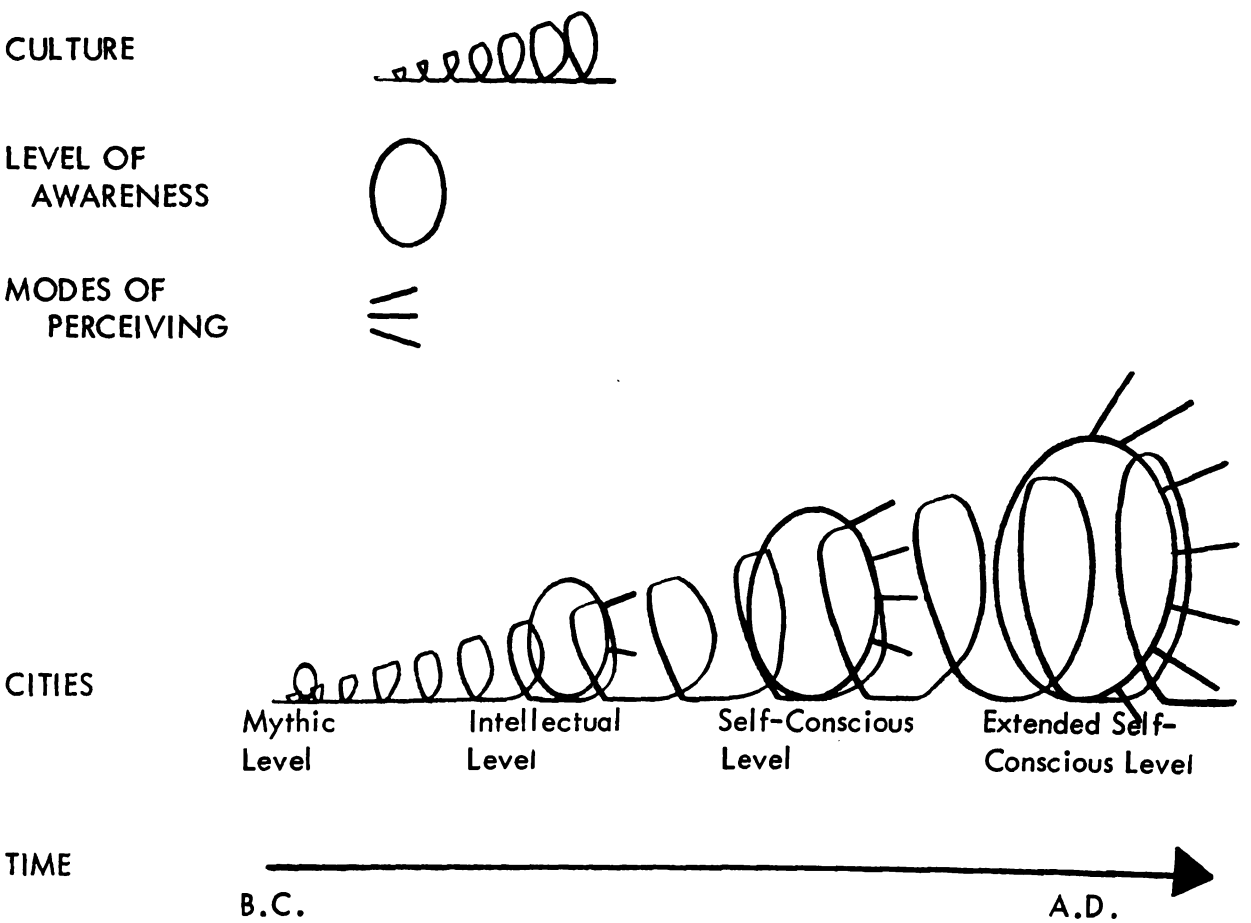


Figure 2. The four principal levels of awareness occuring in the process urban cultural evolution.

FRAMEWORK

Within the history of the western world, four cities have been chosen to depict this evolutionary development of urban culture. Each city-type chosen, which includes the Greek city-state, the medieval, paleotechnic and present city, represent the possession of different cultural levels of awareness, with specific modes of perceiving. Urban man in each city-type has had distinct values, knowledge and meanings physically represented by distinct artifacts, which have expressed a particular urban form.

Urban form, however, should not be interpreted to mean only physical shapes such as road networks, residential settlements, and other manmade features. Form also includes the social structure of the urban culture, its prevailing spirit and atmosphere. This term, therefore, is a union of both material and non-material cultural objects.

The distinct values, meanings and knowledge found in these urban cultures are referred to in each succeeding chapter as form shapers. Form shapers are non-material, since they themselves are not physical. The objects of material culture are referred to as artifacts. Artifacts represent physical expressions of non-material values, knowledge and meanings shared by man in his culture. Each physical expression is called an artifactual form. Form shapers and artifactual forms work together to create distinct urban settlement patterns. In our present culture, for instance, man's values and knowledge expressing a desire for movement has become meaningful through such artifactual forms as the automobile, jet aircraft, subways, elevators, and other similar objects. Though this is just one example, there is a whole interrelated network of form shapers and artifactual forms that depict each

distinct city type.

As suggested earlier, both form shapers and artifactual forms of culture have evolved over time. Each city type described in this thesis (polis, medieval, paleotechnic and present cities) evoke different levels of awareness. In other words, a form shaper, consisting of certain needs, values and knowledge represented by certain artifactual forms differ within each urban culture. Since the polis had a different set of form shapers and forms than our present city, man perceived urban life differently. Today's urban level of awareness expresses four modes of perceiving. Only certain modes appeared in these earlier cities, whereas later all of them became evident. Some modes have become subordinate to others.

These modes of perceiving, which are ways urban man views his existence, include: symbolic, synthetic, analytic, and practical. Figure 3, appearing on Page 7, describes urban cultural evolution by relating the specific stage of cultural awareness with its characteristic modes of perceiving to exemplify city types. The symbolic mode of perceiving has produced visual aspects of culture, such as art, music, and architecture. Synthetic perceiving embodies religion and philosophy, whereas analytical perceiving is associated with science. Practical modes of perceiving, common today, relate to technique. The institutions of economics and government are two examples.

Certain modes have predominated in each culture. Early urban man, for instance, lived in a pre-scientific level of awareness that expressed mainly symbolic and synthetic perceiving. Synthetic perceiving described the whole life. It related man to his universe or cosmos. The experience of synthetic perceiving, especially in our most ancient cultures comprehensively described rational and emotional activity.[3]

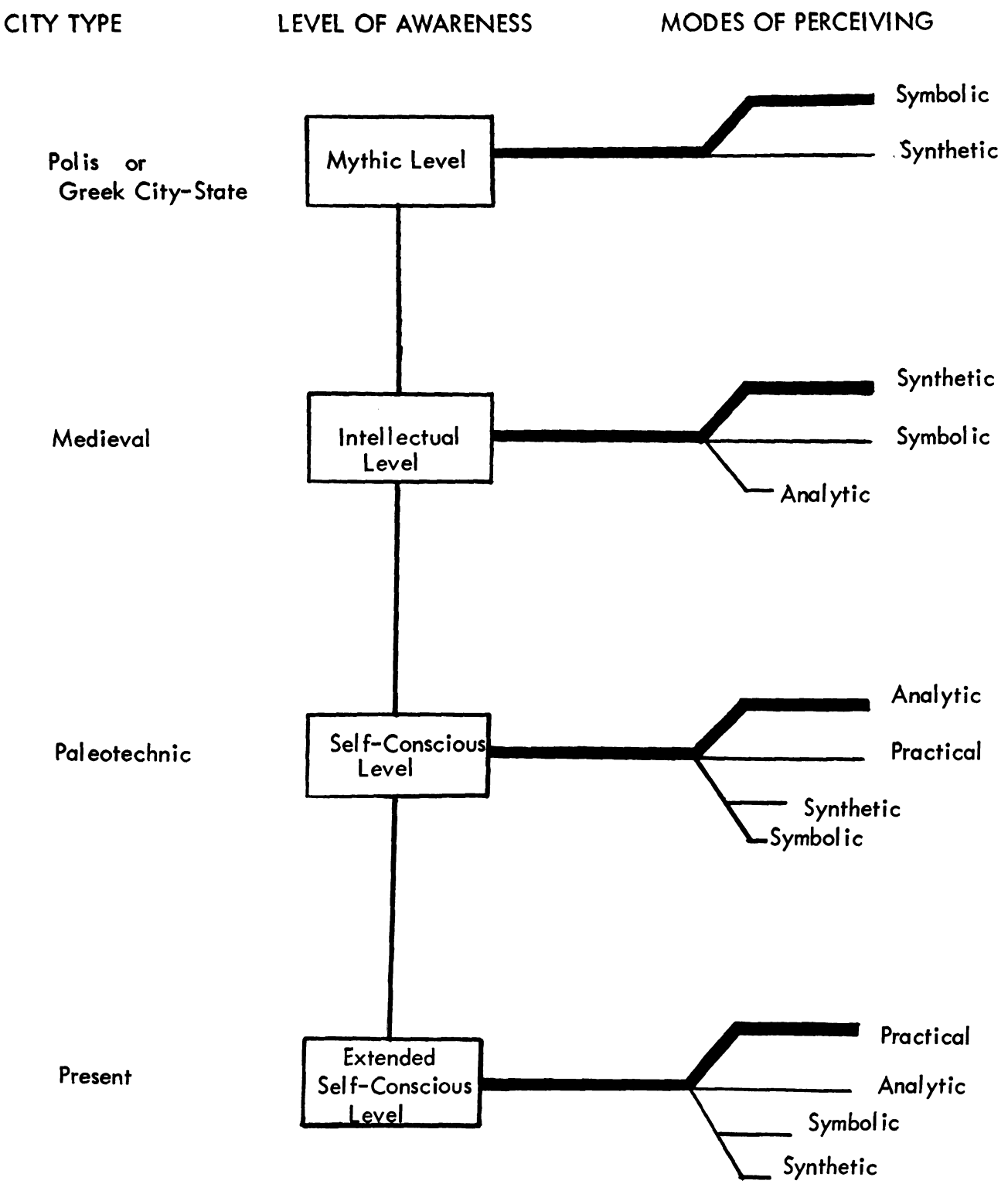


Figure 3. Urban cultural framework of city types: their respective level of awareness, and dominant-subordinate modes of perceiving.

The world of pictorial symbols reinforced the meaning and understanding in man's early synthetic development.

It is only later that an analytic or scientific mode began to predominate, evolving from synthetic understanding. Analytic perceiving, in contrast to the more comprehensive notions associated with synthetic perceiving, viewed man in his constituent parts. This method was based upon only rational and objective reasoning.[4] Reinforcing this later mode was, again, symbolic perceiving, but its boundaries were now to include mainly discursive or written imagery, with pictorial imagery reduced.

Let us now turn to these four city types and describe their principal levels of awareness, and how the form shapers and artifactual forms, instituted by man, has created distinctive cultural patterns. Although a brief discussion appears below covering each city type, one chapter is devoted to each city.

A. Greek City-State

Commonly known as the polis, the Greek city-state depicts urban form for 200 years of Greek history, from approximately 600 to 400 B.C. During this time man viewed life as a combined symbolic-synthetic level of awareness, dominated however by the former. Described in Chapter II, Greek culture was symbolic because man's form shapers were expressed pictorially. There appeared strong visual communication. At the same time, synthetic perceiving existed. It was synthetic in the sense that a religion or faith, and philosophy, existed with the artifactual form of nature. This pre-Christian culture relied extensively upon the gods of nature to direct man's life, and to give understanding to everything around him.

In Greek culture this combined symbolic-synthetic awareness is frequently called myth. Nothing was unknown to Greek man because myth could describe all aspects of polis life. As a consequence, mythic form shapers such as sacrificial rites, ancestry worship, idolatry and other rituals gave meaning to man's artifactual forms. His temples, palaces, houses of government and residences with their hearths were mythically perceived. Forms of the polis conveyed immediate symbolic-synthetic meanings, values and knowledge. Symbolic and synthetic perceiving worked together. Life for the Greek man was simple to interpret, because there was only one level of awareness involved. Analytical ways of perceiving through science also began, but its cumulative effect upon the Greek city-state was not significant at this time. Science was being formulated, but it was being fashioned as a philosophy and little application existed.[5]

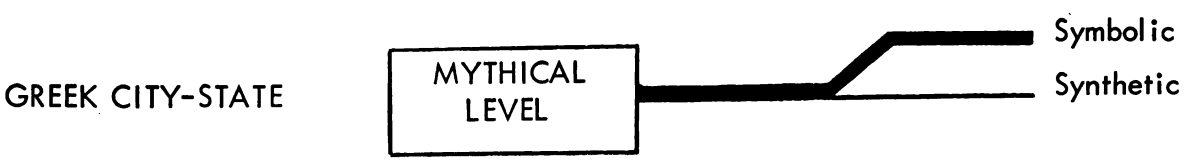


Figure 4. The mythical level of awareness represented by the Greek city-state or polis.

B. Medieval City

Medieval history spans approximately eight centuries, from 600 to 1400 A.D. The medieval city form with its inherent cultural values, needs and knowledge,

described in Chapter III, generally appeared during the latter half of this period. During these 800 years man's principal mode of perceiving was the synthetic. Christianity guided and shaped western cultures form. In contrast to the polis culture, synthetic perceiving dominated, while symbolic perceiving receded.

Offering the monasteries as a refuge, the Church was the sole inheritor of Graeco-Roman culture. A religious awareness was a complete awareness for the medevial city man. Anything culturally meaningful was perceived simply, through the synthetic

Commenting on this synthetic condition of medieval culture, Ervin Laszlo suggests that

> The individual had only to believe in a doctrine which was offered everywhere, among the learned as among the simple, to obtain what was held to be the full truth. He then received a fully comprehensible, satisfactory picture of the world, with God as the supreme ruler and source of all things, and man as the centre and finest expression of his culture.[6]

Also by this time symbolic perceiving was now both pictorial and written. This meant architecture, music, art, which are principally pictorial, had discursive or written counterparts. Prose, poetry, and other written meanings enlarged the symbolic mode. Because the synthetic dominated, most symbolic perceiving under this Christian influence was expressed through the synthetic. Church art, music, and poetry were the prevailing uses of the symbolic.

The later medieval city represents an intellectual or logical spirit, since man began to communicate and exchange ideas both in a pictorial and discursive way. Consequently, another subordinate mode, existing along with symbolic perceiving, was the analytic. Science, or the analytic mode of perception, was

sanctioned by the Church, and its influence upon urban culture was not felt directly until the renaissance. Even if the Church did not completely govern the medieval city, canon law and sacred custom largely influenced material aspects of culture. Medieval royalty that headed these western countries justified their authority through the "divine right of kings" doctrine.

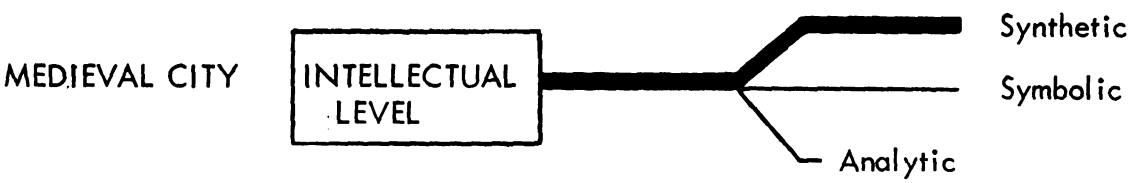


Figure 5. The intellectual level of awareness represented by the medieval city.

C. Paleotechnic City

The paleotechnic city represents the foundation for man's present urban culture. Until the time of the paleotechnic city his level of awareness was unified or collective. Cultural differentiation had evolved, but man's life was still satisfactorily expressed collectively, not individually. Polis life was perceived mythically and medieval city life relied upon the church and royalty for direction. Oftentimes described as pre-industrial cultures, the values, meanings, and body of knowledge man possessed in the polis and medieval cities were shared. Form shapers and artifactual forms were communal, although different roles did exist. These city economies were very local ones, and the satisfaction of just basic needs was all that

recognized, therefore desired.[7] Wealth was not rigidly interpreted as monetary gain, but rather just one quality depicting man. Fulfillment of the pre-industrial life meant participation of both man's body and spirit, for the destiny of man's future was the same for all. The fear of the unknown was mutually shared by all mankind.

Pre-industrial artifactual forms reflect this collective way of perceiving. Nearly all these pre-industrial cities were encircled by walls, giving man a feeling of mutual containment and safety. Constructed for defense purposes these walls united men against a commonly shared enemy. Land and its ownership was another artifactual form. Medieval land in these cities was either leased directly from the crown, or it was held by a few royal subjects, or the church. Later in this period cities received charters, exempting them from complete land control by the crown or church. Most city inhabitants were faced with a common land ownership situation. Local industry usually combined medieval man's place of residence with his place of work. Characteristic, also, in the polis, the economy of the pre-industrial cultures first served the immediate family needs.

Even the individual's most basic needs were communally offered. The water supply for each town's residents was available from a few mutually accessible fountains and water holes. Personal bathing, when performed, was done at the few local bath houses. Family clothes washing meant a gathering of many women in mutual areas. Within these pre-industrial cultures little distinction appeared between public and private activity in later contrast. Police protection, as an example, now considered a public responsibility, was shared by all the city's male residents. They took turns guarding the city against the evil lurking beyond the

city walls.

All this began to change as the renaissance city developed, and gave way to the industrializing culture of the mid-eighteenth century. The paleotechnic city, described in Chapter IV, began in England and lasted approximately 150 years. Man's cities no longer were collectively seen, because urban culture had advanced to a new level of awareness. The pre-industrial collective culture, gave birth to an industrial culture where man became free and independent. A collective mode of consciousness yielded to a mode of self-consciousness. Fragmentation and specialization arose with this level of cultural awareness, which had accumulated but differentiated knowledge.

There were new modes of perceiving, and the previous ones enlarged. A major addition was man accepting the analytic perception of science. The Copernicum concept of the universe meant that the earth, hence mankind, was no longer center of the universe. Earth similar to other planets now revolved around the sun, therefore man became an observer, rather than the one observed. Analytic perceiving utilized the scientific method, which meant man observed with his external senses. This mode of perceiving suggested to man that he should believe only what he observes, that which is physically evident. Combining with this, was the practical mode of perceiving. Practical perceiving embodied the viewpoint that man's cultural values, needs, and knowledge should be applied for achieving a definite human purpose rather than a divine or mythic one. Inventions, for instance, represent the combination of analytic and practical ways of perceiving.

To the individual of this industrial culture, the analytic and practical modes of perceiving are more beneficial to his own well-being, rather than the more

collective synthetic and symbolic forms. The satisfaction of needs slowly began to be interpreted in terms of material or personal well-being, satisfied by accumulating monetary wealth. This could only be achieved by competing with fellow men.

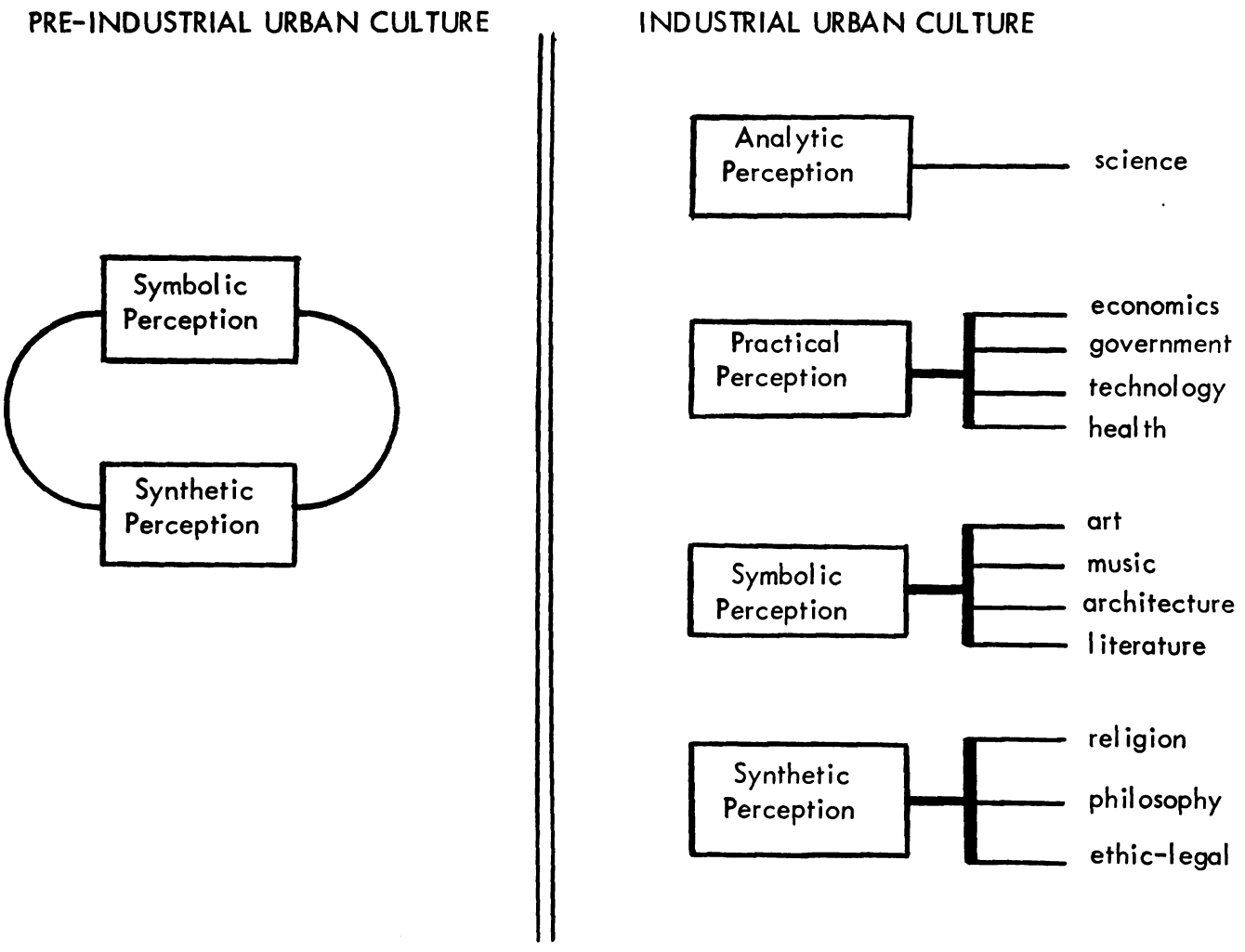


Figure 6. Comparative pre-industrial and expanded industrial urban cultures with their modes of perceiving.

The collective culture changed in two ways when the pre-industrial city became a part of history.

1. There was no longer one acceptable perspective, in which all man's modes of perceiving focused upon a collective or shared purpose. By cultural transmission, accumulation, and differentiation, new levels of awareness were achieved; absorbing and reducing these earlier levels, under the influence of analytical and practical perceiving.

2. Each method of perceiving, with the advancement of man's knowledge, values, and needs, became institutionalized. These four ways of perceiving that compose culture are separated into many institutions as shown in Figure Six, Page 14.

Institutions became subcultural modes of perceiving, accepted by a group of individuals who share an accepted set of values or interest, goals and knowledge. Each institutions composed of individuals, performs certain roles or activities. It also is characterized by some organizational structure, and expresses artifactual forms.

The paleotechnic culture then, was guided by a set of certain institutions which represented two modes. Economics and technology composing the practical, and science representing the analytic mode, now directed paleotechnic city life. Synthetic and symbolic modes of perceiving, in turn, were reduced in significance. This is attributed to the individually competitive industrial culture common with analytic and practical modes, as opposed to the earlier collective pre-industrial cultures where synthetic and symbolic structured urban life.

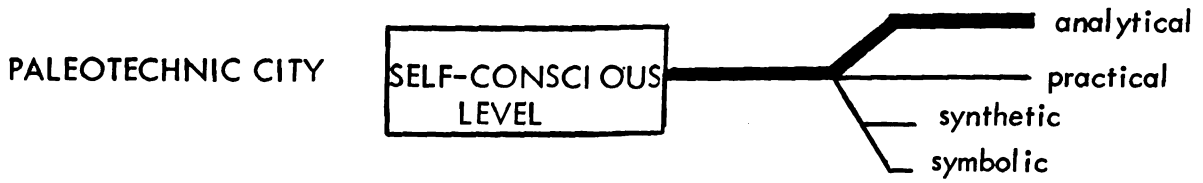


Figure 7. The self-conscious level of awareness represented by the paleotechnic city.

D. Present City

Our existing urban culture is just an extension of the paleotechnic culture. Further cultural differentiation and specialization has occured, however, among the institutions, causing man to become less aware of his modes of perceiving, or subcultural system. This is happening, since each of these institutions, with its specific group of individuals, is expanding its body of knowledge, and meaningful expressions in light of the institution's own set of values and goals. One example of this trend relates to communication. First, it is becoming more and more difficult to understand the specific jargon each institution uses to express itself. Secondly, common words among our culture quite frequently have different visual and discursive meanings within each institution.

Chapter VI, The Present City, discusses how man's existing urban culture has further compartmentalized life. Now his institutions are becoming larger, more self-directive, and uncoordinated, each one pursuing its own values, and goals

which inhibits a collective urban perspective. These consequences are examined within this chapter by focusing upon man's present urban problems and how these urban problems have certain institutional origins. A second viewpoint presents the major institutions found in each cultural subsystem or mode of perceiving, and how man is using particular institutions at the expense of others, resulting in certain urban problems.

The concept of dysfunction is introduced to describe our presently imbalanced urban culture, where man's present awareness level has escalated practical and analytic modes, and with this domination has suppressed synthetic and symbolic modes of perceiving. Group consciousness, strongly a part of preindustrial culture, has yield to individual consciousness of our industrial urban culture. Institutional fragmentation has reinforced this division between individual and collective awareness by reducing each mode of perceiving into further compartmentalization.

