Human ecology and sociology: The development of human ecology in the department of sociology at the university of Chicago 1914 - 1939

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HUMAN ECOLOGY AND SOCIOLOGY:

THE DEVELOPMENT OF HUMAN ECOLOGY IN THE DEPARTMENT OF SOCIOLOGY AT THE UNIVERSITY OF CHICAGO

1914-1939

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Abstract

The development of human ecology is closely associated with the rise of empirical sociological research in the United States. Human ecology played an important part in the programme of research into the city of Chicago which was formulated by Robert Park and carried out by his associates and graduate students in the Sociology Department of the University of Chicago in the inter-war years. As the name of the sub-discipline suggests, human ecology derived a series of theoretical principles about the sustenance and spatial relations of population aggregates from plant and animal ecology, and applied them to the study of human society. An understanding of the central theoretical assumptions of Chicago human ecology can be gained by an exploration of human ecology's relationship to sociology and general ecology, as well as by examining the sub-discipline's contribution to the Chicago Sociologists' theory of the city. Human ecology's development can also be understood as having been influenced by the empirical studied of the city of Chicago which were carried out by Park's students in the 1920s and early 1930s. These studies, which used human ecology as a frame of reference played a very important part in establishing a tradition of empirical sociological research in the United States.

CONTENTS

ACKNOWLEDGMENTS

This study arose out of certain problems encountered in attempting to use the human ecological approach in a community study. It seemed important to examine and clarify the nature and scope of the Chicago sociologists' conceptualization of human ecology, before attempting to use the approach in empirical research. I would like to thank Professor John Rex, who while supervising this earlier uncompleted study, introduced me to the Chicago sociologists' writings on human ecology and the city. Professor Edward Shils and Anthony Oberschall read a draft of chapter 5, 'The Institutionalization of Human Ecology', and made a number of helpful comments. Finally my thanks are due to my supervisor, Martin Bulmer, who made many important suggestions, and who has advised and encouraged me at every stage of the research.

INTRODUCTION

The development of human ecology is closely associated with the rise of empirical sociology in the United States. In the inter-war period Robert Park and his colleagues and graduate students at the University of Chicago made an important contribution to the establishment of empirical sociological research in the United States by formulating and conducting a programme of research into the city. Human ecology, which was founded by Park, proved to be a central factor in this research effort. As the name of the sub-discipline indicates, human ecology derived a set of principles about the sustenance and spatial relations of population aggregates from plant and animal ecology[1], and applied them to the study of human society. Park first conceived of an analogy between social groups and plant communities in an article written in 1918[2]. This was followed by the first tentative formulation of human ecology in Park and Burgess' influential textbook 'Introduction to the Science of Sociology'[3], published in 1921. It seems possible that what may have interested Park in plant and animal ecology and persuaded Park and Burgess to include extracts from ecologists in an introductory sociological text, was the fact that the communities in which the sociologist was interested seemed to exhibit a similar spatial structure and set of processes to those found in plant and animal communities. Ecology may have seemed to provide insights into the nature of the spatial structure and processes which brought about the characteristic form of human communities, and in addition to offer possibilities as a frame of reference for empirical research into human communities. The need for sociology to move into an era of scientific empirical research is emphasised in Park's scheme of the historical development of sociology in the 'Introduction to the Science of Sociology'. Park tells us that sociology has progressed through three stages: a period of concern with philosophies of history in the 'grand style'; a period in which various schools

attempted to define what facts the sociologist should look for; and the final stage, the period of investigation and research, which in 1921 Park felt sociology was just about to enter[4]. It should not be assumed however that because Park saw sociology's task as being to carry out empirical research that his approach was a-theoretical; the theory which Park wanted to move away from was the varieties of philosophical speculation in the grand manner; in its place he wished to establish theory which would be concerned with developing a range of working concepts and frames of reference which would act as a necessary guide to empirical research[5].

Human ecology was one such frame of reference and set of working concepts which were specifically addressed to the field of urban sociology[6]. While previous studies had been made of the various urban social problems associated with the immigrant and slum areas - a tradition which in Chicago went back to 1895 with the publication of the Hull House papers - to a large extent the studies had been carried out by a motley array of social workers, clergymen, journalists, reformers and reform-minded social scientists whose common intention was to arouse public opinion and bring about the implementation of policy changes. What differentiates the approach of Park and Burgess and the other Chicago sociologists from this tradition is that they endeavour to study the city in an objective scientific manner, and sought to understand the processes and forces which gave rise to the city structure, and typical urban social relationships and problems. Shortly after Park arrived at Chicago he wrote a paper entitled 'The City: Suggestions for the Investigation of Human Behaviour in the City Environment'[7] which was soon to be acclaimed as one of the classic statements on urban sociology. Park's originality lay in the range of questions he asked about city structure, population characteristics and social relationships, which highlighted the deficiencies of exisiting sociological knowledge, as well as pointing out the directions for a systematic programme of urban research. In the

years that followed Park and Burgess ran courses in which students were encouraged to go out into the city of Chicago to observe urban life and collect data of all kinds which could be recorded and analysed. Burgess tells us that it was from this rapidly accumulating fund of basic social data that maps were compiled which revealed the distribution pattern of a variety of urban phenomena, and gradually a picture was built up of the city as having a definite structure and set of processes[8]. The conceptualisation of urban structure which began to emerge bore striking similarities to that described by plant and animal ecologists; as Burgess states "The processes of competition, invasion, succession and segregation described in elaborate detail for plant and animal communities seem to be strikingly similar to the operation of those same processes in the human community[9]."

The interest expressed by sociologists in the potential of human ecology as a framework for the understanding of urban structure and process was such that by 1925 the new subject was granted a division at the annual American Sociological Society conference. Five conference papers were read on human ecology, including Park's presidential address 'The Concept of Postion in Sociology'. The papers were published in a volume edited by Burgess entitled 'The Urban Community'[10]. In the same year a collection of articles by Park Burgess and McKenzie were published under the title 'The City'. Of note in this collection was Park's article 'The City: Suggestions for the Investigation of Human Behaviour in the Urban Environment', which contained a new preface in which human ecology was discussed, and it should be emphasised that this paper in its original form published in 1915 contained no reference to human ecology. Also included were Burgess' now famous paper setting out his zonal hypothesis, 'The Growth of the City: An Introduction to a Research Project', and an article by McKenzie 'The Ecological Approach to the Study of the Human Community', which attempted a preliminary outline of human ecology.

Hence in the ten years following the publication of Park's first paper on the city, human ecology had become an accepted field of sociology in the United States.

It is clear however, that Park was not solely concerned to work out the intricacies of a theory of the city based upon human ecology, but also saw his task as being to guide the programme of research into various aspects of the city of Chicago. That such an ambitious programme could be carried out was in part a result of the special relationship that the University of Chicago enjoyed with the Rockefellers. A grant from the Laura Spelman Rockefeller memorial fund resulted in the foundation of the Social Science Research Council in 1923, which through the Chicago University Local Community Research Committee financed a number of research projects in sociology and the other social sciences. The success of the research programme was also in part due to the personal influence of Robert Park. Park had the breadth of vision to conceive a common overall programme into which the individual pieces of research could be slotted. Graduate students received close supervision from Park in writing their disertations and participated in an oral tradition which gave them the benefit of discussing theory and research with a man who unselfishly preferred to stimulate others to carry out research rather than to take time off to do so himself. From the various accounts of the Chicago department in the 1920's one gets the impression that this must have been a tremendously exciting atmosphere for social scientists. As J S Steiner commenting on changes in American sociology recalls "I still remember the enthusiasm with which graduate students of the University of Chicago, under the direction of Dr Robert E Park, and his associates turned their attention to the city as a social laboratory"[11].

The Chicago Sociology Series, which was a product of the empirical research has

been referred to as a "marvelous series of monographs"[12], and as producing "some of the classics of early urban sociology"[13]. The majority of the studies were concerned with describing and explaining the urban distribution of a range of social phenomena using human ecology as a frame of reference. Studies of juvenile delinquency were made by Shaw and McKay[14], boys' gangs by Thrasher[15], mental illness by Faris and Dunham[16], prostitution by Reckless[17], divorce and desertion by Mowrer[18], suicide by Cavan[19], and negro family organisation by Frazier[20]. The general picture to emerge was of the concentration of these types of social phenomena in the inner areas of the city, the zone in transition, with a gradual decrease in the intensity of the phenomena as one moved out towards the periphery. In addition detailed studies were made of the population characteristics and types of social relationships found in specific urban areas within the zone in transition, resulting in the publication of 'The Gold Coast and the Slum' by Zorbaugh[21], 'The Ghetto' by Wirth[22], and 'The Hobo' by Anderson[23]. Taken together these monographs of the Chicago Sociology Series represent perhaps the most detailed sociological description and analysis of any single city; however it is important to note that the sociologists formed only part of a combined social science research effort which under the guidance of the Local Community Research Committee produced 44 books and monographs - practically all of them on the city of Chicago - in the years 1923-29 alone[24].

The research effort of the University of Chicago sociology department in the 1920's and early 1930's helped to establish a strong tradition of empirical research in American Sociology[25]. Edward Shils has commented that the Chicago Urban sociology monographs "fulfilled a momentously important function in the development of a social science by establishing an unbreakable tradition of first hand observation,

a circumspect and critical attitude towards sources of information and the conviction that the way to the understanding of human behaviour lies in the study of institutions in operation and of the concrete individuals through which they operate"[26]. It seems worth re-iterating that part of the success was due to the efforts of Park, who had the ability to pose sociological questions which were eminently researchable, and the ability to write in such a way that suggested a conceptual framework for empirical research. R H Turner comments that "Probably no other man has so deeply influenced the direction taken by American empirical sociology as Robert Ezra Park"[27]. Many of the commentators who provide a brief resume of Park's colourful biography emphasise that his experience as a newspaperman had a major effect on his interest in the city and empirical research. While this is undoubtedly so, it is important to bear in mind that Park stressed at many points in his academic career that he wished to establish an objective scientific approach to the social world, and that he had no time for reformers and do-gooders. His associates and graduate students clearly attempted to follow his directive, and it is somewhat ironic that present-day commentators have seen fit to make statements such as: "Park's background in journalism opened the doors of Chicago's graduate department to the muckraking prose of such monographs as 'The Unadjusted Girl', 'The Gang', 'The Jack-Roller', and 'The Gold Coast and the Slum'," by Friedrichs[28], and "the school was heir to the muckraking tradition with the difference that monographs replaced newspaper exposes", by Roth[29].

The over-riding concern with empirical research shown by the Chicago sociologists may in part explain the unsystematic and fragmentary nature of many of the statements on human ecology which appeared in a number of widely scattered articles by Park, Burgess and McKenzie. It would seem that the early writings on human

ecology and the city were written with the intention of posing a range of questions which would stimulate empirical research, and with providing a loose theoretical frame of reference which would act as a guide to research. Other articles written when the research programme was underway in the late 1920's tend to summarize research findings and suggest further hypotheses. It is of interest to note that Park's major theoretical statements on the subject, - 'Human Ecology'[30], 'Succession, An Ecological Concept'[31], 'Symbiosis and Socialisation'[32], - were written after Park had retired from Chicago in 1934, and after practically all the empirical studies of the city had been completed[33]. Human ecology may therefore be regarded as having developed out of an interest in generating a conceptualisation of city structure and process to provide a frame of reference for empirical studies of the city. Establishing a clear understanding of the meaning of human ecology which Park and the other Chicago sociologists subscribed to would seem to be a demanding task. The fact that the Chicago sociologists did not systematically address themselves to the problems involved in working out a logically consistent theory of human ecology, and that there are many examples of unclear concepts, contradictory statements and loose writing in their publications has made human ecology an attractive hunting ground for critics. Needless to say many of the criticisms are well-founded and so comprehensive that they leave the present-day sociologist wondering how the Chicago sociologists in the 1920's and 1930's could arrive at a conceptualisation of human ecology which could be accorded credibility as a viable explanation of aspects of the social world. It is to be hoped that one of the contributions of this study might be to suggest some possible answers to this question.

The basic orientation of this study is therefore to understand the various dimensions

of Chicago human ecology, and to this end the work examines the following aspects of the subject:

In the first chapter the intention is to examine the theoretical position of Chicago human ecology. A brief outline has been constructed from the various writings on the subject in which an attempt is made to follow through the logic of human ecology's relation to plant and animal ecology and the application of ecological concepts to human communities. In this chapter there is also a discussion of how human ecology fits into the theoretical scheme of Park and Burgess.

The second chapter examines human ecology from the point of view of its relationship to the Chicago sociologists' theory of the city. An attempt is made to logically re-construct the central features of their theory of the city and to examine the place of human ecology within it.

The third chapter is concerned with an exposition and analysis of the empirical studies of the city which were made by the Chicago graduate students in the 1920's and 1930's. The major question posed here concerns the relation of these studies to human ecology, and seeks to establish how far these studies followed the theoretical tenets of human ecology and contributed to the subject's development.

The fourth chapter inquires into the background of human ecology by examining the development of the subject at the University of Chicago, and its place within American sociology in the inter-war period. Among the questions considered here are: How did human ecology originate? How influential was human ecology within American sociology? Why did the subject decline in importance within the Chicago department, and within American sociology?

Finally, in the concluding chapter one of the problems of human ecology, its

relationship to culture, is examined in the light of more recent theories of human ecology. It is also emphasised that the intention of this study is not primarily to provide a critical analysis, or to re-draft Chicago human ecology in a form more acceptable to the standards of present-day sociology, but to attempt the precarious task of understanding the scope and intentions of Chicago human ecology in the inter-war period.

NOTES

1. The term 'ecology' seems to have been first used by the German biologist Ernst Haeckel, in 1869.

2. R.E. Park (1918), 'Education and its Relation to the Conflict and Fusion of Cultures,' Publications of the American Sociological Society, 13. Mentioned by J.A. Quinn 'The Development of Human Ecology', in H.E. Barnes and H. Becker (eds), (1940), Contemporary Sociological Theory, Appleton Century Crofts.

3. Chicago University Press 1921.

4. See R.E. Park and E.W. Burgess, (1921), Introduction to the Science of Sociology, Chicago U.P., page 44.

5. See H. Odum (1951), American Sociology, Longmans Green, page 132.

6. Human ecology need not only be associated with explaining urban structure, as T. Morris points out: "There is nothing intrinsic in the nature of the ecological approach which brings it nearer to the study of urbanism rather than say rural sociology". While R.D. McKenzie and others made ecological studies of regions, the subject has been predominantly associated with the study of the city. See T.N. Morris (1957) The Criminal Area: A Study in Social Ecology, Routledge and Kegan Paul, page 4.

7. American Journal of Sociology, 20, March 1915.

8. E.W. Burgess (1964), 'Research in Urban Society: A Longer View', in E.W. Burgess and D.J. Bogue (eds), Contributions to Urban Sociology, Chicago U.P., page 3.

9. E.W. Burgess,(1925), 'Can Neighbourhood Work Have A Scientific Basis?', in R.E. Park, E.W. Burgess and R.D. McKenzie, The City Chicago U.P., page 145.

10. Chicago U.P., 1926.

11. J.S. Steiner, (1956), 'Comments on Changes in American Sociology' Sociology and Social Research, 40, 6, page 409.

12. C. Bell and H. Newby, (1971), Community Studies, Allen and Unwin, page 91.

13. R.E, Pahl, (1968),'A Perspective on Urban Sociology' in R.E. Pahl (ed), Reader in Urban Sociology, Pergamon, page 11.

14. C.R. Shaw,(1929), Delinquency Areas, Chicago U.P. C.R. Shaw and H.D. McKay, (1942), Juvenile Delinquency and Urban Areas, Chicago U.P. C.R. Shaw and H.D. McKay, (1931), Social Factors in Juvenile Delinquency, U.S. Government Printing Office.

15. F. Thrasher, (1927), The Gang: A Study of 1,313 Boys Gangs in Chicago, Chicago U.P.

16. R.E.L. Faris and H.W. Dunham, (1939), Mental Disorders in Urban Areas, Chicago U.P.

17. W. Reckless, (1933), Vice in Chicago, Chicago U.P.

18. E. Mowrer, (1927), Family Disorganisation Chicago U.P.

19. R. Cavan, (1928), Suicide, Chicago U.P.

20. E.F. Frazier, (1932), The Negro Family in Chiacgo, Chicago U.P.

21. H. Zorbaugh, (1929), The Gold Coast and the Slum, Chicago U.P.

22. L, Wirth,(1928), The Ghetto, Chicago U.P.

23. N. Anderson, (1923), The Hobo, Chicago U.P.

24. C.D. Harris, (1956),'Address of Welcome'in L.D. White (ed), The State of the Social Sciences, Chicago U.P.

25. A number of commentators have contrasted the concern for 'fact-finding' empirical research displayed by American sociology with the more theoretical and philosophical nature of much of European sociology. See for example: K.H. Wolff, (1946), 'Notes Towards a Socio-cultural Interpretation of American Sociology", American Sociological Review, 11. P. Sorokin, (1928), 'Some Contrasts of Contemporary European and American Sociology', Social Forces, 8. K. Mannheim, (1932), 'Review of S.A. Rice, (ed), 'Methods in Social Science, 'American Journal of Sociology, 38.

26. E. Shils, (1948), The Present State of American Sociology, Free Press, pages 11-12.

27. R.H. Turner, (1967), 'Introduction' to R.H. Turner (ed), Robert E. Park: On Social Control and Collective Behaviour, Chicago U.P., page ix.

28. R. Friedrichs, (1970), A Sociology of Sociology, Free Press, page 73

29. G. Roth, (1971), 'Value Neutrality in Germany and the United States', in R. Bendix and G. Roth Scholarship and Partisanship: Essays on Max Weber, California U.P., page 47.

30. R.E. Park, (1936b),'Human Ecology', American Journal of Sociology, 42

31. R.E. Park, (1936a), 'Succession, An Ecological Concept', American Sociological Review, 1.

32. R.E. Park, (1939a), 'Symbiosis and Socialisation: A Frame of Reference for the Study of Society', American Journal of Sociology, 45.

33. The major exceptions are C.R. Shaw and H.D. McKay, (1942), Juvenile Delinquency and Urban Areas, Chicago U.P. and R.E.L. Faris and H.W. Dunham, (1939), Mental Disorders in Urban Areas, Chicago U.P.

THE THEORETICAL STANDPOINT OF HUMAN ECOLOGY

In this chapter it is proposed to examine the central theoretical features of human ecology. As there is no single theoretical statement in the various writings of Park, Burgess, McKenzie or their associates which seeks to provide a definitive statement or work through the logic of human ecology, this exercise necessarily involves a reconstruction. A reconstruction which it might be said in parenthesis many commentators have found to be particularly taxing; B T Robson, for example states that "One has to perform mental gymnastics to gather together the elements of Park's theoretical doctrine which are scattered throughout his writing."[1] In view of the difficulties involved in establishing the essential features of the Chicago sociologists theory of human ecology the first task of this chapter is to provide a brief outline of this theory. The outline involves an attempt to reconstruct the logic of the theory by highlighting the central features of general ecology and following through the process whereby they are applied to human society to produce a theory of human ecology. To this end a sympathetic attitude has been adopted towards the meaning of the various textual statements referred to and the schematic outline has been constructed with the expressed intention of providing a clear account of the Chicago sociologists view of human ecology, which will render it understandable, rather than to dwell upon contradictory statements and incompletely digested ideas which are from time to time evident in their writings. The outline is followed by a general discussion of the place of human ecology within the sociological scheme of Park and Burgess.

In constructing the outline of human ecological theory central importance has been given to the writings of Robert Park, the founder of the sub-discipline, who was responsible for the major theoretical statements on human ecology in papers such as "Human Ecology"[2], "Dominance: The Concept, Its Origin and Natural History,"[3].

"The Urban Community as a Spatial Pattern and a Moral Order,"[4], "Sociology, Community and Society",[5] "Succession, An Ecological Concept,"[6] "Symbiosis and Socialization,"[7] all of which have been reprinted in volume two of Park's collected papers edited by E C Hughes under the title of "Human Communities."[8] Also of importance are the writings of R D McKenzie, Park's former student and associate, who published papers such as "The Ecological Approach to the Study of the Human Community,"[9] "The Scope of Human Ecology,"[10] "Demography, Geography and Human Ecology,"[11] "The Ecology of Institutions,"[12] which have been reprinted in the selected writings of R D McKenzie edited by A Hawley.[13] A number of secondary sources have also been referred to which seek to provide a detailed exposition of the central features of human ecological theory. Among those which have been found to be particularly useful in this respect are: "Human Ecology" by Llewellyn and Hawthorne,[14] "The Development of Human Ecology in Sociology" by Quinn,[15] "Human Ecology and Human Society" by A.B Hollingshead[16], "Human Ecology" by Wirth[17], and "Social Ecology: A Critical Analysis" by M.Alihan[18].

Clearly there are certain problems of interpretation and selection involved in attempting such a reconstruction. The major emphasis given in the brief outline of human ecological theory which follows has been to stress its logical relationship to plant and animal ecology, and to attempt to elucidate what qualifications Park and McKenzie think are necessary in applying ecological theory to human society. It is of course possible to attempt to understand the Chicago sociologists' theory of human ecology by taking a different starting point, their attempt to construct a theory of the city, and if this orientation is followed their theory can be regarded as a combination of aspects of economics and ecology. While this orientation will be examined in the next chapter, it would first seem necessary to understand human

ecology on a more general level. The brief outline which follows is based upon extensive reading of the sources itemised above, with the intention of providing a general statement of what are taken to be the central principles of the Chicago sociologists theory of human ecology.

1.1 Human ecology seeks to explain the structure and process of the typical sustenance and spatial relationships that are unintentionally generated between men which result from the adaption of man to the environment. The explanation is largely in terms of a set of principles first developed in plant and animal ecology.

1.2 The relationship between living things is seen by general ecologists (i.e. plant and animal ecologists) in terms of an intricately balanced series of functional reciprocities in which organisms adapt to each other and the environment. However this set of complex interdependencies between species and habitat must not be thought of as a closed static system, for the relationships between the various species and the environment is subject to change so that any equilibrium arrived at must be considered a temporary phase. The mechanism behind the ever-changing process of the adaption of organisms to each other is seen as competition; that is organisms and species engage in a continuous competition with each other for scarce environmental resources. The competition is however not annihilatory but orderly, resulting not in anarchy but co-operation. This is because the usual outcome of competition is that each organism finds its best-suited place, its ecological niche, in the environment; and because seemingly unconnected species are bound together in a complex series of symbiotic relations - the intricate web of life which Darwin speaks of - in which each organism makes nonthoughtful adjustments to other organisms.

1.3 Plant and animal ecologists regard some supra-individual body as transcending the individual organisms and species of a given territorial area, which regulates the competition and gives the ecological complex its characteristic structure. There is evidently some ordering mechanism at work which can be thought of as a super-organism. The result is a natural division of labour in which organisms are allocated their most suited niche in the environment where they can perform services for each other as well as maintaining the whole community in an ongoing functional manner. The complex of symbiotic relations between the species and the environment which takes place within a given territorial area is referred to as the ecological community.

1.4 The ecological community tends to exist in a state of dynamic equilibrium once the initial division of function has taken place, so that each species lives in a biotic balance with each other and the environment until that balance is disturbed. A disequilibrium may arise from a number of possible contingencies: the population expansion of the dominant species which results in a decline in other species, which feeds back to cause either a decline in the numbers of the dominant species or a migration of some of its members; a diminution of some environmental resource; an invasion from a species outside the immediate ecological community. A consequence of these and other possible disturbances is that another cycle will be set off until an orderly division of function, a new climax stage, occurs.

2.1 Unlike general ecology, human ecology is concerned with one species, man, concentrating upon the form of the relations between men which arise in response to the adaption of man to the environment.

2.2 When we speak of the 'form of the relationships' we imply that a given population aggregate brought together on a given environment would

produce a characteristic structure and set of processes which are manifest in its spatial organisation.

2.3 Thus it is possible to observe the spatial distribution of population in an area and the resultant human artifacts: buildings, routes of transportation etc., and expect that this form will approximate to the form found in other settlements with a similar population aggregate and environmental base. One would also expect that similar spatial forms are indicative of the working of the same ecological processes.

2.4 When we speak of the 'environment' we refer to a complex comprising: the plant and animal species of a given habitat, the natural resources (i.e. mineral or other physical resources), and the climatic conditions. Human ecology assumes that man utilises this complex of environmental resources in characteristic ways; hence a given configuration of environmental resources will be expected to give rise to a given spatial structure of the population and buildings within that area.

2.5 There is however a qualification to this notion of the environment which might seem to imply geographical determinism, (2.4 above). This is that man is not so directly dependent upon the environment as are other species due to a number of factors:

(a) His powers of locomotion - man like the animals and unlike the plants is capable of movement; this means that he does not have to remain in one environment, but may seek other more congenial environments.

(b) Man's economic relationships which result in trade mean that he may acquire goods which are not directly available in his accustomed environment, which may enable him to adapt to or change (develop) the environment.

(c) Man's unique capacity, human culture, further mediates his relations with the environment. In an oversimplification, this may be thought to comprise a value complex and technology. The particular value complex - the norms, mores and customs of a given culture - may act in such a way as to lead members to over-value some, and undervalue other, environmental resources because of cultural imperatives even to the point of threatening species survival. Through the development of science and technology man has emancipated himself from direct dependence upon a specific habitat, and increased enormously his capacity to remake any environment in terms of his cultural imperatives.

2.6 The above factors make it difficult to hold the environment as a constant. The uniqueness of the cultural complex of individual societies, the type and nature of the economy, the degree of technological 'development' are all variables. It would thus seem that when we expect a given 'strict' environment (2.4 above) to give rise to a given spatial form of population and settlement we neglect these variables. However it has been suggested that these variables can be held constant for the same socio-cultural historical epoch. Thus one might expect an agricultural village in the United States which shares similar climatic, physical, plant and animal environmental conditions as a village in China to be very different in terms of form; yet the American village will probably exhibit the same spatial form as a number of villages possessing the same strict environmental characteristics within the same culture. It is therefore held that the possible feedback of cultural, economic and technological factors can be minimised as they are held as constants within the same socio-cultural epoch.

3.1 If the population aggregate and the concomitant physical settlement exhibit a characteristic spatial form, in what ways do the human ecologists conceptualise this form and the mechanisms responsible for producing it?

3.2 As in the case in general ecology the population in its environment is thought of as being organised in terms of a system.

3.3 The system or super-organism (the term preferred by the human ecologist) denotes that the elements, individuals, are not bound together in the form of a physical organism such as the human body, but are bound together through the reciprocities they perform for each other in response to the ecological forces working in the territorial area.

4.1 Competition is the basic ordering mechanism of the ecological system. Population members compete for the most desired (in terms of environmental resources) spatial position within the territorial area.

4.2 Through the process of competition individuals affect one another by affecting the limited supply of environmental resources. Hence competition is seen as taking place on an unconscious, subsocial basis; that is, competition does not involve face-to-face interaction or confrontations resulting in conflict between the members of the population aggregate.

4.3 The outcome of competition is co-operation, in that competition results in a division of the population along functional lines with each member performing the task for which he is best suited. It is this division of function which results in a mutual interdependence between the members of a common habitat, which the human ecologists refer to as competitive co-operation or symbiosis.

4.4 General ecologists hold that competition results in a co-operative division of labour of function among the various plant and animal species of the common habitat. However in the case of human ecology we are dealing with one species, man; hence any division of labour or function must imply specialisation on the basis of economic and occupational criteria.

5.1 As a result of the process of competitive co-operation the ecological community takes the form of a series of segregated natural areas, each of which is allocated those individuals who on the basis of division of function can find in the natural area a particular niche, a place where they can make their particular contribution to the ecological community.

5.2 These areas are called natural areas because like other ecological phenomena they are unplanned, resulting from the outcome of competition which sifts, sorts and segregates individuals into areas where they will encounter similar individuals. The selective forces at work assign individuals to their natural areas on the basis of economic, occupational, age, sex, racial and national characteristics. Natural areas thus tend towards a homogeneity of type of population, which is also reflected in the type and function of buildings and land use.

6. The population aggregate exhibits the tendency of concentration around a point of dominance. The dominant area of the ecological community is the functionally most important natural area, which assumes a central position within the territorial area.

7. Given that the population is relatively stable and not subject to the influence of extraneous factors, the ecological community will develop its characteristic spatial form from the distribution of the population into

natural areas around the central point of dominance. A phase will thus ensue in which the population elements and the natural areas perform reciprocal functions to maintain the ecological system in a state of equilibrium to a greater or lesser extent.

8. A frequent source of change which disturbs the existing balance results from population mobility. The influx of new population members - a migration into the ecological community - will be assimilated into the natural areas on the basis of the various functional characteristics they possess.

9. The natural areas which experience the greatest influx will be forced to extend their territory. An invasion takes place when one natural area encroaches upon another adjacent natural area. This puts pressure on the invaded area which may also be forced to invade a further natural area.

10. When an invasion results in a complete change of population in a given territorial area, a succession is held to have taken place. The processes of invasion and succession are thus seen to alter the population type and land use of the sub-areas of the ecological community. A further resultant change in the overall spatial form of the community takes place with the population aggregate moving outwards radially from the point of dominance to take over new territory outside the original confines of the ecological community.

11.1 It is presumed that the above processes which work to give a characteristic functional and spatial form to the population and resultant buildings within the ecological community, do so in the same way in similar ecological communities. Differences in environmental factors will operate to give the complex a range of forms. Thus it is possible to develop a typology of the characteristic ecological communities to be found within a given historical society.

11.2 Ecological communities can be classified into four general types:

(a) The primary service community such as agricultural towns, the fishing, mining or lumbering community.

(b) The secondary or commercial community which fulfils a a distributive function in collecting basic materials from the surrounding primary communities and distributing them in the wider regional, national and world markets.

(c) The industrial town which is concerned with manufacturing commodities.

(d) Communities without a specific economic base which are exemplified by recreational resorts, political and educational centres, communities of defence, penal or charitable colonies.

11.3 Human ecology has primarily been concerned with outlining the structure and processes at work in communities of types (b) and (c), the commercial-industrial town. The ecological theory of this type of community has drawn heavily on the investigation of one city, Chicago.

12 It thus appears that human ecology can tell us about the typical spatial forms that can be found in settlements within a given historical society. Human ecologists are thus able to generalise about the types of spatial relationships they will expect to find in a given settlement. The

information yielded could also prove to be useful to planners, government and local officials and businessmen in deciding possible future community development.

13. A further possibility is that the spatial and symbiotic relationships may provide an indication of the types of social relationships that will exist in the various parts of the community. The symbiotic relationships are to be regarded as more fundamental and hence capable of determining or providing limits on the type of social relations that can exist within the various areas of the ecological community. The natural areas of the community are thus seen as both attracting and producing certain types of social relationships.

14. At various points in the writings on human ecology, the subject has been described as a part of general ecology, an abstraction of part of society, a frame of reference and a metaphor. Attempts have been made to indicate that human ecology can be shown to be a logical development from general ecology. However certain difficulties in delineating the nature and extent of the cultural feedback - the influence of social relations upon symbiotic relations - have made it difficult to accept the biological view that man is essentially a part of the natural order. As an abstraction of part of society, human ecologists accept that society is a complex intermeshing of ecological, social and cultural factors, however it is regarded as legitimate for analytical purposes to concentrate on the spatial structure which results from the unintentional influences which men have for each other in adapting to a limited supply of environmental resources. Human ecology may be thought of as a useful metaphor in that it provides a framework for imputing relationships between the members of an

> observed population aggregate which enables a better understand of how that aggregate is organised and changes. A point of interest here in terms of an ecological metaphor is that the most frequent concepts used are those drawn from plant as opposed to animal ecology. Thus for example, the city is regarded not just in population terms, but in terms of the human artifacts, the fixed physical structure of buildings and routes of transportation etc, which can be thought of as having similar relations to each other as do the members of a plant community.

Having established the general outline as a preliminary statement on the Chicago sociologists' theory of human ecology, it would now seem useful to locate human ecology within the general framework of Park and Burgess' approach to sociology. In this, particular importance is given to the concepts of 'community' and 'society'. This will be followed in the next chapter by an attempt to relate human ecological theory to the development of urban sociology, for which the Chicago school is renowned.

In chapter one of 'Introduction to the Science of Sociology' Park and Burgess discuss the view that society resembles an organism,[19] however they point out that the social organism exhibits the apprently contradictory tendencies of competition and consensus. The concept of competition is derived from Herbert Spencer and refers to the notion that society can best be conceived as an economic organization in which individuals are engaged in constant competition with each other. The possibility of a resultant Hobbesian war of all against all is tempered by a self-regulatory tendency within competition itself, for competition produces co-operation and a balance is achieved naturally. The alternative tendency of society, consensus, is derived by Park and Burgess from Comte. It refers to the view that society is primarily a cultural entity in which individuals act towards each other on the basis of common customs, language and institutions.

Hence socialization is seen as imposing a degree of like-mindedness upon individuals who are bound together by moral imperatives.

Rather than opting exclusively for either one of these conceptualisations of society, Park and Burgess prefer to regard society as having a double aspect, being a natural competitive order and a moral consensual order. Park and Burgess combine these two orders into a relationship which has some general resemblance to the Marxian sub-structure/superstructure relationship. The lower basic and more fundamental order they call 'community', the higher moral order 'society'.[20] 'Society' is represented as being the imposition of culture - which leads to consensus - upon the natural competitive order. In the words of Park "Now it is an indubitable fact that societies do have this double aspect. They are composed of individuals who act independently of one another, who compete and struggle with one another for mere existence and treat one another as far as possible as utilities. On the other hand it is quite as true that men and women are bound together by affections and common purposes..... and they maintain..... a discipline and a moral order that enables them to transcend what we ordinarily call nature and through collective action, recreate the world in the image of their collective aspirations and their common will".[21]

The community-society dualism can also be regarded in terms of historical stages. In his paper 'Symbiosis and Socialization: A Frame of Reference for the Study of Society'[22] Park conceives 'community' as being man's primordial state of existence in which man is to be seen as merely one species among the numerous other competing plant and animal species. With the development of communciation and language man generated his own unique cultural and moral order with which he could regulate his 'community' relationships. Hence mans social evolution may be regarded as a process whereby he gradually achieves dominance over his more basic competitive nature through the creation of moral and social relationships. Such an evolutionary scheme might be

taken as implying that in modern society man's 'society' relationships have been developed to a degree which minimises or renders inoperative the effects of his 'community' relationships. Park however feels that while the 'community' structure may be reinforced by custom it is still possible to isolate the 'community' order for purposes of analysis; he states in his paper 'Human Ecology' that "The incidence of this more or less arbitrary control which custom and consensus imposes upon the natural social order complicates the social process but does not fundamentally alter it - or if it does, the effects of biotic competition will still be manifest in the succeeding social order and the subsequent course of events".[23]

'Community' is therefore seen as the more fundamental aspect of the dualism, for while the effects of man's customary and moral relationships may complicate the analysis of 'community', they do not radically transform it. Furthermore 'community' is regarded by Park as being a more basic natural order applying not only to man but to all living species, for plants and animals as well as man are engaged in a free and natural group economy based upon 'co-operative-competition' within a given territorial area. Park and Burgess tell us that "The process of competition, segregation, and accommodation brought out in the description of the plant community are quite comparable with the same processes in animal and human communities".[24] Although Park and Burgess at times show an unwillingness to acknowledge 'community' as the sole determining force in social relationships (that is they feel it is possible to investigate some aspects of social reality without the need to refer to the 'community' substructure) they tend to regard it as providing a basic and fundamental point of view in explaining the social world. If the social world is viewed from the standpoint of the territorial distribution of its members, its 'community' aspect, one arrives at a different classification of phenomena than if viewed from the point of view of the consensual relationships. The 'society' approach would describe reality in terms of: races, people, parties, factions, clubs, cliques; the 'community' approach on the other hand would focus on nations,

colonies, spheres of influence, cities, towns, local communities, neighbourhoods and families.[25] While the distinction between the two classifications may not at first seem self-evident, Park and Burgess regard the 'community' classification as providing a more tangible and objective subject matter in that the sociologist is dealing with aspects of social relations (i.e. the territorial distribution of members as a result of the process of 'co-operative competition') that appears readily amenable to observation, description and classification in the scientific mode. This point is emphasised by Park's statement in 'Sociology, Community and Society' that "A practical reason (for the sociologist to study community) is the fact that the community is a visible object. One can point it out, define its territorial limits and plot its constituent elements, its population and its institutions on maps".[26]

The study of man's 'community' relationships - the province of human ecology - may therefore provide the sociologist with an approach to the social world in which the subtleties and complexities involved in analyzing human social and cultural relationships can be conveniently bypassed; for in addition to offering the sociologist a more objective subject matter which enables him to plot the physical aspect of social relationships - the spatial distribution of population and buildings - the type and nature of the distributive pattern found in any one instance should provide an indication of the types of social and cultural relationships to be expected within the territorial area considered. Consequently a knowledge of the structure of the 'community' order will yield information about the social order. This feature of human ecology has been well illustrated by Louis Wirth's remarks: "It is not merely because the ecological aspect of human social life yields a degree of objective knowledge in the sense of non-controversial description of physical facts and offers possibilities of a high degree of mensuration and precision, but also because the relevance of the physcial base of human social life is increasingly appreciated for the

understanding of sociocultural phenomena that human ecology has found an increasingly important place in community studies."[27]

Some of the interest and attention given to human ecology in the early 1920s may have been associated with this promise of precision and scientific rigour. Commentators on the subject are fond of quoting the following statements[28] which were made in Park's presidential address given at the 1925 American Sociological Society conference as on indication of the scientific pretentions of human ecology: "Reduce all social relations to relations of space and it would be possible to apply to human relations the fundamental logic of the physical sciences".[29] and "In so far a social structure can be defined in terms of position, social changes may be described in terms of movement; and society exhibits, in one of its aspects, characteristics that can be measured and described in mathematical formulas."[30] However at a later point in the same address Park clearly showed a reluctance to translate qualitative differences into quantitative differences and cautioned: "In the case of human and social relations,... the elementary units ... that is to say, the individual men and women who enter into these different combinations - are notoriously subject to change. They are so far from representing homogeneous units that any thoroughgoing mathematical treatment of them seems impossible."[31]

Although apparently interested in the possibilities for the quantification and statistical treatment of social phenomena afforded by the human ecological approach, which would fall in line with the scientific aims of sociology that Park put forward in chapter one of the 'Introduction to the Science of Sociology', Park was chary of reducing social relationships to spatial relationships. There would therefore seem to be an element of ambiguity in representing Park's writing as putting forward a brand of ecological determinism. Unfortunately in his writings Park did not systematically work out the intricacies between 'community' and 'society' nor decide on the final weighing to

be accorded to each aspect. In addition, as indicated in the brief outline of human ecology presented earlier in the chapter (see paragraph 2.5) Park was unwilling to apply the principles of general ecology in an unqualified manner to human society, for he acknowledged the role of cultural, economic and technological factors in mediating man's sustenance relations. It is this ambiguity which has enabled commentators to derive a variety of interpretations of Park's position with regard to the role of culture in ecological relationships. S.M.Willhelm, for example represents Park as providing the foundations of "traditional materialism" which espouses "biotic determinism",[32] whereas a contrary interpretation is offered by Duncan and Pfautz who state that Park emphasised "the psychic at the expense of the material aspect" and that "his major focus was always on society as primarily a social psychological entity."[33]

The problems involved in establishing the extent to which man's social and cultural relations influence and modify his ecological relations are such as to make extremely problematic the isolation of a 'community' order, and therefore the viability of human ecology as a separate subject area is threatened. If human ecology acknowledges a reality in which ecological relationships cannot clearly be perceived (for they are either diluted by the effects of culture, or are totally subsumed under a cultural superstructure,) it is in danger of conceding that ecological factors have an indeterminate role in the social world. Conversely to play down the role of cultural factors would involve human ecology in a rigid determinism which over-emphasises the effects of biological and environmental influences on human society. It is possible that the nature of the empirical work undertaken by Park and his students in the investigation of the city of Chicago allowed them to move away from a consideration of the effects of the role of the environment and man's sustenance relationships (with the spatial structure being regarded as an outcome of these factors) to a consideration of the spatial form as 'given'. Therefore they preferred to concentrate upon describing and

elucidating the characteristic structure and processes which the spatial distribution assumed, rather than to be concerned with its genesis in terms of the complexities of cultural-ecological interactions. Consequently the Chicago sociologists in their ecological research on the city tend to have centred their attention on elucidating the mechanisms whereby the population of a given territorial area assumes a characteristic spatial form through the competition of individuals for space.

It is of interest to note that there are similarities between Chicago human ecology, conceived as examining the form of the spatial distribution of population, and social morphology as practiced by the French sociologist, Maurice Halbwachs, who wrote within the Durkheimian tradition. Although Halbwachs spent some time at the University of Chicago in the 1930s there would seem to be little evidence that his theory of social morphology had any influence upon the development of human ecology. It is perhaps significant that the Chicago sociologists wished to retain the links between human ecology and general ecology and unlike Halbwachs were unwilling to regard the spatial structure as a derivative of the social order. Halbwachs saw material population structures as symbolic or emblematic expressions of the states of the collective conscience, as he states "Populations are not inert masses which obey physical laws as passively as grains of sand, or even herds of animals ... All these phenomena occur as though they become conscious of their distribution, of their mass and their form, of their movements, of their growth and decline etc. It is, rather the states of collective consciousness, morphological or demographical, which the statistician tries to reconstruct on the basis of his numerical data. Thus neither techniques nor the morphological facts of population can be studied and explained without seeking, within and behind them, psychological facts, which are facts of collective psychology."[34]

The Chicago sociologists did not however appear willing to contemplate such a radical solution to the problems of human ecology, a solution which would have severed the

subject's connections with general ecology. While we have tried to provide a reconstruction of their theory of human ecology, and show some of the problems encountered in trying to work out the relationship between ecology and sociology, 'community' and 'society,' in the next chapter we will turn our attention to the subject's connections with an attempt to develop an explanation of urban structure and process.

NOTES

1. B.T.Robson (1969), Urban Analysis: A Study of City Structure, Cambridge U.P., page 20.

2. R.E.Park (1936b), 'Human Ecology', American Journal of Sociology, 42

3. R.E.Park (1934), 'Dominance: The Concept, Its Origins and Natural History, in R D McKenzie (ed.) Readings in Human Ecology, G Wahr

4. R.E Park (1926), 'The Urban Community as a Spatial Pattern and a Moral Order', in E W Burgess , (ed.), The Urban Community, Chicago U.P.

5. R.E.Park, (1929), 'Sociology, Community and Society' in W.Gee (ed.) Research in the Social Sciences, Macmillan.

6. R E Park (1936a) 'Succession, An Ecological Concept', American Sociological Review, 1.

7. R E Park (1939a), 'Symbiosis and Socialisation: A Frame of Reference for the Study of Society', American Journal of Sociology, 45.

8. R.E.Park (1952), Human Communities, edited by E C Hughes, Free Press.

9. R.D McKenzie, (1924), 'The Ecological Approach to the Study of the Human Community', American Journal of Sociology, 30.

10. R.D McKenzie (1926), 'The Scope of Human Ecology', American Journal of Sociology, 32.

11. R.D McKenzie (1934), 'Demography, Human Geography and Human Ecology,' in L.L.Bernard (ed.), The Fields and Methods of Sociology, Long and Smith.

12. R D McKenzie (1936), 'The Ecology of Institutions', unpublished paper, reprinted in R D McKenzie (1968), On Human Ecology, Chicago U P.

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14. E Llewellyn and A Hawthorne (1945), 'Human Ecology', in G Gurvitch and W E Moore (eds.), Twentieth Century Sociology, New York.

15. J A Quinn (1940), 'The Development of Human Ecology in Sociology', in H E Barnes and H Becker, (eds.) Contemporary Sociological Theory, Appleton Century Crofts.

16. A B Hollingshead (1940), 'Human Ecology and Human Society', Ecological Monographs, 10.

17. L Wirth, (1945), 'Human Ecology', American Journal of Sociology, 50.

18. M Alihan (1938), Social Ecology: A Critical Analysis, Columbia U P,

19. R E Park and E W Burgess (1921), Introduction to the Science of Sociology, page 24, see also Park's paper 'Sociology, Community and Society (1929).

20. While 'community' and 'society' are the terms most widely used by Park in his collaboration with Burgess in 'Introduction to the Science of Sociology' and his other writings, the dualism is also conceived as 'symbiosis and consensus', 'symbiosis and socialization', 'the biotic and moral orders', 'the ecological and sociological orders'.

21. R E Park (1929), 'Sociology, Community and Society', in R E Park (1952), Human Communities, Free Press, page 180.

22. R E Park (1939), 'Symbiosis and Socialisation: A Frame of Reference for the Study of Society in R E Park (1952), Human Communities, page 258-9.

23. R E Park (1936b) 'Human Ecology' in R E Park (1952), Human Communities, page 156.

24. R E Park and E W Burgess (1921), Introduction to the Science of Sociology, page 166.

25. R E Park and E W Burgess (1921), Introduction to the Science of Sociology, page 164.

26. R E Park (1929), 'Sociology, Community and Society' in R E Park (1952), Human Communities, page 182.

27. L Wirth (1945) 'Human Ecology', American Journal of Sociology, 50. Reprinted in L Wirth (1964), On Cities and Social Life, Chicago U P, page 181.

28. See for example O D Duncan and H W Pfautz 'Translater's Preface' to M Halbwachs, (1960), Population and Society, page 27.

29. R E Park (1926), 'The Urban Community as a Spatial Pattern and a Moral Order' in E W Burgess (ed.) The Urban Community, Chicago U P. Reprinted in R E Park (1952), Human Communities, page 173.

30. R E Park (1926), 'The Urban Community as a Spatial Pattern and a Moral Order in R E Park (1952), Human Communities, page 166.

31. R E Park (1926), 'The Urban Community as a Spatial Pattern and a Moral Order' in R E Park (1952) Human Communities, page 173.

32. S M Willhelm (1962), Urban Zoning and Land Use Theory, Free Press, page 13.

33. O D Duncan and H W Pfautz (1960), 'Translaters Preface' to M Halbwachs, Population and Society, Free Press page 27.

34. M Halbwachs (1939), 'Individual Consciousness and Collective Mind', American Journal of Sociology, 44. Quoted in O D Duncan and H W Pfautz (1960), 'Translators Preface' to M Halbwachs, Population and Society, page 28. Although Halbwachs spent a year at the University of Chicago in the early 1930s, there is little evidence in the writings of Park and the other Chicago sociologists of the influence of his version of social morphology. For on account of Halbwachs view of the Chicago sociologists work on the city see M Halbwachs (1932), 'Chicago, Experience Ethnique,' Annales D'Histoire Economique et Social, 40.

HUMAN ECOLOGY AND THE CITY

Human ecology is generally associated in sociological literature with the attempt of the Chicago sociologists to provide an explanation of city structure and process. Many of the central human ecological concepts such as concentration, dominance, natural areas, zones, segregation, invasions and successions would seem to have been developed and clarified by Park and Burgess in their endeavour to construct a theoretical conceptualization of the city which would act as a frame of reference for empirical research. It has been suggested however that Park and Burgess' efforts did not amount to a comprehensive theory of the city by Louis Wirth, who remarked in a paper written in 1938, that "In the rich literature on the city we look in vain for a theory of urbanism presenting in a systematic fashion the available knowledge concerning the city as a social entity".[1] The absence of a systematic theoretical statement on the city may in part have resulted from the fact that Park and Burgess developed their theoretical concepts in a close ongoing relationship to the programme of empirical research on the city. Although they do not provide a single definitive statement on the city in which an attempt is made to work through and integrate the theoretical concepts which are discussed in their various papers on the city, and the introductions and prefaces to the Chicago empirical studies, an understanding of the central features of their theory can be arrived at through an exploration of the basis for a theoretical synthesis of those concepts which are most frequently referred to in their writings on the city. The most important concepts mentioned by Park and Burgess, are, mobility, land values, segregation, concentration, zones, natural areas, invasions, successions, dominance, and competition.

A possible way to understand the Chicago sociologists' theory of the city in the absence of a clear exposition by Park and Burgess, or in commentaries on their work, is to attempt a reconstruction by drawing together those concepts which appear to be central

to their theory of the city, and explore the logical connections between them and examine the possibilities for integration. As the Chicago sociologists theory of the city is essentially one of urban growth one can examine the concept of population mobility and explore its relationship to the distribution of land values and the resultant structural divisions which segregate the city into zones and natural areas. These concepts can also be linked to the major changes that take place within the city, the invasions and successions which occur when natural areas or zones encroach on one another. Before exploring the connections between these concepts it is important that a more general feature of the theoretical approach should be elaborated, the fact that the Chicago sociologists' concepts are derived from ecology and economics.

Park and Burgess would seem to have been concerned to produce an explanation of city structure and process which would enable them to account for a range of empirically observed urban characteristics. They were therefore interested in accounting for the characteristic population concentrations, the variations in population mobility to be found in the city, the way in which new immigrant populations tended to be almost automatically drawn to certain areas of the city, the fact that there are some areas of the city which seemed to be relatively homogeneous in terms of population characteristics as land use, the process whereby the population of one area invades and drives out the population of another area. In addition an explanation of city structure needed to account for the economic aspects of urban life - the competition of individuals and enterprises for favourable sites within the urban area, and how this competition tended to produce a physical structure of the city which resulted in the most efficient land use. Clearly ecology provided concepts which would enable the city to be compared to a biotic community in which concentration, dominance, segregation, zoning, invasions and successions took place. In this sense human ecology may be thought to have arisen from an attempt to employ concepts, taken mainly from plant ecology, which seemed to

offer an explanation of the 'forces' which were apparently distributing population and buildings in an orderly and structured manner throughout the urban community.

The city could also, however, be conceived in terms of concepts borrowed from economics. Here the physical structure of the city is regarded as the product of competition between individuals and enterprises, for the most desired sites - the central areas of the city - from which the greatest amount of profit could be extracted. Those enterprises which are able to derive the highest economic returns from the most strategic central sites will be willing to pay the highest rents, and hence the central business district will be the area of highest land values. As a result the city structure will assume a form which reflects this competition for spatial location, with each enterprise gravitating towards the location where it can achieve a maximum of efficiency, both for itself, and for the functioning of the city.