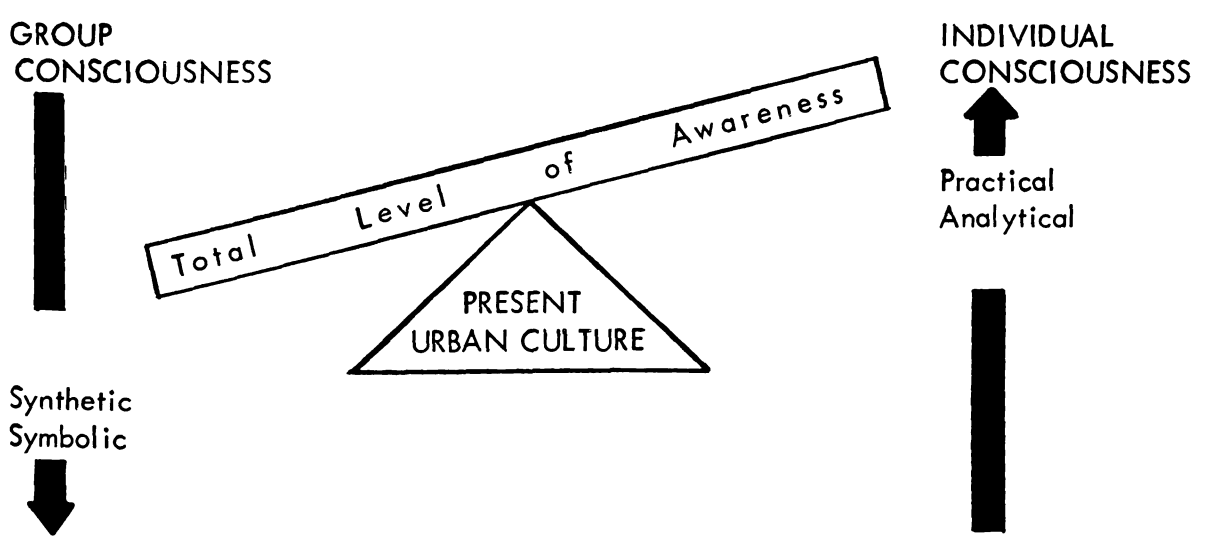


Figure 8. Present urban cultural dysfunction represented by dominating individual consciousness in practical and analytical modes of perceiving.

The desire to understand life's complexities in a comprehensive way is severely handicapped. Problems affecting our present cities persist in such an undesirable situation. Urban forms, and the supporting institutions man has come to accept perpetuate both positive and negative characteristics. No one mode of perceiving can satisfy all man's needs. Dysfunction shall continue until there is a reunion of all four cultural modes.

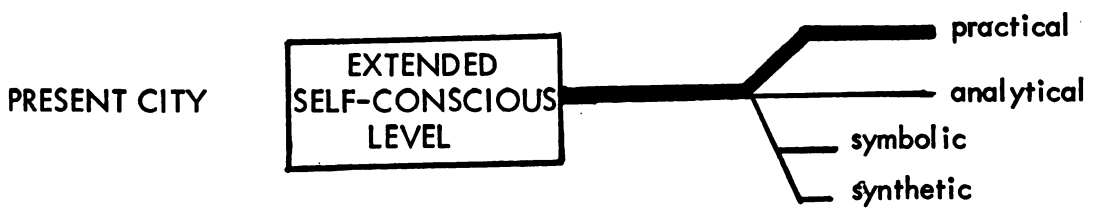


Figure 9. The extended self-conscious level of awareness represented by the present city.

PURPOSE

It is this writer's contention that by examining the dynamics of urban cultural evolution, a theory of urban form is possible. Forms of our past and present cities must be rejoined with the cultural values or interests, goals and knowledge man has used to produce these settlement patterns. For the most part, we have come to accept only the physical expressions of culture, discarding equally important cultural values behind urban physical form. Until both artifactual

form and form shapers are envisioned as one, a valuable dimension will remain missing, hampering the understanding of urban culture. By realizing what has produced form, presently undesirable patterns can be altered to better satisfy man's needs.

Also, we wish totrace urban development from the standpoint of its levels of awareness and the various modes that existed as urban man has progressed. Since man has the ability to accumulate, transmit, and differentiate culture, it is a continuous job to assure that these cultural modes, with their various institutions be considered in constructing the most habitable cities.

The purpose of this thesis will be achieved by:

1. Describing the evolutionary process of urban culture, and how each city type is a part of a growing historical continuum.

2. Describing man's cultural artifacts or tools found within each city type, and how these cities physically represent certain needs, values and knowledge man possesses. At the conclusion of each chapter an illustrative summary will appear.

3. Suggesting, in the conclusion, a comprehensive way to describe existing urban functioning by associating man's needs, values and knowledge with his physical expressions and artifacts constituting material culture.

LIMITATIONS

There are certain limitations the reader should realize regarding the scope of this thesis. The following are a few major limitations apparent.

1. This description of urban cultural evolution involves only the western culture

2. Dysfunction, although a part of every awareness level, hence common among all city types, is examined only in the present because the existing city is our prevailing concern. History cannot be changed, but man's present can.

3. A great reliance has been placed by this writer upon historical scholars in tracing urban cultural evolution. At times the reader may believe that some of these historical accounts are removed from the urban question. Throughout, an attempt has been made to concentrate upon urban history, but frequently a minor digression is purposely made to reflect urban-rural contrast.

4. No attempt has been made to depict more than a general city type for each recognized level of awareness. This writer realizes variations in these cultural levels are common and all cities do not fit the types described. To take into account the minor discrepancies would be beyond the scope of this thesis.

5. In developing this general theory, the significant contributions of many individuals of historical note throughout history are not described. It is recognized by this writer that their contributions were substantial in every level of awareness throughout the development of urban culture.

6. To avoid continual reference to the fact that persons composing each city type have created cultural modes and institutions, usually terms, such as culture, institution, and form are presented alone.

7. Except for a few suggestions on how to relate this urban theory to our existing cities, this thesis is exploratory in nature. It is an attempt to develop a theory of urban form and culture, but not, at this time, to develop a practical and detailde way to apply it to the process of urban planning.

CHAPTER II.

THE GREEK CITY-STATE

It seems quite natural to modern man to accept his urban spatial form and his present form shapers, creating settlement patterns as always existing. Our seemingly ordered universe has, however, evolved from a mythmaking consciousness. Recognizable urban patterns depicted by man's artifacts have only gradually evolved from myth. This mythic level of awareness dominated the pre-Summarian cultures. Man's life had meaning only pictorially. By combining sets of pictorial images, understanding and communication was possible. During the Graeco-Roman civilization this level of awareness also prevailed.

Mythic thinking described by Ernst Cassier as an immediate appearance, or as purely presentation, embodied within the imagination, was the predecessor of linguistic conception.[8] The world of visual sense impression was being transferred into a world of ideas and meaning by language. Language takes us from a complete mythmaking level of human mentality to the level of logical thought and conception of facts. This transformation meant another dimension was added to the way man perceived his existence.

Greek culture reflected this transition. Mythic perceiving characterized by pictorial or presentational imagery, and intellectual perceiving characterized by written or discursive imagery began to build a body of cultural knowledge in the polis. In order to capture the cultural flavor that existed we must regress to a time where lower levels of awareness prevailed. The present historian cannot accurately

recreate the past in terms of present cultural developments without removing the present modes that were absent in earlier cultural levels. Alfred Zimmern aptly relates this need to culturally regress in his work, The Greek Commonwealth.[9]

> It is easy to think away railroads and telegraphs and gasworks and tea and advertisements and bananas. But we must peel off far more than this. We must imagine house without drains, beds without sheets or springs, rooms as cold, or as hot, as the open air, only draughtier, meals that begin and ended with pudding, and cities that could neither boast gentry nor millionaires. We must learn to tell the time without watches, to cross rivers without bridges and seas without a compass, to fasten our clothes with two pins instead of rows of buttons, or wear our shoes or sandals without stockings, to warm ourselves over a pot of ashes, to judge open-air plays or lawsuits on a cold winters' morning, to study poetry without books, geography without maps, and politics without newspapers. In a word we must learn to be civilized without being comfortable. Or rather we must learn to enjoy the society of people for whom comfort meant something very different from motor-cars and arm-chairs, who, although or because they lived plainly and austerely and sat at a table of life without expecting any dessert, saw more of the use and beauty and goodness of the few things which were vouchsafed them...their minds, their bodies, and nature outside and around them.

These cultural levels of awareness in which we view our cities have been categorized by a noted social philosopher as stages of participation.[10] "The extrasensory relation between man and phenomena" that Owen Barfield defines as participation, begins by being an activity essentially communal or social. Originally participation took place in rites and initiating ceremonies where a collective mental state of extreme emotional intensity was exhibited. Culture at this point is undifferentiated. This is a pre-mythic stage. The first cultural development is from active participation where the individual feels he is totem, to collective representations of totemic life where the individual feels ancestors were the totem.[11]

Greek culture is where this first collective representation appears. Important for us to remember in visualizing Greek culture and, later, more pertinent, the Greek polis, is the constant interplay between two levels of awareness, myth and intellectual. Evident within all these artifactual representations of the polis will be these dialectical forces depicted below.

DIALETICAL LEVELS OF AWARENESS

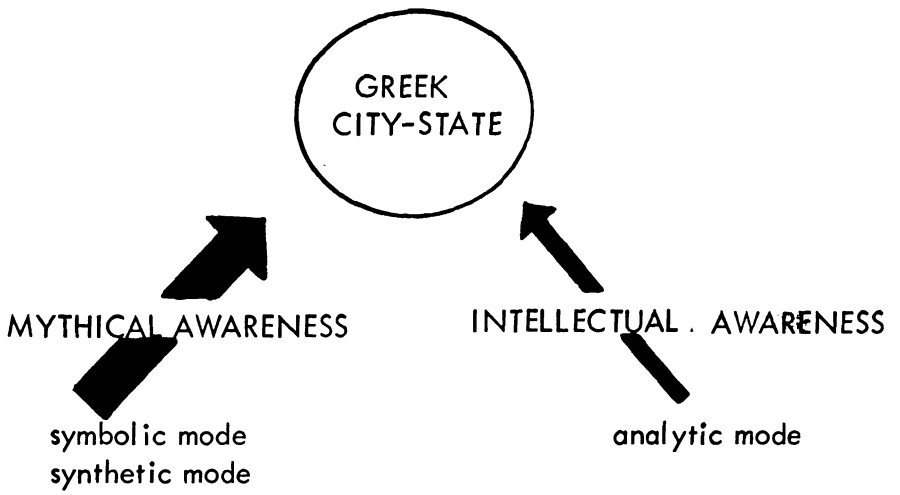


Figure 10. Dominate and subordinate levels of awareness influencing the polis.

Lewis Mumford, considered by many to be the leading contemporary urban historian, has accurately captured this polis cultural conflict.[12]

> Between the sixth and fourth centuries, B.C., the Greek cities found themselves in the throes of two severe conflicts: first, an attempt to define the limits of law and justice and mutual aid, as against the claims of hearth and kindred (mythic); second, not unrelated to this, an effort to free the intellect itself through logic, mathematics, and rational morality from the savage presentations of the unconscious.

Even though these two levels are partially depicted as opposing forces, with myth dominating intellectual awareness, together they formulated the Grecian sphere of knowledge, values, and goals. Common to any emergent process, compromising and re-defining occured, which in turn adjusted man's artifactual patterns. Examining this as an historical continuum as culture approached the renaissance and paleotechnic periods, these two levels became more divergent. Mythic awareness, which viewed man's world as a whole since he was a part of a cosmology, contrasted with intellectual awareness whereby the scientific mode examined man himself, thus dividing him into smaller observable units.

Jacques Ellul who has developed a theory of western culture in terms of technological evolution, believes that the Greeks though they were the first culture to have coherent intellectual awareness, did not emerge because of the domineering mythic level of awareness. Four less theoretical reasons have been given to explain this characteristic.[13]

1. Greek conception of life scorned material needs and the improvement of practical life (possible by advancing analytical and practical mode of perception).

2. It held contemplation to be the only reason for intellectual activity.

3. Greek culture refused the use of power because it represented an aspect of brute force and implied a want of moderation.

4. Grecian man respected all natural things.

The mythic level of awareness produced a group consciousness. There was expressed between man and nature an inner experience, repressing the outer experience of man as an entity; dissociated from nature as found in the intellectual

awareness level. Life therefore was inspired by the gods of nature, with the human being attempting to follow this pattern in his life. Modes of both symbolic and synthetic perceiving reinforced mythic awareness. Artifactual form in turn was mythically perceived. The home within the polis is a good example of the mythic. Fashioned in a cosmogony, the roof of a dwelling appeared to Greek man as a celestial vault, and its four walls corresponded to the directions of cosmic space. Let us now turn to a fuller inquiry of both the form shapers and the physically produced artifactual forms associated with this prevailing awareness level.

FORM SHAPERS

Man's triumphant expression as a creative force of the universe was born of the principal form shaper associated with the symbolic and synthetic spirit. Divine guidance was represented by ancestral worship, since the ancient city was a union based on the worship of a shared god.[14] Sacred rituals where members renewed their committment by re-identifying themselves with a common source of strength and energy were communally performed before their protective deity. Feelings and emotions as physical expressions of values predominated.

Cults, composed of common worshippers, or phratry were divinities superior in scale to households.[15] Household authority was subject to customs, rites, and later more formalized laws, based on a hierarchal order of pre-Christian myth. The priest of the hearth with its hereditary succession provided constant rule, subject to no other social power. Religious relics were divinely

identified, since the city's welfare depended upon the preservation of its kings. Their loss or destruction would bring disaster to the community. Divine rule having indisoluble bonds of association entered all aspects of community activity. Ancient codes of the cities were merely a collection of rites, liturgical directions and prayers joined with certain legislative regulations.[16] The city represented a confederation of patriarchal households obliged to respect religion and a civic independence. Formal regulation was minimal, since it was based on tradition. The king, priest of the hearth, had no great need for either army or treasury. Sacrifices to the temple provided adequate revenue, though at a later date obligatory tithing became common.

By the eighth century B.C., hereditary kingship was dying out as struggles for power occurred among the mortal keepers of the key. Omnipotence became attached to earthliness. Fustel de Coulanges believes this transition was founded in the dichotomy of religious myth where two religious forms existed. Gods were founded both in physical nature and the human soul.[17] Omnipotence became attached to worldliness; gods of the human soul. This was due to the potential power of the leaders of existing phratry or united tribes could wield.

The authority of the monarchy became displaced. Tyrannical individuals wielding the power of force rather than civil disobedience were followed by Greek oligarchies. Within another brief time span democracy arose from a series of extensions of power. Government had now arrived as a separate and distinct form shaper. No longer was its position an appendage to a monarchy steeped only in sacred myth. A series of political pronouncements decidely

reshaped the infant polis, and it appears that a higher mode of symbolic perceiving appeared. This utilized both pictorial and discursive modes of symbolic perception. Originating then from this mythic background the civil-political laws of Solon and afterward Cleisthenes reflected an advancing level of awareness.[18]

Prior oligarchical arrangements, with the landed aristocracy retaining all its inherent privileges, were removed by the Code of Solon. Ethnical and territorial unity included both a moral and material condition of political equality. Restrictions appeared upon previous mythic circumstances, embracing such changes as the phraty's demise, by physically intermixing these cults. Demes or political districts were substituted and each polis was equally divided into geographical units. Living associations were now made along a non-paternal basis, but each deme had its own assembly, which included sending representatives to the polis council. Representation for common people came, making Greek life more group conscious.[19]

What had been born was the free citizen. Land became freed and no longer was it uncompromisingly tied to paternal authority. Each inhabitant's social class was determined by the assessment of this re-distributed land. Significant of nature's influence upon the polis was the regulation that social class position was solely determined by the number of bushels yielded in a harvest.[20] All obligations and rights were fixed in proportion to their assessment. Non-citizens or slaves, did exist however, having no class status. Their task was to provide the manual labor necessary to manage the land owned by the free citizens. Absolute property in Graeco-Roman cultures was still attached to the soil.

It would be a mistake to assume that because of the mounting transition

the polis was losing its mythic communicative ability. As the next area discusses, artifacts as symbolic forms of a culture are not replaced immediately by analytic perceiving. Forms are more physically enduring than form shapers, so, therefore, the transition was a slow one. Common needs of food, shelter and defense although begun to be discursively perceived through written language having definite regulations, was still dominated by mythic thinking. Deeply grounded in sacred and immutable ritual of togetherness, the polis, was continually reinforced by physically expressed meanings. Polis citizenry collectively worshipped and governed, with the acropolis giving optimal meaning to their existence.

ARTIFACTUAL FORMS

What the artifact has represented within the pre-industrial cultures varies distinguishably from that of later history. Considering the former period, the artifact coexisted with nature, possessing a communication system where both symbolic and synthetic perceiving were mutually translatable.

Geomorphology

This environmental consciousness was interwoven into the polis. The original settlement patterns for the polis remained somewhat in their natural order. Geographically narrowed spaces produced a marked unification of this city type, along with its strategic positioning in an undulating terrain.[21] In many cases the sea served as a safety valve, and later a source for commercial transaction. Existing climatic conditions favored an open, or outdoor life. This reinforced man's communion with nature. Many other elements of nature

molded the polis, but rather than Grecian man opposing such conditions, meaning was derived from this association. Natural scale was a key expression since the activity of Greek man was to be in harmony with the gods of nature.

Acropolis

The temple with an adjoining palace commanded the highest portion of the land. This latter artifact (palace) housed the deity which guarded these cult worshippers. It seems that the kings, priests, of the hearth, and later arcons were the mortal agents communicating with the gods. Any structure of import within the acropolis or the polis itself, was positioned so it could be in close spiritual contact, both by means of natural elevation and through means of physical construction. Within the polis' early development this area described as the citadel and later the acropolis, was the unrivalled seat of both power and protection. Mythic awareness was therefore fortified by symbolic perceiving.

For the inhabitants that lived at its protective base, the acropolis was an imposing scale. As time passed intellectualizing brought about additional insight into the mythic level of awareness. Since myth became slowly displaced by intellect, many earlier artifacts were transformed. Nature became imposed upon. The wall began to encircle the hearth of every polis. Man started to focus more completely upon other mortal beings, rather than only nature. New functions occured in the polis.

Agora

Meaningful activity previously beyond the reach of most persons associated with the acropolis slowly was transferred to a more common level, the agora. In time the agora became the center of a new civic life and a redistributed scale

resulted. E. A. Gutkind and Lewis Mumford both tend to believe that the polis itself became the symbolic expression of the ideal structure of society. This substantiates the statement that intellect or man himself was beginning to reflect upon his culture, rather than being manipulated solely by nature, and myth.

Intellectual Growth

The previously induced natural scale began to incorporate more thought processes of man. Introduced by Hippodameus was order of city life not found in nature, but rather in the cosmic structure. This represents a shift from symbolic perceiving, to synthetic perceiving, characterizing the medieval urban culture. A major way of communication, the road, which had earlier adapted to natural contours, became less restrictive. As the city state colonized, their new found territories were laid out in grid fashion. Even in the original polis changes occured. A good example is the symbolic change in the temple's role, which had now begun to decentralize with numerous demic temples available to the worshippers. Where previously the road network adapted to the siting of each temple, now these buildings became the more expendable.[22]

Pre-existing artifacts, reflecting symbolic perceiving, were not abandoned. Their physical location and scale continued to command symbolic respect. The town hall or prytaneion, where governmental functions transpired, retained many of the earlier functions of both the acropolis and temple.[23] Though a shift in authority became evident, from the temple to the town hall, these artifactual forms remained in close proximity.

The cosmic world had roots in both symbolic and synthetic perceiving, which also involved mythic and intellectual awareness. Civic and religious artifacts were

similarly patterned, and there was no principal difference in their exterior appearances. Since intellectual awareness was introduced through mythic awareness, strongly attached to nature, human scale in the polis was still preserved. There must have been some recognition of the capacities of human settlement because the scale of activity in the polis never produced a population in excess of 50,000.[24] Colonization occured more than just by "coincidence" when the polis population neared this figure.[25] Some crude indicator of density may have existed, since the polis area, somewhat rectangular to square in shape was similar. In any case, distance, which meant a ten-minute walking time, and scale were handled on a pedestrian basis.

Local Market Economy

The agora began to be the characteristic image of the intellectual spirit of an aristocracy and democracy, still mythically interpreted. A free translation of agora suggests its original function was as a public way where free citizen activity existed. In time, though, the agora's purposes expanded. This traditional meeting place for civic interests was also being shared increasingly by merchants, with their enlarged market operations. Because of a growing population with limited land resources, exchange of staple items necessary for the city-state inhabitants was common. Colonization was a significant factor in the function of the agora. Water routes became a new artifactual focus, being used for both exchange and war. Staple goods represented the largest segment of their economy. Scholars in Greek city history have referred to this as a household economy. This economy, therefore, was very pastoral ... even though this polis has been described as a city life. Commenting on the Greek farmer, and the common

economic philosophy, Zimmeryn states,

> He did not want to grow rich. He worked on the land for a livelihood and for his city, not in hope of high prices and an ultimate fortune. His object was to provide for his household and, if need be, to help to provide also for the community; but he had no thought of amassing wealth... If a Greek citizen owned what seemed a disproportionately large amount of the land of the community, the public opinion of the market-place clamoured that it should be taken away from him and redivided. [26]

Mercantile facilities, sometimes operated by polis citizens, were more usually operated by those who were denied the privilege of polis citizenship. Wealth was considered suspect. Personal monetary gain was not a part of their collective world. This more contemporary characteristic was limited by the Greek conception of the city-state as the best form of social communion.[27] Little if any reference is ever made regarding economic questions.

In retrospect, the polis, emerged from and rose above nature, both symbolically and synthetically. The mythic level of awareness was supplemented by intellectual reasoning, or logic, which gave man a more self-directing purpose. The analytic mode of science was a further extension of intellectualism. Grecian culture was slowly divorcing itself from the bonds of the unknown and the natural order. As a result, symbolic perceiving, which dominated this mythic stage, was to have less meaning when man began to examine himself; a separation of man and the cosmos. Before this time came, however, the evolutionary process of culture slowed down in the medieval period. Mythic consciousness was to remain in control up to the renaissance. The major medieval difference was that synthetic perceiving due to the wide acceptance of Christianity took the place of symbolic perceiving dominating the polis. Intellectualism with its discursive reasoning was

enlarging, but it was still subordinate in the medieval culture.