In combining elements from economics with elements from ecology into a theory of the city it is of interest to note that the process of competition is central to both disciplines. It is perhaps this factor which led Park at one point in his writings to refer to human ecology as 'biological economics',[2] and to be attracted to the views of Wells, Huxley and Wells, who in 'The Science of Life'[3] attempted to reduce the competition and co-operation which are characteristics of a market economy to a basic biological characteristic of all species.[4] Park however was unwilling to accept this position without qualification, for he indicated that the economics of commerce is significantly different from the unconscious co-operation and "the natural spontaneous non-rational division of labour of ecology."[5] He comments further that "Commerce, as Simmel somewhere remarks, is one of the latest and most complicated of all social relationships into which human beings have entered."[6] While Park does not pursue this comparison, it is possible to remark on a number of the similarities and differences between economics and ecology. Although both approaches adopt the view that the city can be regarded as

orderly, functioning system, the basis for arriving at this conceptualization differs markedly. Ecology assumes that population members engage in unconscious, non-thoughtful competition, whereas economics assumes that competition takes place between conscious rational actors who seek to maximise their own profitability. While ecology posits some form of over-arching communal organism which brings about a balance between population members, economics draws upon a theory of action. As Parsons[7] and Firey[8] have indicated there are difficulties involved in explaining how the ends of individual rational actors relate to each other and knit together to produce an orderly system in which the utility of the parts corresponds to the utility of the whole.

There would therefore seem to be basic problems involved in attempting a synthesis of the theoretical presuppositions of ecology and economics, especially with regard to their oppositional emphasis upon non-thoughtful adjustments and rational action. Park and Burgess did not however attempt to work out the implications of a theoretical integration of certain aspects of economics and ecology, rather it can be argued that the basis for the co-existence of the two approaches in their theory of the city may have arisen from the empirical investigations of the city of Chicago. Burgess records that in the years 1916-23 both he and Park sent students out into Chicago to collect data on social problems which could be mapped; as a consequence of the analysis of this data he states that it "began to emerge that there was a definite pattern and structure to the city."[9] It seems probable that the distribution of social problem data correlated with the urban distribution of land values. Hence land values which provided an index of the spatial location of individuals could also be seen as providing an indication of the social and cultural life of the city, or as Park puts it land values dilineate "the cultural contours of the community."[10]

It would therefore seem that Park and Burgess' intentions were not solely limited to an amalgamation of certain aspects of ecology and economics which could provide an explanation of the physical and spatial structure of the city, for the spatial structure could also provide an index to the different types of social relationships which are to be found in the various areas of the city. An understand of the working of the spatial structure would therefore seem to be the basis for an understanding of urban social relationships. In this context it is worth recalling that Simmel remarked that the city gives rise to a particular form of mental life.[11] The great variety and number of external stimuli that a city individual encounters in his daily life tends to produce an agile, rational calculating attitude which is a marked contrast to that found in the rural community. This theme is taken up by Park in his programmatic paper 'The City: Suggestions for the Investigation of Human Behaviour in the Urban Environment' where he opens the paper by stating: "The city is something more than a congeries of individual men and of social conveniences - streets, buildings, electric lights, tramways and telephones etc; something more also than a mere constellation of institutions and administrative devices - courts, hospitals, schools, police and civic functionaries of various sorts. The city is rather a state of mind, a body of customs and traditions and of organised attitudes and sentiments that inhere in these customs and are transmitted with this tradition. The city is not in other words merely a physical mechanism and an artificial construction. It is involved in the vital processes of the people who compose it; it is a product of nature and particularly of human nature."[12] From this statement it seems that Park is determined to go beyond a conceptualization of the city as a physical structure (however striking and dominating this structure may seem) to move towards a sociological conceptualization of the city as a unique form of moral and social organization with a characteristic mental outlook on the part of the inhabitants. This is not to imply that a sociological view of the city should neglect the consideration of the physical structure, for Park emphasises that both the moral and physical factors "interact

in characteristic ways to mould and modify each other."[13] Moreover the physical structure is a human product and the two aspects of the city must be seen in an ongoing relationship for the physical organisation "which has arisen in response to the needs of the inhabitants once formed imposes itself upon them as a crude external fact and forms them in turn in accordance with the design and interests which it incorporates."[14]

Ernest Burgess remarks in his influential paper 'The Growth of the City: An Introduction to a Research Project' that "The outstanding fact of modern society is the growth of great cities."[15] This statement emphasises that a major concern of the Chicago sociologists was to construct an explanation of the modern expanding city. It seems clear that Burgess thought that the account of urban growth he put forward in his zonal hypothesis outlined general principles which were applicable to all American cities, as is indicated by his comment that "All American cities which I have observed or studied approximate in greater or less degree this ideal construction."[16] Park seems to have shared the belief that the theory of the city that he was constructing focused upon typical features of urban growth, and that eventually the large oriental cities and the other great cities of the world would develop in a similar form to that which had been elucidated with respect to American cities. In 'The City and Civilization' he states "The city is a microcosm in which is reflected often in advance of the actual appearance, changes impending in the macrocosm. This means that London, New York, Chicago, have completed changes in their internal organisation that are still in progress in Shanghai, Bombay and Constantinople."[17] Numerous critics[18], however have been quick to draw attention to the cultural specificity of Park and Burgess' theory of the city, pointing out that Burgess' zonal hypothesis has only limited application, fitting best the expanding industrial cities of the American Midwest in the early part of the twentieth century. It would therefore seem that the emphasis upon urban growth, and the subsequent development

and use of concepts such as invasion, succession and competition for land use must be understood in terms of the specific socio-historical context within which Park and Burgess developed their theory.

In the late 19th and 20th centuries Chicago and other midwestern cities experienced urban growth to an extent unparalled elsewhere in the United States. The population of the city of Chicago,

Table 1

Population of Chicago 1850-1930		Percentage Increase per Decade	
1850	29,963		
1860	109,260	1850-60	267%
1870	298,977	1860-70	173%
1880	503,185	1870-80	68%
1890	1,099,850	1880-90	118%
1900	1,698,575	1890-1900	54%
1910	2,185,283	1900-1910	22%
1920	2,701,705	1910-1920	23%
1930	3,376,435	1920-1930	24%
Source: US Census Reports 1850 - 1930			

grew at a particularly rapid rate, as is shown in Table 1.[19] The source of the population increase was largely in terms of immigrants from Europe and migrants from other parts of the United States. European immigrants first arrived in Chicago in the second half of the 19th century, with the start of the German and Irish influx in the 1850s, the Swedes in the 1860s, and immigrants from eastern and southern Europe - Czechs, Poles and Italians - in the last decades of the 19th century and the early part of the 20th century; these groups were followed by Negroes from the Southern state of the USA in the early decades of the 20th century. P F Cressey has noted that this population increase was also accompanied by a concomitant spatial expansion; he states that "In 1898 Chicago was relatively compact, half of its population living

within a radius of 3.2 miles from the centre of the city. In subsequent years this median point has steadily moved outward, being located at 4.1 miles in 1910, 5.0 miles in 1920, 5.8 miles in 1930."[20] At the time Park and Burgess were carrying out their investigations of the city, Chicago was expanding at the rate of half a million people a decade. Consequently it is hardly suprising that the theory of the city they developed should emphasise process, mobility and social disorganisation.

It is perhaps this visibility of the massive influx of new population and the changes forced on the city in an attempt to cope with it, that led them to regard mobility as playing a crucial role in the generation of the urban structure - as Burgess puts it "Mobility is the key process in understanding the rapidly growing city; mobility of persons, families and institutions."[21] The concept of mobility is most frequently used in sociology in terms of social mobility, i.e. movement up or down the social class scale. However mobility as referred to by the Chicago sociologists designates change in location which may or may not involve in addition social mobility.[22] Mobility is seen as important in the modern city on two counts: firstly, the modern city expands spatially because of an influx of population, (characteristically migrants from the rural areas in the case of the American city) and not merely in terms of a surplus of births over deaths; secondly, the growing urban population aggregate increases the number of contacts[23] which an individual will be confronted by in his daily life. This factor exposes the individual to the stimulation of new types of social relationships, which may weaken the ties of traditional mores in the cases of an individual new to the city, and give rise to the particular form of mental outlook that Simmel speaks of. Thus mobility is seen as producing both social disorganisation in the process whereby migrants and immigrants have to come to terms with urban relationships, and individuation, in that following Simmel, Park saw the typical urban dweller as developing a rational, calculating attitude. These two processes with which mobility is associated are regarded as incompatible by R Freedman, who writes "The concept mobility is in fact frequently

used to characterise the ideal type of urban personality, the sophisticated rational personality which is at its best associated with intellectual and scientific achievements and genius for rational organisation. Intelligence and inventiveness are frequently related to mental mobility. Yet the same concept is used to explain the disorganisation of personality and social life. To characterise mobility per se as a "cause" of social disorganisation is to raise the question why the typical urban dweller is not socially disorganised."[24]

Given that mobility may be an index of change within the city - the 'pulse of the community'[25] as Burgess refers to it - what basic spatial forms result from the influx of new inhabitants? There are a number of possibilities: the new population could spread itself evenly throughout the existing area of the city; or alternatively the new population could be added to the periphery of the city "in tree ring growth style".[26] Neither of these possibilities seem applicable to the modern city for there appears to be some mechanism at work whereby the new population is drawn automatically to certain areas of the city. An indication of the power of this mechanism is provided by the claim that it could be predicted where a rural immigrant, let loose in the city for the first time with no clear idea of where he wanted to live or work, would finally end up. As Harvey Zorbaugh states: "From the mobile stream of the city's population each natural area of the city tends to collect the particular individuals predestined to it."[27] This conceptualisation of some automatically working selective mechanism which sift and sorts the new population and assigns individuals to their most suited area suggests the use of the ecological analogy with its view of every species being allocated to its particular territorial niche.

With regard to the question of the nature of the mechanism responsible for distributing the new arrivals to the city we will for the moment follow Park who some thirteen years after his first paper on the city (1915) wrote: "the city as it exists is very largely the

product of tendencies which we have as yet little knowledge and less control. Under the influence of these forces and within the limitation that geography and history accidentally impose the city is steadily assuming a form that is not conventional but typical."[28] It does seem possible, however, to proceed in attempting to understand the theory of urban growth by examining the link between land values and mobility. It has been emphasised that Park and Burgess are talking about the modern city which is characterised by a market economy; that is it is assumed that individuals and collectivities will compete in an open market situation for the acquisition of certain desired utilities. The most highly valued economic site in the city for business and commercial purposes is the point of greatest mobility, that is the point which in the course of twenty-four hours the greatest number of people will pass by.[29] This area of highest land values in the city will thus be occupied by the central business district - comprising of banks, business offices, shopping centre, hotels, and entertainment facilities - those agencies which are able to extract the most profit from favoured locations and are thus willing to compete to pay the highest prices in the city for land. Thus the area of greatest mobility - which is the area of highest land values - will tend to become the dominant point in the urban area. From this point at the centre of the city one would expect the land values to decline in a regular gradient to the periphery. It is this land gradient which descends away on all sides in a radial manner from the point of dominance, that gives the city its characteristic spatial structure. In the words of Park: "It thus appears that land values which are themselves in large measure a product of population aggregates, operate in the long run to give this aggregate, within the limits of the community, an orderly distribution and characteristic pattern."[30]

In examining the distribution of individuals and institutions in the city each person and institution occupies a position in space in relation to each other, and clearly this spatial relationship can be plotted on a map. In addition, Park tells us "we also occupy a

position which is determined by the value of the space we occupy and the rent we pay."[31] Rent and land values can also be expressed in map form. They may have the additional function of being an index to the socio-cultural structure of the city. Land value maps "serve to delineate so to speak the cultural contours of the community. In any case land values offer a new device by which we may characterise the ecological organisation of the community, the social environment and the habitat of civilised man."[32] Thus land value maps by showing graphically the variation in the land values in the city, which tend to assume the form of a gradient radiating outwards from the central business district, can provide the sociologist with a spatial index with which he could express in numerical and quantitative terms the types of social relationships to be found in the city. In terms of urban process changes in land values may also express changes in social relationships.

With the continuing influx of new population to the city increasing pressure is felt by the central area with the result that competition for land intensifies and land values rise; the population is thus gradually forced outwards towards the periphery. The effect of this centrifugal movement is to provide a counter trend to the original centralisation. Burgess has conceived the whole process as being 'centralised decentralisation'.[33] The city is thus seen as expanding outwards in an organised way, and we have so far conceived this organisation as taking the form of a gradient of land values and population mobility which declines in an even curve from the central business area to the periphery. However in practice the gradient curve is not a perfectly regular curve and can be split up into a series of more homogenous areas of mobility and land values.[34] As Park states: "Within the area bounded on the one hand by the central business district and on the other by the suburbs, the city tends to take the form of a series of concentric circles. These different regions located at different relative distances from the centre are characterised by different degrees of mobility of population."[35]

This characteristic pattern which the urban structure assumes has been conceptualised by E W Burgess as a series of concentric zones radiating outward from the central business district - his famous zonal model of urban growth. The concentric zone theory would not seem to be a wholly original development by Burgess, for as Firey points out[36] it represents a variation of the older 'radial' and 'ring' conception of city structure which can be traced back to the writings of Plato and Aristotle, and in more recent times to the 19th century agricultural economists such as Adam Muller, von Thünen and Schaffle. The notion of radial expansion and zones were also used by the American business economist, R M Hurd, in his book 'Principles of City Land Values'[37], published in 1911. There would therefore seem to have been considerable interest in city structure and growth from writers working within a variety of disciplines, before the first explicit ecological formulation was made by F E Clements in his book 'Plant Succession',[38] (1916), in which he described the process of 'zonation' which occurs when successive belts of plants push outwards by invading and displacing the adjacent plant species. A further possible source of origin, has been put forward by Milla Alihan[39], who suggests that Burgess derived his zonal theory from the evidence McKenzie accumulated in his study of Columbus, Ohio, which was published as 'The Neighbourhood'[40], in 1923. This viewpoint is however contested by Amos Hawley who comments "It is of interest to note that the report on the neighbourhood study shows no trace of E W Burgess' later formulation of a general growth pattern of cities."[41] While Burgess may have followed some of these previous formulations in constructing his zonal hypothesis, the originality of his theory resides in his suggestion that each particular zone, with the exception of the central business area, was occupied by different social groups.

Burgess first presented his zonal hypothesis in a paper which he read at the American Sociological Society's annual meeting in 1923, the paper entitled 'The Growth of the

City: An Introduction to a Research Project'[42] was reprinted in the volume entitled 'The City' which was published in 1925. The most detailed description of the characteristics of the zones was however provided in a later article entitled 'Urban Areas'[43], published in 1929. It is largely from this latter article that the outline of the content of the zones presented below has been derived.

At the centre of the city is the first zone, the central business district, (CBD), which is the focus of the commercial, civic and social life of the city. Burgess assumes that the CBD occupies the centre of the urban areas because this will be the point of greatest accessibility for the area as a whole. Space at the centre as compared to other areas of the city will be in shortest supply, hence the central areas will contain the most highly valued land, and consequently will be occupied by those institutions such as banking and commerce which will benefit most from a central position by virtue of the market function they perform for the urban area and the region as a whole. The CBD also contains the retail shopping and entertainment centres, which like the business and financial institutions are able to extract a profit despite paying the highest urban rents which are found in this strategic centre of the city. The population characteristics of the CBD further emphasise its restricted function, for E S Johnson tells us that the Chicago central business district in 1934 contained merely 3530 legal residents of which 80 per cent were male, and 61 per cent single, with only 33 persons among the total population under the age of five years. Johnson adds "But in addition to these so-called legal residents, the area contained another population - the one-half million or more daily workers with whom, as such, the census has no concern."[44]

The second zone, 'The Zone in Transition', is an area surrounding the CBD which is being invaded by the business areas and the factory district (which comprises an inner ring in the zone in transition). It is thus an area of physical deterioration as landlords

are reluctant to renovate properties for they expect them to be pulled down for the expanding CBD. This state of physical deterioration means that although it is an area of high land values it is a low rent area as tenants have to be attracted to a seemingly undesirable area. Linked with physical deterioration is social disorganisation; in the zone in transition there is the greatest concentration of poverty, bad housing, juvenile delinquency, family disorganisation, physical and mental disease, gambling, sexual vice and crime. The zone in transition is characteristically an area of first settlement immigrant colonies - the Ghetto, Little Sicily, Greektown, Chinatown, the Black Belt - and the bohemia of intellectuals, the hobohemia of homeless man, and the rooming house area; the area to which the newcomer to the city is most frequently drawn. There is a movement of population outwards from Zone II to Zone III of those individuals and families who prosper "leaving behind as marooned a residuum of the defeated, leaderless and helpless."[45]

The third zone is designated as 'The Zone of Independent Workingmen's Homes'. It is inhabited by those individuals (predominantly skilled and thrifty factory and shop workers) who have moved out of the zone in transition in order that they might live near, but not too close to their work. This is the area of second generation immigrant settlement. The inhabitants of this area "in turn look to the 'Promised Land' beyond to its residential hotels, its apartment region, its 'satellite loops' and its 'bright lights area', (Zone IV)"[46]

The fourth zone is described as "The Zone of Better Residences". Here we find the middle class of native-born Americans who are characteristically small businessmen, professional people, clerks and salesmen. Within this zone are a number of local business areas - the 'satellite loops' which have banking, business, shopping and entertainment facilities.

The fifth zone, the outer zone, is referred to as "The Commuter Zone". This area is made up of small villages and towns which are mainly dormitory suburbs - "the domain of the matriarchial family"[47] - as the majority of men who live there spend their day at work in the CBD.

Now we are in a position to examine a number of features of the model put forward by Burgess. He tells us that the concentric circles "designate both the successive zones of urban extension and the type of area differentiated in the process of expansion."[48] Bearing in mind as mentioned earlier that the zonal theory was developed at a time of rapid population expansion in Chicago, the most striking characteristic is that the model is one of process. In the above quotation he refers to two major aspects of the urban process: (1) that in the tendency of the city to grow outwards radially from its point of dominance a number of distinct zonal areas, each having its own particular set of economic and social characteristics, emerges - this forms the internal structure of the city; (2) the whole city is moving outwards away from the point of dominance and consequently each zone moves outwards too, invading the next zone; this process is referred to as urban succession. Thus Burgess says with regard to the process as applied to Chicago: "all four of these zones were in its early history included in the circumference of the inner zone, the present business district. "[49]

It is important to stress that Burgess saw his zonal model as an ideal construction, representing the idealised pattern of growth of all American cities. Burgess consequently accepted that a number of 'distorting' or 'limiting' factors would operate in practically every empirical instance. He elaborates this point in his paper 'Residential Segregation in American Cities', by stating "If radial extension were the only factor affecting the growth of American cities, every city in this country would exhibit a perfect exemplification of these five urban zones. But since other factors affect urban development

as situation, site, natural and artificial barriers, survival of an earlier use of a district, prevailing city plan and its system of local transportation, many distortions and modifications of this pattern are actually found. Nevertheless, so universal and powerful is the force of expansion outward from the center that in every city these zones can be more or less clearly delimited."[50] A number of critics, however, have argued that the existence of the distorting features, (some of which are mentioned by Burgess above, among others would be included the place of heavy industry within the circular pattern,) tend to destroy the explanatory value of the zonal hypothesis.[51]

One standard defence which is offered against the accusation that Burgess' theory provides an inadequate explanation of empirical reality is to stress that it is an ideal type. Hence R E L Faris comments "The zonal diagram was never offered as a description of the actual pattern of any city. Burgess spoke of it as an ideal type, meaning not that it was the most desirable design for a city, but rather, contrasting it with the real in the sense that the drawing of a man in an anatomy textbook is not a description of any actual man, but a representation of the features that are found in most normal men."[52]

There would seem however to be a major difficulty involved if we are to regard Burgess' theory as an ideal type, for at no point in his various writings on the zonal theory does Burgess elucidate the criteria from which he has arrived at his construction. This point has been emphasised by Firey who states "Nowhere in the theory is there a definite statement of the modus operandi by which people and groups are propelled to their appropriate niches in space."[53] In 'The Growth of the City: An Introduction to a Research Project' Burgess tells us that "In the expansion of the city a process of distribution takes place which sifts and sorts and relocates individuals and groups by residence and occupation,"[54] without specifying the nature of the distributive mechanism.

In attempting to assess those factors which seem to be the implicit mechanisms in his theory it would first of all seem useful to examine the possibility that the zones can be regarded as emerging from the competition between individuals and collectivities for space. To regard economic competition as being the major formative mechanism of the zones would also serve to connect the zonal theory to our previous discussion of the Chicago sociologists' concepts of mobility and land values. If we have a gradient of land values radiating out from the highest point, the central business district (the area of greatest mobility) to the periphery (the area of lowest mobility) it is to be expected that the economic level of the population will also follow this gradient, as those at the top of the scale will be able to pay the high rents of the high land value area at the centre, and those who are at the bottom will be forced out to the low rent area, the area of lowest land values at the periphery. In economic class terms the upper class and middle class will be nearest the centre the working class and the down and outs nearest the city outskirts. Clearly this was not the case in Chicago or in any other city.

It does however seem possible to integrate the zone in transition into the logical scheme if we examine the disparity between land values and rents that occur in this zone. As mentioned above the zone in transition deviates from the expected gradient of rents, although it conforms to the gradient of land values because it is being invaded by the central business district. This disparity is explained by Park who states "If the growth at the centre is rapid it increases the diameter held for speculative purposes just outside the centre. Property held for speculation is usually allowed to deteriorate. It easily assumes the character of a slum; that is to say an area of casual and transient population, an area of dirt and disorder, 'of missions and lost souls.'[55] This disparity between land values and rents in the zone in transition which can account for why persons low down the economic scale live near the centre becomes extremely difficult to maintain with regard to the successive zones. Somehow one has to account as to why the expected

decline in land values is accompanied by an increase in rents in Zones III and IV (which is difficult to conceive in terms of the logic of the land value gradient), or why if the rent level gradient behaves as expected and follows the land value gradient in these zones why is it that these zones are not occupied by people lower down the economic scale?

It thus seems impossible to account for the formation of zones solely in terms of economic competition for space. To account for the zonal pattern that Burgess describes it would seem necessary to incorporate the notion that socio-cultural values play some part in modifying the economic competition for space. The 'occupacy patterns' of the various socio-economic strata that make up the city population will not be solely based upon rational economic criteria, for those who are nearer the top of the class scale will be in a better position to make choices and carry them out by occupying those areas which they evaluate as desirable. L F Schnore has emphasised this aspect of Burgess' theory and comments that "It seems to assume that the more favoured classes will ordinarily preempt the newer and more desirable housing areas; with radial expansion, these areas typically have been located at the periphery in American cities. At the very least, the hypothesis assumes a high degree of locational freedom on the part of the wealthy, who may occupy practically any area, as compared with the lower classes, who are much more severely restricted with respect to residential choices."[56]

It would therefore seem that Burgess defines the zones in terms of a range of characteristics in which one could include not only the economic level of the population and economic land use as criteria for the formulation of each zone but also as Alihan has pointed out, "physical, cultural, social, psychological and political factors."[57] In addition it should also be mentioned that Suttles indicates that Burgess' theory is in part based upon

a shared folk model, the cognitive map of the city used by the residents of Chicago in the 1920s.[58]

An additional formulation for dividing up the urban area is to regard the city as being comprised of a mosaic of natural areas. The natural areas of the city can be conceived as sub-areas of the zones, such as the Ghetto, the roominghouse area and Little Sicily in the zone in transition, or in the case of the central business district a zone is regarded as coterminous with a natural area. As is the case with the zones there are difficulties involved in isolating the criteria on which natural areas have been delineated. The Chicago sociologists would seem to have employed three major formulations of the concept, regarding natural areas as culturally homogeneous areas, as areas in which the population members possess some common characteristic, and as geographically well-defined areas of the city.

If we examine the first formulation, it is possible to regard cultural groups as seeking an area of the city in which they can maintain their individual cultural way of life; hence we have areas such as Little Sicily, Chinatown, Greektown, and the Ghetto. With respect to the last mentioned natural area Park comments: "Our great cities turn out, upon examination to be a mosaic of segregated peoples - differing in race, in culture, or merely in cult - each seeking to preserve its peculiar cultural forms and to maintain its individual and unique conceptions of life. Every one of these segregated groups inevitably seeks in order to maintain the integrity of its own group life, to impose upon its members some kind of moral isolation. So far as segregation becomes for them a means to that end, every people and every cultural group may be said to create and maintain its own ghetto... The ghetto, is in short, one of the so-called 'natural areas' of the city."[59] It has been pointed out that perhaps Park and Burgess overstressed the

degree of cultural homogeneity of the ethnic neighbourhoods in Chicago in the 1920s. Suttles remarks that "Very few of the defended neighbourhoods in Chicago which Park and Burgess, and their followers described seem now to have been exclusively or almost exclusively occupied by a single ethnic group. Moreover, many of the defended neighbourhoods reported by Park and Burgess retained their identities despite continuous shifts in ethnic composition."[60] It is possible, Suttles argues, that the notion of culturally homogeneous natural areas is a function of the folk model used by the city's inhabitants, who identify neighbourhoods of the city in terms of labels such as Little Sicily, Chinatown, the Ghetto, although the area itself may be far from ethnically homogeneous.