ILLUSTRATIVE SUMMARY

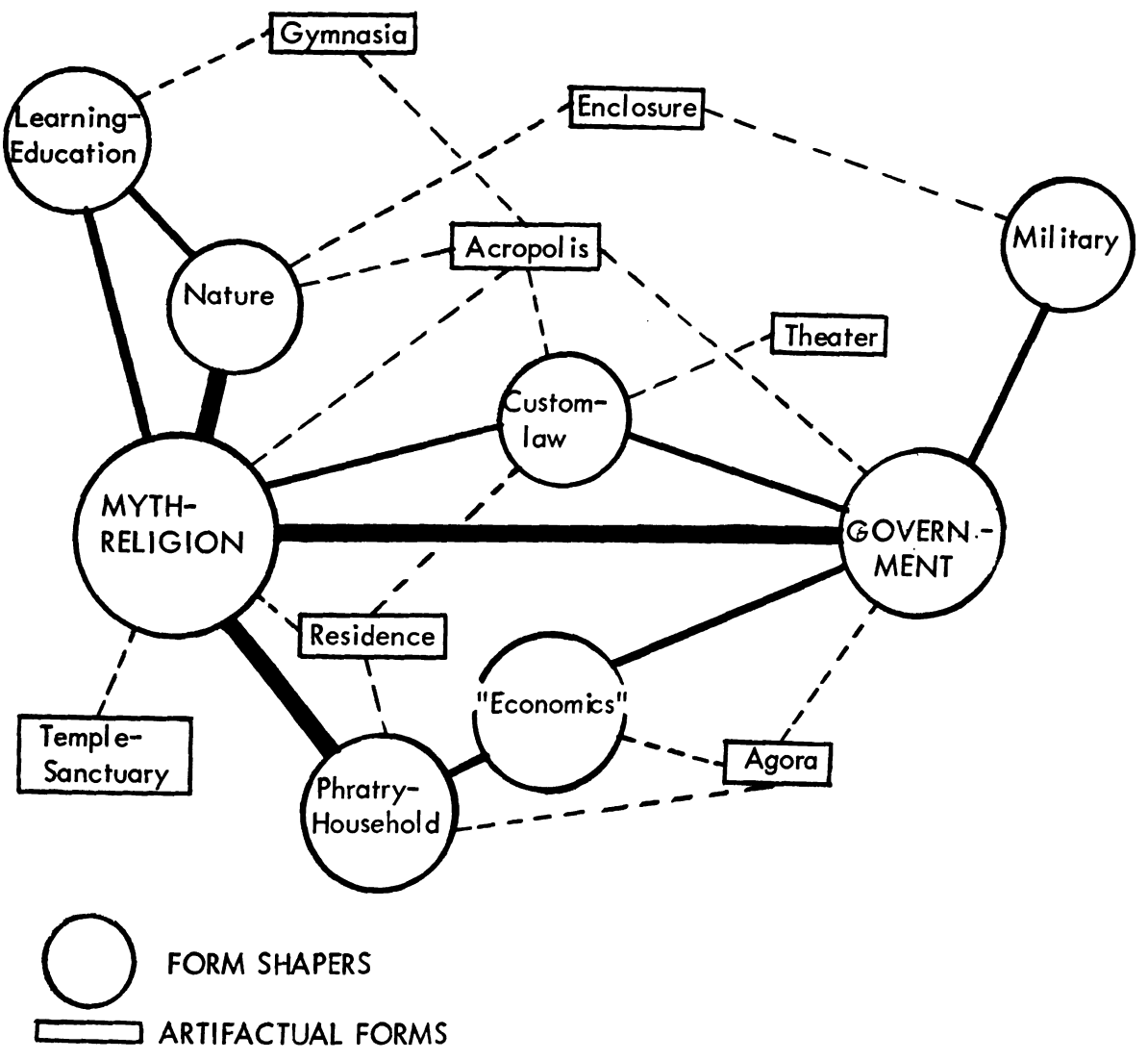
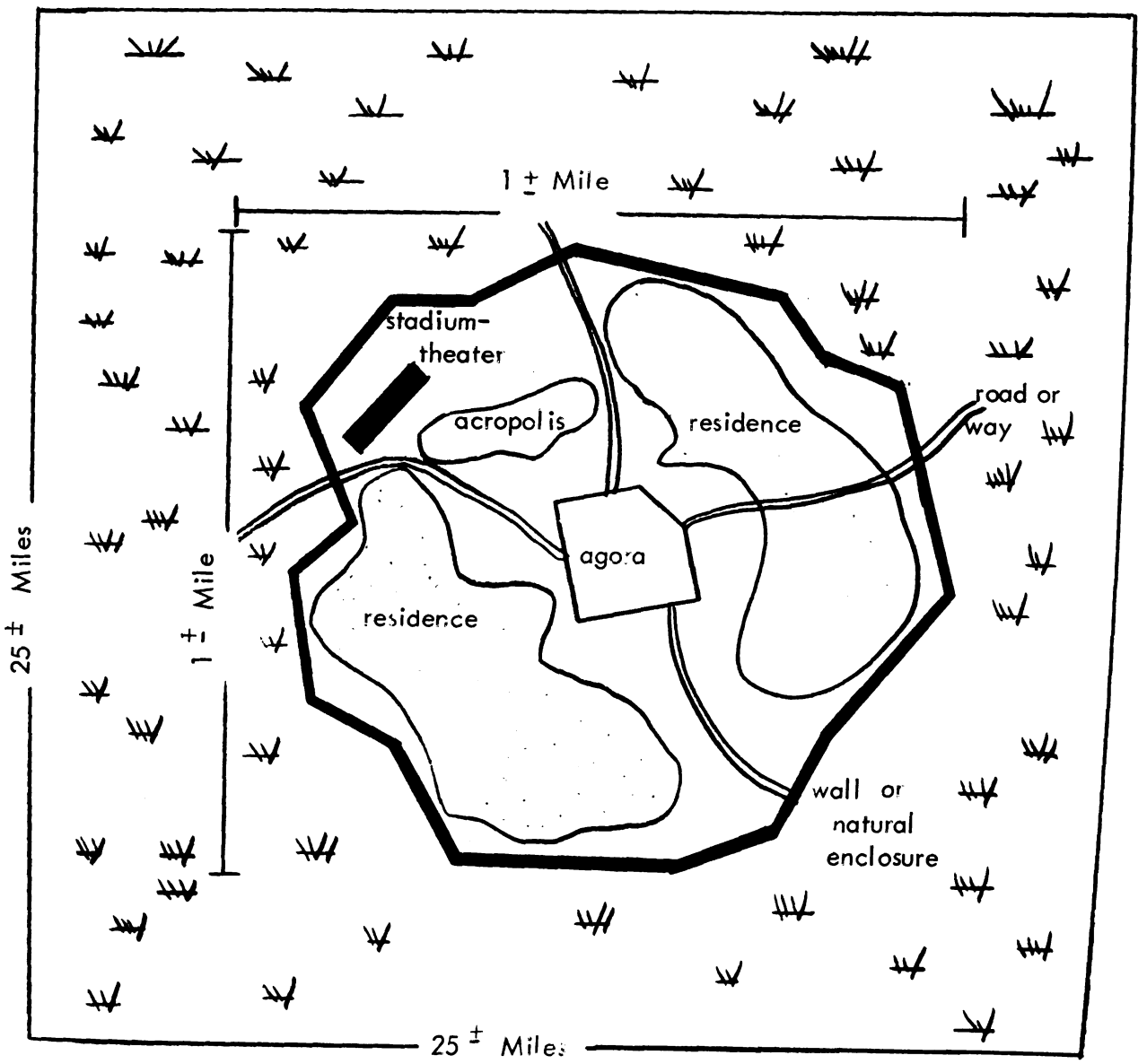


Figure 11. Urban artifactual forms and form shapers prevalent within the polis.



POPULATION	
City	10,000
State	50,000

AREA	
City	1 sq. mi.
State	625 sq. mi.

WALKING TIME	
City	20 minutes
State	480 minutes

Figure 12. The Greek city-state and its archetypical form.

CHAPTER III.

THE MEDIEVAL CITY

Whereas there were many distinctive aspects of the Roman civilization, the Graeco-Roman culture represents one principle cultural type. Both the previously described form shapers and their artifactual forms portrayed an awareness level common among the two civilizations. With the sixth century rapidly approaching, however, "the lifeblood was ebbing from the opened veins of Rome and the hands that once grasped an empire could no longer keep any part of it securely in their hold".[28] Significant changes began to show in culture. Under two unrecognizable conditions, E. A. Gutkind labels as the Christian hierarchy and the still pagan spirit of the people, conflict, unrest and competition was in evidence.[29] Symbolic perceiving and mythic awareness were being replaced by synthetic perceiving, and a greater intellectual awareness was to appear at the end of the medieval.

Barbarous invasions of the Roman Empire within southern and western Europe caused a serious regression of earlier city life.[30] In time the destruction involved their entire Mediterranean holdings. Every frontier became untenable and immigrant tribes from Ireland to the Sahara played some part in dismembering the Latin leviathan. With the splintering of the Mediterranean into divergent units, unified rule was displaced by Islamic, Byzantium, and Germanic segments.[31]

City life retreated with the advent of decentralization and provincialism. Resistance to imperialism was now commonplace. With this resulting breakup,

and out of the muddled circumstances arose the heir apparent, the Church, to grasp the "reigns" of power. Medieval culture was not harmonious though. As R. W. Southern states in The Making of the Middle Ages; "the survivals of barbaric codes of law jostled with varying mixtures of Roman law, local custom, and violence, and besides all this there was a maze of Church law, through which every bishop had to find his way as best he could."[32]

Although the detailing and accurate accounting is being left in the historians' hands, summarily speaking these "five centuries of violence, paralysis and uncertainty in Europe had created a profound desire for security.[33] Contrary to more popular opinion, the unfolding of the dark ages was a unique contribution in this evolutionary process of settlement forms. It is suggested by Brian Hackett that the medieval saga significantly passes beyond the stage of remote urban and rural development described in the Greek city state. Beginning was a "form of communal protection where insecurity of the time caused man to seek safety under his powerful fellow-men, surrendering some liberty in exchange."[34] Certainly this statement reasonably explains the formation again of an urban living situation, though this time distinguishably separate from the hinterland.

A word of caution is necessary here because the city as a self-sustaining entity, as these introductory comments reveal, did not appear in early medieval history. These developments took place later on. This fact should be remembered, because the balance of the chapter will describe conditions leading to the re-

introduction of city habitation found in the twelfth and thirteenth centuries.

FORM SHAPERS

The principal survivor of the Graeco-Roman culture was a more intellectual level of awareness, seen through the synthetic world of reality. Even though the initiator of town development became the primary jurisdiction of new kingships, possessing, in theory, military and civil authority, the Christian spirit brought about a subtle inheritor whose influence was to grow through the centuries. The monastic order seemed to be at the outset a collective refuse for previous culture. Mumford proposes that the monastery operationally resembled the polis. It proved to be:

> an association, or rather, a close brotherhood of likeminded people, not coming together just for occasional ceremonies, but for permanent cohabitation, in an effort to achieve on earth a Christian life, addressed solely and singlemindedly to the service of God.....Here was the nodal point of a new kind of religious culture. This culture sought to transcend the limitations of earlier civilizations, by withdrawing from their typical institutions; in principle it denied property, prestige, and power. Those who accepted poverty as a form of life reduced the whole physical apparatus for bodily sustenance and ennobled work by making it a moral obligation.[35]

Literacy, knowledge of jurisprudence and related cultural traditions were somewhat monopolistically housed in these monastic retreats. Gradually the monastery, with its ordered internal existence, in sharp contrast to chaotic times of barbarism, began to promote itself.

> It was in the monastery that the books of the classic literature were transferred from crumbling papyrus to tough parchment; it was here that the Latin language was spoken in daily conversation, and escaped some to the diversification and mutual unintelligibility

> of Italian, Spanish, French, Romanian, and their countless regional dialects and village variants; it was here in the Benedictine Abbeys at least, that the advanced practices of Roman agriculture and Greek medicine were maintained, with a corresponding rise in productivity and health.[36]

During Charlemagne's rule, secular authority was dominant on a national level, but the spread of Christianity was being furthered by granting land privileges to the clergy. Municipal detailing, organization, and often the case administration, was left in the Church's hands. Several interesting contrasts arose. The Church, being independent from the state by this time, had its own organization in western and central Europe. The Pope's sphere of activity dealt with high politics and, through monastery organization, this influence became national in character.[37] In contrast was the tendency of feudalism to separate society, since feudalism related to non-urban living patterns.

The landed noble class, although serving under the king, operated with maximum latitude, each having personal gain their primary objective. No longer was the market fixed upon trading between the different medieval countries or states. The so-called household economy Zimmeryn has earlier referred to in the polis, became associated again with the soil itself. Foreign markets, which had played a large role in the late Graeco-Roman colonization effort, became fragmented and localized. Since landed property was all that existed, agriculture was the major activity. The landed proprietor became the medieval state's executioner. Property which had earlier been in the hands of Greek free farmers,

and citizens disappeared, and were now subject to hereditary tenures.

> Large estates then kept on being more and more generally in evidence after the period of invasions. The favor which the kings showed the Church was an additional factor in this development, and the religious fervor of the aristocracy had this effect. Monasteries, whose numbers multiplied with such remarkable rapidity after the seventh century, were receiving boutiful gifts of land. Everywhere ecclesiastical demesnes were mixed up together, uniting not only cultivated ground, but woods, heaths and waste-lands.[38]

Importing of slaves to operate the land, and in return gaining protection, was the principal market trade. Although previous Roman cities became trading graveyards, they still persisted. Another factor contributing to the strength of the synthetic mode was that the majority of Roman cities were based upon diocesan boundaries. The bishops during medieval times could assert great city influence, but cities didn't lend themselves to the more rural feudal system.

> The state, on its part, in exercising administrative powers could contribute in no way to the continued existence of the Roman cities. The counts, to whom the supervision of these cities was entrusted, did not settle down in any fixed position. They were constantly traveling about their districts in order to preside over judicial assemblies, to levy taxes, and to raise troops. The centers of their administration were not their places of residence but their persons.[39]

By the tenth century barboric invasions had subsided somewhat. Most cleared land was occupied by some feudal settlement form, and all of Europe was unified in Christian belief. Most social historians and scholars believe this marks the turning point in a downward trend of earlier medieval disunity.[40] Decentralization, for numerous reasons, was altered. City form began to be seen in a more favorable light, with the churches becoming rallying points for

expressing dissatisfactions. Mumford, questioning revived trade as an effect, rather than a cause, attributes this change to increasing population advances and the Church's activity.

> As the barbarian populations of northern and central Europe became amenable to Christianity, lured more perhaps by its dazzling myths and superstitions than its insights into the human condition, the part played by the Church continued to increase. The protection offered by the Bishops rivalled that of the feudal counts, and the expansion of the Church's own economic power, as a land-holding proprietor, through purchase and pious bequests, gave him a position that even kings had to respect. In making the most of these conditions of distress and opportunity, the monastic orders served as pioneers: in fact, they led the whole urban advance, offering sanctuary to the refugees and hospitable shelter to the weary traveller, building bridges, and establishing markets.[41]

This medieval city as a new source of freedom was received with mixed emotions by the monks and the feudal lords. The monasteries, due to their religious position and geographical location, were unable to enter the growing world of the town. Despite their mutual Christian interests, the earthly responsibilities that the monastery had been performing for some five centuries were now being displaced. More importantly was the fact that numerous monastery functions inherited from the Roman age were soon to be differentiated and given to many form shapers. As time elapsed the city was slowly giving rebirth to a body of knowledge the Roman Empire had possessed. These preserved historical accounts, with their inherent cultural meanings and expressions, had been read, copied, and learned by those connected to the monasteries. This was the principal way knowledge was transmitted.

Technics and art also flourished, and it appears that here was the intellectuals' major outlet. New form shapers were soon to leave their monastic home, and assert themselves in time as separate shaping entities. A significant one, the educational role, was to be only temporarily housed within the city's cathedrals. These transfers definitely affected the monasteries' influence, strengthening the bishop's position in these growing cities, although the monastery in particular began to dissipate. Their characteristics and influence through the tenth century can be summarized as follows:

1. Prevented an overwhelming domination of lay lords, oftentimes entering secular matters.
2. The Church was the principal land owner in Europe.
3. Monasteries were virtually alone in providing education, aiding the poor, and providing medical services.
4. Chief preserver of learning in Western Europe.

Although this synthetic mode overshadowed medieval life, symbolic perceiving was an integral part of the medieval world. This enabled progress in architectural design and in standards of construction, through a wide range of ecclesiastical buildings.[42] Also being altered were the roles and functions of nobility. The feudal lords began to expand their manoral holdings to include urban revenues from rents, taxes and other revenue producing devices, as payments for certain rights given to these urban dwellers. Towns began to be founded as territorial policy, with due consideration of their military location

at this time. Generally speaking, there were three types of towns being founded or occupied.[43]

Town Form

Initially, most common was settlement living on the remains of earlier Roman cities. In spite of meager populations, this proved to be the prevailing town form that survived over five hundred barbaric years. Clergy or some church representative were the overseers, delving, at times, into both sacred and secular matters. A key to their survival includes the walls that fortified most of these earlier Roman towns, beside the disinterests in cities or towns as a vital portion of the rural type of feudal system, and the divine sanctity granted by the kingships.

Another town or city form evolved as a natural product of the medieval social conditions. These can be generally classified as the free cities which gradually won a position outside of the feudal system. Charters were granted which gave the citizenry the right to elect both a council and magistrate for handling municipal regulations. But as found in both Spain and France, the crown appointed a governor who received the usual tribute, and controlled the police and fortified places in these cities. Municipal regulation and administration was slowly being eased out of the feudal systems' hands, but revenue was being given to the crown or lord for this limited freedom. A new social structure was being created and patterned somewhat after the city-state.

> The earliest medieval artisans were, like the agricultural laborers, serfs, but one step above the true slave. Step by step these artisans organized themselves into guilds which dealt with the feudal lord as a body; and by combining these artisan guilds with associations of merchants, gradually local communal organizations were perfected, independent of feudal power.[44]

The city was trying to regain its position once held within the polis, in fact even more assertive, since it wanted to be separated from any rural influence. Mythic association, especially in relation with nature, was to become more distant in this new medieval city form.

> By fighting, by bargaining, by outright purchase or by some combination of these means the towns won the right to hold a regular market, the right to be subject to special market law, the right to coin money and establish weights and measures, the right of citizens to be tried in their local courts, local laws and ordinances, and not least, as before noted, the right to bear arms. These powers, which had once been pre-empted by the citadel, now belonged to the city, and each citizen bore a responsibility for exercising them.[45]

The third and final town development form involved new sites established by the lords and princes as merely strategic fortifications. By having a settlement containing a sizeable military garrison, the problems of the feudal lord enlisting the citizens aid, when needed, was somewhat lessened. Commenting on Central Europe's situation at this time, E. A. Gutkind states:

> In the twelfth century the interests of the feudal lords in the foundation of new towns had mainly been economic. This changed when the state developed into a territorial and more homogeneous unit covering large and contiguous territories... Emperor Frederick Barbarossa initiated this trend by building numerous fortified castles, which he garrisoned with imperial

> vassals. Other princes and feudals followed...numerous new towns had come into being that had grown up around the fortified castles and which had gradually increased in size, functions, and importance. Some of these new places became centers for administrative tasks; others became residence-like places especially for the ecclesiastical lords, who were more inclined to establish a permanent residence than the restless feudal lords.[46]

Although there were three basic origins of medieval town settlement, these distinctions melded into one principal type by the 13th-14th centuries. Some kind of freedom became available to the citizenry inhabiting the city, but this varied in both time and country. The end result was, however, the freeing of the serf from the soil, and establishing some level of citizenship.

This urbanizing process which ultimately broke up the feudal system has been classically described by Sir Henry Maine as the shifting from the status to the contractual way of living. Status, previously associated with structural laws of society that tied medieval men to the land, began to be redefined as a social contract between the landed proprietor (king, lord and Church) and these new city dwellers. Analogous with this contract was the city charter, freeing, to varying degrees, the townspeople from the earlier feudal bonds.

Until now we have discussed the principal form shapers and their role in molding town form, and the pressure exerted by population growth. Other factors evoking new city patterns should also be mentioned. These relate to the influence of more than a single form shaper.

Related Form Shaper Influences

Spoken of earlier was the security the wall offered to the town. This was a two-way process, because not only did this fortification give the inhabitants protection and formidably challenge an aggressor, it also produced a feeling of containment and orderliness from the inside. In discussing the County of Anjou, located in France, R. W. Southern indicates the necessity for, and the role of, fortification. Speaking of the tenth and eleventh centuries, this period represents:...

> ....An age of serious, expansive wars waged by well-organized and strongly fortified territorial lords. The confused warfare, haphazard battles and obscure acts of force had turned scattered and precarious rights into a complex but geographically compact and militarily impregnable association, dependent on the count.[47]

With regard to the city's role and its respected walls, acting as a bastion of formidable proportions, another passage from this book is helpful to the reader.

> The inexpugnable fortress solved at once the problem of defense and of government...they made loyalty easy. The battles were more speculative...brilliant gambles based on the solid capital of defensive positions. It was a time when he who committed himself to open battle, committed his fortune to the winds. But the reward of successful enterprise was great.[48]

As indicator of the significance of defense and security is found in viewing the first municipal budgets that started to appear midway in the eleventh century. Distinctions began to be made between private and public wants and desires as medieval law evolved. In France, as in the Italian cities, most public projects involved military construction in either wall, ramparts or similar

defense measures; with some concern for street work.[49] Wall extensions which were common as late as the nineteenth century, assisted in protecting the growing populations.

Another form shaper influence assisting city growth was the political unification of such areas as Normandy, Flanders, Aguitine, and Brandenburg.[50] Those territories that had weak defenses now were a part of stronger and larger fortifications. A semblance of armed peace existed. These forces now faced each other on equal footing. It appears as though a "continuity of government was being re-established", internal town matters were of greater import since barbaric invasions had been quelled, and the western Christian world engendered unity.[51]

Similarly important was the land reclamation process which steadily opened up the virgin forests to town development. This was due to the desirability of establishing fortified towns for military and trading purposes, beside the substantial population growth. Also participating in these clearance efforts were the monastic orders, since they had major land holdings. They, too, desired their citadels, regionally dispersed, as a means of extending medieval authority.

The revival of trade is considered by many historians as the primary impetus for medieval town growth. Again, as suggested previously, trade in itself did not trigger the surge in urban settlement, but rather was characteristic of it. More meaningful are the social phenomena that kindled this interest.

Affecting trade to a considerable degree were the Crusades. These Crusades opened the sleepy eyes of the West to the advanced culture of the East. First stimulated by the necessity of constructing and equipping ships for such voyages, the Italian port towns heavily benefited. On the Mediterranean, as result of this western exposure, a European maritime and commercial enterprise was created.[52]

Port cities with international trading as a characteristic were developed and expanded. In time "established commercial ports in the new Latin principalities in Syria, by degrees supplanted the Greek traders in Constantinople, and developed trade with China via the Black Sea, the Russian rivers, and also with the East India spice islands through Alexandria."[53] Trade and commerce affecting town size, was in turn shaped by the Crusades. The Church as a form shaper was the basis for this chain reaction. As summarized in The Rise of the Medieval Town, "the eccumenical church provided the leadership and capitalization that lifted a localist and partly autarkic society out of itself and sent it forward in the world about it."[54]

To recapitulate, the medieval cities began to swell primarily because of their walled security, natural population increases, political unification with armed peace, land clearance, and trade revival in conjunction with the Crusades. Although these conditions satisfactorily characterize the twelfth century medieval city-state, one additional form shaper influence appeared. Intellectual thinking, although under the dominant synthetic influence, did enlarge through science

and its basic application. Man began to rediscover that nature itself could be useful to achieve a more satisfactory medieval life. Appearing in The City In History, the author states,

> during this period the dispersed technical advances and suggestions of other civilizations were brought together, and the process of invention and experimental adaption went at a slowly accelerating pace. Most of the key inventions necessary to universalize the machine were promoted during this period; there is scarcely an element in the paleotechnic period that did not exist as a germ, often as an embryo, frequently as an independent being, in the ectechnic phase, (includes the medieval period).[55]

Though there are some exceptions, technique was applied narrowly during most of the medieval period due to its provincialism and relative isolation. Middle age comfort was not conceived of as it is today. To the medieval man it was a feeling of moral and aesthetic order. Space itself was the primary element of comfort, so everything depended on proportions, material, and form.[56] Symbolic perceiving in a pictorial sense still prevailed over discursive symbolism. Therefore, exactness of the written word found then little cultivation. More than ever before, however, industrial culture was not far in the offing. During this time "the diminished use of human beings as prime movers, and the separation of the production of energy from its application and immediate control" slowly became visible.[57] The environment itself came to be envisioned as a helpful aid to man's adaptiveness, rather than just a companion. Wind and water were now tapped. Grinding grain, pumping water, beside numerous other applications of water power became possible with the water mill. The wind, being an even more

adaptive element, assisted the wind mill in its flexibility of location. Reclaiming inundated land was one of its most significant applications.[58]

The modern machine derived its initial form with the advent of temporal order and the clock, according to Lewis Mumford. Since the synthetic mode of perceiving dominated, the Church was the first to use temporal knowledge. "The application of quantitative methods of thought to the study of nature had its first manifestation in the regular measurement of time; and the new mechanical conception of time arose in part out of the monastery."[59]

Even though intellectual awareness expanded because of cultural accumulation, the influence of analytic perceiving was slight during the medieval stage of culture. Most intellectual medieval achievements were based upon synthetic or religious sanctioning.

ARTIFACTUAL FORM

During the middle ages urban artifactual form attained its maximum peak of meaning with the delicate balancing of both pictorial and discursive symbolism. Previously, within such ancient cultures as Summaria, Mesopotamia, and evidenced partially later in the polis, pictorial expression was the basic mode of symbolic perceiving, hence communicative meaning. The medieval period evolved incorporating the more verbal or discursive processes found in logic and philosophy, bringing about a greater level of awareness and meaning to the town's inhabitants. New form shapers began also to slowly make an impression upon cultural urban forms. Although still symbolically collective,

urban living now was becoming definable in more terms than simple pictorial imagery. Ethical-legal meanings for an example, were added to urban space, which explained social organization in another dimension.

These meanings of urban activity depicted by prevailing artifactual form now gradually enjoyed this shared awareness of both mythical and intellectual stages of culture. Buildings as expressions of artifactual form became both spatial edifices of divine dedication and reference points for social organization and activity.[60] No longer were all governmental and religious structures found in the Greek polis, identically designed. Two examples of changing forms were the guilds, as the artifactual expressions of trade, and the town hall, artifactually expressing an allegiance to the semi-autonomy of local government.

In contrast to remarks concerning the polis, which were purposely not separated earlier, medieval forms became more divisible. Before we delve into these specific artifactual examples of form, let us attempt to gain an insight into the accompanying spatial-temporal order that was changing.

Space

The world of forms remained realistic and tangible as medieval man worked, lived and moved about. Dialeticism began to emerge between the mainstay of their Christian existence, transcendental space expressed by Church activity, and a growing earthly awareness of town activity, strongly suggested by the encircling wall. A different sense of space developed with this formal

enclosure. Although this has been discussed earlier in part, some repetition is worthwhile. For one example, the direct association with nature was less apparent. No longer did these rural qualities dominate, since both as a physical expression, as an activity, nature was greatly reduced. This included city landscaping, verdant open areas, as well as urban farming and cultivation. Nature did give some direction to town space, an effect not overwhelmingly observable in the later industrial urban cultures.

Despite these characteristic changes which began to transform the city into a more self-sustaining entity, vertical spatial competition through the use of building form, was not yet present. Even as regulation developed from custom to formal law, there was never a point in medieval history where the written vertical regulation of spaces occured. Pictorial and later discursive use of space centered around synthetic symbols and their shared values. Divine space reigned.

> The highest object in the city was the church spire which pointed toward heaven and dominated all the lesser buildings, as the church dominated hopes and fears. Space was divided arbitrarily to represent the seven virtues or the twelve apostles or the ten commandments or the trinity. Without constant symbolic reference to the fables and myths of Christianity, the rationale of medieval space would collapse.[61]

Medieval culture, due to its accumulation, and transmission, began to differentiate. Although town form was then dominated by ecclesiastical buildings and the fortified castles, as life became "richer and as culture became more diverse, special buildings were required for special purposes."[62] It is

misleading to presume that medieval life was a sea of anonymity outside of these imposing structures, expressing the two domineering form shapers. Space still was very communal, with a prevailing unity, but having intriguing variation dotting the city environment. In a sense there was a communicative process between the inhabitants and the city form. These forms offered a complete vocabulary of meaning, giving direction to their way of life. In turn, meaning was derived because these artifactual forms were an integral portion of life's meaning. Variation of space was evident therefore, but a greater theme of unity was symbolically discernable. Spatial unity and harmony was a characteristic.

> The voluntary and instinctive union of the individual and general will and the emerging of personal consciousness and group consciousness created a language of form and social responsibility that guaranteed an inescapable framework of cultural certainty and made deviation from aesthetic norms impossible. In other words, medieval culture was a complex and all-embracing oneness that endowed every work of art with the same spirit... individual buildings merged into one grand harmonious whole. They formed a unity of spontaneity by the sheer fact of their existence.[63]

The key to spatial unity, hence the unifier of medieval urban life, was the synthetic image of the church. Carl Troesdoson remarking upon this overall form shaper states,

> ...the sky, the sun, the clouds, the surrounding plains, the bare or wooded mountain, age-old forces established in the regime of the seasons, by the nature of the work done in the country, its trade, peace, war and food---all took forms little by little in the profile of the nave and of the towers and in the projections which distributed light and shadow on the monument.[64]

Scale and Movement

Because group consciousness was interwoven throughout these form shapers, scale continued to be manageable. In agreement with Aristotle's belief that evil is the form of unlimited activity, scale was still based upon pedestrian movement. Outside of castles, churches, and the wall, few structures were over two stories in height. Professor D. S. Brown seems to have captured this intimacy of movement in her description of a pedestrian communicating with artifactual form.

> An aimless walker or a shopper receives a very fine grain of staccato stimuli. He can perceive the detail all around him, but at the same time encompass within his vision the broader range and scale of the larger environment. The walker who is going somewhere finds orientation and pleasure in the combination of small beats into larger and larger. He senses first the quiet tip-tip-tip of railing of balustrade, intimately related to his own scale. This is picked up by the larger beat of porch and portico, then enlarged by the passing of individual town houses, into a firm boom-boom, linking him with the scale of street and traffic.[65]

Foot oriented movement enabled the perceiver to contemplate in a deliberate manner his interrelationship with urban form. Aiding in this intimate medieval scale was the fact that most cities of this period had populations under 5,000 persons.[66] Since this scale was not only physically relatable, but also mentally inseparable, complete meaning was ascertained in the medieval city. Street widths in residential areas were based upon the passage of a pole's length, approximately fifteen feet. Sidewalks were not necessary as we view their function today, because traffic was not classified

to any degree. There were no other access routes than those marked by major entries through walled gates into these towns. Usually gate entrances ranged in number from one to four. All other movement was indirect, few larger spaces existed. Let us again turn to a source that has attempted to recreate this innermost medieval scale.

> Imagine yourself at the gateway to a northern European medieval town. Entering on foot you leave sun and green for the deep shadow and restriction of the stone archway and emerge on the other side with a feeling of having truly arrived. From here a road rises and gently curves; lines of gables appear above the blocked ground view, leading the eye upward toward the church steeple. Along it houses crowd for space, walling the line of movement. Their hanging upper stories further restrict the street, so that along its length there is no great variety or contrast of space but rather a gentle modulation of one shape into another. The scale is even and human.[67]

A final aspect of scale and movement to consider is its communicative relationship to the way or street. The street, per se, was not only used as a transporter, but equally important, as a social link. Personal contact provided the principal means of communication, with the street acting as the frame of reference for social exchange.

Let us now attempt to convey the role of these emerging artifactual forms as they were molded and defined by the form shapers. Since considerable time was previously spent describing the two major shapers of form, it is now worthwhile to focus upon the infant artifactual forms. In just a short while these infant forms were to blossom into full grown independent artifacts, rather than a part of an earlier collective framework. Institutions, each with definable purposes,

were to jointly arise with new forms, but for now little differentiation was apparent.

Market Place

The market place as a distinctive urban form grew in direct proportions to the evolving influence of the economic form shaper stimulated by the earlier Crusades. During early medieval times commerce had retreated to the manorial way of life, nearly tradeless and self-sustaining. In this infant stage, therefore, it had no permanent home, for the market place was part and parcel of the itinerant merchants. Similar to the polis culture, the merchants socially represented the lowest rung in society, neither serfs nor free citizens. As time passed and their wares received a favorable and growing audience with the landed nobility, a more permanent physical arrangement developed for the landless merchant. Areas were set aside initially along the few linking routes, but in close proximity to the walls of the castles, villages or towns for both protection and shelter.

Advancing their permanency were the fairs and traveling markets, the reawakening world influenced by the Crusades, and large urban growth. This latter aspect enabled the emerging city to operate under a different set of social structure, which gave meaning to the merchant and commercial function. The converging routes where merchant traffic either came into contact with these settlements, or effected their creation, enlargements along the roadways resulted. Slowly, market streets having varying degrees of commercial activity

offered an opportunity for an exchange of goods.

A spatial activity and an artifactual form began to manifest itself. In time the market streets were enlarged to handle related functions. In the more populated medieval cities there were areas approaching block size for such purposes. With the feudal systems'decline, and the growing reliance upon a city existence, market activity correspondingly grew, weaving itself into this urbanizing community fabric. The market place had been reborn, but it was now cast in a new light.

At the market square, where several routes converged, guilds, market halls, inns and neighboring homes defined its boundaries. Viewing through this enclosed area the medieval townspeople could gain a perspective of their roles and functions within their communal settlement. Visible from the square's arcades, as from most any point in the city, sat the "great Gothic Church,' its stature accentuated by the narrowness of the space around it like an eagle in a canary's cage."[68]

Certain rudimentary semblances of municipal services existed in the market place and their related squares. These squares were like an oasis and gathering point for communal intercourse. They created a breathing space in the high density living areas. A major item was the water source serving these residences. Fountains and the like had many purposes, both functional, providing water for the townspeople, and non-functional, as a meeting place.

Medieval city form was paradoxical in the sense that it was symbolically

integrated, while at the same time strains of separate activity asserted themselves. The facades of these individual buildings varied as they enclosed the market place, but there were numerous unifying elements. Included was a fairly consistent vertical scale, usually ranging from one to three stories, arcades uniting these separate structures. There was a common treatment of the contained open space. An inseparable artifactual form was also making its presence known. This was the medieval guild.

Medieval Guild

Characteristic of medieval life was close association with fellow man, for security was based upon it. We have looked at two of the principal unifying bodies in this society. Both the noble and the peasant were allied to the feudal system, while monk and clergy existed in the church organization. Completing this community bond were the townspeople who gained brotherhood through the guild. These three social systems, feudal, church and guild were smaller parts of a total medieval environment. Today we have a tendency to describe this seemingly clear separation as a social order which was actually not as stratified as it might seem. Man constantly interacted in all three, although the Church was the most universal. The guild for example, was always religiously aligned, usually being a fraternal organization under a patron saint.[69] Guilds themselves heavily contributed to the Church, being a by-product of the synthetic. Quite frequently the guild gave men, material and monetary donations for Church construction.[70]

It has been falsely assumed that the guild system was connected only with economic activity of city life. Many functions were blended together historically, because municipal direction was not always in the hands of a specific council or administration. Depending upon both the European country, (be it Spain, France, Germany or Italy) and the time, (tenth to the fourteenth century) the director of urban medieval government varied. Paris is a good example of guild domination.

> During the thirteenth century the Paris water merchant's guild was granted important powers, and until the middle of the fourteenth century the provost of the merchants had under his control the administration of the principal municipal affairs...the fortifications, gates, night watch, streets, wharves, bridges and water supply.[71]

The guild manifested itself in two organization types. First was the merchant guild which had the most encompassing function, generally directing the city's economic life. This generally included "regulating the conditions of sale, protecting the consumer from extortion, and honest craftsmen from unfair competition", beside protecting these local markets from any external influences.[72] The craftsmen guilds were associations of skilled workmen banded together to maintain a high level of craftsmanship and production. Guided by the masters of the craft, the underlings, both journeymen and apprentices, worked and studied to achieve this excellence.

Their influence was very much in evidence, not only in the physical presence of the guild halls located at the market place, but also, either formally, representing the municipal corporation, or informally, through the

province of their membership, guided city form. Since municipal government, both administrative and regulative was not established until late in the middle ages, guide lines for direction were in the form shapers' hands. The town hall had not completely jelled as the municipal representative. Building, housing, fire and police controls were loosely defined, principally unwritten. Constraints and limitations were imposed by traditions, with little differentiation between public and private. Public revenues, being extremely limited, had a negligible effect upon community development and improvement. Construction technique was in the jurisdiction of craftsmen guilds and, therefore, they controlled and designed municipal projects, as well as private efforts. It is difficult to assess the guilds' importance because their role varied so, but it is accurate to say urban artifactual form strongly reflected their influence.

University

The development of medieval education did not have its origin solely with the church, although under their patronage monasteries, cathedrals, and collegiate schools provided the strongest influence in the medieval society. Two other educational form shapers had an effect during this time, but their appeal was less encompassing. Under the feudal system children of noble birth were properly instructed in both the arts of combat and chivalry within the purview of the lord's castle. As the town developed, these reborn centers of population undertook the task of training "sons of yeomen, of merchants, and of craftsmen in schools which were associated with charitable endowments,

such as those of chantries and guilds."[73] More specialized training was found in the guild apprenticeship system.

It is quite evident that the process of learning varied widely, depending upon one's lot in life. Some type of educational exposure was possible, at least within the cities. Municipal responsibility had not, however, developed at this point, since all inhabitants were a part of an association, brotherhood, or social organization satisfying their needs.

Common schools did not begin to operate until the end of the medieval period, but even then this venture was cooperatively sponsored. A fixed body of knowledge did not exist. Discursive knowledge up until the thirteenth century consisted of a few hand scribed documents accomplished through the monastic orders. Pictorial perceiving or at best verbalizing, prevailed over the written word. Knowledge and practicality were inseparable. The word universitas was a term utilized by all guilds during the twelfth century.[74] In later centuries the university began to withdraw from city activities, and in time was separated from a body of synthetic knowledge with scientific undertones. Furthering this advance was the separation of the universities from the bias which the "Church naturally gave to the knowledge it nurtured."[75] This now fairly independent form shaper offered the broadest education available, "comprising all seven liberal arts evident in the Roman culture, grammar, rhetoric, logic, beside arithmetic, geometry, astronomy and music."[76] The independent university grew very slowly. The twelfth and thirteenth centuries

had 5,000 and 10,000 students respectively.

By the fourteenth century, with the invention of printing, knowledge began to be diffused into the hands of an expanded audience. This form shaper now had come into its own. No longer was it completely under the wing of the earlier domineering form shapers.

CONCLUSION

With the passing of the medieval world an entire level of awareness was to be gradually abandoned. Replacing it was a new awareness level nutured during the renaissance and cultivated thereafter. This mutation became expressive in many aspects of man's experience, and in time it was to pervade all society. The individual was being born out of the collective womb of culture which had existed since the first urban settlements.

It is misleading to imply, however, that this change was immediate. The collectivity of the two principal form shapers, the church and kingship, was having its influence reduced with the rise of the quasi-independent city, as we observed in the later medieval stages. The seat of cultural activity gradually shifted and expanded. New terms must be introduced to aptly describe these different cultural components.

Form shapers seemed appropriate for describing the medieval world, because of the reliance upon pictorial symbolic perceiving, and the domination of just two major cultural components. With the rise of discursive or verbal symbolic perceiving, and individual awareness replacing collective awareness,

self-asserting, more semi-autonomous social organizations developed. These we will call social institutions. Due to cultural transmission, accumulation, and differentiation, social institutions were collectively represented since they possessed shared opinions, but these institutions gave meaning and direction to specific aspects of the more complex renaissance world. No longer was society perceived only through the eyes of the church and nobility.

ILLUSTRATIVE SUMMARY

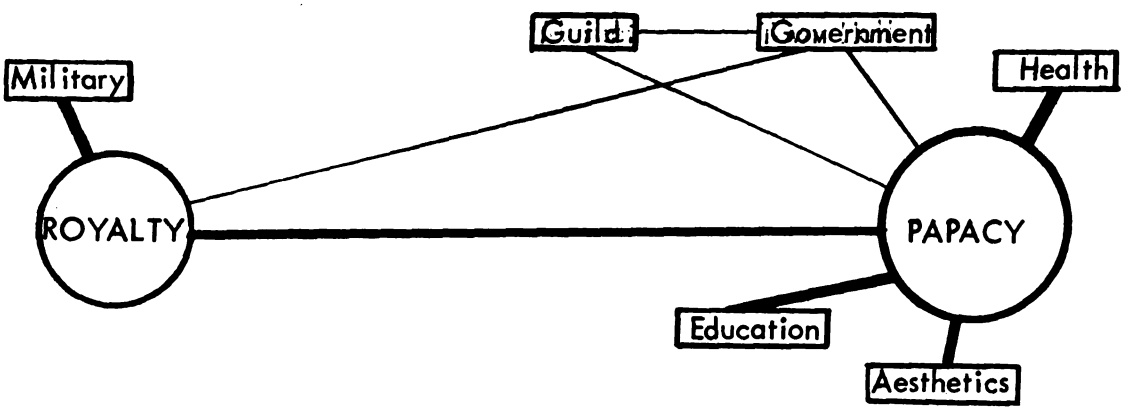


Figure 13. Urban form shapers prevalent within the medieval city.

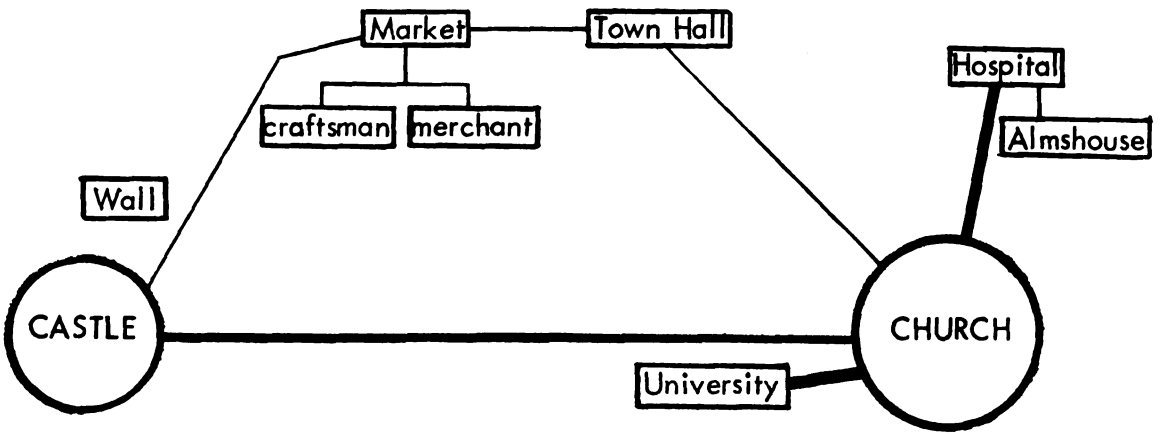


Figure 14. Urban artifactual forms prevalent within the medieval city.

Figure 15. Pre-industrial collective consciousness. An ordered, but not rigid, urban development.

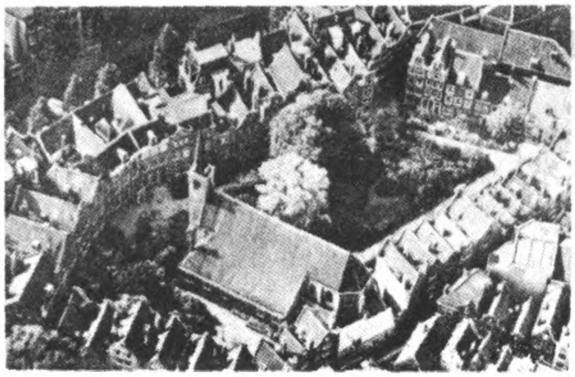


Figure 16. Medieval modes of perceiving as expressed by the dominating ecclesiastical focal point.

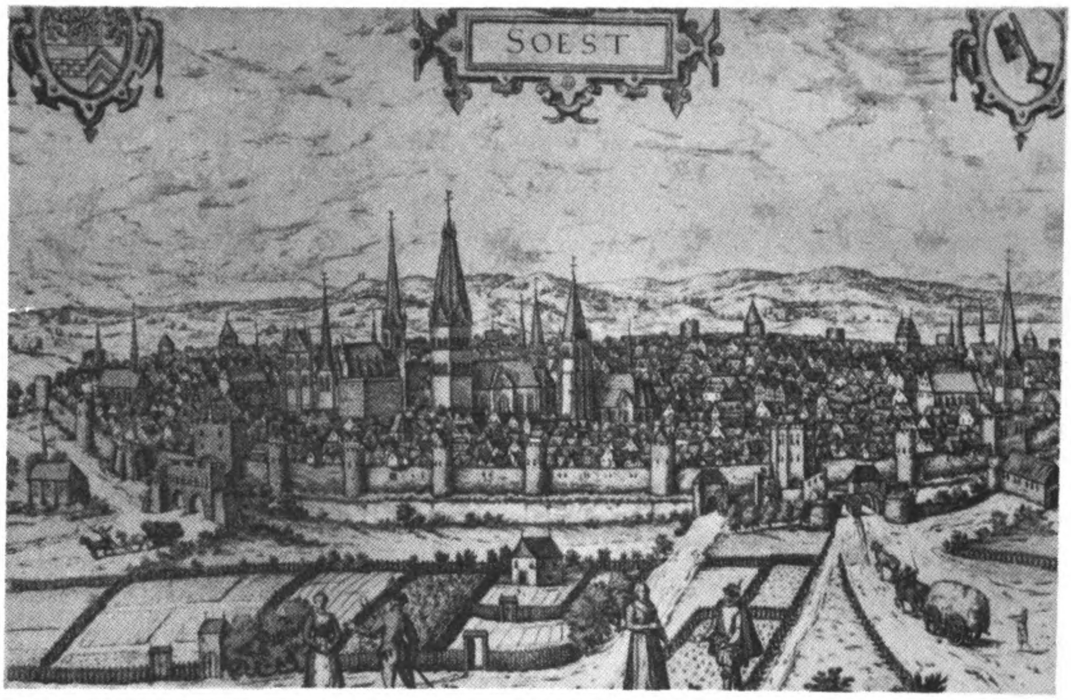


Figure 17. Medieval enclosure of physically defined and meaningful artifactual forms.

The medieval artifactual forms were principally molded by two dominant form shapers, nobility and the Church. Figure 13 indicates their sphere of influence and how they nutured the infant form shapers, which as future centuries passed were to grow and become somewhat independent of nobility and Church.

The following illustration, Figure 14, translates the influence and social composition of each form shaper into a physical expression found within the medieval city. Again the artifactual counterparts of the two major form shapers significantly influenced the medieval environment. All other forms were subordinate to both the castle and church. There was emerging a semi-autonomous form, expressed by the city, with the establishment of local government (town hall) and the guilds with their associations.

Despite some expression of independent form, the figures contained on page 63 indicate a strong collective image. These various urban artifacts such as the church, castle and local market place, were all physically confined to an easily identifiable space. This urban area was delimited by the wall, having a select number of gates providing access to and from the city. A feeling of independence and the unexpected was possible however, because synthetic and symbolic modes offered irregular patterns of movement and placement of buildings. Rigid geometric patterns and urban spaces were to be found later in history when the analytical and practical modes were to dominate man's way of thinking.

CHAPTER IV.

PALEOTECHNIC CITY

The provincially constructed medieval world, now transformed by social order following the Black Death, national consolidation (resulting from the Hundred Year's War) and cultural advancements with such inventions as printing and the compass, was inherited by the renaissance. A new world began, bringing a different level of awareness to man's reason for existence. This interim represented a graying of the white medieval, succeeded by the onrushing sooty industrial revolution. Renaissance man was offered the tools to create the paleotechnic city.

Preparatory to any notable alteration in a cultures system is a desire for change, evidenced by opposing philosophies and ideas. Apparent at the outset and developed as the renaissance progressed was this necessary conflict. Medieval containment both in body and spirit had reached its endurable limits. The time was ripe for a significant cultural shift. Knowledge became redefined in terms of the analytic mode of perceiving. Earth and man's previous central position, advanced in Grecian times was supplanted by a heliocentric universe. The heliocentric concept reduced the role of earth to the position of another planet revolving around the sun.

A new focal point emerged. The human being now was an observer. No longer was the concept of the Aristotelian universe in vogue. This new level of awareness brought with it, through cultural differentiation, the age of science, astronomy, and mathematics, replacing the non-analytic world of myth.[77]

As these fresh ideas and conceptions found an audience this new awareness level fused into an acceptable discursive language. Suzanne Langer has broadly captured the essence of an arising cultural shift which we find here being prepared in the kitchens of the renaissance for an enlarging and hungry industrial culture.

> The formation of experience which is contained within the intellectual horizon of an age and a society is determined, not so much by events and desires, as by the basic concepts at people's disposal for analyzing and describing their adventures to their own understanding.[78]

Before any time is spent analyzing the characteristics of the paleotechnic city, we should qualify those remarks that examined the changes enabling its creation. The modification of man's psyche, between the medieval and renaissance cultures, leading to the industrial cultures, represents an intricate social process. It has been concisely described here, but with the full realization that both brevity and simplification reduces historical accuracy.

PALEOTECHNIC SKETCH

The paleotechnic age, spanning approximately one century in England, is typified by a prevailing coal and iron economy. This term, paleotechnic, was initially coined by Sir Patrick Geddes, but subsequently enlarged by Lewis Mumford. Even the latter's usage seems narrowly defined in certain instances, for we will shortly see that technology is just one aspect of the cultural world in the late eighteenth century. In actuality its significance is not limited to what many historians erroneously believe to be a mere technological period

which mechanically harnessed man's resources. Another school has typed this evolution as a shift from a pre-market to a market economy, but again, due to present day interpretation of economics, its meaning falls short. These two cultural explanations are actually characteristics of this time period.

The key themes the paleotechnic age subscribed to were freedom, independence, and the individual will to pursue what each person desired. This seemingly humanitarian concept pervaded all activity in spirit, but unfortunately not in practice. Replacing the two domineering medieval form shapers was a potentially freer world greedily absorbed by the enterpriser. Urban settlements growing in area and location were principally guided by bankers, industrialists, and mechanical inventors; both good and bad. Informal controls essential only to pecuniary successes, reigned supreme, however. Secular regulation, what little existed, was construed in terms of protecting profit.

Needless to say, in time the landless, ignorant, but economically dependent working group serving the machine, would become disenchanted with their station in life. Counteracting any dichotomy between the haves and the have nots was also a growing middle class with small industrial operations, beside a "new alignment of forces between country and country which tended to undermine the internationalism of capital and disrupt the unity of the proletariat."[79] One final point in this regard was the division of labor necessitated by factory operations. Skilled craftsmen and workers, with the knowledge of a total process were un-

essential to the success of production. Segmented and unskilled operations began to persist. There was little concern for anyone comprehending this factory process, outside of the entrepreneur.

Likewise, urban settlements expressed this contradiction of freedom but yet containment vis-a-vis specialization. With the rise of nationalization the paleotechnic city politically operated upon three principles:

1. Abolition of the guilds and the creation of a state of permanent insecurity for the working class.

2. Establishment of the open market for labor and the sale of goods.

3. Maintenance of foreign dependencies as a source of raw materials necessary to the new industries, and as a ready market to absorb the surplus of mechanized industry.[80]

With the development of new sources for power, man's hinterland was opened up to massive urban exploitation.[81] No area was inviolably held. The dictates of nature in terms of wind and water became expendable. Whenever a potential mineral deposit was discovered the enterprisers were not far behind. Coal and iron were their interests, with great wealth their aim. First the steam pump, followed shortly by the steam engine, enabled these persons to establish the necessary power for mining or factory operations. Within England, for example, the power loom completely revamped the textile process. Labor, now being a minor problem since skills were unnecessary, attracted a large migration for employment. Many other developments ensued, but important here is the great flexibility possible in factory location. With the major

prerequisite being a desire for wealth, these potentially profitable resources "seemingly" beckoned. The environment was treated as a tool of man's caprice. Little concern was held for planned development of either the city, or equally important, the resources extracted. After all, they were inexhaustible.

Demography played a major role in developing urban agglomerations, especially in conjunction with the on-going reforms that altered the lands' use. Up to 1800, no century in England had experienced more than a one million population increase. The nineteenth century brought an unprecedented three million rise in England's overall population. Despite some disagreement as to the predominant cause, birth rate versus the death rate, natural increase was a major characteristic. In actuality there was a combination involving both gains through the birth rate, and a decrease in the death rate. More germaine to our investigation is a concomitant shift in the rural-urban distribution. The number of rural inhabitants in 1770 accounted for nearly forty percent of England's total population, but by 1841 this amount had been reduced to twenty-six percent.[82] Significant population movements were not only based upon country to city or town shifts, but also from foreign sources. Migrations were continually occurring, since additional manpower was needed to satisfy manufacturing requirements. In just a ten year span, from 1850 to 1860, over one-half million Irish were transported from their homeland to become "the dregs of the labor market."[83]

While mechanical developments transformed the manufacturing picture, a similar revolution was changing the agrarian economy and associated patterns of land ownership. England's open field system, with common grounds, did not satisfactorily meet the requirements for larger scale cultivation methods, which the newfangled agricultural machines offered. The earlier enclosure system was revived. It legally sanctioned the accumulation of small farm properties into immense holdings. Land ownership became concentrated in the hands of a few. In England and Wales a mere five thousand landlords owned over one half the total area.[84]

These holdings not only included arable land, but even large park, conservation and forested areas. Ruthless speculation ran rampant. Land quickly was subdivided into farms averaging three hundred acres or more, which were rented or leased to tenants.[85] Despite gains from enlisting mechanized techniques, which geometrically increased agricultural production making England a major producer, considerable hardship was incurred. Most peasants, now landless, had little choice of movement. Where at one time these peasants had the privileges of using common grounds for livestock grazing and living, this opportunity no longer existed. Their opportunities were either to become workers for the tenant farmer or landowner, or move to the cities and towns. This latter course was most chosen. This significantly affected the high rate of population influx to urban environments.

Summarily speaking, this historical period of urban culture represents three main phases which altered settlement form:

1. The revolutionary changes in the technical methods of manufacturing, transportation, and the communication of information.