A second formulation of natural areas is in terms of common population characteristics, which need not imply that a shared set of cultural meanings exist, or that social interaction takes place between the population members. Hence Park tells us "The difference in sex and age groups, perhaps the most significant indexes of social life, are strikingly divergent for different natural areas. There are regions of the city where there are almost no children, areas occupied by the residential hotels, for example. There are regions where the number of children is relatively very high, in the slums, in the middle-class residential suburbs ... There are regions where people almost never vote, except at national elections; regions where the divorce rate is higher than it is for any state in the Union, and other regions in the same city where there are almost no divorces ... There are regions in which the suicide rate is excessive; regions in which there is, as recorded by statistics, an excessive amount of juvenile delinquency, and other regions where there is almost none."[61]

The third formulation is to regard natural areas as distinct, well-bounded geographical areas of the city. Harvey Zorbaugh in his paper 'The Natural Areas of the City' remarks "The structure of the individual city ... is built about the framework of transportation,

business organisation and industry, park and boulevard systems, and topographical features. All of these break the city up into numerous smaller areas, which we may call natural areas, in that they are the unplanned, natural product of the city's growth."[62]

While the three formulations of natural areas outlined above may seem irreconcilable, it is possible to suggest that the variety of definitions may have arisen out of the division of the city of Chicago into 75 'local communities' which acted as units for the compilation of census and other statistical data. The 'local communities' were designated by the Chicago sociology department, and represented a particular combination of the 600 or so census tract areas into 75 larger areas. In 1930 a compilation of basic social data on the city of Chicago was presented for the 75 areas and published as the 'Local Community Fact Book' edited by L Wirth and M Furez.[63] It is also of interest to note that Burgess mentions that the Chicago sociology department persuaded the city council to pass a resolution to tabulate population not in wards but by the 'local communities', and that the system was also accepted by the Health Department and the other social agencies for recording data.[64] It seems that for purposes of convenience in delineating the 'local communities', well-bounded areas of the city were chosen. Some of these areas may have been coincidental with the ethnic colonies, while others may have been selected on purely geographical criteria. Thus in 'Urban Areas', Burgess mentions that the Lower North Side was one of the 75 'local communities'[65] an area which fits Zorbaugh's own definition of a natural area, but in terms of Park's two formulations would be seen as a collection of natural areas, being made up of the Gold Coast, the slum, the roominghouse area, etc.

While the division of the city into 'local communities' may have had some influence upon the diversity of the formulations of the concept, natural area, the existence of natural areas can be explained in terms of the Chicago sociologists' theory of the city, if they are seen as functional areas which are the product of 'urban forces'. We are told by Park

"What have been called the 'natural areas of the city' are simply those regions whose locations, character and function have been determined by the same forces which have determined the character and function of the city as a whole."[66] and "They are the product of forces that are constantly at work to effect an orderly distribution of populations and functions within the urban complex. They are 'natural' because they are not planned and because the order they display is not the result of design, but rather a manifestation of tendencies inherent in the urban situation."[67]

It is possible therefore to see natural areas (in terms of an ecological analogy) as being functional areas of the city which are the product of the 'competitive-co-operation' for territory, in which it is assumed that some form of overarching communal organism exists which distributes and assigns population members to their particular territorial niche. In this context it is worth quoting what is perhaps Park's most concise statement on the concept natural area: "A region is called a 'natural area' because it comes into existence without design, and performs a function, though the function, as in the case of the slum, may be contrary to anybody's desire. It is a natural area because it has a natural history. The existence of these natural areas, each with its characteristic function, is some indication of the sort of thing the city turns out upon analysis to be - not as has been suggested earlier, an artifact merely, but in some sense and to some degree an organism."[68]

It is therefore possible to understand the structure and processes of the city in terms of an ecological metaphor. From this perspective it is assumed that every community has an area of dominance whose function is "to stabilise, maintain order and permit growth of the structure which the order and the corresponding functions are embodied."[69] Hence there will be a dominant area in the city - the central business district. Also as in the natural community, the basic ordering mechanism is the process of 'competitive

co-operation', which tends to allocate the various competing species to their own territorial niche. In terms of the city we therefore get competition for space and land use, which results in segregation with the various populations being distributed to the natural area where they can exist with those who possess similar characteristics. Thus we find natural areas of immigrant colonies, homeless men, matriarchial families; areas based upon a whole range of class, occupation, age, sex, culture and psychological characteristics. In this sense the zones are larger natural areas each one of which can be split into a number of sub-units.

The theory is however basically one of process, and the pressure of the constant flow of incoming population which are allocated to their natural areas means that the city as a whole is pushing outwards from the area of dominance. We therefore get invasions - the encroachment of one natural area on another. The most striking example of this is the invasion of the zone in transition by the central business district. When invasions reach the point of a complete change of population a succession is held to have taken place.

The difficulties which have been encountered in attempting to integrate the various theoretical concepts developed by the Chicago sociologists have in part resulted from the fact that they did not explicitly set forth to develop a theory of the city. Rather the major emphasis was given to the programme of empirical research into the city with the theoretical concepts to act as a guiding frame of reference. Consequently many of the concepts developed by the Chicago sociologists are not clearly defined, there are frequent cases of conflicting formulations, and in some instances insufficient attention has been given to integrating concepts.[70] While this may prove to be a source of irritation to the theorist who seeks a logically well-integrated system, these reformulations and contradictions may be regarded as understandable, if we consider that the Chicago sociologists sought to construct their theory in a close ongoing relationship to empirical

research. In the next chapter we will turn our attention to the empirical ecological studies of the city of Chicago which were carried out by Robert Park's students.

NOTES

1. L Wirth, (1938), 'Urbanism as a Way of Life', American Journal of Sociology, 44, page 8. Quoted in L Bramson, (1961), The Political Context of Sociology, Princeton U P, page 89.

2. R E Park, (1936b), 'Human Ecology' American Journal of Sociology', 42, 1, reprinted in R E Park, (1952), Human Communities, Free Press, pages 153-155.

3. H G Wells, J S Huxley and G P Wells, (1931), The Science of Life, Doubleday.

4. R E Park, (1936b), 'Human Ecology' op cit, in R E Park, (1952), Human Communities, page 154.

5. R E Park, (1936b), 'Human Ecology', op cit, in R E Park,(1952), Human Communities, page 155.

6. R E Park, (1936b), 'Human Ecology', op cit, in R E Park, (1952), Human Communities, page 155.

7. For a discussion of the rational action scheme of Utilitarianism and Classical Economics see T Parsons, (1937), The Structure of Social Action, Free Press edition 1968, pages 51-60, 95-102.

8. See W Firey, (1947), Land Use in Central Boston, Greenwood Press edition 1968, especially the Introduction.

9. E W Burgess, (1964), 'Research in Urban Sociology: A Longer View' in E W Burgess and D J Bogue (eds), Contributions to Urban Sociology, Chicago U P, page 4.

10. R E Park, (1929a), 'Sociology, Community and Society', in W Gee (ed) Research in the Social Sciences, Macmillan, reprinted in R E Park, (1952), Human Communities, page 193.

11. G Simmel, (1903), 'The Metropolis and Mental Life', translated by E Shils in D Levine (ed), (1972), Georg Simmel On Individuality and Social Forms, Chicago U P.

12. R E Park, (1925), 'The City: Suggestions for the Investigation of Human Behaviour in the Urban Environment', in R E Park, E W Burgess and R D McKenzie, The City, Chicago U P, page 1.

13. R E Park, (1925), 'The City: Suggestions for the Investigation of Human Behaviour in the Urban Environment,' in R E Park, E W Burgess and R D McKenzie, The City, page 4.

14. R E Park, (1925), 'The City: Suggestions for the Investigation of Human Behaviour in the Urban Environment', in R E Park, E W Burgess and R D McKenzie, The City, page 4.

15. E W Burgess, (1925), 'The Growth of the City: An Introduction to a Research Project' in R E Park, E W Burgess and R D McKenzie, The City, page 47.

16. E W Burgess, (1927), 'The Determination of Gradients in the Growth of the City', Publications of the American Sociological Society, 21, page 178, quoted in L F Schnore, 'On the Spatial Structure of Cities in the Two Americas' in P Hauser and L F Schnore (eds), (1965), The Study of Urbanization, Wiley, page 351.

17. R E Park, (1936c), 'The City and Civilization', in R E Park, Human Communities, page 137.

18. See J A Quinn, (1940a), 'The Burgess Zonal Hypothesis', American Sociological Review, 5, and L F Schnore, (1965), 'The Spatial Structure of Cities in the Two Americas', in P M Hauser and L F Schnore (eds), The Study of Urbanization.

19. Figures quoted in A H Spear, (1967), Black Metropolis: The Making of a Negro Revolution 1890-1920, Chicago U P, page 12.

20. P F Cressey, (1938), 'Population Succession in Chicago, 1898-1930', American Journal of Sociology, 44, 1. Reprinted in J F Short (ed), (1971), The Social Fabric of the Metropolis, Chicago U P, page 109.

21. E W Burgess, (1964), 'Research in Urban Sociology: A Longer View' in E W Burgess and D J Bogue, (eds), Contributions to Urban Sociology, page 11.

22. Park states "Spatial and occupational mobility are sociologically significant ... in so far as they serve as indices for measuring the 'contacts' i.e. the shocks, clashes and incidental interruptions and breakdowns in customary modes of thought and action which the new personal encounters inevitably produce." R E Park, (1929a), 'Sociology, Community and Society' in R E Park, (1952), Human Communities, page 158. Burgess writes "Very often spatial mobility is an index of social mobility as a person changes residences, moves away from the family and upward or downward in the class scale." E W Burgess, (1964), 'Research in Urban Sociology: A Longer View' in E W Burgess and D J Bogue, (eds), Contributions to Urban Sociology, page 11.

23. Burgess provides information of the increase in mobility by giving figures on the greater number of people carried by trolleys, railways and cars in the city. See E W Burgess 'The Growth of the City: An Introduction to a Research Project', in R E Park, E W Burgess and R D McKenzie, The City, page 60.

24. R Freedman, (1964), 'Cityward Migration, Urban Ecology and Social Theory', in E W Burgess and D J Bogue (eds) Contributions to Urban Sociology page 112. For a fuller discussion of the relationship between mobility and social disorganisation see chapter 4. The situation is further complicated by the fact that in the empirical studies of the city of Chicago the Chicago sociologists speak of two types of social disorganisation: one which is associated with the process whereby immigrants adapt to American city life, (the type discussed

by Shaw and McKay in their studies of juvenile delinquency), and the other associated with the isolation experienced by individuals living in areas of the city, such as the roominghouse area, which do not permit the development of primary relationships, (the type discussed by Faris and Dunham in their study of mental illness, and Cavan in her study of suicide.)

25. E W Burgess, (1925), 'The Growth of the City: An Introduction to a Research Project' in R E Park, E W Burgess and R D McKenzie, The City, page 59.

26. R E L Faris, (1967), Chicago Sociology 1920-1932, Chicago U P edition, 1970, page 56.

27. H Zorbaugh (1926) 'The Natural Areas of the City' in E W Burgess, (ed), The Urban Community, A M S Publications edition 1971, page 223.

28. R E Park, (1928), Introduction to L Wirth, The Ghetto, Chicago U P, reprinted in R E Park, (1952), Human Communities, page 100.

29. Burgess tells us that in Chicago this is at the corner of State and Madison Street in the Loop, where a traffic count showed 31,000 people per hour passed that point. E W Burgess, (1925), 'The Growth of the City' in R E Park, E W Burgess and R D McKenzie, The City, page 61.

30. R E Park (1929a), 'Sociology, Community and Society', in R E Park, (1952), Human Communities, page 190-191.

31. R E Park, (1929a), 'Sociology, Community and Society', in R E Park, (1952), Human Communities, page 192.

32. R E Park, (1929a), 'Sociology, Community and Society' in R E Park (1952), Human Communities, page 192. See also R M Hurd, (1911) Principles of City Land Values, Record and Guide, New York. Milla Alihan tells us that Park and Burgess adapted and changed the theories of Hurd: "Whereas Hurd regards economic and social factors as indices of land values, the human ecologists reverse the order and employ land values as indices and even causes of social and economic phenomena." M Alihan, (1938), Social Ecology: A Critical Analysis , Cooper Square edition 1964, page 126-127. That land values in themselves are given causual significance by the Chicago sociologists is illustrated by the statement of Zorbaugh "Land value characterising the various natural areas tend to sift and sort the population." H Zorbaugh, (1926), 'The Natural Areas of the City', in E W Burgess, (ed), The Urban Community, page 223.

33. E W Burgess, (1925), 'The Growth of the City' in R E Park, E W Burgess and R D McKenzie, The City, page 57.

34. Alihan feels that by accepting the theory of radial gradients which involve a gradual decrease or increase of various phenomena (e.g. mobility, land values) with relation to their distance from the central business district it is impossible to accept the idea of distinct zones as put forward by Burgess.

M Alihan (1938) Social Ecology, page 225. This view has been challenged by a sociologist working within the Chicago tradition, J A Quinn who uses the metaphor of the colour spectrum to point out that distinctive colour zones may exist despite the fact that no sharp line can be drawn between them. See J A Quinn, (1950), Human Ecology, Archon edition 1971, page 130 and 135. Alihan's view has been recently defended by Suttles who points out that the colour spectrum analogy of Quinn is suspect for the observer imposes the distinct zones of the rainbow. See G D Suttles, (1972), The Social Construction of Communities, Chicago U P, page 23.

35. R E Park (1925), 'The Urban Community as a Spatial Pattern and a Moral Order', Publications of the American Sociological Society, 20, reprinted in R E Park, (1952), Human Communities, page 171.

36. W Firey, (1947), Land Use in Central Boston, pages 9 and 10.

37. R M Hurd, (1911), Principles of City Land Values.

38. F E Clements, (1916), Plant Succession: An Analysis of the Development of Vegetation, Carnegie Institute. For a discussion of Clements theories see M Alihan, (1938), Social Ecology, page 120.

39. Alihan states: "Although the zonal pattern was first explicitly formulated by Burgess he based his assumptions upon a study made by McKenzie 'The City Neighbourhood.'" M Alihan,(1938), Social Ecology, page 208..

40. R D McKenzie, (1923), The Neighbourhood, Chicago U P. Originally published as a series of articles in the American Journal of Sociology in 1921 and 1922.

41. A H Hawley,(1968), 'Introduction' to R D McKenzie, On Human Ecology, Chicago U P, page xvi.

42. E W Burgess, (1924), 'The Growth of the City: An Introduction to a Research Project', Publications of the American Sociological Society, 18.

43. E W Burgess, (1929), 'Urban Areas' in T V Smith and L D White (eds), Chicago: An Experiment in Social Science Research, Chicago U P.

44. E S Johnson, (1942), 'The Function of the Central Business District', Third Year Course in the Study of Contemporary Society, 10th edition, University of Chicago, reprinted in J F Short (ed), (1971), The Social Fabric of the Metropolis, Chicago U P, page 101.

45. E W Burgess, (1929), 'Urban Areas' in T V Smith and L D White (eds), Chicago: An Experiment in Social Science Research, page 116.

46. E W Burgess, (1925), 'The Growth of the City: An Introduction to a Research Project', in R E Park, E W Burgess and R D McKenzie, The City, page 56.

47. E W Burgess, (1929), 'Urban Areas', in T V Smith and L D White (eds), Chicago: An Experiment in Social Science Research, page 117.

48. E W Burgess, (1925), 'The Growth of the City: An Introduction to a Research Project', in R E Park, E W Burgess and R D McKenzie, The City, page 50.

49. E W Burgess, (1925), 'The Growth of the City: An Introduction to a Research Project', in R E Park, E W Burgess and R D McKenzie, The City, page 50.

50. E W Burgess, (1928), 'Residential Segregation in American Cities', Annals of the American Academy of Political and Social Science, 140, page 108.

51. See J A Quinn, (1940), 'The Burgess Zonal Hypothesis and its Critics', American Sociological Review, 5, page 211.

52. R E L Faris, (1967), Chicago Sociology 1920-1932, page 60.

53. W Firey, (1947), Land Use in Central Boston, page 7.

54. E W Burgess, (1925), 'The Growth of the City: An Introduction to a Research Project', in R E Park, E W Burgess and R D McKenzie, The City, page 54.

55. R E Park, (1925), 'The Urban Community as a Spatial Pattern and a Moral Order,' in R E Park, (1952), Human Communities, page 168.

56. L F Schnore, (1965), 'On the Spatial Structure of Cities in the Two Americas', in P M Hauser and L F Schnore (eds), The Study of Urbanization, page 354.

57. M Alihan, (1938), Social Ecology, page 209.

58. G D Suttles, (1972), The Social Construction of Communities, pages 24 and 46.

59. R E Park, (1928), 'Introduction' to L Wirth, The Ghetto, Chicago U P reprinted in R E Park, (1952), Human Communities, pages 99-100.

60. G D Suttles, (1972), The Social Construction of Communities, page 27.

61. R E Park, (1925), 'The Urban Community as a Spatial Pattern and a Moral Order', in R E Park, (1952), Human Communities, page 172.

62. H Zorbaugh, (1926), 'The Natural Areas of the City', in E W Burgess (ed), The Urban Community, 1971 page 222.

63. L Wirth and M Furez, (1930), Local Community Fact Book, Chicago Recreation Commission.

64. E W Burgess, (1964), 'Research in Urban Sociology: A Longer View' in E W Burgess and D J Bogue (eds), Contributions to Urban Sociology, page 8.

65. E W Burgess, (1929), 'Urban Areas' in T V Smith and L D White (eds), Chicago: An Experiment in Social Science Research, page 134.

66. R E Park, (1928), 'Introduction' to L Wirth, The Ghetto, in R E Park, (1952), Human Communities, page 100.

67. R E Park, (1929a), 'Sociology, Community and Society', in R E Park, Human Communities, page 197.

68. R E Park, (1929b), 'The City as a Social Laboratory' in T V Smith and L D White, Chicago: An Experiment in Social Science Research, Chicago U P, reprinted in R E Park, (1952), Human Communities, page 79.

69. R E Park, (1934), 'Dominance: the Concept, its Origins and Natural History' in R D McKenzie, (ed), Readings in Human Ecology, G Wahr, reprinted in R E Park, (1952), Human Communities, page 162.

70. In her book 'Social Ecology' Milla Alihan constantly brings to attention the contradictions and logical inconsistencies which are found in the Chicago human ecologists writings. M Alihan, (1938), Social Ecology, A Critical Analysis.

EMPIRICAL ECOLOGICAL STUDIES OF CHICAGO

In his seminal paper 'The City: Suggestions for the Investigation of Human Behaviour in the City Environment',[1] written in 1915, Robert Park formulated a range of systematic questions which indicated the paucity of existing sociological knowledge of urban phenomena. Some of the answers to the questions Park had posed were provided by the subsequent programme of empirical research into the city of Chicago which was carried out by Park's associates and graduate students. That such an ambitious programme could be undertaken was in part due to the availability of research funds provided by the Laura Spelman Rockefeller Memorial Fund through the SSRC which enabled the establishment of the Chicago University Local Community Research Committee, which encouraged a broad programme of social science research into the city of Chicago. Also of crucial importance was the institutional structure of graduate research at Chicago which enabled a dominant and creative thinker like Park to suggest research topics to students and to offer close departmental assistance throughout the research. As Anthony Oberschall[2] points out, this particular form of research organisation which sought to encourage students to undertake topics within the overall research programme contrasts markedly with the German tradition of students picking idiosyncratic research topics on which they received little direct supervision.

The various accounts of the Sociology Department at the University of Chicago in the 1920s, give the impression that this proved to be a particularly exciting and optimistic phase in the development of empirical sociological research. Edward Shils comments that "The nineteen-twenties were the greatest years of urban sociological study in the United States. They were characterised by a vivid, energetic curiosity about the rich and mysterious texture of metropolitan life."[3] Perhaps the sense of optimism and excitement can also be understood in the context of Park's commitment to establishing sociology

on a firm scientific empirical basis,

a factor which Park's students would have been able to contrast to the era before World War 1, in which much of sociology was characterised by either muckraking empirical studies, or abstract system building in the grand manner. It would seem that one of the aims of the programme of empirical research into the city which was conceived by Park and carried out by his students was to go beyond sensational exposes and philosophical speculation in an attempt to provide a much closer working relationship between sociological theory and empirical research. It is the intention of this chapter to provide an examination of the relationship between human ecological theory and the empirical studies of the city of Chicago.

The postgraduate dissertations[4] and research projects which were completed as part of this programme of research into the city can for our present purposes be divided up into two categories. The first is research which mapped the urban distribution of social phenomena such as crime, mental illness, divorce, vice and suicide, and endeavoured to provide explanations for the resultant distribution. We therefore find studies of the distribution of juvenile delinquence by Shaw and McKay[5], mental illness by Faris and Dunham[6], vice by Reckless[7], divorce and desertion by Mowrer[8], suicide by Cavan[9], and negro family organisation by Frazier[10]. The other group of studies concentrated upon single areas of the city and produced a more detailed description of the population characteristics and types of social interaction that occured within areas such as the slum, the rooming-house area, hobohemia, and the immigrant colonies. Among the most important studies of urban areas are: 'The Gold Coast and the Slum' by Zorbaugh[11], 'The Ghetto' by Wirth[12], and 'The Hobo' by Anderson[13]. Taken together these studies contributed to perhaps the most detailed description and analysis of a single city, Chicago.

Looking back on the inter-war period research, Burgess comments "At this university there is perhaps the greatest collection of basic social data of any city in the world."[14]

While many of the studies, conducted within the overall ambit of urban sociology, have been thought of as contributions (indeed they are described as classics by some commentators) to the various fields of sociology such as the sociologies of crime, deviance, race relations, the family and mental illness, for our present purposes we are interested in their human ecological content. The questions that concern us are how far were these empirical studies of the city carried out within a human ecological frame of reference? Did these studies treat the central tenets of human ecology as hypotheses to be tested empirically, or conversely is the human ecological approach an implicit framework which is taken for granted and seen as needing no further ellaboration or explication? How far do these studies provide contributions which can be said to feed back and develop the main body of human ecological theory as put forward by Park, Burgess and McKenzie? It is to be hoped that some of the answers to these questions will emerge from the following discussion.

The Work of Shaw and McKay has perhaps proved to be the most systematic and detailed attempt to explain and account for the urban distribution of a social phenomenon, juvenile delinquency. The three books dealing with this aspect are: 'Urban Areas' (1929), 'Social Factors in Juvenile Delinquency' (1931), and 'Juvenile Delinquency and Urban Areas' (1942).[15] These books plus an additional three books on life histories of juvenile delinquents[16] amount to an impressive research programme which led Burgess and Bogue to comment that: "Empirical American sociology was perhaps popularised and transmitted to all corners of the world by the Shaw monographs more than by any other examples of this brand of social research."[17]

The major findings of Shaw and McKay in summary form are: 1. Juvenile delinquents are not randomly scattered over the city, rather when individual instances of juvenile delinquency are plotted on a map they tend to follow the physical and spatial organisation of the city. 2. The emergent pattern shows concentrations in certain areas of the city, the areas of deterioration and disorganization - the zone in transition in Burgess' terminology[18]. Other areas, notably the outer zones display a low concentration of delinquents. 3. When juvenile delinquency is correlated with other social problems such as truancy, mental disorders and infant mortality all these factors covary, showing the same spatial pattern of concentrations. 4. The area of highest concentration of these social problem phenomena, the zone in transition, is characterised by social disorganization, that is it is an area of residence of first generation immigrants to the city who are thought to be in a state of transition from their old world values to conventional respectable American values. Hence as many of the inhabitants are in between two cultures they lack the firm guidance of conventional values and are thus more likely to engage in behaviour deemed morally problematic. 5. That social disorganization is a characteristic of a social area and not a specific population type is indicated by the process of urban succession. Burgess has described the leapfrogging process whereby successive generations of immigrants become Americanised as they move out of the transitional areas to the next zone. Chicago has experienced many such waves of invasions and successions by immigrant groups such as the Irish, Italians, Polish and Negroes; however the social disorganization which characterised their activities in the zone in transition does not accompany them as they move out to new areas; yet the social disorganization is experienced by each new immigrant group which moves into the zone in transition.