2. The rise of the factory system, viewed as a new method for the organization and the discipline of labor.

3. The general economic, social, political and cultural effects of the new technology and the factory system upon Western civilization.[86]

Suggested by this third phase is the entry into a different realm of perceiving the urban environment. Up until this moment the collective world of reality had not lent itself to contemporary institutional classification methods. As observed in these past cities, historically their cultures operated by a group consciousness. Their breadth of knowledge and experience were equated to lesser levels of awareness, however. Urban vocabularies were understood through mainly physical expressions. Pre-institutions, which have been called throughout form shapers, guided these earlier urban cultures through a meaningful, communal living experience.

With this brief sketch, it is evident that the paleotechnic culture indicated a new level of awareness. The collective pre-industrial cultures finally gave birth to the industrial cultures after more than thirty centuries. Self-consciousness, where the individual derived personal meaning by way of personal activity, was a typical industrial culture characteristic. Man began to consider himself the sole

director of his destiny, rather than directed by a group spirit or commonly held purpose which was vividly expressed in both the polis and medieval cities. As indicated earlier, a major reason for this development was that man had the ability to accumulate cultural knowledge.

Symbolic and synthetic modes of perceiving no longer directed analytic and practical perceiving. All four of these modes, which we will refer to in the future as cultural subsystems, became separate individual entities. The knowledge industrial culture possessed could no longer be envisioned as a whole, Analytic and practical perceiving, in contrast to symbolic and synthetic perceiving, encouraged compartmentalizing, because its methods involve examining the parts of knowledge and emphasizes its physical aspects.[87] Through the process of cultural differentiation these four cultural subsystems further divided into many institutions, each with a more restricted scope.

INSTITUTIONAL PERSPECTIVE

E. DeRoberty offers a framework for classifying institutions and their relation to cultural subsystems which is extremely useful in viewing the paleotechnic city.[88] With only a slight expansion this outline captures the substance of institutional meaning, which can be utilized to explain the remaining, industrial city typologies. For our immediate needs let us focus upon De Roberty's classification in order that it be used to describe all four modes that finally appeared with the paleotechnic culture.

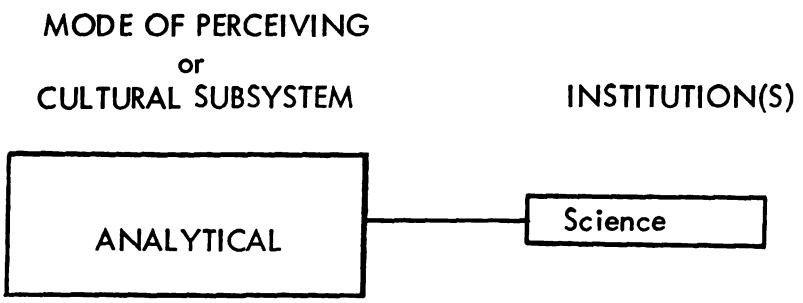


Figure 18. Analytical industrial cultural subsystem and principal institution.

This is comprised of hypothetical, non-dogmatic thought, common to the world of science. Scientific thought involves empirical research with the truth of external senses being its goal.

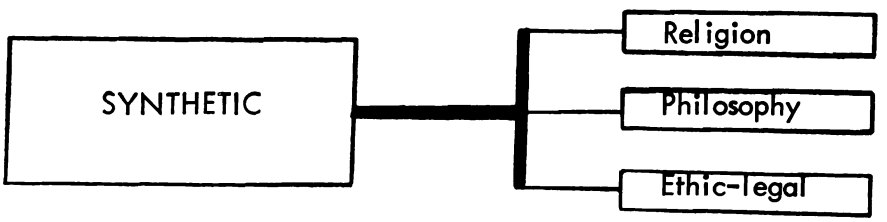


Figure 19. Synthetic industrial cultural subsystem and principal institutions.

Synthetic or apodeictical thought is allied to religion, whose goal is the truth of our inner senses found by contemplation, and with philosophy, which seeks the truth of reason by rational thought. The ethic-legal

institution is theoretically a combination of religion and philosophy, or at least is based upon them, having a goal of justice.

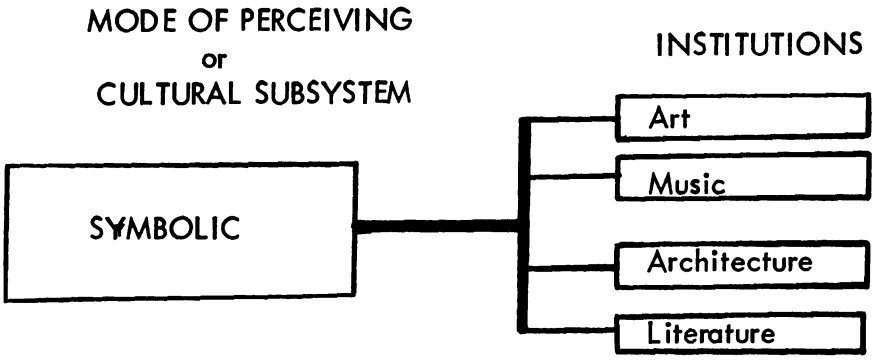


Figure20.Symbolic industrial cultural subsystem and principal institutions.

Contained within this cultural subsystem of symbolic or aesthetic thought lies the expressiveness of form. The arts embody those areas where composition and design are uppermost in their method.

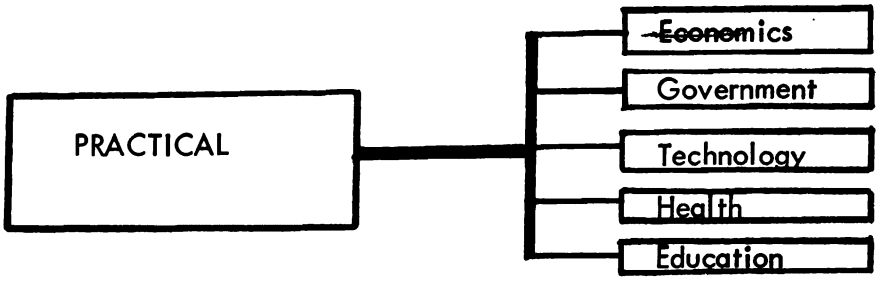


Figure21.Practical industrial cultural subsystem and principal institutions.

Practical or applied thought indicates, on the basis of knowledge what ought to be done to achieve a definite purpose.

These four cultural subsystems combine to depict a total picture of western man's industrial culture. Institutions are formulated from these subsystems, once their established patterns of acting are fixed. Within the paleo technic culture direction was strongly dominated by two subsystems, the analytic and practical. The symbolic and synthetic were repressed, while analytic thought operated mainly for advancing practical knowledge. The practical world began to develop an ingrained institutional pattern, inherited by our present century. The institution of technology, cooperating with science and economics produced the pattern for paleotechnic culture.

Numerous other observations are possible, but rather than attempting to be too comprehensive, hence vague, a more detailed look at each cultural subsystem will be rewarding to the observer of the paleotechnic city. These systems, each with its own institutions will again be rejoined when we consider the subsystems artifactual counterparts.

CULTURAL SUBSYSTEMS: INSTITUTIONAL FORM SHAPERS

Analytic: Institution of Science

Adopting the Copernican conception of the universe typified a major alteration in man's previous levels of awareness. Life was comprehensively reconstructed for this age of inquiry, and scientific thought began opening the culture to a vocabulary of literalness. Still protected under the Church's covenant, seventeenth century scientists were, however, devout; this included such men as Galileo, Descartes, Leibnitz, Newton and Pascal.[89]

More important than the renaissance itself were the new empirical principles that began to abound. In Technics and Civilization three key aspects are offered as the essence of physical science.

1. The elimination of qualities, and the reduction of the complex to the simple by paying attention only to those aspects of events which could be weighted, measured, or counted, and to the particular kind of space-time sequence that could be controlled and repeated.

2. The concentration upon the outer world, and the elimination or neutralization of the observer (man) as respects the data with which he works.

3. The isolation, limitation of the field which includes the specialization of interests and the subdivision of labor.[90]

Pure scientific method, originating with the renaissance, was applied in the time of the paleotechnic city by systematizing, classifying, and unifying thought. Science had given birth to modern invention. This latter consequence, not uncommon even in the pre-industrial cultures, greatly expanded during the industrial revolution. Invention beginning as one expression of science, by applying Descartes and Cartesian theory to the paleotechnic mind, transformed invention into the essence of science.

Mechanization, invention and profit were all intermingled. The establishment of England's Royal Society, with the conspicuous exclusion of the humanities, certainly indicates that science had arrived.[91] Now with a particular body of knowledge, having accomplishments in physical terms, the subsystem of analytic perceiving was heavily utilized.

Synthetic: Institutions of Philosophy and Religion

The synthetic cultural subsystem, greatly reduced now that other subsystems were profitably used, was in search of a way for man to regain a less material perspective. These vestigial shackles of synthetic perceiving, binding the common man, were removed by "industrial enlightenment."

Immediately preceding the paleotechnic culture was the mercantile movement whose goals included state unification along with increased state or national power. Any individual activity was regulated if thereby the power of the state could be strengthened. Their objective included two aspects. First was strengthening the crown by removing authority from geographically scattered, semi-autonomous nobles. This included:

1. Abolishment of tolls.
2. Establishment of production and trade.
3. Regulation of both internal and external aspects of trade, and the internal aspects of industry.
4. Central government for the formerly independent towns and cities.[92]

The remaining scheme was the use of the doctrine of laissez-faire which utilized military power and economic self-sufficiency. In principle this doctrine found a welcome home within the paleotechnic culture, although the founding fathers of economic liberalism expanded it to fit their needs. This philosophy incorporated those principles reflected in analytic perceiving and the natural laws guiding the universe.

> They were convinced that the perfection of all human social institutions could be best realized by letting them freely conform to this natural order, a condition which they believed would most certainly be brought about under a regime of unlimited competition. If man refrained from legislation and any attempt to control economic processes by artificial means, then God and His natural order would have full sway. One reason for human unhappiness and prevailing misery, was the operation of a large number of archaic and restrictive laws, which being statutory and unnatural, were holding back the free dominion of natural law in the affairs of men.[93]

The natural order of objects which Newton and other devised to describe pre-arranged universe suggested that man had the task of only having to observe, not to direct. Mankind, no longer the center of our cosmology, must respect the relationship of existing heavenly bodies. Again we can easily detect an inter-relatedness of belief systems that was giving a mental and physical form to this culture.

Scientific awareness found within the analytic mode now was the dominant theme, and the synthetic mode was subordinate to it. An excellent example of the growing influence of the practical mode over the synthetic is found in this passage from Man's Worldly Goods.

> In a society where the object of work was merely to make an adequate living for yourself and family, the Church could denounce profiteers; but in a society in which the primary object of work was to make profit, then the Church had to sing a different tune. And if the Catholic Church, geared to a feudal-handicraft economy in which the craftsmen worked merely to make a profit, then the Protestant Church could--- and did. The Protestant split into many sects, but in all of them, in varying degrees, the capitalist interested in acquisition could find comfort. [94]

The church as an institution was readjusting, following the Protestant Reformation. Church doctrine no longer was masked under a Pope Gregory, hence its influence upon cultural activities changed. Canon law flourishing in the medieval city was being digested and transformed in the more mundane Anglo-American law.[95] For religion to be properly understood in a more secular world it had to be redefined and stated.

Scientific inquiry developing within the seventeenth century church had now asserted itself in the eighteenth and nineteenth centuries as an independent mode of perceiving. This followed the previous path of the university, which had sought refuge during infancy beneath the Church's dominion. The church remained, but with a changed role. Within these paleotechnic cities the only possible relief for the oppressed working class was the oasis of the church.

Symbolic: Institutions of the Arts

Symbolic or artistic perceiving reacted in varying ways to the reduction of the sensate. Artists, writers, poets, design-builders, composers, all perceiving the industrial culture's effect upon the city, could only portray bleakness. A repulsiveness was shared by these aestheticians and humanists.

The more extreme artistic revolt against the industrialization process turned toward socialistic doctrines. Utopian principles supported a retreat from these aesthetically barren cities and towns to the more pastoral sites. Some more socially equitable living arrangements were suggested to replace the horribly stratified city.

Other reactions were more passive, but in viewing these urban conditions all aestheticians and humanists were vocal. Following along with the scientific way of observing, the symbolic mode made its feelings known. Charles Dickens, among the literary figures, was an outspoken critic protesting these unsavory industrial conditions.

> He saw about him the miserable factory towns, the unspeakable conditions in the mines, the long hours of labor, insufficient wages, and the ruthless oppression of women and children. His whole personality was revolted by these products of laissez-faire and the new capitalism.[96]

Many artists either changed their style to accommodate the paleotechnic city or they fled to capture the naturalistic landscape which their countryside still offered. J. W. Turner, leaving nature subjects, painted the true city with its characteristic fog, smoke and unnatural lights. Turner, Mumford commented,,

> ...painted a hymn to the wonder of light, such a hymn as a blind man might sing on his finding his eyesight, a paean to light emerging from night and fog and smoke and the conquering world. It was the lack of sun, lack of color.... starvation within industrial towns[97]

Others, such as Van Gogh, left this depressing visual scene in time to depict the full color of the French landscape. Impressionism found the hinterland more akin to their taste, with the richness of greens and blues so absent within the city.

Architect-builders were more susceptible to the paleotechnic influences of economics. Their contacts were with the enterprisers reaping the wealth of these times, which included possessing large land holdings. These designers turned their backs to the city, if for no other reason than their wealthy clients preferred

to have estates built far away from this urban misery. A waiting and ready market beckoned the enterpriser because the newer middle class also desired the benefits of better living. As a result, the majority of planning was done in areas outside these cities, using earlier architectural styles as a design base.[98]

Practical: Institutions of Economics, Technology

The social process transforming first England, and subsequently other countries to a practical, more openly competitive culture, certainly gave strong direction to economic and technological institutions.[99] During their emergence the local market system was also changing. No longer did "wealth follow power" because in the paleotechnic culture "power followed wealth". One way to explain the development of the economic institution is from the production standpoint. Briefly let us slip back to medieval thinking, and bring this one aspect of the market system up to the industrial revolution.[100]

The early medieval culture was characterized by a familiar market. First locally operated, the household or family system had hand produced things for their own needs. Beginning at the same time, but continuing throughout the middle ages, was the guild system. The workers owned, at this point, both the raw materials on which they worked and the tools. They sold their product of labor, but not labor itself. Within this second phase the market was usually small but stable.

The third phase was the putting-out system, in which home production remained. The master still owned his tools, but now he was dependent upon the

entrepreneur. This person was a middleman, who made the master become a piece-work wage-earner. Labor was becoming separated from the means of production. The fourth phase is referred to as the factory system. This was the backbone of the paleotechnic economy. Here, production for an increasingly expanding and fluctuating market was now carried on outside the home, in employer's buildings and under strict supervision. Workers in this phase lose their independence, since they own neither the raw materials nor the tools. Skill becomes a more manual operation as the machine takes over the majority of the creative or productive portion.[101]

Laissez-faire philosophy encouraged by the state expressly caters to an advancing practical and mechanistic mode of perceiving. Technology joining with capitalistic thinking, had begun to improve greatly the general lot of man, but there were many side effects. Directly observable for the world to behold was England's growing stature under this nationalistic scheme. Large amounts of capital, despite the fact it might be unequally distributed, and sometimes unwisely used, became an all encompassing power. Every effort was made to keep this winning combination.

Beside the already discussed enclosure acts, other formal laws were now inflicted by this central authority. Many examples are available, but we will draw only upon a few. The nationalizing of inventions by establishing the patent process encouraged practical ideas. Inventions at this time thus became similar to licenses to operate a franchise. With the chances to gain wealth, it was no

wonder man used both the analytic and practical modes of perceiving and their institutions. Mechanization was a new thing to the paleotechnic culture. It now created intellectual excitement. The Gentlemen's Magazine announced to its readers it would keep abreast of every invention introduced to England.[102]

Another example was the role of communication in expanding the horizons of the market. Except for London, prior to mechanization's impetus, municipal governments were granted charters only as closed corporations, and as such, were still handicapped in making other than purely local decisions. From the standpoint of municipal improvements, unless it related directly to advancing local industry, the local city government had no authority. Road networks were, at best, inadequate. An emphasis was placed upon only waterway improvements, especially in seaport towns. This meant industry could achieve an international market, so, therefore, canal and river networks were dredged and enlarged. As the technics of the steam pump and iron advanced, an entirely new transportation network began to open up.

Technology, advanced by science and economic thinking, stimulated the building of a large, mechanized, and highly productive system.

Cultural Subsystems: Institutional Forms

Analytic

The analytic mode of perceiving involved purely objective reality. Subjective perceiving with its inherent value judgements and personal opinions, for the scientific eye, belonged to the cultures of the past. After all, pre-

scientific perceiving had lent itself to physical and mental containment, whereas the emerging machine was testimony to an unparalleled achievement. Mechanization actually was becoming a natural extension of the empiricist's view. In fact, it was a mere non-partial observer, because, with the machine, preconceptions couldn't exist.

Intellectualism covetously grasped theologic of science as a new awareness level developed. The intellectual group found this association both intriguing and remunerative. This objectivity brought with it a different vocabulary, having space, time, mass, motion, and quantity as its tools. Its artifacts were numerous in the urbanscape, for all meaningful activity had to function with this vocabulary to enjoy any understanding.

Actually, the purview of science was even larger, for its scientific method entered all facets of industrial living and thinking. Hertzler contends that this changing mode of perceiving brought about a "forced liaison of science as a body of knowledge and science as a set of utilitarian and technological techniques."[103] One brief example of the entrepreneur's use of this analytic mode is found with the residential development connected with many industries. Quite frequently the industrialist provided housing for his workers which was mechanically ordered, devoid of any social spontaneity and with little concern for health standards. One room per family, regardless of its size, seemed to be all that was necessary.

Quite often this housing would be enclosed by a high wall, thus reducing the amount of light, but, more importantly, the distractions. These quarters,

Mumford remarks, "with their closely calculated number of cubic feet of air and window space, cut off from sight of grass and flowers by the dusty paved courts...could not have been more adequately designed if the sole object of the building were punishment."[104]

Ironically, associated with this deplorable housing situation, was a growing scientific tribute to man and his ability to arise above the lower animal. The factory was a major productive achievement, but not without human costs.

Synthetic

The changing role of the religious institution was directly affected by industrialization and the new distribution of population. As mentioned earlier, church appeal kindled the workers hopes with a strong interest in humanitarian principles missing in the workers' dreary, factory environment. Church building, especially with interests in these depressing areas, was a beginning counter revolution of social service. Their immediate concern in creating a better moral order resulted in the construction of some two hundred churches, many in these high density industrial pockets.[105] The Church Building Society was founded to provide such grants to handle this growing, but also shifting, population demand. Nonconformist churches led the earlier drive, but the Church of England redesigned their dioceses to serve these human needs more completely. Before the Ecclesiastical Commission met during the 1830's, church siting and placement remained haphazard, without little coordination.[106]

A second artifactual expression was the church and its belated interest in forming voluntary school building associations. For the most part, established universities were backed by the solvent middle and upper classes, but little was provided for the less fortunate group of society.[107] In time, a nationalization of the schools was to gain approval of Parliament, but generally the paleotechnic culture offered little educational opportunity for the underprivileged. The church strove for a more equitable distribution of educational facilities.

Pecuniary interests strongly shaped city form, either by building improvements or new construction. Private trusts with a philanthropic backing still had to show a profit before they would consider aiding any disadvantaged area or group. Consequently, the most needy received little private investment consideration. The church was similarly affected, because the congregations needing a sanctuary the most possessed the least amount of money to build a structure. This problem was handled fairly competently by the church, although at times church architecture suffered. Despite these limitations of design, this church architecture being oftentimes called debased gothic, the synthetic institutions were slowly readjusting to their new role which included creating a better urbanscape by expressing social concern.

Symbolic

The visual products of the symbolic institutions were far more evident in the country, where a wealthy renaissance group had spent their leisure. Such places as Bath and Brighton were a few exceptional efforts. Geometric extension

of the urbanscape was the order of the day. Grid development was utilized for many reasons. These included:

1. Ease of Development - this was the least complicated, allowing economic maximization by the entrepreneur.

2. Orderliness - in many instances this rejected the natural land conditions, but it represented an image of the scientifically perceived universe.

Fronting upon the streets were facades similar to the renaissance scheme, continuous, but monotonous. Urban regulation was still in its infant stages, custom or makeshift laws dominated building development. Generally, cities constructed two story housing to serve the factory worker's needs, including basement units. Water, privately supplied to these cramped dwellings, was found only in units below ground level due to costs and technological problems.

Other town types existed, beside the industrial ghettos we have been concentrating upon. These resort towns, and some new company developments were far superior to the established cities. One major reason was the cheapness of the land for enterpriser, as well as the closer association with a more natural environment.

Even in the non-industrial sections of the older cities, due to a different housing market, more spacious residences were built. Within these less financially restrictive sections, open space areas, courts, breaks in the facades, and a few public buildings appeared. The results were mixed, however. Accounting for at least a portion of this problem was a notable cleavage between symbolic and applied modes of perceiving that left the urbanscape confused. Brian Hackett notes:

> Architects were too deeply involved reviving and arguing about the conventions of earlier civilizations and of different countries; while engineers were too busy applying the new techniques to new systems of communication and the ancillary buildings.[108]

It takes little imagination to realize how this division hindered any meaningful understanding for the paleotechnic man. Commenting further, Hackett remarks:

> ...it meant that the great mass of physical development was left to unqualified persons. It was the cause for the lack of contemporary architecture, though the engineers came very near to it when the very size and nature of some projects brought to life a design which grew from construction and function.[109]

The symbolic mode of perceiving which had been a major aspect of pre-industrial culture, like the synthetic mode, was changed in the paleotechnic culture. Artistic expressions were becoming heavily tainted by practical flavoring. Before describing this practical mode, the changing skyline reflected a symbolic realigning of previous institutional beliefs. This is captured in the following quotation:

> An appearance in the city skyline was reversed for the expressions of religious faith, military power, civic authority, and/or cultural activity...ill mannered for ordinary buildings of life, to detract from the dominance of the cathedral, castle, city hall, and art gallery.[110]

Practical

The perpetuation of practical artifacts was attributable to municipal constraint inflicted by an autocracy, while at the same time encouraging private economic objectives. In England, the closed corporation was the prevailing form of municipal government. Their charters had been granted during the eighteenth century. The closed corporation, consisting of "local and often hereditary cliques and family connections, were masters of the situation."[111] These so-called municipal

governments advanced the personal economic interests of its members at a considerable loss to any community development or improvement. Very frequently the members of the closed corporation were self-elected and for life terms. Some relief was given to the growing communities from complete municipal corruption by special appeal to Parliament for legislation in the area of some municipal improvements. This included the granting of specific revenues by Parliament covering "paving, lighting, cleaning streets, and establishing a body of night-watchmen."[112] It is very evident that existing municipal establishment cared little for reform, for fear of losing an enviable economic position.

Appearing toward the end of the paleotechnic city was the passage of the Municipal Corporation Act. The political and economic inbreeding process was to come to an end; controlled trading, monopolies, exemptions and restrictions were to be seen in light of more humanitarian necessities. During the 1840's investigations were begun regarding the conditions of overcrowding. Health laws evolved from a concern for the water supply, lack of open areas, common lodging-houses, and public bath places.

The earliest municipal regulations attempted to better these maladies, but not the investigation of their cause. Reform had to begin somewhere, so the purely economic motives didn't remain throughout this time.

One last area of the practical mode of perceiving giving form to the paleotechnic city, was the self-regulating limits of technology. There are many examples in this area, but a few will illustrate the impact of technology upon city form.

1. Factory agglomeration

Steam, the major source of factory power coupled with the machine itself, operated most efficiently in concentrations close to the supply. Textile manufacturing plants congregated usually within a one quarter mile area to use this steam to drive their power looms effectively. There were many economic benefits derived from the grouping together of machine operations from a profit standpoint. Residential settlements housing these workers were nestled close to these plants.

2. Location of urban settlements

The inability to develop settlements within many countries was the lack of favorable water transportation, inadequate resources to operate the power engines for factory production, and/or the fact that the early locomotives couldn't climb over two percent grades. The absence of just one of these factors many times meant that urban development wouldn't occur. Industrial development was nearly always the major factor for new paleotechnic settlements.

3. Building scale

Buildings very rarely reached over four stories, excepting church spires, and the newest intruder, the factory chimney. Even if aesthetic sense was not considered, technical limits restrained building height. It was only with the later inventions of structural steel or reinforced concrete that this barrier was removed. If the industrial

enterpriser had had his way, workers would have lived in even more cramped quarters.

ILLUSTRATIVE SUMMARY

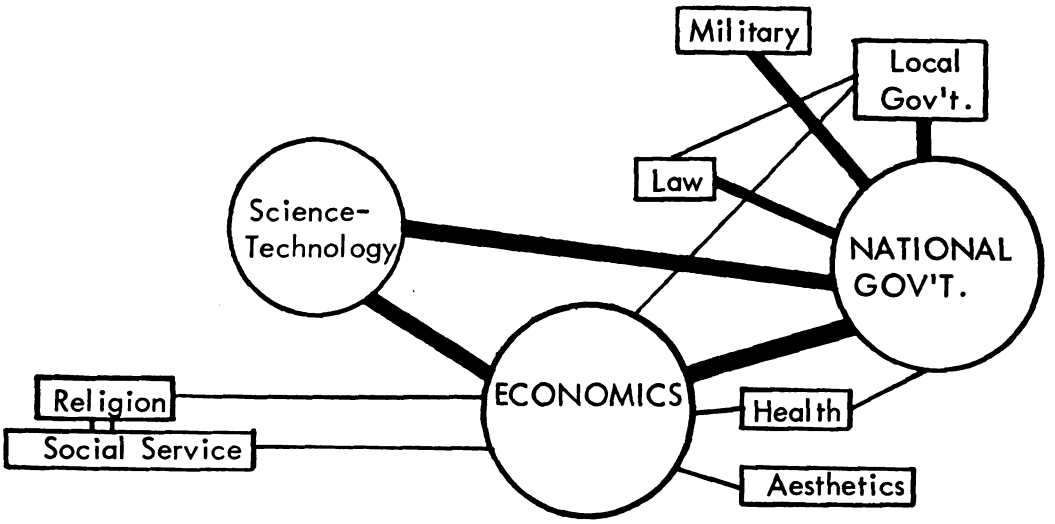


Figure 22. Urban form shapers prevalent within the paleotechnic city.

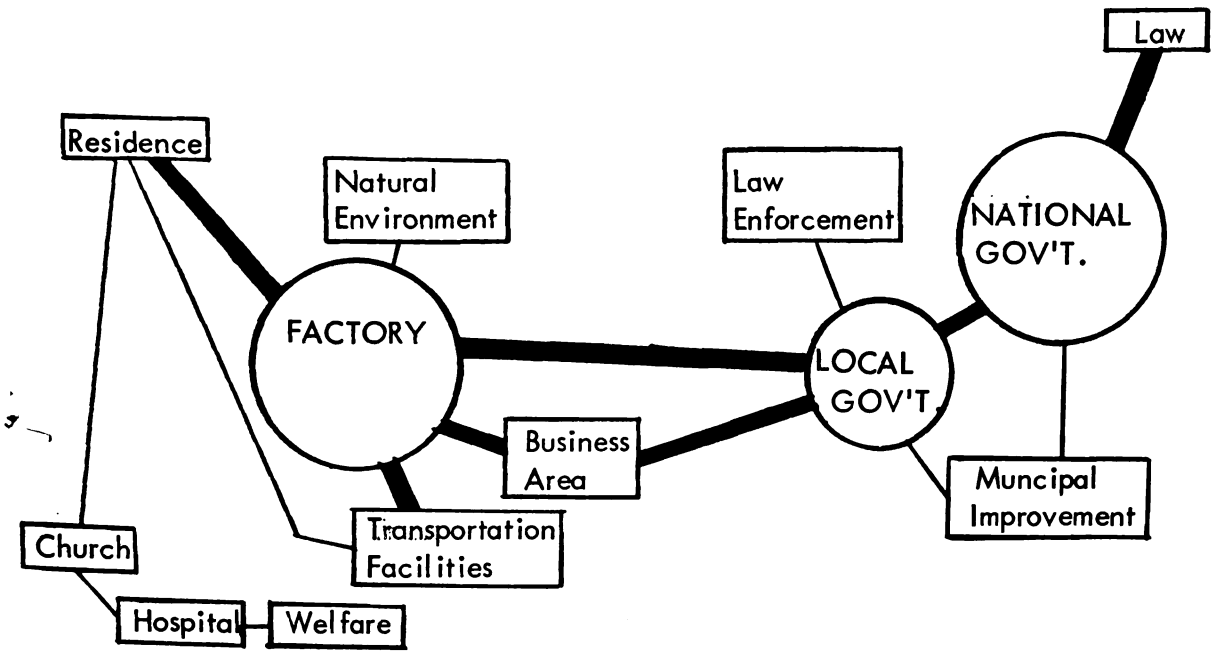


Figure 23. Urban artifactual forms prevalent within the paleotechnic city.

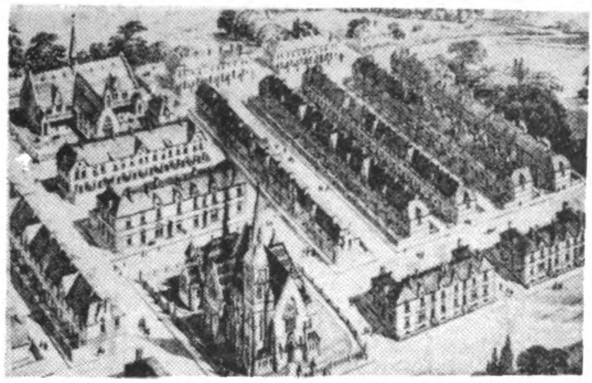


Figure 24. An entrepreneur's industrial utopia. Suppressing symbolic-synthetic perceiving by emphasizing practical-analytic modes.

Figure 25. The emergence of a new urban focal point, industrial manufacturing, dominating paleotechnic culture.

Figure 26. Industrial individual consciousness. The appearance of competitive form shapers and artifactual forms.

The paleotechnic city is significant because it expressed individual awareness, found with the rise of our industrialized urban culture. No longer was it necessary for man to solely rely upon fellow man. Our present day institutions were beginning to become independent of these earlier collective modes of perceiving.

Analytic and practical perceiving, as dominant modes, began to separate man from his cosmology, which meant the microscoping of life. Figure 22 indicates the increase of form shapers over the two previously described urban cultures. New dominant form shapers also arose, which in turn physically reconstructed the meaning of the city. The expanded number of artifactual forms became less interrelated, (Figure 23), with more individualistic objectives.

The three figures found on page 92 are a testimony to maximum self-interests, with no regard for what had been culturally inherited. With the supreme desire for amassing individual wealth, by interpreting analytic perceiving through purely practical perceiving, the urbanscape became rigid and sterile. Industrial entrepreneurs weakly attempted to keep their ties with the synthetic (Figure 24), but the geometric rigidity found in communal living was intolerable. There now appeared new urban artifacts, no longer sacredly preserved in space, but rather competing for it (Figure 25). Chimneys, smokestacks, and uncontrolled building scales began to appear. Urban order was no longer possible, if it was a deterrent to economic and industrial growth.

CHAPTER V.

PRESENT CITY

The industrializing countries of the past century were preparing for the foundation for our present level of urban awareness. Paleotechnic changes in men's values, goals, and motivations began to reorder his modes of perceiving institutions and their artifacts. Our paleotechnic culture, so to speak, provided the spectacles to view and give form to the present. By inheriting this cultural framework, and the values structuring it, many similarities are common to both the paleotechnic and present city. These similarities are included: Compartmentalization of human values and goals into four, interrelated, but independent cultural subsystems or modes of perceiving.

This statement doesn't presume to imply that before paleotechnic culture there was a single mode of perceiving. What it does mean, however, is that preindustrial culture perceived a universal image, with subordinate parts contributing to a common or shared understanding. A good example of this group consciousness was the position of the synthetic cultural subsystem, and its role in medieval life.

The city then received its direction from the holy order and church doctrine, but not by abandoning all other cultural subsystems. The remaining three subsystems were subordinate, but not separate, parts of synthetic perceiving. They reinforced and unified the synthetic. This is more clear when we look at the artifacts of each subsystem during the medieval culture.

1. Symbolic Subsystem: Church architecture, music and art all portrayed the divine; there was very little non-sacred expression.
2. Practical Subsystem: Canon law sanctioned secular activity, and many times operated within it semi-automatically. Universities, guilds, and early hospitals were at least partially supported by the church.
3. Analytic Subsystem: Although this aspect of the middle ages was least in evidence, most early science was carried out with the approval of the church.

In contrast to this, the paleotechnic culture began to differentiate, developing separate, self-maintained subsystems for perceiving city life. Collective wants, needs, and desires grew as man's realm of knowledge grew. No longer could urban life be perceived through one subsystem. Replacing collective thinking and perceiving were now four independent subsystems. Not only did cultural differentiation and accumulation bring about the division of urban life, but each subsystem developed a set of institutions (Consult Figure 6.). These institutions expressing parts of the larger subsystem now had their specialized attitudes and values, beside artifacts.

Generally, the remaining portion of this chapter will treat this institutional area and the physical expressions composing the present city's perception.

INSTITUTIONAL FRAMEWORK

The first task here is to define the terms of this institutional framework,

found on this page under Figure 27 . Several examples will be given to make clear to the reader how these present day institutions function, and physically express themselves in our cities.

Mode of Perceiving or Cultural Subsystem	Institution	Value	Goal	Method	Dialecticism
ANALYTICAL	Science	Rationality-Quantification	Truth of Eternal Senses	Empiricism	Subjective vs. Objective
SYNTHETIC	Religion	Communion	Truth of Inner Senses	Contemplation	Self-actualization vs. Transcendence
	Philosophy	Thought	Truth of Reason	Rational Thought	Self-knowledge vs. Transcendence
	Ethic-legal	Security	Justice	Judgement	Right vs. Order
SYMBOLIC	Arts	Empathy	Beauty	Design and Composition	Self-expression vs. Orderliness
PRACTICAL	Economics	Exchange	Welfare	Calculation of Costs and Benefits	Competition vs. Collectivism
	Technology	Technique	Efficiency	Invention and Design	Non-systematic vs. Systematic
	Government	Representation	Liberty and Equality	Bargaining	Freedom vs. Authority
	Health	Continuity	Fitness	Diagnosis	Exploitation vs. Conservation

Figure 27. Principal institutional components of each industrial cultural subsystem

Definitions:

1. Values - Values are simply interests achieved through association with an object. Institutions are formulated by individual's values or interests sharing a mutual need. A value in itself is not observable until it is attached to some object, then it becomes an artifact. The religious institutions value of communion becomes meaningful to the perceiver when it is attached to an object... the church as an example. Institutions possess more than a single value, but, hopefully, those values expressed in this framework represent the institutions' principal ones.
2. Goals - Goals represent the aims or objectives of a value each institution possesses. This goal establishes a definite purpose for that value to achieve. Considering economics as an institution, its major value is exchange, such as goods or services. The goal of economic value is welfare, interpreted today as personal well being through the maximization of profit.
3. Method - A method is a way or manner of doing something. Applying that meaning to this framework...a method is a manner of achieving an institutional value by fulfilling its goal. Science, with its value of rationality and quantification has adopted a method of empiricism to achieve its goal of truth of man's external senses. The implications of each institutional method is physically significant, since this indicates how the institution perceives the city.

For every institution there is a different way of viewing the city. The scientist perceives the city empirically, while the economist weighs the city in terms of economic benefits as opposed to its costs. While the scientist perceives the city objectively, the artistic institution views the city subjectively through the impressions of the artisan's mind.

4. Dialecticism- Dialecticism is a term denoting the polarities of institutional values common to man. All objects and values are characterized by both stability and transformation. Radhakamal Mukerjee remarks that "man's values correspondingly alternate between the immediate and the eternal, the changeful and the enduring, the existential and the transcendent."[113] All institutional values are inherently dialectic. Institutional government with its value of representation can be expressed in terms of freedom or control; depending upon man's interpretation of the aims or goals of his values, and the method used by this institution to achieve them.

Most institutions, although having this dialectic characteristic, do not emphasize either polar extreme. The institution of health, for example, represents a compromise between exploitation and conservation. This potential polarity always prevails, because only out of conflict and resolution comes change. This change, however, can be a positive or negative; growth or decay.

5. Artifact - The tangible objects of institutions are the artifacts. They represent physical expressions of institutional values and goals. These artifacts, however, are continually interpreted through the eyes of the institutional beholder. When goals and values of an institution change, the artifact is "re-perceived".

Until now this chapter has emphasized the cultural similarities between the paleotechnic and present city, and subsequent institutional components which compose urban patterns of form. Let us examine how man's institutions as a result of cultural accumulation and differentiation have brought about an imbalanced urban culture. The term dysfunction is used to describe the disbalance that exists in our present city.

Certain institutions dominate the way man perceives the city, which consequently has reduced other institutional viewpoints and meanings. (Consult Figure 27. , page96). Institutional dysfunction or disbalance has resulted in the many urban problems which man now faces. The two remaining sections of this chapter are an inquiry into institutional urban patterns.

First, are examples of institutional dysfunctioning in our cities, with its effects upon urban form. This writer has suggested two types of institutional dysfunctioning. Inter-institutional dysfunctioning occurs when man tries to perceive all city activity through a set of interrelated institutions. Inner-institutional dysfunctioning is caused by one domineering institution that discards all other institutional influences.

Following these examples of institutional dysfunctioning will be the second

section. This will involve the analysis of an existing urban characteristic, by tracing it to its institutional origins. This analysis does not presume to have isolated all relevant factors, but it is intended to open up a meaningful area to explore more fully at a later date.

EXAMPLES OF INSTITUTIONAL DYSFUNCTIONING

Inter-Institutional Dysfunctioning: Science and Technology

Our twentieth century city, through a nearly inseparable bond of science and technology has become one of the primary examples of cooperating institutions. Appearing seemingly innocent, this inter-institutional union is gaining an expanding influence in the sphere of cultural activity. It is continually being reinforced by other practical institutions of government and economics. This scientific-technological institution is reordering the values, goals and artifacts found among the remaining institutions therefore. Mechanization and automation of our modern life is a by-product.

The domain of these institutions is growing and, according to Mukerjee:

> ...combine to produce a civilization that is characterized by deadening triumph of the machine and organization over man, and of the means over the needs, the instrumentalities over the intricacies of life. Social segmentation and factionalization of human work, life and mind transformed man without being aware of it. Implicit in this transformation lie all the deep oppositions between the constraint of autonomous, external forces and circumstances and the creativeness and adventure of human life.[114]

From the standpoint of science, modern man can no longer conceive of it without its technical outcome. Science, states Jacques Ellul, has become an element of technique with an appeal for scientific utilitarianism. The separation of science

and application is no longer discernible. Technological fundamentals previously characterizing this institution have also changed. In the past, technology was a distinctive part of culture, for there was little standardization, and virtually no competition. Therefore, few comparisons were made in regard to the best way of doing something. In the eighteenth and nineteenth centuries, two urban shaping characteristics, science and technology were developing, though mainly separately. This is not true today. Presently there are at least three relevant scientific-technological characteristics shaping the urban forms in our culture. They include rationality, artificiality, and autonomy.[115]

1. Rationality

   This includes the systematization, division of labor, and creation of standards of functioning. Rationality reduces the method employed to achieve the goal of the institutional value to a logical perspective. Irrationality, or an interest in the unexplainable, would cease to have meaning if this were carried to an extreme. Symbolic and synthetic cultural subsystems find little or no part to play in urban life with only rational perceiving. Their artifacts must reflect a rational awareness, else their meaning is reduced. An extreme example of artifactual dysfunctioning would be technological obsolescence. This is where the artifact no longer embodies any technological meaning to the perceiver. Churches partially represent this today when their congregations resettle,

or shift, although economic thinking plays a larger role.

Subscribing completely, this rationality doctrine could remove museums from the urbanscape along with churches and libraries, for they represent both the past and the unknown. Non-rational awareness or subjectivity does not lend itself to any technological understanding. To become accepted, many institutions that are subjective in nature are trying the more objective approach. The computerization of art, and music are two very recent examples.

2. Artificiality

Hopefully, the discussion of the paleotechnic city and the transformation from the medieval city has indicated this subordination of the natural world which is constantly becoming more artificial or withdrawn from nature. Air conditioning is a copy of a natural process, but it has been improved upon. Temperature is stabilized, at a logically determined level for the most efficient operation. Nature's deficiencies are overcome.

More related to the field of urban planning is the plight of nature's last expression in man's artificially created road system, the median strip. The accepted technological improvements in the vehicles that make them wider, swifter,

are enormous space eaters that have reduced nature's touch to the sanity of safe movement. Medians must go; after all, they hinder technological progress!

3. Autonomy

Self-direction is probably the greatest danger an institution faces. Institutions do have an enduring quality about them since they normally outlive the individual founders. A check, though, does exist. By definition, institutions are accepted expressions of human values, with acquired goals, methods, and artifacts determined by its members.[116] Carried to an extreme, however, the process of automation, which steadily reduces the number of initiators of change (man himself), could theoretically, approach one hundred percent efficiency. However, little initiative, the seed of growth, would be possible in a completely "technisized" culture.

Max Lerner cites an example of this automated process with his discussion of a continuous flow operation in a chemical plant. In Ohio, during this past decade, an entire napalm plant began operation with four persons per shift. A newspaper commenting on this development stated that it missed one hundred percent automation by a hair.[117]

To a degree, the urban planner incorporates this self-directing characteristic in his use of population projection

> techniques. He employs techniques of population forecasting that are quite often self-fulfilling prophecies for growth. Urban growth is usually construed as only a positive factor, thus becoming self-directive.[118]

Inner-Institutional Dysfunctioning: Economics

Economics is being defined in the way man presently interprets it. The economic method (Consult Figure 27. , page 96) uses a procedure which calculates man's life in terms of its practical, usually immediate, costs versus its benefits. Economic goals of welfare, emphasize maximization of profit, although welfare could have other meanings. Probably the best way to view the influence of economics is by examining a few subordinate institutions and the manner they economically express themselves in our cities.

Scott Greer states that economics observes the city as a "matrix of locations for firms...a necessary translation of a national economy into space."[119] This indicates an immediate interpretation of city artifactual form in terms of economic worth and its tangible return. Going further, he remarks that the city is envisioned as an economic unit or super firm.

> It is based upon relations between importers and exporters, contractors and subcontractors (with the household as the smallest firm) all involved in an import-export business (consumption-production)...the city is seen as a center of production, trade and distribution, whose basic units are economic organizations.[120]

The definition of a park in the eyes of a real estate developer could very well be thought of as a productive but unconsumed economic unit. In this sense, everything valued becomes a part of the market. A truly free enterprise system, which

the paleotechnic culture represented, could result in a universal interpretation of all man's artifacts as marketable items; his churches, schools, transportation and communication networks.

1. Relationship of Economics to Government

The Government Accounting Office, the so-called congressional watchdogs, spend considerable time determining the economic merits and feasibility of federal programs being carried out by the executive branch. Their major concern is the economic accountability of any executive operation, whatever it might be. No program which involves the expenditure of federal government funds is immune to their review, as long as the legislative body requests them to investigate. Although this control is part of the check and balance between the legislature that approves the funds, and the executive that spends what has been approved, the problem is that everything is coldly perceived in terms of financial return. There is a continual effort to balance objectively the economic costs with its economic benefits, despite the intent of the Congress in approving the appropriation.

A case in point is the GAO's review of a federal government housing program in a California community, which review recommended the withdrawal of aid due to its lack of economic feasibility. A disgruntled congressman from that state,

questioning their methods of economic evaluation, pointed out that, although the GAO had over 2,100 professional men there was not one engineer, architect or urban planner; just 2,000 accountants and 100 lawyers. Commenting, he stated, "we are given the two-dimensional world of the adding machine and told to make from it the three-dimensional world of the value judgement...this can lead to only one conclusion: that public housing would be completely institutionalized, and that every breadth of imaginative design would be withdrawn."[121]

His remarks contained in The Heart of Our Cities gives a vivid picture of the domain of economic thinking in the governmental process. Further remarks show that present economic perceiving of this type is found in numerous other governmental operations.

> The government in regard to economic accounting, reaches conclusions without an architect, engineering conclusions without an engineer, aesthetic and historical conclusions without a planner. It arrogates architecture, aesthetics, engineering conclusions without competence. There seems to be not a trace of thought in their minds, yet it seems to me they bring to all projects the built-in conviction of a lifetime that accountancy is the primary value...To some degree we have become sacred talismen...We need not fear for our country when we are putting up great buildings of imaginative design. We need fear for ourselves when we stop doing so.[122]

2. Relationship of Economics to the Artistic Institution

The staunchly economic minded Fortune Magazine within a year

or so, has begun to raise some questions concerning the application of narrowly conceived economic interests and its effects upon artifactual forms in our cities. Self-criticism has begun to suggest that the economic interests might be creating "economies of ugliness."

The economic rationale that demands the maximum use of land and urban space to make an investment profitable certainly has had its effect upon curtailing architectural creativity and original design. Commenting upon building developments in New York City the president of one construction firm has said,

> The difference in cost between an aesthetically pleasing building and an ordinary one is nominal, since structurally and mechanically most buildings are, or should be, pretty nearly equal. In a $15 million office building...one to two percent is all that is needed to give a feeling of quality. [123]

The author of this article questions the accepted economic rationale business and financial leaders sometimes employ when they talk about impracticalness of low building density and less than total lot coverage necessary to return any profit on their building investment. In support, he illustrates this by the leniency of federal tax laws that neutralize this economic contention.

> A builder plans to erect a building that will cost $6 million. $1 million representing the land and $5 million the building. In theory, he can obtain mortgage financing for only two-thirds of that amount, or $4 million. He will have little difficulty obtaining considerably more, but for the sake of this illustration

> figure his equity at $2 million. Though his equity is only $2 million (or less), the New York builder can depreciate the entire $5 million cost of the building at an accelerated rate, getting $250,000 in tax-free cash flow back the first year. Even if rental income falls short of expectations, the builder enjoys a comfortable cushion. The speculative builder usually expects to get his money back in about seven years. When he has used up his depreciation he may sell the building to a syndicate at an inflated price, which becomes the basis for another profitable ride aboard the accelerated-depreciation gimmick. The structure is less important as a building than as a tax shelter.[124]

No where has the influence of economics been greater than upon man's health institution. Suppressing the health institution, with its goal of environmental fitness, is the economic goal of maximizing individual profit. Since man under this economic influence frequently perceives his environment in a consumptive manner, from the health standpoint, exploitation rather than conservation is emphasized. A dysfunction results because the values of environmental health are quite often sacrificed for economic values. Let us briefly examine one aspect of health.

3. Relationship of Economics to the Health Institution

Our entire water environment system of lakes, rivers, streams, and groundwater offers an irresistable temptation to the economics of industrialization. Many industries rely heavily upon water in their manufacturing processes. For instance, it requires 50,000 gallons of water to produce a ton of paper, over 300,000 gallons to produce one ton of aluminum, and one ton of synthetic rubber requires 600,000 gallons of water. The water demands for industrial

purposes have grown from a little over one-third in 1900 to one-half of all water use in 1960, with projection to 1980 of two-thirds of this overall total.[125] Not only has water use grown in industrial production, but also in the disposal of industrial wastes injurious to the health institutions' goals.

One form of water pollution has resulted because industrial wastes have been improperly handled. Self-imposed controls by industry, associated with the water environment, have been few because of costs which would reduce profit margins. Because of this unprofitable aspect, few, if any, benefits can be gained through industrial water pollution control.

Law imposed upon industry is only partially successful. Many industries, for example, find it a great deal easier to pay a minor fine than to install the necessary equipment for solving the problem they have created. Many legal penalties are mere extensions of economic thinking, where small money payments satisfy the community on a temporary basis, rather than squarely facing the problem in solving pollution abatement. Consequently, our water bodies in many cities represent open sewers, transmitting toxic industrial wastes to other populated areas. Entire ecological chains are being altered but, unfortunately, the greatest fatalities are among the lower animal and plant worlds.

> The greatest industrial pollution danger comes from the synthetic products introduced by chemical operations. Danger from detergents, pesticides, herbicides, pharmaceuticals, fuels, plastics and radioactive materials have not been physiologically determined by man as yet. Therefore, the health dangers are presently unknown. Water may also be a transmitter of virus, but again, knowledge is inadequate.[126]

> It seems that as long as the institution of health is interpreted solely by the institution of economics in which industry plays a vital role, environmental health will continue to operate dysfunctionally with unhealthy exploitation replacing a much needed, conserved, health envirnonment.[127]

Summary of Institutional Dysfunctioning

These previous examples of institutional dysfunctioning indicate that by accepting values and goals of certain institutions, necessarily represses other institutional perceptions. A combined scientific-technological institution emphasizing objective and systematic values, in turn, has reduced subjective and non-systematic perception. Realms of artistic, religious, and philosophical institutions become reduced in significance with the larger acceptance of the scientific-technological institution, for their values, goals and method conflict. Religion, with goals to achieve the truth of man's internal inner senses, and art, desiring to achieve the goal of beauty by empathy, conflict with science whose goal is only truth of external or physically observable senses, and technology that desires only efficiency. (Consult Figure 27. , page 96).

Economic perceiving that stresses economic benefits in relation to economic costs, and maximizes individual profit has left its impact upon the institutions of art and health. Economic perceiving can reduce design, since the artisan is allowed a limited budget and time to produce a saleable product, be it a building, a sculpture, a painting, etc. Health is perceived as an exploitable commodity. Experts, swayed by purely economic reasoning of costs rather than possible social benefits, conclude that the removal of pollution from our environment, thus restoring a more healthful environment, is presently entirely out of the question due to the economic costs involved.

Both examples of institutional dysfunctioning (inner and inter-institutional) have been presented to show their influence upon shaping the characteristics of our urban culture. There is a second and final perspective contained in the remaining section of this chapter, that possibly gives greater insight into the characteristics of urban society in light of their institutional origins. The urban characteristics of scale will be used to illustrate the institutional relationships affecting it. The reason for this choice is that scale is probably one of the most recognized features of urban culture today. Three aspects will be discussed concerning urban scale. They are aesthetics, congestion, and health.

URBAN SCALE: INSTITUTIONAL ORIGINS

Scale is recognized as a major characteristic of urban settlement. Slightly more than two hundred agglomerations contain 70% of all inhabitants living within the United States. Many of the larger agglomerations have a very high population density, twenty-five of the largest urban settlements accounting for nearly 40%

of the entire U.S. population.[128] This scale represents a dominant group of certain institutional values which in turn means other institutions have either been ignored or reduced in importance Concentration, high density and large-scale organization cancel out decentralization, low density, and small-scale organization. Certain needs are being fulfilled with urban man's present choice, but at the same time other needs are not being satisfactorily met.

Although, generally, massive urban concentrations offer diverse cultural amenities, such as libraries, museums, legitimate theatre, large consumer selection, numerous employment opportunities, and expanded municipal services, many dysfunctional aspects begin to appear. This includes a loss of individual identity, higher incidence of health problems, congestion, increased crime and more bureaucratic organization.

Three institutions in particular, science-technology, government and economics dominate the urban scene, intensifying this urban scale. By this very act other institutional values, expressed in religion, health and the arts, are being reduced in significance. The problem is becoming a more distressing one as cities grow, because, in total, these institutional conflicts and resolutions have created mammoth cities no one individual or single institution ever planned. To date, there is no comprehensive institution yet devised by man that reflects all the values and goals that are necessary for expressing all these institutions that presently exist. In man's pre-industrial cultures, in direct contrast, life was perceived collectively under the direction of a mutually accepted set of values expressed by an integrated sacred-secular world. This no longer exists.