While Shaw and McKay worked within the theory of urban growth as put forward by Burgess[19], they also followed a tradition of the mapping of social phenomena which goes back to the early nineteenth century. One of the first ecological studies of

crime was that made by A M Guerry who published his 'Essai sur la Statistique morale de la France'[20] in 1833 in which he compares the crime rate for 86 departments in France. Further studies of the distribution of crime and other phenomena were carried out in 19th century England by Rawson, Glyde and Mayhew[21]. In the United States early 20th century studies of the distribution of juvenile delinquents were undertaken by Abbott and Brekinridge[22] in Chicago, E W Burgess in Lawrence, Kansas[23]; and R D McKenzie in Columbus, Ohio[24]. While the English and French studies tended to contrast large areas, counties, departments and cities, highlighting the difference in rates for rural and urban areas, the early 20th century American studies concentrated on the city and showed the variations of rates for the numerous areas of the city. These studies are referred to in the literature as ecological studies. However, it must be said that they do not use ecological theory to account for the difference in rates, and do not interpret the statistics in terms of a theory of urban growth such as that developed by Burgess and Park in the 1920s. Contrasting the research of Shaw with the above works Morris comments that "although he (Shaw) appeared to be merely retracing the steps of earlier ecologists, he had at his disposal not only more accurate basic social data but more refined statistical techniques with which to handle them. In addition he had the advantage of being able to work within the confines of a body of social theory, the theory of human ecology developed by Park, which by virtue of its sophistication was superior to the somewhat primitive notions of such writers as Mayhew. If the basic postulates of human ecology were valid, that human behaviour and institutions can be purposefully studied in terms of their spatial relations within a given physical area, which in itself determines to a considerable degree the genesis and character of those relations, then specific kinds of behaviour can be studied within such a frame of reference."[25]

The 'more accurate basic social data' and 'more refined statistical techniques' referred to by Morris include data on juvenile delinquents and other economic and social variables for the city of Chicago from 1900-1940. The information is analysed in the form of statistical tables and maps. There are three basic types of maps used:

(1) Spot maps - in which a dot on the map is used to represent the home address of a delinquent boy who had appeared in court within a given period of time. These maps show a marked clustering of dots around the central areas of the city. However the spot maps do not provide a satisfactory basis for comparisons between the different areas of the city because of the inequalities that occur in the distribution of the city population.[26] (2) Rate maps tend to rectify this shortcoming as they show the ratio between the numbers of offenders and a total population of the same age and sex group. The rate maps which were compiled for 140 square-mile areas of the city, showed that for example in the period 1927-33 the rate of alleged delinquents per hundred of the 10-16 aged male population varied from 18.9 near the city centre to 0.5 on the periphery.[27] (3) An adaption of the rate maps which made comparison between larger areas possible were the zone maps. Here five concentric zones are set up which mark off the city territory into zones of from one to two miles in width. The zone rates which represent a combination of square-mile area rates exhibit a regular gradient falling from the highest rate in Zone 1 to the lowest rate in Zone 5.[28]

That the mapping of the distribution of social phenomena was not a new activity, is readily acknowledged by Shaw and McKay in their discussion of the 19th century forerunners such as Guerry. Furthermore in the period from 1916 onwards at the University of Chicago, mapping had been a part of sociology courses. Burgess tells us "In every course I gave I ams sure there were one or two students who made maps ... maps of any data we could find in the city that could be plotted".[29] It is possible that from these maps that were made by Burgess and his students, he perceived that many kinds of urban phenomena were interconnected[30] and this provided a foundation for the construction of the zonal theory of urban growth. As indicated in the previous chapter, there are problems involved in establishing the criteria on which Burgess decided that the city could be divided up into five zones. In his papers 'The Growth of the City: An Introduction to a Research Project'[31] and 'Urban Areas'.[32] Burgess does not theoretically account for why the city can be divided up into zones, but rather provides a description

of the physical, social, cultural, economic and population characteristics that are to be found in each zone. Given that these characteristics can be mapped, it seems odd that no attempt was made to test the hypothesis by carefully plotting the characteristics he cites for the city of Chicago to see if an actual approximation of the zones can be found in reality. Unfortunately no attempt was made to do this by the Chicago empirical studies, indeed the general tendency was in the opposite direction. For example in the case of Shaw and McKay's research Burgess tells us that ".. concentric zones were set up by arbitrarily marking off uniform distances from one to two miles."[33] Hence the zones were delineated in an arbitrary way, by marking them off at two mile intervals on a map of the city of Chicago, and no attempt was made first of all to empirically establish whether relatively homogeneous zones (in terms of the characteristics Burgess describes) actually could be delineated in the city of Chicago. It thus seems odd for Burgess to take Shaw and McKay's zonal findings as a confirmation of his theory, as he does when he comments "the findings established conclusively the fact of far reaching significance, namely, that the distribution of juvenile delinquents in space and time follows the pattern of the physical structure and of the social organisation of the American city."[34]

Whereas the use of zones by Shaw and McKay does nothing to test or confirm the Burgess theory, they do establish the significance of another ecological concept, the gradient. The gradient is defined by Burgess as "the rate of change of a variable condition like poverty, or home ownership, or births or divorce from the standpoint of its distribution over a given area."[35] Shaw and McKay in their studies establish that the rate of juvenile delinquency varies in an orderly manner, with the square-mile areas near the centre of the city exhibiting the highest rates, and as one moved outwards the successive square-mile areas showed a gradual decline in rate until the periphery is reached.

It is of interest to note that the concept is not derived from general ecology, but from biology. Stuart Rice tells us that "Professor C M Child of the University of Chicago, a biologist, addressed the Social Research Society, a local university organisation ... and discussed his hypothesis concerning the importance of 'gradients' in the development and control of the biological organism. Professor Robert E Park, a sociologist, remarked that there were analogous gradients in the city. The author (Shaw) attended the meeting addressed by Professor Child. After further discussion with Park and Burgess he took over the concept of gradients and sought to apply it to the delinquency rates which he had calculated for the city of Chicago".[36]

There would however seem to be some confusion on the part of commentators as to the relationship between zones and gradients. In the article by Rice quoted from above, he went on to state "Whether the newer concept of 'gradients' was more than a new name for the earlier concept of 'zones' seemed doubtful."[37] Llewellyn and Hawthorne state "The measurement of zones has been accomplished mainly through the gradient."[38] That zones and gradients are different should be clear from the above discussion. That the gradient can be used to measure zones would only be significant if an attempt had first been made to specify the criteria to be used in dilineating the zones, and then an attempt made to test out the existence of the zones empirically, this done one could then proceed to see if there were significant breaks in the rate of increase or decrease of the variable phenomena at the point of the separation of the zones. The gradient cannot legitimately be used inductively to build up evidence, by first considering one variable and then another, as to the existence of the zones, if in the first place one has arbitrarily decided that there are to be five zones, and that one will designate them as being separated at two-mile intervals.[39]

In their studies Shaw and McKay provide what would seem to be conclusive evidence as to the concentration of the highest rates of juvenile delinquency in the central areas of the city of Chicago. This central area, adjacent to the central business district is also the area which has the highest concentration of dilapidated buildings and buildings due for demolition.[40] Further evidence as to this area, the zone in transition, being an area of social disorganisation is provided by an examination of the distribution of other social problems. Shaw and McKay analyse the rates of school truants, young adult offenders, infant mortality, tuberculosis, and mental disorders for the same square-mile areas used in the examination of juvenile delinquency.[41] They find that there is a covariance of these phenomena with juvenile delinquency and that approximately the same concentrations occur for all factors, adding weight to the view that certain areas of the city are areas of social disorganization.

It may be thought that the concentration of these factors among the population of certain areas of the city reveals that social disorganization is merely a characteristic of a certain population and not of the area. However Shaw and McKay provide evidence to show that despite the fact that population successions have taken place the rates are remarkably stable over a forty year period. They state " ... one European ethnic group after another moved into the area of first settlement which were for the most part inner areas of the city, where the children became delinquents in large numbers. As these groups became assimilated and moved out of the inner city areas their descendents disappeared from the Juvenile Courts and their places were taken by offenders from the groups which took over the areas which had been vacated."[42] Here would seem to be a point which substantiates the human ecological theory of natural areas, that is there are certain natural areas which perform a function - which may be pathological from the point of view of conventional society - in transmitting characteristics to the population of the area.

It is the factor which has led juvenile delinquency and other social problems to be conceived as part of the natural ecological process of city development. As Shaw and McKay put it "Areas acquire high delinquency rates neither by chance nor by design, but rather it is assumed as an end product of processes of American city life over which as yet man has been able to exercise little control."[43] While it is thus tempting to assume if we take an ecological frame of reference that the ecological structure of the city causes juvenile delinquency, and other social problems to exist within certain areas, there are nevertheless certain fundamental difficulties associated with translating correlations into casuality. If natural areas are seen as determining the characteristics of urban populations, why is it not the case that every boy within an area like the zone in transition becomes a delinquent? Shaw and McKay are well aware of this problem and state "While these maps and statistical data are useful in locating different types of areas where the rates are high from areas where the rates are low, and in predicting or forecasting expected rates, they do not furnish an explanation of delinquency conduct. This explanation must be sought in the field of more subtle human relationships and social values which comprise the social world of the child in the family and the community."[44] Thus to explain why one boy committed a delinquent act and another did not one has to undertake an investigation of the subjective definitions of the individual concerned, in order to understand the particular situational factors involved and how they are mediated by the individual concerned, in order to understand the particular situational factors involved and how they are mediated by the individual. Shaw's study of life histories[45] is an attempt to provide detailed documentary evidence of this process from interviews with a number of boys. However difficult it may seem to integrate the life history situational analysis approach into ecological theory - indeed it would seem impossible - the use of this method represents a sociological advancement on ecological theory. As T Morris puts it "The regularity and consistency of social facts

at a societal level may have been responsible for the ecological assumption that within a given area, behaviour even on an individual level was standardised. Without Shaw's refinement of 'situational analysis' it would be quite impossible to explain why not every child in a delinquent area is delinquent."[46] This link between the ecological approach and the life history approach has been ignored by some commentators who seem predisposed to represent Shaw and McKay's theory as a brand of ecological determinism.[47]

One aspect of their studies which represents a testing of the human ecological theory of the city is the generalisability of their findings. Park and Burgess assumed that the ecological processes at work in one city do so in typical ways, hence they will be found in other cities expanding at a similar rate within the same socio-cultural epoch. While Shaw and McKay's most detailed findings are drawn from the city of Chicago, in 'Social Factors in Juvenile Delinquency' and 'Juvenile Delinquency and Urban Areas' they examined a number of other American cities and found that a general concentration of high rates of juvenile delinquency in the more deteriorated parts of the city and low rates in the better residential areas occurred.

Further evidence which links the distribution of a social problem to social disorganisation within certain areas of the city was found by Faris and Dunham who examined mental illness in Chicago and produced 'Mental Disorders in Urban Areas'[48] in 1939. As was the case with the Shaw-McKay research into delinquency which paralleled their research in the 1930s, Faris and Dunham plot their findings in a map form and emerge with a comparison of rates of mental illness for the various areas of the city. To this purpose Chicago is divided up into 68 local communities, which are taken from the 75 local community areas based upon census tracts combined into more-or-less natural areas by the Chicago University Local Community Research Committee. They arrive at an

insanity rate by taking the total admissions for mental disorders and dividing this into the adult population of each community. The rate varied from 110 per 100,000 adult population in an hotel and apartment area on the shores of Lake Michigan to 1,757 per 100,000 adult population in the central business district. The general pattern of distribution was one of concentration of the highest rates in the inner areas with a regular decrease as one moved out to the periphery. Mental illness is of course a broad category, so in order to see if all the various types of mental and related illnesses conformed to the regular pattern of distribution, Faris and Dunham computed the various rates for paranoid schizophrenia, catatonic schizophrenia, manic-depressive psychoses, alcholic psychoses, drug addiction, old age psychoses and general paralysis deriving from syphilis. While there was one direct exception, manic-depressive psychoses, the other conditions tended to approximate to the expected pattern, with however different conditions showing different concentrations in different central areas of the city. Schizophrenia for example best fitted the 'standard' distribution gradient; however the area of concentration of each of the two types was in different areas of the centre of the city with paranoid schizophrenia being concentrated in the roominghouse area and catatonic schizophrenia being concentrated in the foreign born and negro areas. The one major exception, manic-depressive psychoses, displayed a random distribution pattern through the city, completely out of line with the other conditions.

Faris and Dunham also showed the distribution of mental illness by city zones, the tell us "A clear understanding of the actual ecology of insanity in Chicago may be obtained by an examination of the rates by zones."[49] However the division of the city into zones shows the same arbitrariness as occurs in the Shaw and McKay studies, with the city map being divided up into zones of from one to two miles. What is striking is that Faris and Dunham depart from the Burgess five zone model and come up with seven zones; this would appear to be because after delineating the first zone, the Loop, at one mile,they go on dividing the city up at two mile intervals until they run out of city territory, this

gives them seven zones.[50] It may also appear strange that Faris and Dunham use seven zones in the light of the fact that in the first chapter of their book they follow Burgess' zonal pattern and give an outline of the characteristics he cites for each of the five zones as well as reproducing his famous zonal map of Chicago. An additional departure from the Burgess model is to further divide the city in to five sectors, so that it is possible to compare the gradients for, e.g. the north sector and the south sector, as well as comparing rates for different sections of each zone. The five sectors display a regular gradient with the exception of the south-west sector.

In moving towards an explanation of the distribution, Faris and Dunham dismiss the hypothesis that the concentration in the central areas can be explained by the drift of individuals with either mental illness or susceptibility to mental illness, e.g. hobos and down-and-outs, to these areas.[51] The hypothesis they put forward is that mental illness is a function of social isolation. The areas of the city where social isolation is experienced most are those areas with a high population mobility, that is areas which experience a continuing influx of population or a rapid turnover of population which inhibits the development of sustained social contacts. As Burgess states in his introduction to 'Mental Disorders in Urban Areas' "Mental disorders appear to be more prevalent where the population is mobile and heterogeneous than where it is stable and homogeneous, and where life conditions are complex and precarious rather than simple and secure."[52] In terms of the ecological theory of the city the area of highest mobility is the central business district, which in Faris and Dunham's research has the highest overall mental illness rate. While isolation may be thought of as relating directly to mobility, resulting in a high rate in areas where there are infrequent contacts such as the roominghouse area, it may also be produced when a minority group lives in an area dominated by another cultural group. Faris tells us that "Rates for whites are low in native white areas but are high in foreign-born areas, and rates for the foreign-born are low in their own areas but very high in the Negro areas."[53]

We are thus left with an explanation of mental illness which links it to the areas of social disorganization in the city as is the case in Shaw and McKay's study of juvenile delinquency. However in the latter case social disorganization is seen as producing a type of socialization which leaves boys 'in between cultures' so that they resort to the 'negative' solution from the point of view of conventional society by committing delinquent acts. Thrasher's study of gangs[54] has shown that the gangs are organised, i.e. that the individual participates in a system of social rules. But the opposite is found when we look at social disorganization as used by Faris and Dunham, here the disorganization is linked to mobility and social isolation, giving rise to a marginality which may be experienced from the infrequency of the number of social contacts, and the impersonal and transitory nature of the contacts, as opposed to the marginality of a man without a culture in Stonequist's sense[55], i.e. a man having contacts with two cultures, who is unsure of which set of rules to follow.

In fairness however, it must be emphasised that Faris and Dunham put forward their claims in the form as a hypothesis and emphasise that "the data are not close enough to the phenomena of mental disorder to establish any clear-cut case for operation of casuative factors."[56] They do however make an attempt to test out the isolation hypothesis by examining the life histories of 101 cases in another city, Providence, and found that 45 cases contained data revealing the isolation factor.

The distribution of suicides in Chicago is examined by Ruth Cavan in her book 'Suicide' (1928).[57] Following a similar method to that used by Faris and Dunham she computed the rate of suicide in 72 areas of the city, the local community areas defined by the local community areas defined by the Local Community Research Committee based upon census districts which are combined in such a way as to give what she calls 'significant

units', i.e. approximate natural areas. Chicago has four suicide areas, that is areas with a rate of suicides of 35-87 per 100,000 population.[58] The four areas are in the centre of the city and comprise: 1. The Loop - the central business district, 2. The Lower North side - a roominghouse area inhabited by mainly single men, 3. The Near South Side - a Negro area, and 4. West Madison - an area of high population mobility. While the high rate areas are contiguous areas in the city centre, the suicide rate for the other areas shows no systematic pattern from which a gradient of suicide rates could be constructed which would correspond to the gradients of juvenile delinquency and mental disorders. Ruth Cavan does not attempt to analyse her findings in terms of zones, perhaps the fact that there were 780 suicides in Chicago for the two year period on which she bases her rate map is too low a figure on which to provide a significant breakdown.[59] However an attempt is made to correlate the suicide distribution with other factors; a close coincidence was found with deaths from alcoholism[60], and a partial coincidence is found with divorce[61] and murder[62].

These factors combined are seen as indices of social disorganization, as Cavan states "The phenomena just considered may be thought of as symptoms of lesions in the social organisation ..... they are symptoms of social disorganization which often has its counterpart in personal disorganization of individuals in the community."[63] In her conclusion to the book Ruth Cavan clearly connects up her findings with the general view of social disorganization taken by the Chicago sociologists when she writes " ... when social disorganization exists there is liable to be a greater amount of personal disorganization than in a static community. When social organization which taught them the rules disintegrates ... people are often unable to formulate for themselves substitute attitudes and habits. In Chicago the communities with high suicide rates are those communities in which there are other indices of both personal and social disorganization."[64] However it would seem that the social disorganization is of a different type from that described by Shaw and McKay and closer to, although perhaps not coincident with that

referred to by Faris and Dunham, for the disorganization he refers to does not act within the immigrant communities. This point emerges from the following passage: "A glance at the map shows that for suicide and the types of disorganization associated with it, the immigrant areas are virtually in the same class with the numerous communities of middle class and wealthy people who live in the outlying communities of Chicago. It is the three American communities on the Loop and in the Negro area who commit suicide, and in these and the immediately adjacent American communities are found the types of disorganization, both personal and social, which are associated with suicide."[65] Cavan draws the conclusion from this that there are two types of disorganization, the European immigrant community disorganization - indicated by poverty, juvenile delinquency and problems associated with children and family life; and the American type of disorganization resulting from a high degree of mobility which means that community life breaks down.

Although Cavan follows the general trend of the Chicago empirical studies of urban phenomena in discussing the rate of distribution of suicide, making correlations with other phenomena, and attempting to bridge the gap between correlations (taken as indices of social disorganization) and causality by citing case studies in an attempt to work out a theory of personal disorganization, the book is primarily an extensive treatment of suicide from historical and comparative points of view. The material on Chicago contributes only a small section to the book and it is of interest to note that Cavan makes no reference to Park or Burgess in her study, nor does she mention any of the central ecological concepts such as natural areas, succession, gradients, zones, although she clearly uses some of these concepts without acknowledging their source.

An examination of the distribution of divorce and desertion for the city of Chicago is provided by E Mowrer in 'Family Disorganization' (1927)[66]. Mowrer examines the divorce and desertion rates for 70 communities in Chicago which were adaptations of the Chicago University Sociology Department's 75 local community areas. From the data Mowrer found that five types of area emerged: 1. non-family areas. 2. emancipated family areas. 3. paternal family areas. 4. equalitarian family areas. 5. maternal family areas. These areas with the exception of the second area, fall into a zonal pattern, giving four concentric zones for the city of Chicago.[67] The first zone, the non-family area is the central business district and the adjoining one-sex areas such as Greektown, Chinatown and Hobohemia, an area which by definition has a very low rate of family disintegration. The second zone, that of paternal families, consists of immigrant colonies such as the Ghetto and Little Sicily. This is an area characterised primarily by desertion. The third zone of equalitarian families is characterised by both divorce and desertion. The fourth and outer zone, that of the maternal family, is an area of upper middle class commuters; this area displays no family disintegration. Mowrer tells us that "The area of emancipated families is interstitial, spreading across the other areas following the lines of rapid transportation."[68] This area one of roominghouses and apartments, shows no association with a particular pattern of family disintegration.

While Mowrer's use of four zones has obvious similarities with Burgess' zonal hypothesis, the two zonal patterns do not directly coincide for Mowrer includes in his first non-family zone Hobohemia and Greektown which in terms of Burgess' theory are in the second zone, the zone in transition.[69] Mowrer's category of emancipated family areas which are found in all four zones also does not fit into the Burgess model. Despite these apparent contradictions at one point Burgess presents Mowrer's findings as confirming his zonal model.[70]

Mowrer has thus shown that certain family types are found within certain areas of the city. Those family types which experience the greatest extent of social disorganization manifest in a high divorce and desertion rate, are concentrated in the inner areas of the city. However the social disorganization in the case of the family is seen as the product of the social forces of romanticism and individualism. The problem of causation is left extremely ambiguous as is indicated by Mowrer's statement: "The causal complex consists of at least two aspects: 1. the forces in community life which tend to atomize the individual and promote the individuation of behaviour, and 2. the origins and life histories of the attitudes and wishes of individuals."[71] No guidance as to how we are to relate the antiposed causal factors is given.

Reckless in 'Vice in Chicago'[72] (1933) examined the distribution of vice resorts, i.e. prostitution, which in terms of Burgess' zonal scheme were concentrated in zones 1, 2 and 4. The unexpected concentration in the outer zone occurs in areas of apartment houses which at several points in the city are directly adjacent to the zone 2 roominghouse area; Reckless states "In Chicago the roominghouse district on zone 2 and the apartment house area of zone 4 merge into one another on the direct south, west and north sides, a fact which is due primarily to the high value of land resulting from favourable locations and good transportation facilities."[73] In attempting to correlate the vice concentrations of the inner zones with other factors, Reckless found that vice occurred only in certain parts of the zones, the roominghouse area, Chinatown and the Black Belt with immigrant settlements such as Little Italy and the Ghetto being relatively free from vice. This would indicate that Reckless' findings only add to the problems associated with explanations drawing on the concept social disorganization.

Frazier's book 'The Negro Family in Chicago'[74] (1932) is a study of the city's South Side Negro community, which occupies an area forming a sector cutting across the zonal pattern of the city. He divided the negro sector into seven zones, and compared the zones on a range of characteristics including occupational, class, percentage of mulattoes, males, illiterate persons etc. In each case regular gradients emerged. A further study of Harlem, New York,[75] confirmed the gradient pattern. Frazier comments that these studies showed that "Gradients are not only found in the growth of the city as a whole, but in cultural and racial communities within the city there are gradients similar to those in the city as a whole."[76]

In summarising our findings so far we have examined the urban distribution of a selected number of phenomena from a list which would include poverty, unemployment, juvenile delinquency, adult crime, suicide, murder, alcoholism family desertion, educational level, infant mortality, communicable disease, and general mortality - all of which have been studied by the Chicago sociologists.[77] All the studies we have examined have shown the distribution of phenomena by providing rates for urban areas. Several attempts have been made to present the data in zonal form; however, with the exception of Mowrer the zones arrived at bear little relation to Burgess' theory. A problem has emerged concerning the different views of social disorganization, and how this factor relates both to theories of the ecological structure of the city and the sociological explanation of the actions of individuals.

The analysis of the distribution of social phenomena given in the macrosociological studies revealed a general concentration of those phenomena deemed social problems within the inner areas of the city. The zone in transition proved to be a suitable area for systematic empirical studies of the problem of social disorganization. Such studies had previously been attempted by an assortment of observers; but the sensationalism, romanticism and

and over-optimism of the motley array of social reformers and muckrakers who had ventured into the slum areas and produced studies such as 'The Jungle' by Upton Sinclair. was subject to heavy criticism by Park, Burgess and Zorbaugh[78] who antiposed to this tradition that of the objective, detached scientific sociologist who sought to describe, understand and develop a knowledge of the forces at work in the city. It was in the zone in transition that the full intensity of the ecological processes that sifted and sorted the city population could be documented at close hand. Here were urban decay and deterioration, a high mobility and turnover of population, invations and successions, the segregation of the population into natural areas.

Harvey Zorbaugh's 'The Gold Coast and the Slum'[79] (1929) presents us with one of the most detailed descriptions of population characteristics and urban ecological processes within the Chicago tradition. It is of interest because the analysis is not confined to the slum, but also is concerned with an adjoining high class residential area thus enabling the many contrasts of urban life to be developed. The study is about the Near North Side, a geographical area bounded on the south and west sides by the Chicago River and on the east side by Lake Michigan. It is thus a well defined area in the geographical sense and it would be tempting to assume that it is therefore a natural area in the ecological sense. However throughout the book Zorbaugh is at pains to emphasise that the Near South Side cannot be regarded as a community, and he documents the failure of attempts to bring about improvements and to build a spirit of neighbourliness through the setting up of the Near North Side Community Council.[80] In fact the Near North Side is made up of a number of discrete although contiguous areas, the Gold Coast high class residential area, the Towertown bohemia, the Rialto of hobohemia, the roominghouse area, the slum and Little Sicily; the area as a whole thus presents marked contrasts as Zorbaugh points out "The Near North Side has the highest residential land values in the city,

and among the lowest; it has more professional men, more politicians, more suicides, more persons in 'Who's Who' than any other 'community' in Chicago."[81]

The Gold Coast, an attractive residential area adjoining Lake Michigan is the home of Chicago's 'Four Hundred', 'those who have arrived',[82] the top names in Chicago's social register are to be found here. Zorbaugh through the use of documents describes with some irony the etiquette of a world in which one participates in the 'social game', where hostesses possess lists of the 'four hundred dancing men', where such social types as the 'climber' are to be found. Behind this area at the back of Lake Shore Drive is the roominghouse area, the world of furnished rooms. This is an area where 52 per cent of the population are single men. The turnover of population mitigates against established social relationships being formed; as Zorbaugh states "The constant coming and going of the inhabitants is the most significant and striking characteristic of this world of furnished rooms. The whole population turns over every four months."[83] It is thus an area of anonymity, a place where "One knows no-one and is known by no-one."[84] While at a later point in the book Zorbaugh comments on the restrictive nature of the village community which inhibits the individual's attitudes and wishes,[85] the opposite of that community the world of furnished rooms, may allow the development of wishes through the exploration of marginality, but does not permit their realisation. "The roominghouse world is in no sense a social world, a set of group relations through which a persons wishes are realised. In this situation of mobility and anonymity, rather, social distances are set up, and the person is isolated. His social contacts are more or less cut off. His wishes are thwarted; he finds in the roominghouse neither security, response nor recognition. His physical impulses are curbed. He is restless, he is lonely."[86] Near the roominghouse area is Towertown, Chicago's bohemia - a collection of artists and the writers and would-be artists and writers and their followers, who for the large part have come to Towertown from small town backgrounds in the hope of becoming a

success in the big city. It is clear from Zorbaugh's ironic comments that he regards the inhabitants as a collection of dilettantes who pass the time by dabbling in the arts and experimenting in moral and sexual relationships, without having assessed the meaning of these activities in other than a superficial way.