Single institutions have, each with their respective values and goals, produced an expression in urban space. Three examples that indicate problems associated with urban scale are presented below. Emphasis here is upon mentioning each problem and offering an institutional interpretation.

Aesthetics

Urban aesthetics have become part of economic production and consumption. Design, under these prevailing conditions can become a mere tool used by economics to maximize profit in a spatial sense. Built-in obsolescence, vital to any well operated business, has been similarly applied to our skylines.

The consequences will be devastating if we do not challenge many economically contrived artifacts that are testimonies to economic frugality. Many questions are never asked in the realm of aesthetics. The general public never questions urban aesthetics for who should know better than the experts? The question is who are these experts shaping urban design, what qualification and values do they possess?

Many times private economically oriented enterprise groups that construct the major share of our urban skyline, and whose values-goals are to reap the highest financial return possible, control in turn the aesthetic quality. Those persons professionally concerned with aesthetics have to operate under these unfavorable conditions of competitive economics. The architect is a forgotten person many times in this economic environment. This economic alliance includes the land speculator who owns the land, but minimally maintains it, while waiting for land values to pyramid. The building developer seeks to squeeze every possible

bit of rentable space out of the building's four walls. The financial houses must assure themselves that this is a proper investment. This means that the development must be in a desirable area, bringing the highest return. Otherwise, financiers will turn their attentions to more profitable ventures. The engineer-builder, to maximize his profit, employs the cheapest materials and the most efficient time saving methods consistent with labor union restrictions. It is only after all these economic interests have been satisfied, and expressed, that the architect can come along and "wrap up this building in a facade."[129]

There are also other interests relating to aesthetics beyond the economic institutional constraints. Institutional values maintained by government complete this spatial blueprint of form by enacting legal controls. Dialetical values of individual freedom and group control aesthetically come into play with building and zoning laws. This polarity which tries to allow freedom for private enterprise to obtain and satify its goals and values, and at the same time protect the general public is a difficult task for the government. A good case in point are existing building codes.

> The building codes are devised not only to protect the public against the hazards of poor construction, fire, crowding, and insufficient sanitation. Most of them also protect our reactionary building-trade unions and building products manufacturers against the technological advances of the twentieth century. They are written and upheld not to give us economical, well-functioning buildings but giant featherbeds of brick and stone.[130]

Zoning, also, tries to satisfy these opposites of individual and group values. Group controls appear with separating land use types into segmented districts, utilization of set backs, height limits, yard requirements, density and lot coverage.

Individual freedoms expressed in zoning involve the choice of location within these districts, but with the ability to appeal for special consideration, or variance. Individual appeals are always the reasons given for economic hardship, but little concern is ever shown for aesthetic hardship where an innovative design is handicapped. From the aesthetic viewpoint little creativeness is found in the zoning ordinance. Rigid geometrical patterns and rectangular buildings result from the yard requirements and lot coverage interpreted in terms of only economic profit since many private developers maximize developable space permitted under zoning. Little economic justification is needed for giving up any more space than the minimum imposed by zoning when land prices in New York City, for instance, range as high as $400 per square foot.[131]

Congestion

Another major dysfunctional aspect gripping our cities is movement within urban space. Movement in itself represents a vital aspect of survival, since man must work, shop, reside and recreate. Problems have arisen from the choice of movement the urban dweller uses. His overwhelming choice is the largest space eater yet devised by modern man, the automobile. As an indicator of man's affluence, vehicular statistics are quite impressive in this country. Of all registered vehicles in the world, which includes cars, trucks, and busses, as of January 1, 1965 the United States proudly possesses 51.3%, or 86,311,000 vehicles.[132] This statistic would be relatively harmless if our population was fairly dispersed throughout the country. The fact is, man has settled in a few urban places, bringing his automobile and a maze of concrete and asphalt along.

Space for movement is highly restricted, especially in our central cities. How restricted is it? Well, these eighty-six million vehicles amount to 168,000 square miles of space.[133] This is difficult to grasp so let's break this down into more understandable units. This vehicular space is equivalent to 500 New York cities in land area, or more land area than all 130 U.S. cities with a population of 100,000 inhabitants.[134] If all these vehicles had one single destination, packed bumper to bumper, and door to door, the space needed to accommodate these vehicles would be nearly equivalent in size to the state of California, or the country of Germany.

There are other modes of movement that would be less congestive in our urban areas, but seem unacceptable to the commuters' desire for speed, convenience, and price. The Highway Research Board announced at their annual convention recently, "almost 70 percent of all workers living in places having a population of 100,000 or more persons have public transportation available within two blocks of their homes; almost three-fourths of these workers drive to work."[135]

As a result of this "choice" cities are becoming conveyances for vehicular movement. With this choice the general public has accepted:

1. Traffic accidents, amounting to 50,000 fatalities annually.
2. Exhaust emissions, which contribute significantly to urban health problems.
3. Disrupted spatial patterns. In the City of Los Angeles over one-half of the land is devoted to transportation uses, including parking area.

Behind this dysfunctional picture are institutional values asserting themselves spatially through individuals composing institutions, and their artifacts. Car

manufacturers have successfully portrayed the automobile's image of status, bigness, personal convenience, luxury and design through advertising to the consumer; all of course for profit. The private prfit motive is essential to a balanced culture and to the creating of private initiative, but should not exist without deference to urban needs. The public may accept the fact that four auto companies control the car market, and therefore compete semi-monopolistically.[136] But the fact is, safety is generally a minor factor in car design;[137] economical compact cars have grown to the size of their larger parents; power increases are mostly needless and obsolescence is being increased (manufacturers are trying to press for a law exempting them from supplying repair parts for longer than five years.[138] As a result of these conditions some members of the consuming public should begin to wonder.

The bigger the better is becoming a way of life, as exemplified by a recent two-page color advertisement appearing in several national magazines..."Since it isn't price what's the difference between a Chrysler and the smaller car?"[139] Well, the difference is vital urban space that is being indiscriminantly reduced with complex road networks designed by highway engineers whose principal concern is an "efficient" transportation system; efficiency that neglects to integrate the sculptural form of the transportation system to that of the land and environment; efficiency which has been separated from other choices of movement; and efficiency that enables the engineer to consider the highway system as the basic planning unit. In the wake of this concrete are left potentially more desirable methods for movement such as the rail and/or tube system, which can

at least compliment highway travel for variety, safety, yes, even greater speed and comfort. What little is left of the present urban form could therefore be left alone to enrich our lives through history, tradition and non-transportation type artifacts.

The institution of government, combining with law, could enact or stimulate a better balanced transportation program. Goverment on at least a federal level would have to alter their values which now reflect individual transportation freedom rather than group transportation control. Our entire interstate system of highways is a federal effort which encourages vehicular travel. With a change in institutional values reflecting a group concern for movement, there is no reason a subsidy for a commuter system could not be arranged, since, like the interstate highway network, "defense" could be given as the major reason.

If not a better balanced transportation system, what is the alternative? Whereas past city images gave meaning to the dweller with the acropolis, agora and the intricate handling of pedestrian spaces found within the medieval square, modern man will have a new image; the bland, non-human, multi-level highway interchange with eighteen cloverleafs.

Health

Health is an increasing problem as our cities grow in scale. Although some health aspects were discussed earlier in the thesis, there are other related aspects of this dysfunction. Medical personnel and some social scientists are beginning to uncover significant evidence of affected urban diseases. The

Department of Health, Education and Welfare have issued warnings regarding increasing populations and concentration found within our urban areas, and their effects upon the environment. There are two major areas where environmental health is an apparent problem.

1. As our air, water and land resources are fixed, increasing populations decrease the quality of each of these basic necessities available to the individual.

2. With the increasing amounts of waste products concentrated in areas with growing populations, the relative effects of these wastes on man are increasing at an ever expanding rate.[140]

Certain studies are now being conducted to examine the causal factors that produce a higher incidence of cancer among urban versus rural inhabitants. Despite the fact that cigarette smoking is a major contributor to lung cancer, air pollution plays a supporting role. It has been discovered that exposure to polluted air in many of the world's largest industrialized cities can be equivalent to consuming over two packages of cigarettes daily. Over an eleven-fold increase in fatal deaths from lung cancer among non-smokers in the 50-69 age bracket appears in cities with over 50,000 population as opposed to our rural areas.[141] In general, respiratory ailments exist at a higher rate in congested cities (higher incidence of pneumonia, bronchitis, and emphysema), but the results have not been conclusive.[142]

To date, some one hundred pollutants are now typed. These can be identified as solid pollutants (soot, flyash, dust, dirt) and a large array of gaseous pollutants (sulphur dioxide, nitrogen dioxide and hydrocarbons). The

contributors of pollutancy are mainly combustible or burning processes such as incinerators, furnaces, motor vehicles, aircraft, power plants, factories, steel mills, oil refineries, and chemical refineries. In New York, for instance, solid pollutants amount to seventy-three tons per square mile, per month.[143] Chicago is just a "few" tons less. Coal combustion is the largest contaminant of this solid pollutant variety.

Gaseous pollutants less visible except when mixed with solid matter are at least equally toxic. Refineries, factories, and automobiles represent the greatest menace in this category. In Los Angeles, after imposing anti-pollution ordinances upon industrial operations and refuse burning, some drop in smog resulted, but not a significant amount. It was only through the elimination of other possible sources of pollution that automobile emissions was recognized as the largest single contributor...the gasoline engine, at best, is an inefficient fuel burner.

Further research appears to indicate that the automobile, in this particular geographical region, contributes four times as many pollutants to the city's air as all other sources combined.[144] Probably the most critical health consideration relative to air pollution is air quality. The picture is not a pleasant one in our urban areas, if Los Angeles can be considered an indicator of the future. Health officials there believe that if all new cars were ideally fitted with smog control devices, "pollutant levels in 1975 will still be nearly three times the 1940 level" of air quality.[145]

Air pollution has been aptly described as "<u>everyone's lack of concern</u>

mixed in our cities' atmospheres!"[146] Man's institutional value systems which act today semi-autonomously, each with its own narrowed interest and perspective, have directed our highly populated cities down the path of poor environmental health. Institutional unawareness and indifference are responsible. Unawareness exists because of independent institutional values, goals and methods for perceiving. Indifference is the result of the ease in which fines can be substituted for correcting the dysfunction, problems of litigation, and the difficulty of accumulating substantative evidence to effectively assess existing problems.

More subtle health dysfunctions, several of which were discussed at the American Medical Association's Congress on Environmental Health Problems, are being correlated to urban living. Three studies cited at this meeting suggested:

1. City dwellers are deprived of adequate rest because of tension caused by noises around them.

2. City congestion and the fuming cars that rule city streets discourage walking and exercise, and thus encourage a high cholestoral level.

3. Slums, freeway congestion and overcrowding in cities may have serious psychological effects, ranging from jittery nerves and tensions to actual mental illness and criminal paranoia.[147]

All three examples have some merit, and should definitely be further researched for the sake of restoring a healthier urban environment. Example two will be briefly commented upon to enlarge the reader's awareness.

From the standpoint of "self-propulsion", man is turning into an immobilized urbanite. Today he heavily relies upon the conveniences of science-technology offered by economic and government institutions for most movement...

also many occupations allow us to be immobile while we work. Anatomically speaking, urban living and our daily activities require mostly our eyes, ears, mouth, fingers, and brains, "the rest of the musculature falls into disuse and tends to atrophy."[148] Drs. Hans Kraus and Wilhelm Raab are leading professionals studying in this area. They have remarked, "In our civilized cities we lead the lives of caged animals,...no opportunity to move, no chance to respond to outside irritations." Commenting further these men contend, "there is growing evidence today that the absence of physical activity plays a significant role in the occurrence of the major chronic diseases of our time."[149]

Health is a prime requisite in our urban culture. Without it satisfactorily fulfilled, a major indicator of dysfunction occurs. This institution, fortunately for the fitness and continuity of urban man, is recognized as necessary to satisfying a balanced urban environment; values and goals. It is one of the last checks indicating an imbalanced urban life, but as long as this institutional method of perceiving (diagnosis) is accepted and encouraged, health can aid in restoring a better balance to the other institutional value systems.

ILLUSTRATIVE SUMMARY

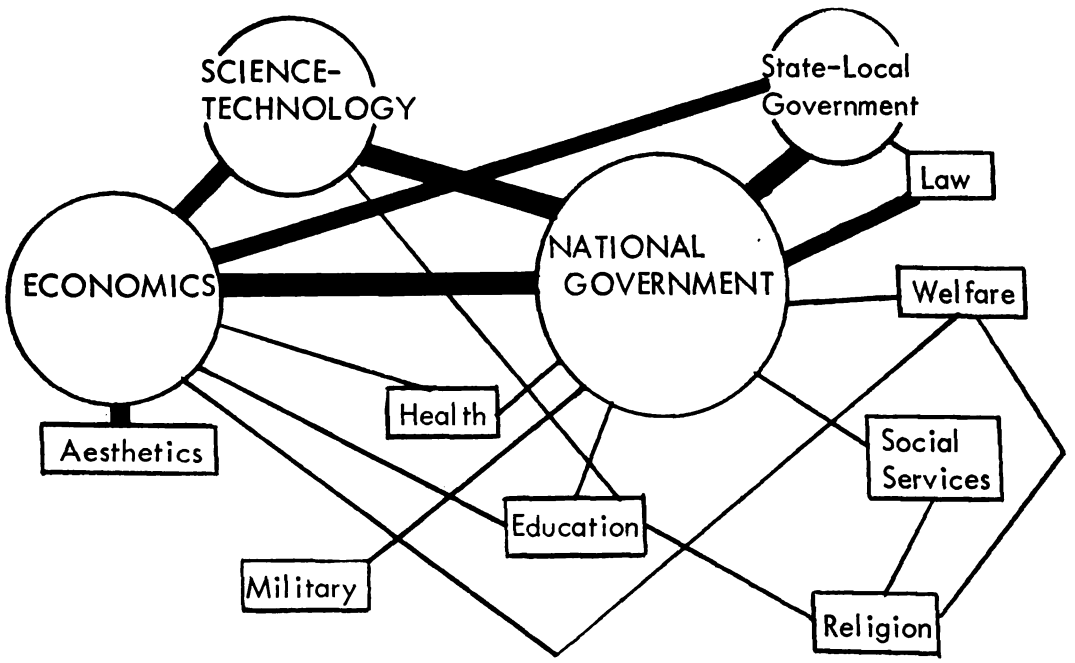


Figure 28. Urban form shapers prevalent within the present city.

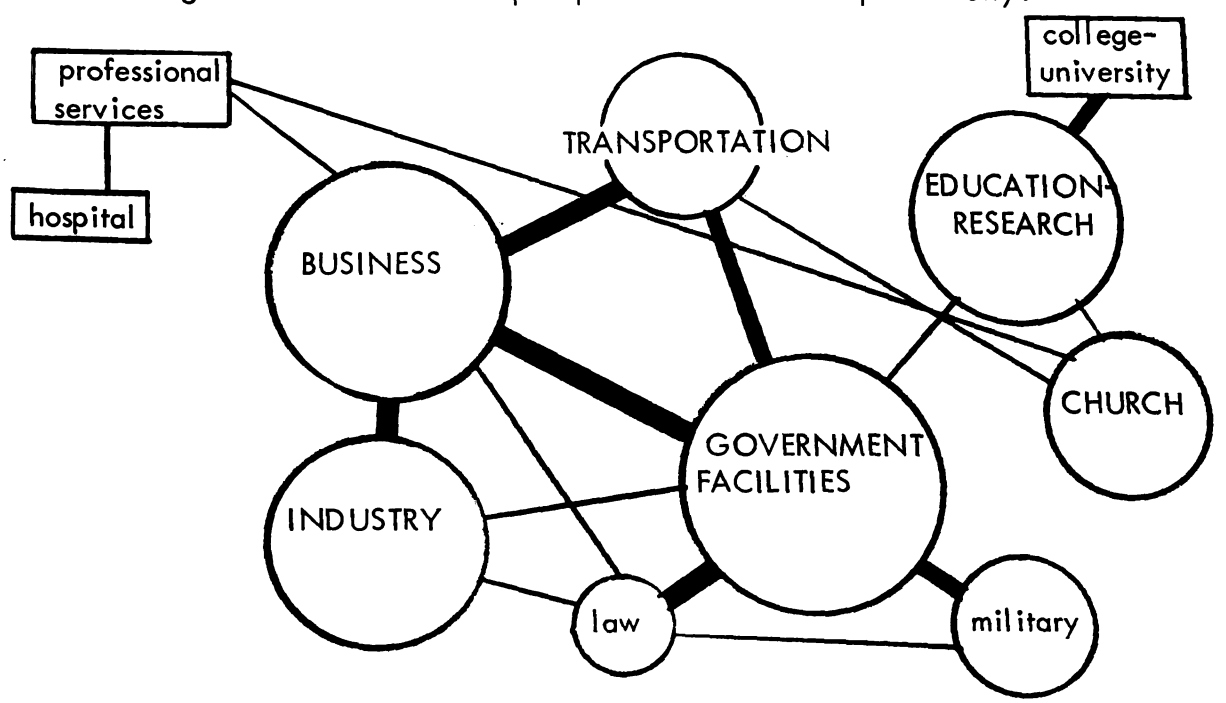


Figure 29. Urban artifactual forms prevalent within the present city.

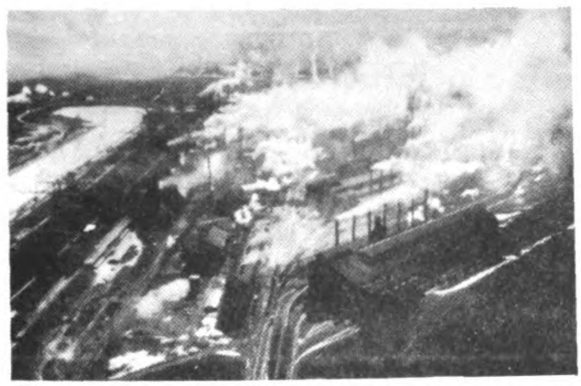


Figure 30. Reduction of the health and aesthetic institutions with the emphasis upon economic institutional values.

Figure 31. Maximizing individual self-consciousness, resulting in physically meaningless urban expression.

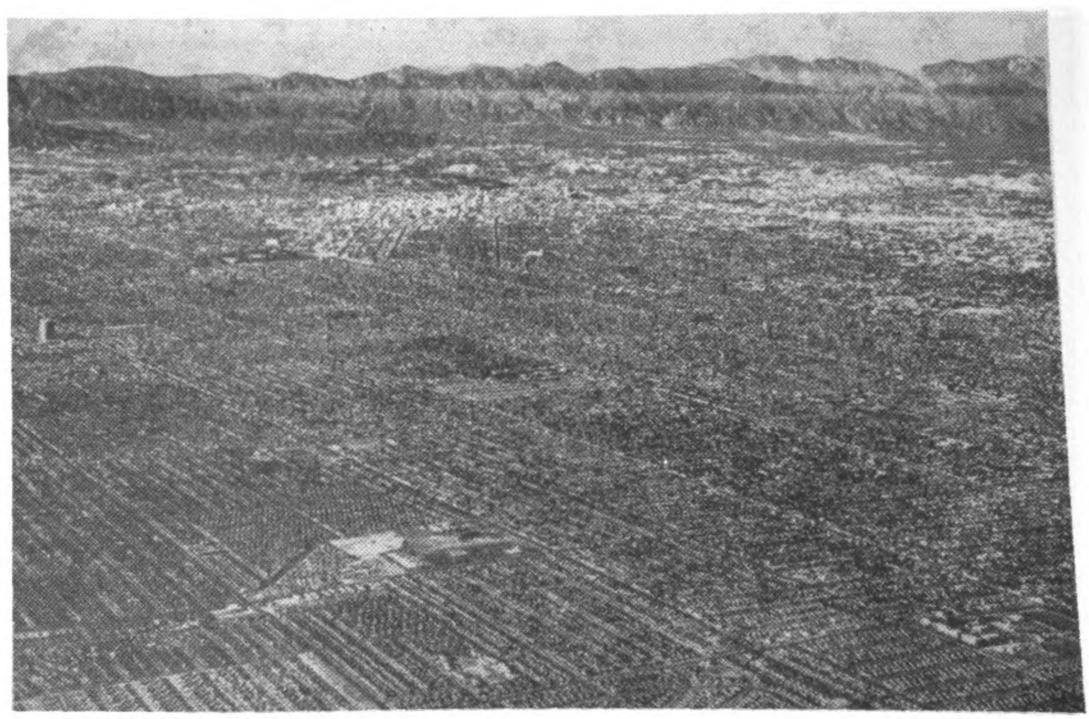


Figure 32. The present city. Our disrupted urban pattern with multiple, but independent artifactual forms and form shapers.

The present day city is an extension of its predecessor, the paleotechnic. Since the collective awareness has diminished with the rise of industrial culture, the concomittant expansion of institutional forms and shapers has impaired man's ability to comprehend urban culture.

Our prevailing urban form shapers are continually growing, with new ones being added as culture expands. With growth comes autonomy under our present extended self-conscious level of awareness. Both figures 28 and 29 indicate a growing complexity over the previous awareness levels.

Those illustrations contained on the preceding page physically summarize the impact of independent institutuonal form shapers, basically representing practical and analytical modes of perceiving. Industrial development and manufacturing is the principal concern of economics, while at the same time aesthetics and urban health are sadly being pushed to the back of our minds. Every conceivable type of pollution is occuring, to some varying degree of intensity, but man's present level of awareness doesn't comprehend its severity.(Figure 30).

The physical image of urban form is decomposing, under this ever increasing idea of self-consciousness. Automobile transportation for instance, that maximizes individual movement, is destroying the earlier collective image which the city represented (Figure 31). Under these prevailing conditions, our urban areas can only become sprawling, imageless leviathons (Figure 32). Only with the reintroduction of a collective awareness, where all four modes of culture can be more or less represented, will a meaningful urban culture reappear.

CHAPTER VI.

SUMMARY AND CONCLUSIONS

It is painfully obvious that our present urban culture needs better attention. To a degree, narrowed institutional perspectives, each with its own established values, goals and artifacts, have produced dysfunctional cities. Certain institutions have dominated other institutions, suppressing their perspectives. An imbalance has resulted because analytical and practical modes of perceiving today are asserting themselves over synthetic and symbolic modes. Only a partial city therefore exists.

What is needed is a perspective that will return a more balanced value system to our city, thus removing several dysfunctional aspects. Many lessons can be gained by re-examining our pre-industrial cultures which, although they had lower levels of awareness because not all modes of perceiving existed, still enjoyed an integrated and whole life. This was successfully achieved because man mutually shared values, needs, and artifacts with little concern for only personal well-being. Despite the fact that there are many differences between pre-industrial and industrial urban cultures, a major item being the scale of urban living, there are still many similar needs and values man shares which have been responsible for city formation. Unless we rediscover these reasons that originally banded mankind together in cities, we are in danger of letting our present level of awareness reaffirm our present cultural imbalance. This could further advance practical analytic modes of perceiving urban life which examine only detailed parts of man's existence. Synthetic and symbolic perceiving could restore the relationship of man to his universe, giving

mankind a needed comprehensive view of urban culture and its direction. This could result in a new level of awareness which would be of benefit both to individual and collective man. Cities would be renewed in a more meaningful way, and man could rediscover the symbolic and synthetic expressions associated with his artifacts. The condition of "agnosia" where man is unable to derive either meaning or understanding from his urban artifacts would become insignificant, since the impersonal aspects of science, technology and economics would again reflect artistic and religious expression.[150]

The initial step involves educating at least one group of responsible indivduals to perceive urban culture in its totality. This means two fundamental urban cultural concepts should be comprehended. First, urban culture has evolved with different stages of cities representing varying levels of awareness. Each awareness level consists of certain modes of perceiving with these modes containing different values, goals, knowledge, and artifacts. It should also be known, in this regard, that by cultural accumulation, transmission, and differentiation, man has expressed through urban culture certain value preferences which has caused certain modes to dominate others. This has become especially apparent in our industrial cultures where self-consciousness has replaced group consciousness found in pre-industrial cultures. Secondly, this educated group of individuals must understand that each level of awareness has particular modes of perceiving, with institutions expressing both non-material and material culture.

They should realize urban artifactual forms representing material culture are produced by values, goals, and needs of non-material culture involving these

modes of perceiving. In other words, spatial form physically depicts non-physical values, goals and needs. They are inseparable.

Urban planning offers probably the greatest potential in comprehending these many aspects of urban culture because this profession deals with both physical and non-physical parts of culture. Unfortunately, however, planning, as it is presently interpreted, has dissassociated, in part, man's artifacts from his values. It has done well in comprehending physical expression vis-a-vis land use surveying, settlement distribution, and transportation relationships, but little time has been spent analyzing the cultural values and institutions producing such urban form. Once the profession of urban planning begins to perceive man's urban artifactual forms as spatial expressions of institutional values rather than as separate entities, a major obstacle will be overcome. Although the scope of this thesis, and this writer's present interest, does not include a detailed account of ways for the practicing urban planner to correct this discrepancy, a new group of analytic tools are essential.[151] The second step will indicate a method of institutional-artifactual analysis that could be explored.

After overcoming the educational hurdle we could then proceed to this next step. This involves an investigation of city dysfunctioning in terms of its selected problem areas. Each problem area would be analyzed by the various institutional values and goals germaine to the problem. By viewing each specific problem in light of all the institutions affecting it, one institutional viewpoint will not be allowed to dominate. In turn, some relative scale could be established showing approximate relationship of each institution to the urban problem. Once

this method was applied to each problem, an overall pattern would be evident. These problems seen as a whole express an entire network of cultural values.

This leads us into the last step, or step three. Here the urban planner could suggest to his client a combination of institutional value systems designed to alleviate these problems. Alternative combinations presented by the planner would indicate other solutions to the problem, expressing, however, different values and artifacts. A total urban expression could be constructed by matching the inherent artifacts to the institutional values. These institutional combinations could indicate a better urban cultural balance for two reasons:

1. A wider perspective would be offered to man's urban problems. Greater unity could possibly reappear, since each institution would be seen as a part of a network of institutions composing urban culture; rather than each institution being considered an entity unto itself.

2. The chances of a better balanced urban perspective would be possible. Since many problems exist in our cities that are due to the dominance of the two cultural subsystems, the analytic and practical, the solution of these problems could restore the suppressed symbolic and synthetic institutions. Once again, as found in the pre-industrial cultures, a greater cultural balance could result.

Urban planning plays an essential role in this process. The planner can act as the problem stater and also clarifier, showing the various public and private policy makers how they can construct a more desirable city in the future. Man's present cultural resources can be more fully utilized by the successful integration of all his institutions and modes of perceiving.

FOOTNOTES

CHAPTER I

[1] J. O. Hertzler, American Social Institutions (New Jersey: Prentice-Hall, 1962), p. 583.

[2] William Tarr and Bruce Watson, The Social Sciences in American Civilization (New York: Wiley and Sons, 1964), pp. 81-83.

[3] Ervin Laszlo, Essential Society: An Ontological Reconstruction (Netherland: The Hague, 1963), p. 72.

[4] Ibid., p. 73.

[5] Jacques, Ellul, The Technological Society (New York: Knopf, 1964), p. 29.

[6] Laszlo, op. cit., p. 133.

[7] Karl Polanyi, The Trade and Market (New York: Free Press of Glencoe, 1957), p. 70.

CHAPTER II

[8] Ernst Cassirer, Language and Myth (New York: Harper and Brothers, 1946), p. 30.

[9] Alfred Zimmern, The Greek Commonwealth (London: Oxford University Press, 1930), p. 215.

[10] Owen Barfield, Saving the Appearances

[11] Ibid., p. 48.

[12] Lewis Mumford, The City in History (New York: Harcourt, Brace and World, 1961), p. 178.

[13] Ellul, op. cit., pp. 29-30.

[14] William H. Desmond, Magic, Myth and Money (New York: Free Press of Glencoe, 1963), p. 30.

[15] Ibid., p. 127.

[16] Fustel de Coulanges, The Ancient City (Boston: Little, Brown and Co., 1901), p. 175.

[17] Ibid., p. 174.

[18] Gustave Glotz, The Greek City and its Institutions (New York: Knopf, 1901), p. 39.

[19] Ibid., p. 48.

[20] Ibid., p. 54.

[21] Victor Ehrenberg, The Greek State (New York: Barnes and Noble, 1963), p.

[22] Konstantninos Doxiadas, "Historic Approaches to New Towns," Ekistics, XII (November, 1964), p. 360.

[23] Mumford, op. cit., p. 144.

[24] It is of general agreement among the authorities on the Greek City-State that their population never amounted to over 50,000 inhabitants during this time. See G. Glotz, K. Doxiadas, and W. W. Fowler.

[25] Mumford, op. cit., p. 139.

[26] Zimmern, op. cit., p. 231.

[27] Ehrenberg, op. cit., p. 32.

CHAPTER III

[28] Mumford, op. cit., p. 243.

[29] E. A. Gutkind, Urban Development in Central Europe (New York: Free Press of Glencoe, 1962), p. 72.

[30] John A. Fairlie, Municipal Administration (New York: MacMillan Company, 1908), p. 19.

[31] John H. Mundy and Peter Reisenberg, The Medieval Town (Toronto: Van Norstand, 1958), pp. 21-22.

[32] R. W. Southern, The Making of the Middle Ages (New Haven: Yale University Press, 1953), p. 15.

[33] Lewis Mumford, The Culture of Cities (New York: Harcourt, Brace and Company, 1938).

[34] Brian Hackett, Man, Society and Environment (London: Percival, 1950), p. 7.

[35] Mumford, Culture of Cities, op. cit., p. 246.

[36] Ibid., p. 247.

[37] Hackett, op. cit., p. 96.

[38] Henri Pirenne, Medieval Cities (Princeton, Princeton University Press, 1939), p. 44.

[39] Ibid., p. 62.

[40] See Chapter Four, Medieval Cities (H. Pirenne) and Chapter Three, The Medieval Town (J. Mundy and P. Reisenberg).

[41] Mumford, City in History, op. cit., p. 253.

[42] Hackett, op. cit., p. 111.

[43] Ibid., p. 96.

[44] Fairlie, op. cit., p. 21.

[45] Mumford, City in History, op. cit., p. 263.

[46] Gutkind, op. cit., p. 162.

[47] Southern, op. cit., pp. 91-92.

[48] Ibid., p. 90.

[49] Fairlie, op. cit., pp. 23-26.

50 Mumford, Culture of Cities, op. cit., p. 18.

51 Southern, op. cit., p. 93.

52 Mundy and Reisenberg, op. cit., p. 29.

53 Fairlie, op. cit., pp. 20-21.

54 Mundy and Reisenberg, loc. cit.

55 Lewis Mumford, Technics and Civilization (New York: Harcourt, Brace and Company, 1933), p. 111.

56 Ellul, op. cit., p. 65.

57 Mumford, Technics and Civilization, op. cit., p. 112.

58 Ibid., pp. 112-118.

59 Ibid., p. 12.

60 See Chapter Eleven, Symbols and Society and Chapter Thirteen, Saving the Appearances.

61 Mumford, Technics and Civilization, op. cit., p. 18.

62 Hackett, op. cit., p. 111.

63 Gutkind, op. cit., p. 168.

64 Carl B. Troedsson, Architecture, Urbanism and Socio-Political Developments in Our Western Culture (Goteborg: Scandinavian University Books, 1964), pp. 70-71.

65 Denise Scott Brown, "The Meaningful City," American Institute of Architects Journal, XLIII (January, 1965), p. 31.

66 Troedsson, op. cit., p. 37.

67 Brown, op. cit., p. 31.

68 Ibid., p. 28.

69 Troedsson, op. cit., p. 68.

70 Ibid., pp. 69-70.

71 Fairlie, op. cit., p. 26.

72 Mumford, Culture of Cities, op. cit., p. 29.

73 Hackett, op. cit., p. 110.

74 Mumford, City in History, op. cit., p. 275.

75 Hackett, op. cit., p. 109.

76 Ibid.

CHAPTER IV

77 Gutkind, op. cit., pp. 34-37.

78 Susanne K. Langer, Philosophy in a New Key (Cambridge: Harvard University Press, 1957), p. 25.

79 Mumford, Technics and Civilization, op. cit., p. 189.

80 Mumford, Culture of Cities, op. cit., p. 145.

81 Ibid., p. 140.

82 Leo Huberman, Man's Worldly Goods (New York: Harper and Brothers, 1936), p. 188.

83 Arthur Korn, History Builds the Town (London: Lund and Humphries, 1953), p. 67.

84 George M. Modlin and Frank T. DeVyver, Development of Economic Society (Boston: Little, Brown and Company, 1937), p. 203.

85 Ibid.

86 Harry E. Barnes, An Economic History of the Western World (New York: Harcourt, Brace and Company, 1937), p. 294.

87 This dichotomy has been described by the late Jewish philosopher, Martin Buber, by his "I-Thou" and "I-It" concept of society.

88 Pitriam Sorokin, Cortemporary Sociological Theories, (New York: Harper and Brothers, 1928), pp. 448-449.

89 Mumford, Technics and Civilization, op. cit., p. 110.

90 Ibid., p. 46.

91 Ibid., p. 11.

92 Modlin and DeVyver, op. cit., p. 157.

93 Barnes, op. cit., p. 419.

94 Huberman, op. cit., p. 176.

95 See Anglo-American Law, by Charles Kinnane, for a factual, legalistic accounting.

96 Barnes, op. cit., p. 431.

97 Mumford, Technics and Civilization, op. cit., p. 200.

98 Hackett, op. cit., p. 211.

99 Most of the examples drawn upon in this chapter concern industrialization within England and its urban impact.

100 See The Corporation in the Emergent American Society, written by W. Lloyd Warner, for a concise description of the emergence of economics.

101 Robert L. Heilbroner, Making of Economic Society (New Jersey: Prentice-Hall, 1962), Chapter 2.

102 Mumford, Technics and Civilization, op. cit., p. 218.

103 Hertzler, op. cit., p. 203.

104 Mumford, Culture of Cities, op. cit., p. 180.

105 Geoffrey Martin, The Town: A Visual History of Britain (London: Longacre Press, 1961), p. 76.

106 Ibid., p. 77.

107 Hackett, op. cit., p. 242.

108 Ibid., p. 270.

109 Ibid., p. 270-271.

110 Arthur Ling, "Skyscrapers and Their Siting in Cities," Town Planning Review, XLI (April, 1963), p. 14.

111 Fairlie, op. cit., p. 55.

112 Ibid., p. 56.

CHAPTER V

113 Radhakamal Mukerjee, The Dimensions of Values (London: Macmillan and Company, 1963), p. 75.

114 Radhakamal Mukerjee, The Sickness of Civilization (New York: Allied Publishers, Ltd., 1964), p. 19.

115 Ellul, op. cit., pp. 78-133.

116 Hertzler, op. cit., pp. 74-76.

117 Hendrick Ruitenberg (ed.) Dilemma of Organizational Society (New York: Dutton, 1963), p. 80.

118 Sanford Farness, Man-Environment Problems in an Urban Age Proceedings of the Conference on Natural Resources sponsored by the Cooperative Extension Service and the Conservation Foundation of New York. Prepared by the University of Massachusetts, Amherst. Publication 410, 1963.

119 Scott Greer, The Emerging City (New York: Free Press of Glencoe, 1962), p. 7.

120 Ibid., pp. 7-8.

121 Victor Gruen, The Heart of Our Cities (New York: Simon and Schuster, 1964), pp. 109-110.

122 Ibid.

123 Richard J. Whalen, "A City Destroying Itself," Fortune, XXXVI (September, 1964), p. 120.

124 Ibid., p. 122.

125 Lewis Herber, Crisis in the Cities (New Jersey: Prentice-Hall, 1965), pp. 92-93.

126 Ibid., p. 96.

127 See Chapter Thirteen, Social Costs of Business Enterprise, by William Kapp.

128 United States Bureau of Census, Statistical Abstract of the United States: 1964 (Washington: Government Printing Office, 1964), pp. 14-15.

129 Wolf Van Eckardt "The Age of Anti-Architecture," Saturday Review, XLVIII (January 23, 1965), p. 20.

130 Ibid., p. 22.

131 Whalen, Ibid., p. 119.

132 Automotive International Data, news release May, 1965.

133 This estimated figure for vehicular space is based upon the overall average automobile dimensions. The present automobile is equivalent to 125 square feet in area.

134 U.S. Bureau of Census, loc. cit.

135 American Society of Planning Officials Newsletter (April, 1965), p. 32.

136 Paul Goodman, "Decentralization," Dissent, XII (Winter, 1964), p. 399.

137 David Klein and William Hedden, "The Prospectus for Safer Autos," Consumer Report, XXX (April, 1965).

138 Goodman, loc. cit.

139 This advertisement appeared in several large circulation magazines, See April 21, 1965 issue of Look Magazine.

140 Herber, op. cit., p. 21.

141 Ibid., p. 75.

142 Ibid., pp. 63-65.

143 Whalen, op. cit., p. 118.

144 C. W. Griffin, Jr., "America's Airborne Garbage," Saturday Review, XLVIII (May 22, 1965), p. 32.

145 Ibid.

146 Whalen, op. cit., p. 120.

147 American Medical Association, Congress on Environmental Health Problems. Cleveland, 1965.

148 Herber, op. cit., p. 154.

149 Ibid., pp. 154-156.

CHAPTER VI

150 Brown, op. cit., p. 29.

151 Paul-Henry Chombart DeLauwe, "The Social Sciences, Urbanism and Planning," International Journal of Comparative Sociology, IV (March, 1963).

BIBLIOGRAPHY

Barker, Ernest. Greek Political Theory. London: Methven, 1952.

Barfield, Owen, Saving the Appearances.

Barnes, Harry E. An Economic History of the Western World. New York: Harcourt, Brace and Company, 1937.

Becker, Ernest. The Revolution in Psychiatry. New York: Free Press of Glencoe, 1964.

Becker, Howard P. and Barnes, Henry. Social Thought from Lore to Science. Washington: Harren Press, 1952.

Becker, Howard P. Through Values to Social Interpretation. Durham: Duke University Press, 1950.

Becker, Howard S. The Other Side: Perspective on Deviance. New York: Free Press of Glencoe, 1964.

Bernard, Jessie S. American Community Behavior. New York: Dryden Press, 1949.

Bloch, Herbert A. Disorganization: Personal and Social. New York: Knopf, 1952.

Boulding, Kenneth E. Organizational Revolution. New York: Harper, 1953.

Brown, Denise Scott. "The Meaningful City," American Institute of Architects Journal, Volume XLIII, Number 1 (January, 1965).

Cassirer, Ernst. Language and Myth. New York: Harper and Brothers, 1946.

_____ Philosophy of Symbolic Forms: Language. New Haven: Yale University Press, 1953.

_____ Philosophy of Symbolic Forms: Myth. New Haven: Yale University Press, 1953.

Chermayeff, Serve and Alexander, Christopher. Community and Privacy. New York: Doubleday, 1963.

Clausen, John. Sociology and Mental Health. New York: Russell Sage Foundation, 1956.

Cubbedge, Robert. Destroyers of America. New York: Macfadden - Bartell Corporation, 1964.

Desmond, William H. Magic, Myth and Money. New York: Free Press of Glencoe, 1963.

Deutsch, Karl. The Nerves of Government. New York: Free Press of Glencoe, 1963.

Doxiadas, Konstantninos. "Historic Approaches to New Towns," Ekistics, Volume 12, Number 11, (November, 1964).

Duhl, Leonard. The Urban Condition. New York: Basic Books, 1963.

Dunham, H. W. Sociological Theory of Mental Illness. Detroit: Wayne State University, 1959.

Ehrenberg, Victor. The Greek State. New York: Barnes and Noble, 1963.

Eliade, Mircea. Myth and Reality. New York: Harper and Row, 1963.

Elliot, Mabel and Merrill, Francis. Social Disorganization. New York: Harper, 1950.

Ellul, Jacques. The Technological Society. New York: Knopf, 1964.

Fairlie, John A. Essays in Municipal Administration. New York: MacMillan Company, 1908.

_____ Local Government in Counties, Towns and Villages. New York: The Century Company, 1906.

_____ Municipal Administration. New York: MacMillan Company, 1901.

Faris, R.E.L. and Dunham, H.W. Sociological Theory and Mental Disorder. London: Hafner, 1960.

Farness, Sanford. Man-Environment Problems in an Urban Age. Proceedings of the Conference on Natural Resources sponsored by the Cooperative Extension Service and the Conservation Foundation of New York. Prepared by the University of Massachusetts, Amherst. Publication 410, 1963.

Feibleman, James K. "Biosocial Adaption and Mental Illness." International Journal of Social Psychiatry, Volume 9, Number 2 (Spring, 1963).

_____ Bio-social Factors of Mental Illness. Springfield: Charles C. Thomas, 1962.

_____ The Institutions of Society. London: Allen and Unwin, 1956.

Fowler, Warde W. The City State of the Greeks and Romans. London: Macmillan and Company, 1908.

Fromm, Erich. The Sane Society. New York: Rinehart, 1955.

Fustel de Coulanges. The Ancient City. (ed. by W. Small) Boston, 1901.

Gibberd, Frederick. Town Design. New York: Reinhold, 1953.

Ginzberg, Eli. Technology and Social Change. New York: Columbia University Press, 1964.

Glotz, Gustave. The Greek City and its Institutions. New York: A. A. Knopf, 1929.

Goodman, Paul. "Dencentralization," Dissent, Volume XII, Number 1 (Winter, 1965).

_____ People or Personnel: Decentralizing and the Mixed System. New York: Random House, 1965.

Greer, Scott. The Emerging City. New York: Free Press of Glencoe, 1962.

Greun, Victor. Crisis of Our Cities. New York: Simon and Schuster, 1964.

Gutkind, E. A. The Twilight of Cities. New York: Free Press of Glencoe, 1962.

_____ Urban Development in Central Europe. New York: Free Press of Glencoe, 1964.

Hackett, Brian. Man, Society and Environment. London: Percival, 1950.

Halliday, William R. The Growth of the City State. Liverpool: University Press of Liverpool Ltd., 1923.

Handlin, Oscar and Burchard, John. (eds.) The Historian and the City. Cambridge: Harvard University Press, 1963.

Harris, Marvin. The Nature of Cultural Things. New York: Random House, 1964.

Hartman, Nicolai. New Ways of Ontology. Chicago: H. Regnery Company, 1953.

Haworth, Lawrence. The Good City. Bloomington: University of Indiana Press, 1963.

Heilbroner, Robert L. The Making of Economic Society. Englewood Cliffs, New Jersey: Prentice-Hall, 1962.

Henry, Jules. Culture Against Man. New York: Random House, 1964.

Herber, Lewis. Crisis in the Cities. Englewood Cliffs, New Jersey: Prentice-Hall, 1965.

_____ Our Synthetic Environment. New York: Knopf, 1962.

Herbst, P. G. "A Theory of Simple Behaviour Systems," Human Relations, Volume 14, (February, 1961).

Hertzler, J. O. American Social Institutions. Englewood Cliffs, New Jersey: Prentice-Hall, 1962.

Hilberseimer, L. The Nature of Cities. Chicago: P. Theobald Press, 1955.

Huberman, Leo. Man's Worldly Goods. New York: Harper and Brothers, 1936.

Kahl, Joseph. Some Social Concomitants of Industrialization and Urbanization. St. Louis: Washington University, Social Science Research Institute, 1959.

Kaplan, A. D. H. Big Enterprise in a Competitive System. Washington: The Brookings Institution, 1964.

Kapp, William K. Social Costs of Business Enterprise. Bombay: Asia Publishing House, 1963.

_____ Toward a Science of Man in Society. The Hague: M. Nijhoff, 1961.

Kennedy, Mark C. "Is There an Ecology of Mental Illness," International Journal of Social Psychiatry, Volume X, Number 2 (Spring, 1964).

Klein, David and Hedden, William. "The Prospects for Safer Autos," Consumer Report, Volume XXX, Number 4 (April, 1965).

Korn, Arthur. History Builds the Town. London: Lund and Humphries, 1953.

Kroeber, Alfred L. and Parsons, Talcott. "The Concept of Culture and of Social System," American Sociological Review, Volume XXIII, Number 4 (October, 1958).

Laistner, M. L. W. Greek Economics. New York: E. P. Dutton and Company, 1923.

Langer, Susanne K. Philosophy in a New Key. Cambridge: Harvard University Press, 1957.

Laszlo, Ervin. Essential Society. Netherlands: The Hague, 1963.

Leavis, F. R. and Thompson, Denys. Culture and Environment. London: Chatto and Windus, 1962.

Leighton, Alexander et. al. Explorations in Social Psychiatry. New York: Basic Books, 1957.

Linton, Ralph. Culture and Mental Disorder. Springfield: Charles C. Thomas, 1956.

Loomis, Charles (ed.). Community and Society. New York: Harper and Row, 1963.

MacDonald, Gordon D. and Tough, Rosiland. "Manhattan: Sociology Ecology and the Changing Skyline," American Journal of Economics and Sociology, Volume XXIII, Number 4 (October, 1964).

McEwen, William B. The Problems of Social-Scientific Knowledge. New York: Bedminster Press, 1964.

Macy, John E. A Philosophy of the Social Mode. Boston: Pemberton House, 1942.

Malinoski, Bronislaw. A Scientific Theory of Culture. Chapel Hill: University of North Carolina Press, 1944.

Marcuse, Herbert. One-Dimensional Man. Boston: Beacon Press, 1964.

Martin, Geoffrey H. The Town: A Visual History of Britain. London: Longacre Press, 1961.

Martindale, Donald. Community, Character and Civilization. New York: Free Press of Glencoe, 1963.

Modlin, George M. and DeVyver, Frank T. Development of Economic Society. Boston: Little, Brown and Company, 1937.

Montagu, Ashley. The Humanization of Man. Cleveland: World Publishing Company, 1962.

Moore, Wilbert E. Man, Time and Society. New York: Wiley and Sons, 1963.

Mukerjee, Radhakamal. The Destiny of Civilization. New York: Asia Publishing House, 1964.

_____ The Dimensions of Human Evolution. London: Macmillan and Company, 1963.

_____ The Dimensions of Values. London: George Allen and Unwin Ltd., 1964.

_____ The Philosophy of Social Science. London: Macmillan and Company, 1963.

Mukerjee, Radhakamal. Regional Sociology. New York: The Century Company, 1926.

_____ The Sickness of Civilization. New York: Allied Publishers Private Limited, 1964.

_____ The Social Structure of Values. London: Macmillan and Company, 1950.

Mumford, Lewis. The City in History. New York: Harcourt, Brace and World, 1961.

_____ Condition of Man. New York: Harcourt, Brace and Company, 1944.

_____ Culture of Cities. New York: Harcourt, Brace and Company, 1938.

_____ Technics and Civilization. New York: Harcourt, Brace and World, Inc., 1963.

Mundy, John H. and Riesenberg, Peter. The Medevial Town. Toronto: Van Nostrand, 1958.

Neilson, Nellie. Medieval Agrarian Economy. New York: Henry Holt and Company, 1936.

Opler, Marvin. Culture and Mental Health. New York: Macmillan and Company, 1959.

Pereira, I. Rice. The Nature of Space. New York: (Privately Published), 1956.

Perry, Ralph B. Realms of Values. Cambridge: Harvard University Press, 1954.

Pirenne, Henri. Medieval Cities. Princeton: Princeton University Press, 1939.

"Pointers for Planners on Highways," American Society of Planning Officials Newsletter, Volume XXXI, Number 4, (April, 1965)

Polanyi, Karl. Trade and Market. New York: The Free Press, 1957.

Polanyi, Michael. The Study of Man. Chicago: University of Chicago, 1964.

Quigley, Carroll. The Evolution of Civilizations. New York: Macmillan and Company, 1961.

Ropke, Wilhelm. A Human Economy.

Ruitenberg, Hendrick M. (ed.). Dilemma of Organizationa Society. New York: Dutton, 1963.

Schneider, Wolf. Babylon is Everywhere. New York: McGraw-Hill, 1963.

Seidenberg, Roderick. Anatomy of the Future. Chapel Hill: University of North Carolina Press, 1961.

_____ Posthistoric Man. Chapel Hill: University of North Carolina Press, 1950.

Sjoberg, Gideon. The Preindustrial City. New York: Free Press of Glencoe, 1962.

Smelser, Neil J. The Sociology of Economic Life. Englewood Cliffs, New Jersey: Prentice-Hall, 1963.

Sorokin, Pitraim. Contemporary Sociological Theories. New York: Harper and Brothers, 1928.

_____ The Crisis of Our Age. New York: E. P. Dutton and Company, 1941.

_____ Social and Cultural Dynamics, Volume 4. Boston: Extending Horizons Books, 1957.

Southern, R. W. The Making of the Middle Ages. New Haven: Yale University Press, 1953.

Spreiregen, Paul D. "Historical Precedents in the Design of Cities," American Institute of Architects Journal, Volume XXXVIII., Number 6 (December, 1962).

Srole, Leo, et. al. Mental Health in the Metropolis: Volume 1. New York: McGraw-Hill, 1962.

Strauss, Anselm. The City and Man. New York: Free Press of Glencoe, 1964.

_____ Images of the American City. New York: Free Press of Glencoe, 1961.

Sossman, Marvin. Community Structure and Analysis. New York: Crowell, 1959.

Tarr, William and Watson, Bruce. The Social Sciences in American Civilization. New York: Wiley and Sons, 1964.

Tout, Thomas Frederick. The Empire and the Papacy: 918-1273. London: 1921.

Troedsson, Carl Birger. Architecture, Urbanism and Socio-Political Developments in Our Western Civilization. Goteborg: Scandinavian University Books, 1964.

_____ The Growth of the Western City During the Middle Ages. Goteborg: Scandinavian University Books, 1963.

Van Eckardt, Wolf. "The Age of Anti-Architecture," Saturday Review, Volume XLVIII, Number 4 (January 23, 1965).

Vignian, Frederick. Crisis of Cities. Washington: Public Affairs Press, 1955.

Wagner, Philip L. The Human Use of the Earth. New York: Free Press of Glencoe, 1960.

Warner, W.Lloyd. The Corporation in the Emergent American Society. New York: Harper and Brothers, 1962.

_____ The Yankee City. New Haven: Yale University Press, 1963.

Whalen, Richard J. "A City Destroying Itself," Fortune Magazine, Volume Number (November,1964).

White, Lynn. Medieval Technology and Social Change. Oxford: Clarendon Press, 1962.

White, Winston. Beyond Conformity. New York: Free Press of Glencoe, 1961.

Whitehead, Alfred N. Symbolism and its Meaning and Effect. New York: Macmillan Company, 1927.

Wilhelm, Sidney M. "The Concept of The Ecological Complex: A Critique," American Journal of Economics and Sociology, Volume , Number 4 (December, 1964).

Wingo, Lloyd (ed.). Cities and Space. Baltimore: Johns Hopkins Press, 1963.

Wolstenholme, Gordon (ed.). Man and His Future. Boston: Little, Brown and Company, 1963.

Zimmeryn, Alfred. The Greek Commonwealth. London: Oxford University Press, 1930.

Zucker, Paul. Town and Square. New York: Columbia University Press, 1959.


MICHIGAN STATE UNIV.
SEP 13 1965
COLLEGE OF SOCIAL SCIENCE