The slum of the Near North Side is a low lying area just north of the manufacturing industry around the Chicago River. Zorbaugh describes its ecological situation in terms that closely follow Burgess' account of the zone in transition "The slum is a distinctive area of disintegration and disorganization. It is an area in which encroaching business lends a speculative value to the land. But rents are low; for while little business has actually come into the area, it is no longer desirable for residential purposes."[87] It is the area of the city which attracts the transients and immigrants, an area which sifts and sorts the urban population: "The slum gradually acquires a character distinctly different from that of the other areas of the city through a cumulative process of natural selection that is continually going on as the more ambitious and energetic keep moving out and the unadjusted, the dregs and outlaws accumulate."[88] It is an area which has been inhabited in turn by the Irish, Germans, Swedish and Sicilians, and at the time Zorbaugh was writing it was undergoing an invasion of Negroes. Within the slum one finds the Little Sicily, the Ghetto, a Persian colony and a Greek colony. Adjoining the slum is the business and bright lights area which serves the slum and the roominghouse areas; the 'Rialto of the Half-World', as Zorbaugh calls it, is an area of lunchrooms, restaurants, secondhand shops and missions, where hobos, prostitutes and the 'Bug House Square' wobblies are to be found.

In a chapter entitled 'The City and the Community' Zorbaugh closely follows Burgess and Park's writings on the city, quoting long passages from the former's paper 'The Growth of the City'.[89] In attempting to relate his findings to the theory of the city,

Zorbaugh discusses the concept of natural areas; he states: "The structure of the individual city while always exhibiting the generalised zones described before, is built about the framework of transportation, business organisation and industry, park and boulevard system and topographical features. All these tend to break up the city into numerous smaller areas, which we may call natural areas, in that they are unplanned, natural products of the city's growth."[90] Here it would seem that a well-bounded geographical area such as the Near North Side is to be considered a natural area. However such a definition is at odds with Park's writings on the subject; although Park provides a number of different definitions of natural areas, the central aspect he emphasises is that natural areas are functional areas of the city and that they are areas which tend towards homogeneity of type of population. Thus he states "The 'Gold Coast and the Slum' is a study of the Lower North Side, which is not so much a natural area, as a congeries of natural areas."[91] Clarification is not aided by Zorbaugh's remarks in his earlier article 'The Natural Areas of the City'[92], for after defining the natural area in similar (i.e. geographical) terms to that used in his book, on the next page of the article he states "A natural area is a geographical area characerised by both physical individuality and by the cultural characteristics of the people who live in it."[93] He goes on to quote a passage from Park in which natural areas are represented as cultural areas. The diverse areas - the Gold Coast, the slum,Towertown, discussed by Zorbaugh in his book would tend to fit Park's definition of natural areas, but taken collectively as a larger geographical area they clearly cannot be regarded as making up a natural area.

Although Zorbaugh's study did not illuminate the ecological concept of natural areas, it must be said that his book illustrates well other aspects of ecological theory. We are told "The modern city industrial or commercial, like the plant or animal community is largely an ecological product, that is, the rate and direction of the city's growth,

the distribution of city features, the segregation of communities within the city, are bi-products of the economic process - in which land values, rents and wages are fixed - and the unintended results of competition."[95] The segregation of 'communities' within the city is well illustrated by Zorbaugh's discussion of the various areas of the Lower North Side. Another ecological process characterised by Zorbaugh is succession, for which he provides historical evidence to document the population changes that have taken place. We are told that the slum has experienced invasions by the Irish, Germans, Swedes, Italians and Negroes, and that the Swedish colony in Chicago moved four times in fifty years as it was gradually forced away from the city centre by wave after wave of new immigrant groups each willing to pay higher rents, making those Swedes who wished to retain a culturally homogenous neighbourhood move.

Zorbaugh's researches can be seen as relying on existing human ecological formulations, as well as making use of materials from the other Chicago sociological studies of suicide, poverty, crime and delinquency which had been completed or were in process at the time he wrote. While one might agree with Faris' assessment that "... little permanent contribution to human ecology or social disorganization emerged from the study,"[96] one feels that this lack of theoretical sophistication is compensated by the sharpness of the descriptive detail. As Stein comments "It remains the best description of a complicated urban neighbourhood and its various sub-communities."[97] Perhaps it is Zorbaugh's perceptive ethnographic detail which has led to the study being regarded as a sociological classic. This view is emphasised by Matza who writes "Zorbaugh documented in a manner still unsurpassed the variation in customary behaviour as it occurred within several areas in one small part of Chicago. Zorbaugh achieved the aspiration of Robert Park. It was as if an anthropologist let loose in Chicago had discovered urban America in its full diversity."[98]

The process of succession is also documented by L Wirth in 'The Ghetto'[99] (1928). Despite the fact that the ghetto occupied a well defined area in terms of physical boundaries such as roads and railways, Wirth tells us that "The occupation of the West Side by the Jews is it seems merely a passing phase of a long process of succession in which one population group has been crowded out by another."[100] The ghetto was originally a 'substantive residential neighbourhood' which was taken over by the Jews, and at the time Wirth was writing it was being invaded by industry and the negroes. While in the introduction to the book Wirth asks the question how far is the isolation of the Jewish community typical for other immigrant groups, his study is not specifically addressed to this problem. Rather the book is concerned with providing a broad socio-historical account of the origins and development of the Jewish ghetto, with only one part given to the Chicago ghetto. Of interest is the fact that Wirth emphasises that the ghetto is pre-eminently a cultural community, which displays a uniqueness and individuality which differentiates it sharply from the other immigrant communities of the city. In this sense Wirth's study while providing evidence as to the ecological processes of invasion and succession, and the re-organising process of the city wherby the successful Jews move out of the Chicago ghetto to the 'Deutschland' area of the second zone of workingment's homes, it goes beyond an ecological approach and presents a sensitive historical, cultural and sociological account of the individuality of the ghetto.

While the empirical studies which we have discussed either deal with the population characteristics of natural areas or the spatial distribution of social phenomena and can thus be subsumed under a loose human ecological frame of reference, none of them venture into the realm of human ecological theory, or attempt to test out its central assumptions. That is, they do not examine the viability of the human ecology approach by questioning whether it is possible to isolate ecological relations, the 'community'

infrastructure from social relations. They are not concerned with the city as a functioning ecological superorganism in which individuals influence each other by competing for environmental resources and space in a sub-social, 'non-thoughtful' manner. The central ecological concept of symbiosis whereby members of a common habitat develop a mutual interdependence, is seldom referred to.

The important concept of natural areas is mentioned only in passing, with the exception of Zorbaugh, who although he provides excellent descriptions of the numerous natural areas of the Near North Side, does not regard these areas as natural areas, and instead referes to the whole heterogeneous area of the Near North Side as a natural area. A view of this concept which emphasises the functional importance of the natural areas to the city is given by Park in the following statement "A region is called a natural area because it comes into existence without design and performs a function, though the function as in the case of the slum, may be contrary to anybody's desire. It is a natural area because it has a natural history. The existence of these natural areas each with its characteristic function is some indication of the sort of thing the city turns out upon analysis to be - not an artifact merely but in some sense and to some degree an organism."[101]

While many of the studies refer to and document examples of invasions and successions, we are given social and cultural explanations of why these processes occur. An invasion of one immigrant colony by another, which led in the case of the Near North Side to the Swedish colony moving four times in fifty years, is explained by Zorbaugh as being an attempt on the part of the Swedes to maintain their cultural homogeneity. If we look at an opposite process whereby successful immigrants are transformed into Americans as they escape from the zone in transition, (the leapfrogging process described by Burgess,) there seems no direct way by which this largely cultural change which is accompanied by spatial movement can be explained as arising from ecological

processes. This impinges upon the problem of how the urban processes of social disorganization and reorganization described by Burgess and followed in the empirical studies can be incorporated in the human ecological framework.

The concept social disorganization had of course been used by Thomas and Znaniecki in 'The Polish Peasant in Europe and America',[102] but no attempt had been made to relate it to the ecological structure of the city. The question of interest is how far did the empirical studies follow Thomas and Znaniecki's use of the concept, or Burgess' modification. In his paper 'The Growth of the City' Burgess links social disorganization to mobility although not directly to ecological theory. But as mobility is a central ecological concept, one can logically link social disorganization to the ecological theory of the city if one sees social disorganization as being produced in areas of the city where the ecological structure tends to inhibit the development of certain types of social relationships. That is, the degree of mobility in the inner areas and the type of buildings and physical structures that reflect this mobility - roominghouse and apartment house areas - limit the nature of the social contacts that individuals can experience. Transitory and fragmentary social contacts and the social isolation of individuals may encourage social disorganization. Thus in a rapidly expanding city such as Chicago, mobility near the city centre will be high as a result of the constant influx of new population. It is also possible here to make a link to Simmel's theory of the metropolis producing a certain form of mental outlook resulting from the number and variety of social contacts experienced by individuals. This view was later taken up by Wirth[103] who emphasised that the size, density and heterogeneity of urban populations meant that the urban dweller experienced secondary relations as opposed to primary relations. Thus in this theoretical sense social disorganization which reflects high mobility of the population would be expected to occur in certain areas of the city.

The empirical studies however do not directly make this link; although suprisingly the closest attempt to it occurs in a book which makes hardly any reference to human ecology, Ruth Cavan's 'Suicide'. When there is a high degree of mobility she points out, community life breaks down, people are unable to maintain sustained social relationships and therefore are more susceptible to suicide. It is also possible to relate this view to Faris and Dunham's findings that mental disorders occur in areas of the city which are characterised by social isolation of the population. However it is important to note that in both studies the correlation between concentrations of the social problems and areas of high mobility was not clear cut. Furthermore the concentrations did not occur throughout the zone in transition, but only in certain areas of it, notable exceptions being the immigrant colonies; yet the type of social disorganization referred to by Shaw and McKay is to be found in the immigrant colonies.

Social disorganization would therefore seem to be a problematic concept, for the Chicago sociologists used the concept in two district ways. One form signifies the transition from immigrant to American values, 'immigrant social disorganization', involves an explanation of social disorganization as arising from cultural change. The other form indicates that disorganization is associated with social isolation, and will therefore occur in those areas of the city which experience high mobility, in terms of the number of contacts and population turnover. Only the latter mode of social disorganization, 'American social disorganization', can be directly related to human ecological theory, in that it is regarded as the outcome of ecological factors, a product of the spatial distribution of population.

It thus seems that in the empirical studies two types of social disorganization are investigated. The second type discussed above is a characteristic not only of the expanding city, but of western cities. Americans as well as immigrants experienced this form of social disorganisation in Chicago and it is possible to regard it as a product of the transitory secondary relationships which are produced by the ecological structure of the western city. However the first type of social disorganization, that related to immigrant groups, is clearly envisaged as a temporary phenomenon. That is, it occurs only in so far as a city experiences an influx of immigrants from a rural or peasant background. This type of social disorganization occurs while the immigrant groups are endeavouring to adapt to American values, and thus are so to speak, 'in between cultures'. Clearly Shaw and McKay saw juvenile delinquency as linked to social disorganization of this type. It would seem that 'immigrant social disorganization' as opposed to 'American social disorganization' is more tenuously related to ecological theory. While Shaw and McKay showed that it occurred in certain natural areas of the city, which from the point of view of ecological theory are functional areas, its genesis however is related to cultural factors, i.e. a change from an existent set of values to a new set, which cannot be explained as arising from the ecological structure of the city, i.e. in terms of the spatial structure of the population and types of buildings.

From the foregoing discussion of the empirical studies it would seem that most of the studies employed human ecology as a frame of reference without attempting to adopt a critical attitude towards human ecological theory or to reformulate its basic assumptions. That is, certain human ecological concepts, such as zones, natural areas and gradients seem to have been used without subjecting them to analysis by questioning their theoretical and logical consistency, or by rigorously subjecting them to empirical validation by regarding them as hypotheses to be tested and reformulated.

If a historical perspective is adopted, it is possible to understand the apparent failure of the empirical studies to provide a direct contribution to human ecological theory. An examination of the process of the institutionalisation of human ecology (which is the subject of the next chapter) reveals that the great majority of the empirical studies had been conducted by the early 1930s, with many of the important graduate dissertations on the city having been completed by 1925 - the year in which, human ecology, was officially recognised as a new sociological subject area by the American Sociological Society. Park, Burgess and McKenzie do not however provide a systematic statement on human ecological theory at this time, rather they provide a tentative discussion and formulation of working concepts and hypotheses. Hence much of the empirical ecological research into the city of Chicago was carried out in parallel to the development of working concepts such as zones, natural areas, mobility, land values, before an attempt had been made to produce a coherent statement on human ecology or the city which would incorporate and integrate these concepts. The major theoretical statements on human ecology were made by Park in his papers 'Human Ecology', (1936), 'Succession on Ecological Concept' (1936) and 'Symbiosis and Socialisation' (1939), well after the majority of the empirical studies had been completed, and it is of interest to note that Park was primarily concerned with discussing the relationships of human ecology to plant and animal ecology, and did not specifically draw on the Chicago empirical studies in these papers. The human ecology which was available to Park's students in the early 1920s was therefore not a systematically formulated theory, rather it proved to be a series of working concepts which acted as a frame of reference for empirical research. It is also of interest to note that both Park and Burgess wrote little on human ecology in relation to the research programme on the city after 1929, the year in which Burgess published 'Urban Areas' and 'Basic Social Data', and Park published 'The City as a Social Laboratory', and 'Sociology Community

and Society'. Although these papers provided a summary of the existing human ecological research into the city, and involved a refinement and reformulation of ecological concepts, they did not attempt to give a clearly formulated human ecological theory of the city. After 1929 Burgess wrote comparatively little on the ecological structure of the city, and Park seems to have been more concerned to provide a general statement on the relationship between human ecology and plant and animal ecology, without giving special emphasis to the city. An attempt to provide some understanding of this movement away from an interest in research into the city, which involved a subsequent change in emphasis within human ecology, will be made in the following chapter.

NOTES

1. R E Park, (1915), 'The City: Suggestions for the Investigation of Human Behaviour in the City Environment', American Journal of Sociology, 20.

2. A Oberschall, (1972), 'The Institutionalization of American Sociology' in A Oberschall, (ed), The Establishment of Empirical Sociology, Harper, page 238.

3. E Shils, (1948), The Present State of American Sociology, Free Press, pages 9-10.

4. See R E L Faris, (1970), Chicago Sociology 1920-1932, Chicago U P, Appendix I.

5. C R Shaw, (1929), Delinquency Areas, Chicago U P.
C R Shaw and H D McKay, (1942), Juvenile Delinquency and Urban Areas, Chicago U P.
C R Shaw and H D McKay, (1931), Social Factors in Juvenile Delinquency, U S Government Printing Office.

6. R E L Faris and H W Dunham, (1939), Mental Disorders in Urban Areas, Chicago U P.

7. W Reckless, (1933), Vice in Chicago, Chicago UP.

8. E Mowrer, (1927), Family Disorganization, Chicago UP.

9. R Cavan, (1928), Suicide, Chicago UP.

10. E F Frazier, (1932), The Negro Family in Chicago, Chicago UP.

11. H Zorbaugh, (1929), The Gold Coast and the Slum, Chicago UP.

12. L Wirth, (1928), The Ghetto, Chicago UP.

13. N Anderson, (1923), The Hobo, Chicago UP.

14. E W Burgess, (1964), "Research in Urban Sociology: A longer View" in E W Burgess and D J Bogue, (eds), Contributions to Urban Sociology, Chicago UP.

15. For further detailes see note 5 above.

16. C R Shaw, (1930), The Jack-Roller, Chicago UP.
C R Shaw, (1931), The Natural History of a Delinquent Career, Chicago UP.
C R Shaw, (1938), Brothers in Crime, Chicago UP.

17. E W Burgess and D J Bogue, (1964), 'The Delinquency Research of Clifford R Shaw and Henry D McKay', in E W Burgess and D J Bogue, (eds), Contributions to Urban Sociology, page 591.

18. E W Burgess, (1925), 'The Growth of the City' in R E Park, E W Burgess and R D McKenzie, The City, Chicago UP.

19. C R Shaw and H D McKay, (1942), Juvenile Delinquency and Urban Areas, page 18.

20. C R Shaw and H D McKay, (1942), Juvenile Delinquency and Urban Areas, page 5.

21. W Rawson, (1839), 'An Inquiry into the Statistics of Crime in England and Wales,' Journal of the Statistical Society of London, 2.

J Glyde, (1856), 'Localities of Crime in Suffolk', Journal of the Statistical Society of London, 19.

H Mayhew, (1862), London Labour and the London Poor, London.

For a discussion of these studies see: L L Lindesmith & Y Levin, (1937), 'English Ecology and Crime of the Past Century', Journal of Criminal Law, Criminology and Police Science, 27, 6.

22. S P Breckinridge & E Abbot, (1912), The Delinquent Child and the Home, Russel Sage Foundation, New York.

23. F W Blackmar & E W Burgess, (1917), Lawrence Social Survey, University of Kansas, Lawrence.

24. R D McKenzie, (1923), The Neighbourhood: A Study of Local Life in the City of Columbus, Ohio, Chicago UP.

25. T Morris, (1957), The Criminal Area: A Study in Social Ecology, Routledge and Kegan Paul.

26. Faris states "The rate maps were far more valuable than spot maps, of course, since the differential density of population gave most spot maps a fairly similar tendency to show a crowding in the central regions of the city." R E L Faris, (1970), Chicago Sociology 1920-1932, page 53.

27. C R Shaw and H D McKay, (1942), Juvenile Delinquency and Urban Areas, page 53-4.

28. See tables of gradients of delinquency, foreign born, infant mortality, and truancy which all show a remarkably regular rate of decline from the centre of the city to the periphery. C R Shaw and H D McKay, (1942), Juvenile Delinquency and Urban Areas, pages 165-7.

29. E W Burgess, (1964), 'Research in Urban Sociology: A Longer View', in E W Burgess and D J Bogue, (eds), Contributions to Urban Sociology, page 5.

30. See R E L Faris, (1970), Chicago Sociology, page 58.

31. E W Burgess, (1925), 'The Growth of the City: An Introduction to a Research Project', in R E Park, E W Burgess and R D McKenzie, The City.

32. E W Burgess, (1929), 'Urban Areas' in T V Smith and L D White (eds) Chicago: An Experiment in Social Science Research, Chicago UP.

33. E W Burgess & D J Bogue, (1964), 'The Delinquency Research of Shaw and McKay', in E W Burgess and D J Bogue, (eds), Contributions to Urban Sociology, page 607.

34. E W Burgess & D J Bogue, (1964), 'The Delinquency Research of Shaw and McKay', in E W Burgess and D J Bogue, (eds), Contributions to Urban Sociology, page 607.

35. E W Burgess, (1927), 'The Determination of Gradients in the Growth of the City', Publications of the American Sociological Society, 21.

36. S A Rice, (1931), 'Hypothesis and Verification in Clifford R Shaw's Studies of Delinquency' in S A Rice, (ed), Methods in Social Science, Chicago UP. page 559.

37. S A Rice, (1931), 'Hypothesis and Verification in Clifford R Shaw's Studies of Delinquency', in S A Rice, (ed), Methods in Social Science, page 559.

38. E C Llewellyn & A E Hawthorne, (1945), 'Human Ecology', in G Gurvitch and W E Moore (eds), Twentieth Century Sociology, New York.

39. For a further discussion of this criticism see M Alihan (1938), Social Ecology: A Critical Analysis, Cooper Square, pages 224-5.

40. See map of buildings demolished in C R Shaw and H D McKay, (1942), Juvenile Delinquency and Urban Areas, page 29.

41. The statement 'the same square-mile areas' is not precisely true. Shaw and McKay do use the same square-mile areas for truants, and young offenders. However they tell us that the rates for infant mortality, tuberculosis and mental disorders are not available for the 140 square-mile areas used for delinquency.

42. C R Shaw and H D McKay, (1942), Juvenile Delinquency and Urban Areas, page 374.

43. C R Shaw and H D McKay, (1942), Juvenile Delinquency and Urban Areas, page 18.

44. C R Shaw and H D McKay, (1942), Juvenile Delinquency and Urban Areas, quoted in E W Burgess and D J Bogue, (1964), 'The Delinquency Research of Shaw and McKay', in E W Burgess and D J Bogue, (eds), Contributions to Urban Sociology, page 607.

45. C R Shaw, (1930), The Jack Roller, C R Shaw, (1931), The Natural History of a Delinquent Career, C R Shaw, (1938), Brothers in Crime.

46. T Morris, (1957), The Criminal Area, Routledge and Kegan Paul, page 72.

47. See for example I Taylor, P Walton and J Young, (1973), The New Criminology, Routledge. In the section entitled 'The Chicago School and the Legacy of Positivism', they criticise the Chicago ecologists for putting

forward a 'biologism' in which deviance is seen as a pathological tendency. Shaws work is represented as strictly ecological and they make no reference to his situational analysis.

48. R E L Faris and H W Dunham, (1939), Mental Disorders in Urban Areas, Chicago UP.

49. R E L Faris and H W Dunham, (1939), Mental Disorders in Urban Areas, page 35.

50. R E L Faris and H W Dunham, (1939), Mental Disorders in Urban Areas, see map page 36.

51. This rejection however has not convinced all their critics. Commenting on the drift hypothesis Clausen and Kohn state: "The high degree of the concentration of alcholics and psychotics in hobohemia and the cheaper rooming-house area seems without question to represent a sifting downwards of individuals whose life patterns and personalities have been formed in far different settings long before". J A Clausen and M L Kohn, (1964), 'The Ecological Approach in Social Psychiatry', American Journal of Sociology, 60, page 141.

52. E W Burgess, (1939), 'Introduction' to R E L Faris and H W Dunham Mental Disorder in Urban Areas, page xii.

53. R E L Faris, (1938), 'The Demography of Urban Psychotics with Special Reference to Schizophrenia', American Sociological Review, 3, 2, page 204.

54. F Thrasher, (1927), The Gang: A Study of 1,313 Gangs in Chicago, Chicago UP.

55. E Stonequist, (1937), The Marginal Man, Schribners.

56. R E L Faris and H W Dunham, (1959), Mental Disorders in Urban Areas, page xxii.

57. R Cavan, (1928), Suicide, Chicago UP.

58. R Cavan, (1928), Suicide, page 81.

59. R Cavan, (1928), Suicide, page 87.

60. Map computed by L V Greener and D Russell, Chicago University Sociology Dept.

61. Cavan takes this data from E Mowrer, (1927), Family Disorganization.

62. Based upon map and computations by P P Diefenderfer, University of Chicago.

63. R Cavan, (1928), Suicide, page 96.

64. R Cavan, (1928), Suicide, page 330.

65. R Cavan, (1928), Suicide, page 103.

66. E Mowrer, (1927), Family Disorganization, Chicago UP.

67. See map in E Mowrer, (1927), Family Disorganization, page 113.

68. E Mowrer, (1964), 'Family Disorganization' in E W Burgess and D J Bogue, (eds), Contributions to Urban Sociology, page 500.

69. For a discussion of this see M Alihan, (1938), Social Ecology, page 221.

70. E W Burgess, (1927), 'Determination of Gradients in the Growth of the City'.

71. E Mowrer, (1964), 'Family Disorganization', in E W Burgess and D J Bogue, (eds), Contributions to Urban Sociology, page 507.

72. W Reckless, (1933), Vice in Chicago, Chicago UP.

73. W Reckless, (1926), 'The Distribution of Commercialised Vice in the City: a Sociological Analysis', in E W Burgess, (ed), The Urban Community, Chicago UP 1971 reprinted page 195.

74. E F Frazier, (1932), The Negro Family in Chicago, Chicago UP.

75. E F Frazier, (1937), 'Negro Harlem: An Ecological Study', American Journal of Sociology, 43.

76. E F Frazier, (1964), 'The Negro Family in Chicago,' in E W Burgess and D J Bogue, (eds), Contributions to Urban Sociology, page 418.

77. E W Burgess, (1939), 'Introduction' to R E L Faris and H W Dunham, Mental Disorders in Urban Areas, page x.

78. See R E Park, (1939), 'The City as a Natural Phenomenon', in R E Park, (1952), Human Communities, Free P; and his 'Biographical Note' in R E Park, (1950), Race and Culture, Free Press. Also H Zorbaugh, The Gold Coast and the Slum, Chapter 12.

79. H Zorbaugh, (1929), The Gold Coast and the Slum, Chicago UP.

80. H Zorbaugh, (1929), The Gold Coast and the Slum, Chapter 10.

81. H Zorbaugh, (1929), The Gold Coast and the Slum, page 6.

82. H Zorbaugh, (1929), The Gold Coast and the Slum, page 46.

83. H Zorbaugh, (1929), The Gold Coast and the Slum, page 71-2.

84. H Zorbaugh, (1929), The Gold Coast and the Slum, page 75.

85. H Zorbaugh, (1929), The Gold Coast and the Slum, page 222, where he follows Thomas' discussion of community.

86. H Zorbaugh, (1929), The Gold Coast and the Slum, page 82.

87. H Zorbaugh, (1929), The Gold Coast and the Slum, page 128.

88. H Zorbaugh, (1929), The Gold Coast and the Slum, page 128.

89. E W Burgess, (1925), 'The Growth of the City', in R E Park, E W Burgess and R D McKenzie, The City.

90. H Zorbaugh, (1929), The Gold Coast and the Slum, page 231.

91. R E Park, (1929), 'The City as a Social Laboratory', in R E Park, (1952), Human Communities, page 79.

92. H Zorbaugh, (1926), 'The Natural Areas of the City', in E W Burgess, (ed), The Urban Community.

93. H Zorbaugh, (1926), 'The Natural Areas of the City', in E W Burgess, (ed), The Urban Community, page 223.

94. This ambiguity is further illustrated by Madge's discussion of Zorbaugh's use of natural areas. It would seem that Madge regards Zorbaugh's definition of a natural area being a physically bounded area of the city as superior to that of the planners because unlike the planners Zorbaugh does not presume cultural homogenity. Madge states: "... the very example of the Near North Side shows that a natural area does not necessarily constitute a single community. Its definition is geographical or economic and not cultural. And this is the point that some planners have neglected. Planners have been known to divide their cities into natural areas or neighbourhood units that were separated from one another by railroads, or canals, green wedges or other barriers. And they sometimes are rather suprised when these artificially isolated zones do not automatically turn themselves into communities". J Madge, (1970), The Origins of Scientific Sociology, Taristock, pages 111-112. In supporting Zorbaughs definition of natural areas Madge clearly ignores Park's use of the concept.

95. H Zorbaugh, (1929), The Gold Coast and the Slum, page 232.

96. R E L Faris, (1970), Chicago Sociology 1920-1932, page 83.

97. M Stein, (1960), The Eclipse of Community, Harper, page 37.

98. D Matza, (1969), Becoming Deviant, Prentic-Hall, page 48.

99. L Wirth, (1928), The Ghetto, Chicago UP.

100. L Wirth, (1928), The Ghetto, Chicago UP.

101. R E Park, (1929), 'The City as a Social Laboratory' in R E Park, (1952), Human Communities, page 79.

102. W I Thomas and F Znaniecki, (1918), The Polish Peasant in Europe and America, two volume Dover edition, 1958.

103. L Wirth, (1938), 'Urbanism as a Way of Life', American Journal of Sociology, 44.

THE INSTITUTIONALIZATION OF HUMAN ECOLOGY

In 1892 the world's first sociology department had been founded at the University of Chicago. By the late 1920's the department had risen to the position of being the most dominant and influential department in America. In the period running from the end of the first world war to the early 1930's members of the sociology department undertook detailed investigations of the city of Chicago as part of a programme of research into the city. Human ecology was also developed by Robert Park and the members of the Chicago department in this era. It is the intention in this chapter to examine the background to the rise of human ecology at the University of Chicago and its subsequent influence on American sociology in the inter-war years.

A crucial factor in the establishment of the University of Chicago was the willingness of businessmen and other bodies to provide large endowments. The Baptist Educational Society played a major part in the foundation of the new institution by obtaining an initial gift of $600,000 from John D. Rockefeller in 1890 and agreeing to raise additional donations to match this sum.[1.] William Rainey Harper, the newly appointed University President sought and obtained further finance from prominent Chicago businessmen and industrialists on the promise of further donations for Rockefeller. Commenting on the new president's drive and acumen, Anthony Oberschall states "If there ever was an academic innovator and entrepreneur, it surely must have been William R. Harper, first president of the University of Chicago and former Professor of Greek and Hebrew at Yale. When fellow Baptist John D. Rockefeller offered him $1 million to start a college, Harper replied he needed $15 million to start a truly great university. He eventually got $30 million and delivered his promise in a remarkably short time."[2.]

Apart from the ambitious building programme which was undertaken, the availability of such large financial resources made it possible for Harper to offer salary scales twice that prevalent in the country in an endeavour to attract some of the most prominent academic figures to the new institution. Harper's tactics and conviction that he was going to establish the best university in the world's history caused a stir throughout the academic community. Albion Small tells of this reaction to the new 'Rockefeller University' when he states ".. all the older universities were at first thrown upon the defensive by the founding of the University of Chicago. The mythical belief spread at once that this upstart institution had the intention, and the resources back of the intention, to do for the older institutions what the Standard Oil

system had done for many of its rivals."[3.] Small had been brought to Chicago by Harper to found the first American department of Sociology. Commenting on the acceptance of the new subject there Faris states "It was no accident that the new subject was put into the curriculum in a new organisation unbounded by the traditions and vested interests which were to delay the development of sociology in many of the older universities in the Atlantic coast region."[4.]

The establishment of the first sociology department at Chicago and soon after at other Midwestern universities such as Wisconsin and Michigan may in part be explained as arising out of particular conditions of the Midwest. Whereas the major Eastern universities of Harvard, Princeton, Columbia, Yale and Pennsylvania had developed a strong culture of their own with the traditional classical and humanistic disciplines being well-established before the Civil War, the Midwestern universities which either were established or experienced their major period of expansion, after the Civil War, had a less deferential attitude towards the traditional studies.[5.] In the case of Chicago these disciplines were brought into the curriculum at the same time as sociology, and there was not the inbuilt resentment to a new 'upstart' subject which might be thought of as having encroached upon the domain of other studies.

It can also be argued that the economic, social and cultural changes that are generally thought of as having been conducive to the growth of sociology in the United States may have been experienced in the Midwest in a more accentuated form. In the period after the Civil War industrialisation and urbanization were transforming the nature of American society. Whereas in the period prior to 1870 there had been a broad diffusion of wealth, status and power in the United States, Hofstadter tells us that in the post-Civil War era "The rapid development of the big cities, the building of a great industrial plant, the construction of the railroads, the emergence of the corporation as the dominant form of enterprise transformed the old society and revolutionised the distribution of power and prestige."[6.] Urban growth in particular was experienced in the Midwest in a degree unsurpassed elsewhere in the nation, Chicago alone doubled its population in the decade 1880-1890.[7.] Urbanization was accompanied by new types of social problems arising from the modes of adjustment and non-adjustment of rural American and European immigrants to the city, and the strategies of city bosses and businessmen who ran the increasingly complex urban domain through a system of machine politics and corruption which was soon to become a target for the muckrakers. Industrialisation involved the rise of the factory system and the growth of big business with the establishment of

large organisations such as the Rockefeller and Carnegie empires during the 1880's[8.] and the movement towards the formation of the major trusts such as the U.S. Steel Corporation, Standard Oil in the 1890's.[9.] Big business was to exert a powerful influence on American life and provoke a reaction which led to the questioning of some of the assumptions of the supposed self-maintaining laissez-faire society by the reform movement.[10.] Industrialisation was also accompanied by the growth of trade union membership which was to increase rapidly during the period of rising prices at the turn of the century.[11.]

The reform movement, a coalescence of elements in American society who experienced a sense of unease at the changes taking place, attracted strong support from the Protestant clergy. While an established clergy is usually associated with the proliferation of values which are congruent with the maintenance of the existing order, in a period of major economic and social change which in this case was accompanied by a trend towards secularisation, one possible option open to the clergy was to join the movement for reform. Hofstadter has hypothesised that the clergy experienced both a loss of control over the beliefs of members of American society and a concomitant loss of status.[12.] Certainly the popularity of Social Darwinism[13.] with its enthusiastic belief in progress, individualism, the development of science and industry, and its catchwords of 'struggle for existence' and 'the survival of the fittest' was used as a justification for the new order and hence represented a threat to the position of the clergy. The reform movement may have looked back to an idealised view of the traditional order and forward to a better reformed society, yet the heterogeneous array of Protestant clergy, middle class reformers and academics who joined together in the Progressive movement were united by the perception of the social problems thrown up by industrialisation, big business and the growth of the cities. Bodies such as the Chautauqua movement, the American Institute of Christian Sociology (which were formed in the 1880's and 1890's) provided a forum for the clergy, reformers and radical social scientists by holding local discussion groups,[14.] summer schools and publishing periodicals which were intended to provide the 'facts' on a range of social problems both local and national.[15.] It is of interest to note that there was a degree of overlap between the style and subject matter of the texts produced by the clergy and the exposes of the muckrakers. The writers and journalists who became known as the muckrakers[16.] produced a series of novels and articles in magazines such as McClure's, Cosmopolitan, Everybody's and Collier's among the most notable of which were Ida Tarbell's 'History

of the Standard Oil Company', W. T. Stead's 'If Christ Came to Chicago', Upton Sinclair's 'The Jungle', H. D. Lloyd's 'Wealth Against Commonwealth' and Lincoln Steffens 'The Shame of the Cities'; the latter book is referred to by Park in his writings on the city.

The social reform movement through drawing attention to social problems provided a climate in which some discussion as to the nature of the existing social arrangements took place and hence it was to be expected that attempts would be made by the reform movement to establish firmer links with the academic world. As Oberschall tells us "While in the 1880's there had been a strong association between the socially commited young economists and the Christian reform movement, economics as a discipline was rapidly professionalising, was closed to entry by nonprofessionals, and occupied with its own intellectual problems. Sociology, the newer discipline, stepped into the vacant position and in need of backers and personnel, remained open for many more years. This explains the presence of so many former ministers among the ranks of the early sociologists."[17.] While some of the clergy moved into the new subject, others were instrumental as a respectable pressure group in putting forward the case for the introduction of sociology to university presidents and trustees.

An additional stimulus to the growth of sociology in the United States was provided by the social survey movement which had strong links with the reformers. Following on from the tradition of the 19th Century English social surveys, and in particular the example of Booth who had begun his research which culminated in the publication of 'The Life and Labour of the People of London'[18.] in 1886, a number of American urban surveys by reformers and settlement workers were produced which sought to describe what they found "fully, freely and bitterly", as E. C. Hughes recalls that Park used to say, in the hope that an aroused public would change things.[19.] In Chicago research by settlement workers resulted in the publication of 'The Hull House Maps and Papers: A Presentation of Nationalities and Wages in a Congested District of Chicago' (1895)[20.] It was hoped that the social data presented on slum conditions would lead the city government to institute improvements. The papers are of interest in that they used block maps on which a system of colours denoted wage categories and ethnic composition,[21.] which was a forerunner of techniques later to be used in the human ecological studies of the 1920's. Further studies around the turn of the century resulted in the publication of 'The Tenement Conditions in Chicago' (1901) by R. Hunter, 'The City Wilderness' (1898) by Robert Woods, a Boston settlement worker, and 'The Philadelphia Negro'

(1899) by W. E. B. DuBois. The Russell Sage Foundation, established in 1907 with the intention "to promote improvements of social and living to conditions in the U.S."[22.] was responsible for financing the ambitious Pittsburgh survey under the direction of Paul Kellogg. The survey which began in 1909 examined many aspects of urban life including factory inspection, housing, education, the police and crime, the steel workers. Its findings were published in 1914 in six volumes which brought together statistical data, charts, maps, graphs and photographs. It is important to emphasise the connection of the social surveys with the reform movement and that they were for the most part conducted outside of university departments. As Shils states "These surveys were the intellectual heirs of the American muckrakers of the turn of the century and of the British surveys of the preceding century. The surveys ... (were) carried out without benefit of academic sociology, and when they were finished, the organisations which had been created to carry them out were disbanded."[23.]

However, this is not to imply that work in a similar vein, albeit on a more restricted scale, was being undertaken in the new sociology departments of the universities around this time. A glance at the titles of the Chicago higher degrees granted around the turn of the century reveals the preoccupation with welfare and reform. Among the theses listed are 'Attempts of Chicago to meet the Positive Needs of the Community' (1894) by D. C. Atkinson, 'Factory Legislation for Women in the United States' (1897) by A. M. MacLean, 'Some Phases of the Sweating System in Chicago' (1900) by N. M. Auten, 'The Garbage Problems in Chicago' (1902) by F. G. Fink, 'A Study of the Stock Yards Community in Chicago, as a Typical Example of the Bearing of Modern Industry upon Democracy, with Constructive Suggestions' (1901) by C. J. Bushnell. The early issues of the American Journal of Sociology, founded in 1895 at Chicago with Albion Small as editor, contained articles entitled 'The Illinois Child Labour Laws', 'The Scientific Value of Social Settlements', 'Two Weeks in a Department Store', 'The Sweating System in the Garment Trades in Chicago', and 'Some Aspects of the Chicago Stockyards'.[24.] The latter article, taken from C. J. Bushnell's PhD dissertation was retrospectively described by Ethel Shanas as containing the first ecological map that appeared in the Journal; the map showed the relation of child mortality, arrests etc., to Chicago industries.[25.]

The aims of the Chicago department at this time, as the theses mentioned above

indicate, were to a large degree vocational and reform centred, sentiments which were expressed in the following statement from the department's catalogue "the city of Chicago is one of the most complete social laboratories in the world ... no city in the world presents a wider variety of typical social problems that Chicago .... the organised charities of the city afford graduate students of the university both employment and training; the church enterprises of the city enlist students in a similar manner." [26] One of the early members of the Chicago department responsible for this emphasis was C R Henderson, who encouraged students to undertake detailed investigations of the city. Henderson had published a book in 1894, 'A Catechism for Social Observation' outlining simple techniques for untrained investigators such as churches, women's clubs, civic clubs, etc, who wanted to study their own community at first hand. [27]

However, while the clergy and social reform movement had been important in helping to develop sociology as an academic discipline, an influence evident in the type of research carried out in the 1890's and the early part of the twentieth century, and reflected in the early issues of the American Journal of Sociology, some of the new academic sociologists were equally concerned with establishing the subject as a legitimate scientific study. This ambivalence towards reform is expressed in Small's pragramatic statement in the first issue of the American Journal of Sociology: "To many possible readers the most important question about the introduction of this journal will be with reference to its attitude to 'Christian sociology.' The answer is ... toward Christian sociology (the journal will be) sincerely deferential, towards alleged 'Christian sociologists', severely suspicious." [28] Perhaps the number of articles in the first five volumes on social reform and Christian sociology may have reflected Small's concern that there was not enough papers forthcoming to fill the early issues, as well as the need to court the support of reformers and the clergy; or conversely it may have arisen from a genuine ambivalence as opposed to a pragmatic attitude which is illustrated by Everett Hughes comment "Small was two men: one of him wrote in a Germanic sort of way on the history of

sociology and its place among the disciplines; the other attacked the evils of capitalism and monopoly with such vigour that his style sometimes became almost lively." [29] Small like a number of the leading figures in American academic life before the first world war had received his postgraduate training in Germany, and was acquainted with a very different tradition of social and cultural studies, the Geisteswissenschaften. His intention to promote a scientific sociology which is firmly linked to history and philosophy is reflected in his editorial policy of publishing translations of articles by European sociologists, notably Simmel [30], and the fact that the names of Durkheim, Simmel, Schaeffel and deGreef appeared as advisory editors on the masthead of the pre-war American Journal of Sociology.

There is a tendency among some commentators to characterise the pre-first world war era in American sociology as being one of armchair theorising, which is antiposed to the 1920's which is regarded as an era of empirical social research. Thus R E L Faris speaking of the post war period states "It was no longer the fashion for each sociologist to build a system and thus become the father of a school of thought." [31] Louis Wirth perceived a similar movement from "an excessive concern with building up a technical vocabulary and finding rationalisations for systems of classifications and other abstract categories of thought" to a period of "fact gathering and intensive, but more or less aimless study of small and often disconnected 'problems' and the immersion into the development of super-refined techniques for ordering and summarising the crude data thus gathered." [32] However, it seems clear the Giddings at Columbia and Small, Henderson and Thomas at Chicago were not solely concerned with building abstract systems, for they actively encouraged their students to go out into the city and collect data. Although the pre World War I empirical research was carried out for the most part with a reformist interest, and showed little concern to

establish a standardised research methodology, it is possible to regard the empirical studies of the city of Chicago in the 1920's as having some continuity with this tradition. Park, writing in 1929, perceived the pre-war studies as providing broad outlines for the approach which was later adopted in the Chicago human ecological studies. After a discussion of the research of Woods, Abbott and Breckinridge, Booth, The Hull House Studies, the Pittsburgh and Springfield surveys, he comments "In all, or most of these investigations there is the implicit notion that the urban community, in its growth and organisation, represents a complex of tendencies and events that can be described conceptually, and made the object of independent study. There is implicit in all these studies the notion that the city is a thing with a characteristic organization and typical life-history, and that individual cities are enough alike so that what one learns about one city may, within limits, be assumed to be true of others. This notion has been the central theme of a series of special studies of the Chicago Urban Community." [33]

While as Park indicates the Chicago urban studies of the 1920's have broad links with the pre-war social surveys, they also had the example of a research project conducted under the auspices of the department which provided an important step forward in research techniques and methodology - Thomas and Znaniecki's 'The Polish Peasant in Europe and America', first published in 1918. [34] W I Thomas had studied language and philosophy in Germany before taking up his appointment at the University of Chicago in 1896. In this early phase he showed an interest in folk psychology - deriving from the German tradition of Volkskunde - the examination of the folklore of living Germnan rural society

through the use of interviewing and impressionistic field observation.[35] Another influence, which was important in differentiating the type of empirical research that Thomas formulated from other contemporary research, was the ethnography of Boas. Kimball Young tells us that "Thomas was the first sociologist in the country to understand and appreciate the close relation between ethnology and sociology both as to materials and standpoint. Not until about 1920 did the majority of American sociologists begin to discover the importance of the relationship which Thomas had indicated more than ten years earlier".[36] With the publication of the 'Source Book for Social Origins' in 1909 Thomas presented a vast array of ethnographic data in an attempt to provide an understanding of the influence which cultural elements had upon the development of social institutions, a question which was to assume further importance in his study of the way of life of European immigrants in American cities in 'The Polish Peasant' and in 'Old World Traits Transplanted'.[37] It is of interest to note that Thomas' commitment to empirical research extends back at least to 1908 when he obtained a research grant of $50,000 to do research on immigration, which must have been one of the first major research grants given to a sociology department. The 'Polish Peasant' which specifically examined immigrant culture and the changes experienced by immigrants as they moved from European peasant backgrounds to the urban-industrial areas of the United States, is generally regarded as having provided a new standard for empirical research in the way the authors attempted to relate theory to research, and present data in a more 'objective' manner. Thomas and Znaniecki used personal documents - letters, diaries etc, which they reprinted in the book, to provide detailed evidence of the culture and life-histories of immigrants. In one sense the Chicago empirical studies of the 1920s can be seen as following on from the 'Polish Peaseant' in revealing a similar concern with the social disorganization involved in the adaptation of immigrant groups to city life.

W I Thomas also influenced the future development of Chicago sociology by recruiting Robert Park to the department in 1914. Park came to sociology teaching relatively late in life, aged fifty. The fact that Park had previously been a newspaper reporter is well known, indeed it is at times accorded a quasi-causal significance on his subsequent academic endeavours by some commentators. After graduating Park had spent eleven years working for various newspapers

reporting on the corruption and disorganization which was perceived as characterising the urban scene in the 1890s. He returned to academic life to complete an M A in psychology and philosophy at Harvard under William James, and in 1899 aged 35 he went to Germany, first to Berlin to listen to Simmel's lecturers on sociology, and then onto Strasburg and eventually Heidelberg to complete a doctorate entitled 'Masse und Publikum'[38]. under Windelband. On his return to the United States, after a brief period with James as an instructor at Harvard, Park became press secretary to the Congo Reform Association and subsequently wrote a number of muckraking articles for Everybody's Magazine on the Congo. In the course of his work he met Booker T Washington and spent some seven years as publicity man for Washington travelling the South and working at the Tuskegee Institute. Park accompanied Washington on a research trip to Europe in this period, and helped Washington to write 'The Man Farthest Down', an account of the miseries of the European working-class. It was at a conference at the Institute that Park met Thomas, who persuaded him to go to Chicago as a temporary lecturer in 1914. Janowitz tells us that "Thomas had a profound influence on Park both personally and intellectually" and that "Park carried on and elaborated many of the research interests of Thomas and busied himself with graduate teaching in the tradition of Thomas."[39]

At Chicago Park found himself in a situation where he was diverted away from his former interests in reporting and reform into a theoretical direction; as he stated in retrospect "We have in sociology much theory but no working concepts... I did not see how we could have anything like scientific research unless we had a system of classification and a frame of reference into which we could sort out and describe in general terms the things we were attempting to investigate. Park and Burgess' 'Introduction' was a first rough sketch of such a classification and frame of reference. My contribution to sociology has been, therefore, not what I intended, not what my original interests would have indicated, but what I needed to make a systematic explanation of the social work (sic) in which I found myself. The problem I was interested in was always theoretic rather than practical."[40] In his concern for a systematic approach to social phenomena Park was influenced by Georg Simmel; it was at Berlin that he had

received his only formal sociological training in attending Simmel's lecture courses.[41] The scheme used to organise the 'Introduction to the Science of Sociology' reflected Simmel's influence. D Levine mentions that Park and Burgess provide ten selections, and in the index cite 33 references to Simmel - more than for any other author.[42] Yet for all this, Park was not a disciple of Simmel, for while he saw the need for a systematic approach to the social world he was willing to draw on a variety of theorists and select those who seemed to offer the most useful conceptual understanding of the area with which he was immediately concerned, without making any overall attempt to integrate the disparate elements into a comprehensive theoretical system. Perhaps this tendency towards eclecticism arose out of his wish to see theory as a prolegomenon to social research.

Park, the former journalist and social reformer who had generated an interest in urban research 'tramping about the cities of the world' had a strong conception of the meaning of objective sociological research, which hardened him against reformism and humanitarianism alike. He attacked those who expressed a reformist bent, as Faris recalls "More than once he drove students to anger or tears by growling such reproofs as "You're another one of those damn do-gooders""[43]. He told students "Their role instead was to be that of the calm detached scientist who investigates race relations with the same objectivity and detachment with which the zoologist disects the potato bug."[44] It is clear that Park's varied background enabled him to maintain at times a necessary distance, a degree of marginality from both reformist and academic concerns. This view has been well expressed by Oberschall who states "The important fact here is that these varied experiences were acquired on top of an already systematically schooled mind, so that Park's reaction to them was at a theoretical level, not just at the level of humanitarian concern. At the same time, not being part of the academic world and not having to concern himself with problems of legitimacy and with intellectual controversies, he was freed from the pressures and conventions that so often dry up the imagination and the willingness to take intellectual risks."[45]

In his theoretical writings Park provided a host of suggestions for research projects, some of which were carried out by his students to whom he gave a good deal of guidance while they were conducting the research. Faris mentions that he "tended to adopt his most promising students into something of a protege status. Park would give such students countless hours of private conversation in the course of which he

would all but supply them with the framework of a dissertation or even a book."[46] What seems crucial in terms of the achievement of Chicago sociology in the 1920s was his breadth of vision which enabled him to conceive a common programme into which the various research projects could be slotted. This orientation towards research is indicative of Park's mature and unselfish attitude to academic work which is epitomized by his statement that he would rather induce ten men to write ten books than to take off to write one himself.[47].

Soon after his arrival at the University of Chicago, Park published his influential paper 'The City: Suggestions for the Investigation of Human Behaviour in the City Environment'[48]. The article is notable for the range of systematic questions Park asked about the city's structure, population characteristics and typical social relationships which indicated the paucity of sociological knowledge in this field.[49]. As has been stressed in the discussion above, previous studies had concentrated for the main part on urban social problems, little or no attempt had been made to formulate a theory of the city or to conceive a systematic sociological research programme based upon such a theoretical framework. However in the ten years following the publication of Park's paper the situation had been radically altered. By 1925 human ecology had been recognised as a new subject by the American Sociological Society, and in that year a number of papers on human ecology were read at the ASS annual conference.[50]. The conference papers on human ecology by Park, McKenzie, Reckless, Gras and Zorbaugh were included in a volume edited by Burgess which appeared in 1926 entitled 'The Urban Community'.[51]. Also in 1925 a collection of articles by Park, Burgess and McKenzie were published in a book entitled 'The City'[52]. Park's paper 'The City: Suggestions for the Investigation of Human Behaviour in the Urban Environment' had been reprinted with a new introduction in which human ecology was discussed; an article by McKenzie attempted an early definition of the scope of human ecology; and in a paper by Burgess the zonal model of urban growth was put forward. Human ecology was thus by 1925 a recognised sub-area of sociology, which appeared to offer great promise in understanding the working of city structure and processes, as well as being a useful framework within which empirical social research into aspects of urban life could be carried out. Park's students had produced by 1925 a number of empirical studies which were part of the programme of research into the city. Theses had

been presented by: Hayner on hotel life, Mowrer on family disorganisation, Reckless on vice area, Anderson on the hobo; while studies of the ghetto by Wirth, the gang by Thrasher, suicide by Ruth Cavan, retail business by Shideler and the Lower North Side by Zorbaugh were well underway.[53] It would therefore seem possible to bracket the period 1915-1925 as the crucial time in which a programme for research into the city was conceived and inaugurated, as well as the time in which Park developed the first formulation of human ecology and stimulated a number of colleagues and students to use ecological concepts in empirical research.

The tradition of empirical research into the city of Chicago, going back to the Hull House Papers in the 1890s, had provided descriptions of immigrant and slum areas, as well as using maps to show the distribution of housing condition, poverty, unemployment and other social problems. Research involving the mapping of urban phenomena was continued when E W Burgess a former Chicago graduate student, took up a position in the department after the death of Henderson in 1916. Prior to his appointment Burgess had been engaged in a number of social surveys at the University of Kansas. On taking over Henderson's courses Burgess mentions that he encouraged students to make maps of all the types of social problems on which they could get data. The co-operation of city agencies such as the Juvenile Courts, the Health Department, the social settlements, the association of commerce, was obtained and gradually a picture was built up of the distribution of urban phenomena. Burgess comments "From this began to emerge the realisation that there was a definite pattern and structure to the city, and that many of the types of social problems were correlated with each other."[54] Research into the city gained further impetus when Park started up a field study course in 1918. Burgess soon joined Park in running the course and they both encouraged students to go out into the city of Chicago and bring back data which could be analysed and mapped.[55] The collaboration between Park and Burgess at this time was particularly fertile, Burgess shared an office with Park and was clearly impressed by Park's intellectual capacity , as is indicated by his comment "Dr Park had a most creative mind. He lived and slept research. I never knew when I would get home for dinner because we would spend whole afternoons discussing both theoretical and practical aspects of sociology and social research."[56]

The 'Introduction to the Science of Sociology' published in 1921, was a notable product of this collaboration. In its arrangements of topics and selected readings the book represented a radical departure from the form and style of previous introductory texts, and has been referred to as "the most influential textbook in the history of American sociology."[57]. The 'Green Bible' was used at both undergraduate and graduate levels and provided for students a 'systematic treatise' in the tradition of Thomas' 'Source book for Social Origins' with its carefully chosen extracts, extensive bibliographies and questions for discussion.[58]. However of particular interest here is its role in the development of social research and human ecology. While Park and Burgess suggest a whole range of research projects in the 'Introduction', the book also provides a theoretical frame of reference which was directed towards empirical research, and could therefore serve as a guide to research students. The first formulation of human ecology is made in the book; however the scattered references to ecology do not amount to a systematic statement. Park had in an earlier article written in 1918, made comparisons between social groups and the plant community and referred to the work of plant ecologists such as Clements.[59]. Selections from the plant ecologists Warmings and Clements, as well as from Darwin appear in the 'Introduction'. However although ecological concepts such as symbiosis, invasion, succession and competitive co-operation are discussed, no attempt is made to specify how these could be combined into an approach which would be relevant to examining the human community as opposed to plant communities. Park and Burgess refer to Galpin's study, 'The Social Anatomy of an Agricultural Community' as an important community study, but comment that "With due regard of these auspicious beginnings, it must be confessed that there is no volume upon human communities comparable with the several works on plant and animal communties".[60].

It is possible that an examination of the sources mentioned in the 'Introduction to the Science of Sociology and in the volumes 'The City' and 'the Urban Community' will provide some indication of the body of material which Park and his colleagues may have taken into account in formulating their early views on human ecology. Plant ecologists such as E Warming, who had published 'The Oecology of Plants'[61] in 1909, and F E Clements who had written 'Plant Succession, An Analysis of the Development of Vegetation'[62]. in 1916, appear to have been influential. They

both stressed that plant communities have a characteristic life history with sequences of development resembling that of an organism. Clements also discussed succession, invasions, and zoning; the latter process which referred to the form assumed by the plant community as plants are displaced and succeded by other species, may have had some impact on Burgess, who first put forward his zonal theory of urban growth in 1923.[63.] It may have seemed to Park and Burgess that the changes taking place in the rapidly growing city of Chicago paralleled the competition for land use, segregation, invasions, successions and zoning which the plant ecologists emphasised.

C J Galpin in the 'Social Anatomy of an Agricultural Community'[64.] (1915), while he did not refer directly to ecology provided a useful description of the functional areas of a Wisconsin county and arrived at conclusions which have in retrospect been described as ecological.[65] In his study Galpin collected data for families in the county showing where they banked, traded, went to church, sent their children to school etc., from which he was able to construct a series of maps showing the extent of the different spheres of influence which each village had for each separate activity. He illustrated the functional interdependencies of different parts of the community and showed that the natural boundaries of the trade, church and other community areas did not coincide with the political boundaries. Galpin's study also indicated that the sociologist could go out into the field and with the use of mapping and quanitative techniques produce an 'objective' analysis of a community. The study clearly had some influence on Park for Hollingshead informs us that "Park remarked to the writer on several occasions in the late 1930s that Galpin's 'Social Anatomy of an Agricultural Community' brought into focus his own thoughts about the relationship between city growth and structure, institutional services, neighbourhoods and natural areas."[67.]

A further possible influence on the formation of human ecology was provided by business economists. R M Hurd published 'Principles of City Land Values' in 1911[68.] in an attempt to establish better methods for predicting the distribution and change of urban land values. To this end he collected maps, local histories and information on mortgages and rentals for various cities in an attempt to work out principles of urban growth. He claimed that the value of urban land is determined by

competition between utilities, with business, banks and offices clustering around a point of attraction - giving the city a principle of central growth. Aspects of Hurd's theory could easily be integrated into a human ecology framework, for he mentions that utilities and residences tend to cluster together in their own segregated areas, and that the city grows outwards by pressure of one zone on the next, conceptualisations which are similar to those which later appeared in Burgess' paper 'The Growth of the City' and other writings on human ecology. A further study referred to by both Park and Burgess in 'The City'[69]. is that which was made by the Bell Telephone Company, who financed studies of cities in an attempt to obtain information which would enable them to forecast the direction and rate of city growth in order that future demand for telephones could be worked out. Hence studies of urban growth financed and written by businessmen were conceived with the intention of ellaborating the general principles, and if possible the 'laws' of urban growth for the technical utility such information would yield. This orientation in its search for generalizable knowledge about the city shared a similar natural science interest to that of human ecology.

As well as the background influence of plant ecology, land economics, and rural sociology in providing a basis from which Park arrived at his first tentative formulation of human ecology, it is evident that further impetus for the subject's development resulted from the programme of research into the city of Chicago. It is of course very difficult to assess how far the empirical studies proved to be a stimulus to the development of human ecology or conversely how far human ecology provided a frame of reference which was conducive to the research which resulted in the empirical studies of the city. What seems to be of importance is that there is strong evidence of the parallel development and reciprocal interplay of human ecology and the empirical studies of the city, and it is possible to speculate that neither human ecology nor the empirical studies would have been developed to such an extent without some mutual interchange. To answer the questionof why human ecology was developed at Chicago would involve the examination of biographical and departmental information. A further interesting question can be posed but not answered: that is why did human ecology - a body of ideas which shows some similarities with the view of society put forward by the nineteenth century Utilitarians who emphasised that competition resulted in mutual benefits and a self-regulating system - emerge at a time when laissez-faire capitalism had given way to corporate capitalism, and why did it continue to develop in the 1930s at a time when corporate capitalism became more regulated through state intervention into

the economy?

Given the Chicago tradition of urban studies which goes back to the Hull House papers and the work of Chicago graduate students, it would seem that the major change in this tradition was provided by the conception of an integrated research programme into the city of the 1920s. That such a change occured was in part due to the personal influence of Park who endeavoured both in his writings on sociology and human ecology to provide a theoretical basis to act as a framework for empirical research.[70] It was also made possible by the availability of research funds and the special relationship which departments of the social science faculty enjoyed at Chicago, for it must be emphasised that the empirical studies of the city undertaken by sociologists in the 1920s and 1930s were also paralleled by studies made by political scientists, economists, geographers and social administrators, in a unique attempt to provide an interdisciplinary approach to the city. E C Hughes tells us that the impetus for such a programme came shortly after the publication of Park's 1915 paper 'The City: Suggestions for the Investigation of Human Behaviour in the City Environment'; he states "Not long after its publication Small called the faculty of the several departments of social science together and proposed that they all work on a common project - the city - and that they start their work at home."[71] In the 1920s studies of land values were made by economists, the geographers developed an interest in human geography and studied the physiographic situation of the city, and political scientists under Charles Merriam turned away from political theory to make a series of empirical investigations into electoral processes and voting, city government, corruption and machine politics. However it would seem that these studies as well as the sociological studies would have been severly limited in scope without the provision of research funds. Burgess mentions that a former Chicago psychology instructor, Beardsley Ruml, who had become director of the Laura Spelman Rockefeller Memorial Fund, (later to become the Rockefeller Foundation), induced the trustees to devote funds to social science research with the result that in 1923 the Social Science Research Council was established.[72] Chicago was the first university to receive a grant from the research council. In the same year the Local Community Research Committee was set up[73] with the intention of encouraging interdisciplinary studies of the city of Chicago. The productivity of the social science faculty under the guidance of the Local Community Research Committee was prodigious; C D Harris in his address on the 25th anniversary celebration of the Social Science Research Building in 1954 states that "In the years 1923-29 alone,

44 books and monographs were written and published under the guidance of the committee; many but not all of these were concerned with Chicago."[74] An understanding of the range and achievement of the Chicago faculty can be obtained from a number of compilations recording and assessing the progress in social science research. In 1929 following the inauguration of the Social Science Research Building (financed by a grant from the Laura Spelman Rockefeller Memorial Fund) two books were published: 'Chicago: An Experiment in Social Science Research' (T V Smith and L D White editors) and 'The New Social Science' (L D White editor). These collections were followed in 1940 by 'Eleven Twenty Six: A Decade of Social Science Research' (L Wirth editor) and in 1956 by 'The State of the Social Sciences' (L D White editor).

Clearly by the mid 1920s sociology was well established at Chicago as Edward Shils summarising the factors which resulted in its institutionalization comments: "It (institutionalization) centred on a standard textbook which promulgated the main principles of analysis, postgraduate course, lectures, seminars, examinations, individual supervision of small pieces of field research to be submitted as course and seminar papers, and disertations done under close supervision fitting into the scheme of analysis developed by Park, Thomas and Burgess. It was sustained by the publication of the main dissertations in the Chicago Sociological Series and the transformation of the American Journal of Sociology into an organ of the University of Chicago research. It was reinforced by public authorities and civic groups which offered sponsorship and co-operation for research, and by financial support from the university and private philanthropists."[75]

In the inter-war period the Chicago department rose to the position of being the most important centre for sociology in the United States. Chicago sociologists provided the editors[76] for the American Sociological Society's official journal - the influential AJS - which as Shils indicates above became a ready outlet for the Chicago department's publications, a factor which was later to cause some bitterness in the events leading up to the foundation of the American Sociological Review. The American Sociological Society had a large proportion of its officials from the Chicago Department, and in the period from 1924-34, 9 of the 11

presidents were either Chicago faculty members or graduates.[77] Park and Burgess 'Introduction to the Science of Sociology' was one of the most popular textbooks of the era, and the two authors were among the most influential American sociologists, having the honour of being the authors most frequently mentioned in the index of the 47 sociology textbooks examined in a survey by Odum.[78]

The inter-war period was one of rapid growth in higher education. In the period 1920-40 college enrollment doubled, the number of graduates increased six times, and the number of graduates completing doctorates increased some 500%.[79] Sociology participated in this general upsurge with a massive increase in the number of sociology courses offered in colleges and universities.[80] Chicago with some of the leading figures in American sociology on its staff, and its growing reputation for research, was in a position that enabled it to build up a large graduate school that attracted some of the most outstanding graduates in the country, who could then be trained in the Chicago tradition and sent out in large numbers to teach at other universities and colleges. While Chicago did not manage to penetrate its chief rivals Columbia and Harvard, it succeded in creating a satellite system in the state universities of the Midwest and Far West where "sociology was Chicago sociology."[81]

The empirical studies of the city undertaken by Chicago sociologists (which we have discussed in detail in the previous chapter), were for the large part completed and subsequently published in the Chicago Sociological Series by the early 1930s.[82] They were followed by a spate of empirical studies conducted within a human ecological frame of reference which concentrated upon the examination of cities, rural communities and regions using (for the large part) the ecological concepts and techniques made popular by the Chicago empirical studies. Little attempt was made to develop a unified body of human ecological theory in the 1920s and early 1930s, and it is of interest to note that Park's major theoretical statement in papers entitled 'Human Ecology' (1936) and 'Symbiosis and Socialization' (1939) were published after Park had retired from the University of Chicago in 1934. Rather the emphasis was on empirical research, and the human ecological articles by Park, Burgess and others were concerned with clarifying and ellaborating

ecological concepts which had been used, or could be used for research.[83]

Some idea of the extent of the literature on human ecology that was influenced by the theoretical and empirical work of the Chicago sociologists in the 1920s, can be gained from a bibliography provided by Quinn who lists 347 books and articles for the period 1925-39.[84] While Quinn includes some important works from other fields which have had a major impact on human ecology, and extends his period back from 1925 to take in earlier important human ecological works, the number of works cited - which he tells us are to a large extent the product of sociologists - is impressive. Although a number of these works are concerned with the examination of man's relation to his environment and the resultant community form - studies of rural areas and regions, some of which use a broad approach which emphasises geography and economics - other studies tend to follow more closely the pattern of the Chicago ecological studies of the city and concentrate not on man's sustenance relations, but on the spatial structure of urban communities, and the distribution of various phenomena - usually social problems - within them. The latter group of studies examine urban structure, zoning, natural areas, and discuss correlations between, and gradients of, urban phenomena. Hence studies of city structure were made of Philadelphia by Weaver,[85] Minneapolis and St Paul by Schmid,[86] Montreal by Dawson,[87] and Cleveland by Green.[88] It is evident that these studies vary a great deal in scope - Green for example looks at the distribution of delinquency, prostitution etc for census areas of Cleveland and correlates them with low economic status areas in a study which makes no reference to human ecological concepts or literature, but clearly draws upon them; whereas Schmid makes a detailed examination of the twin cities outlining zones and natural areas, as well as plotting the distribution and gradients for delinquency, crime, illegitimate births etc, in a study which closely follows the work of the Chicago tradition . Studies of the distribution of urban phenomena following the same approach as that used in Chicago by Shaw and McKay, Reckless, Faris and Dunham and others were made of marriage rates by Bossard,[89] divorced women by Bossard and Dillon,[90] juvenile delinquency by Longmoor and Young,[91] suicide by Schmid,[92] mental disorders by Queen.[93] In addition a number of studies were made of gradients for families on relief and intellectual tendencies by Smith,[94] fertility by

Whelpton,[95] and felonies by White.[96] For the large part the above studies were not concerned with a discussion of human ecological theory, other than the passing reference to the major papers by Park, Burgess and McKenzie. While they follow the approach of the Chicago empirical human ecological studies in outlining the distribution of phenomena for natural areas and zones, and examine gradients for phenomena and search for correlations between phenomena, they do not generally attempt to explain the pattern of distribution or the correlations which they found.

What perhaps is of importance here is that the Chicago graduate students and researchers enjoyed the benefits of the institutional arrangements of the Chicago department. As well as having a close familiarity with Park's ideas from the study of the 'Introduction to the Science of Sociology' and his other writings, graduate students would also participate in seminars and have informal discussions with Park, who given his forceful personality and stated preference for stimulating others to do research rather than to be concerned directly with research himself, helped to provide an atmosphere conducive for the discussion of human ecology and its relation to sociology in terms of theoretical formulations and research possibilities. Chicago graduates and researchers thus had the advantage of participating in an oral tradition, that enabled them to discuss theory and research with a man who clearly did not set down on paper all his major thoughts on a subject. Researchers and graduates at various other institutions while they may have been influenced by Park and the other Chicago sociologists published writings, and in some cases may have had the experience of having been taught by Chicago graduates, would still be at a disadvantage as compared with those who carried out research at an institution where they either had the privilege of following Park and Burgess while they developed their ideas on human ecology and the city, or those who joined the department when many of the empirical studies were still underway.

Edward Shils suggests that human ecology was the chief stock-in-trade of American sociologists in the 1930s.[97] Part of human ecology's popularity would seem to derive from its formulation by Park and Burgess, leading sociologists at America's leading sociology department, and the impressive studies carried out by their students. Human ecology with such advantages had a better chance of assuming

the position of an important and legitimated approach to the study of communities than if it had been formulated and devloped by less well-known sociologists at a lesser institution. The subject also offered to researchers an attractive frame of reference for conducting urban and rural community studies. With the possiblity of the gathering of data from census reports, municipal and social agencies etc, the mapping of data by census tracts or natural areas, the correlation of data to show covariance of phenomena, the computation of rates for zones and gradients, human ecology would perhaps have seemed to provide a way of studying a community, be it rural or urban, or a social problem in its more 'objective' aspect, and enable a mass of 'hard data' to be assembled within a seemingly useful and coherent framework. The Chicago sociologists had by using a human ecological framework produced a series of important monographs in which they had concentrated for the large part on one community, Chicago; similar studies could be made of the human ecological structure of other cities. In examining the spatial distribution of juvenile delinquency, prostitution, suicide etc the Chicago sociologists had only studied a part of the whole range of phenomena on which data could be obtained and analysed. It thus seems possible that to many of the sociologists conducting empirical research projects, human ecology appeared to provide an approach which on the one hand appeared to be scientific in that it sought to use 'objective' methods to handle quantitative data with the intention of providing generalizable information, and on the other hand human ecology seemed to offer a wide choice of research topics within a relatively undeveloped field.

Human ecology's main contribution would thus seem to have been in the area of empirical research as opposed to theory. Indeed the empirical emphasis has led to the charge that Park's writings were not theoretical. P Hauser, for example, states "Park's early work of an ecological character was essentially a-theoretical... In his early writings Park placed the ecological into the forefront of sociological consciousness as a field of exploration, but he did not provide anything resembling a theory of, or for, human ecology."[98] There are of course a number of possible interpretations of the term 'a-theoretical'. Hauser may be implying that Park did not produce a set of generalizations of a testable and interrelated kind which were generated from empirical research. Conversely Hauser may have meant that Park did not engage in producing an abstract, logically well-integrated general theory

of human ecology. While Park may not have opted exclusively for either of these courses, he did produce theoretical work in the sense of developing a frame of reference and a conceptual scheme which operated at an intermediate level in terms of the two views of theory mentioned above. This implies a view of theory as involved in an ongoing relationship with research; for theory should act as a guiding framework to empirical research yet it should be flexible enough to be modified by the research findings.[99] From this perspective Park's early writings can be seen as having been primarily concerned with providing a stimulus to empirical research, and making periodic statements about the current developments in the Chicago empirical studies; they also contain discussions and formulations of the major human ecology concepts such as competition, symbiosis, invasion and succession, natural areas, mobility, gradients, as well as the relationship between 'community and 'society'. Park's later papers[100] show a greater degree of systematization, and discuss these concepts at a more general level in which only occasional passing references are made to the application of human ecology to the city or the Chicago empirical studies. One might also speculate that had developing a consistent human ecological theory been a major concern to Park, he would have persuaded one or more of his graduate students to produce a thesis on the subject.

It is perhaps ironical that the first attempt to produce a general outline of human ecological theory, Milla Alihan's 'Social Ecology' was also a most incisive critical analysis of the subject. Alihan's book, which appeared in 1938, is an attempt to piece together a consistent theory of human ecology from the varied and scattered writings on the subject, while at the same time showing the contradications and logical inconsitencies which resulted from such an attempt. Other criticisms of the validity of applying ecological analogies, on the determinism implicit in the 'community-society' dualism, and of specific human ecological concepts, revolved for the main part around the inability of human ecologists to take account of socio-cultural factors. The major criticisms to emerge were by Davie[101], Gettys[102], Hoyt[103], Hatt[104], Firey[105], and Hollingshead[107], in the late 1930s and 1940s. They were followed by the first comprehensive attempts to outline the scope and problems of human ecology by Hawley[107] and Quinn[108] in

1950. It is in the light of these criticisms of what has come to be known as 'the classical position' that Gordon remarks "The school's period of major influence was over by the time of the outbreak of World War II, probably the result of causes which included a devastating attack on its theoretical assumptions by Alihan, empirical invalidation or substantial modification of some of its research hypotheses, the death of McKenzie, and Park's retirement from the writing scene."[109]. However while Chicago human ecology was under attack in the late 1930s it seems unlikely that these theoretical criticisms had an immediate impact on empirical research conducted within a human ecological frame of reference. In this respect it is of interest to note that Calvin Schmid who contributed a chapter entitled 'Research Techniques in Human Ecology' to Pauline Young's 'Scientific Social Surveys and Research' published in 1949[110], outlines ecological concepts such as the natural area, concentric zone, the gradient, the index, and discusses mapping techniques without once referring to any of the critiques of human ecology.

Also of interest from Gordon's remarks is that he followed Alihan in using the term 'ecological school'. Alihan had opened her book by stating "The ecological school is one of the most definite and influential schools in American sociology at the present time."[111] However her attempt to apply the label 'school' to the human ecological writings was rejected by Park in his review of the book. He informs us "It is possible... that the writers responsible for this school and its doctrine were not aware that they were creating a school. In any case they seemed quite innocent in most instances of anything that could be called a doctrine."[112] Alihan's reference that human ecology was 'most influential' must also be questioned. While it is clear that important studies were carried out in Chicago in the 1920s, followed by a large number of empirical studies made by other sociologists in the 1930s, human ecology does not appear to have had a major impact on the mainstream of American sociology, that is if the proportion of journal articles devoted to the subject can be regarded as an indication of the subject's influence.

Unfortunately information is only available for two studies, both of the contents of the American Journal of Sociology. H P Becker examined the distribution of space in the AJS for the period 1895-1930[113]. and divided up the articles according to the AJS' 'Tentative Scheme for the Classification of Literature on Sociology and the Social

Sciences' which had been formulated for the compilation of sociological abstracts. Under this scheme of classification there is no separate heading for human ecology, and it is to be supposed that human ecology articles would have been included in the category labelled 'communities and territorial groups', a section under which articles on rural communities, the city and its areas and human geography are included. This section contributes a fairly low proportion of the total articles - around 6% for the period 1920-30[114]. In a later and more comprehensive study Ethel Shanas examined the distribution of space in the AJS, 1895-1945.[115] The author provides a separate category for human ecology which shows a slight decline and then a steady rise in the period 1920-44, making up 5.8% of the total in the period 1920-4, 5.6% in the period 1925-9, 5.7% in the period 1930-34, 6.0% in the period 1935-9, 6.8% in the period 1940-44. However her category of human ecology is a broad one, and she includes in it all articles on urban and rural sociology.

While the evidence of the two surveys seems to suggest that human ecology provided a relatively small proportion of the AJS articles in the 1920s and 1930s, the systems of classification are imprecise and can be subjected to a number of interpretations. On the one hand the proportion may be an under-representation, for articles which may have included some mention of human ecology, or used an implicit human ecological frame of reference - possibly articles on social problems such as crime and delinquency, or social surveys, may have been counted under some of the other categories. Alternatively the human ecology proportion may be an over-representation, for in the case of Shanas, rural and urban sociology articles which were not conducted within a human ecological frame of reference are included in the human ecology category, and in the case of Becker, the broad category of 'territorial and social groups' might likewise include many non human ecology articles. Hence we might surmise that the figure of around 6.0% given by Becker and Shanas represents a high estimate of the space given to human ecology in the official American Sociological Society journal.[116] The fact that Becker writing in 1932 used a system of classification which makes no mention of human ecology may be an indication that the subject did not have an immediate and major impact upon sociology. Further weight to this view is given by a study of the interests of members of the ASS which was reported by H G and W Duncan.[117], and G Lundberg[118]. In each of the years from 1928 to 1931 members were given a checklist and asked to mark off their chief

sociological interests. Although thirteen divisions were provided on the checklist no heading was given to human ecology, while among the headings that did appear were: social biology, social research, rural sociology, community problems. Of course the evidence provided by the ASS and AJS surveys is tenuous, and it can be argued that a new subject takes some time to become an accepted part of the sociological tradition, and that human ecology may have been associated with social surveys and regarded as a frame of reference and not as a subject area in its own right in the 1920s and 1930s. This evidence taken together with the views of commentators on American sociology seems to suggest that human ecology was not generally regarded as a coherent or influential school in its own right, by sociologists at that time.

In considering the decline of human ecology at the University of Chicago, Park's retirement in 1934 was probably an important factor. As mentioned above, following his retirement Park wrote articles in 1936 and 1939[119] in which his prime concern appears to have been to make a more general statement on human ecology which contrasts with the discussion of completed empirical studies of the city and the problem of applying ecological concepts to empirical research which characterised his writings before 1930. Practically all of the empirical studies of the city which appeared in the Chicago Sociological Series had been completed by the early 1930s[120]. It would thus seem that Park's papers on human ecology which appeared prior to 1930 were written in parallel with the empirical studies of the city, and his later articles were perhaps an attempt to make a more general restatement of human ecological theory, rather than to promote research. If this is the case then it is possible to assume that a movement away from studies of the city conducted within a human ecological frame of reference had taken place somewhat earlier than 1934, the date of Park's retirement. One possibility for the cessation of human ecological studies conducted in conjunction with detailed fieldwork is put forward by Bell and Newby, who suggest that this may have resulted from Chicago being overstudied by the early 1930s[121]. While it is readily acknowledged that of all the cities in the world Chicago had been the one most subjected to detailed sociological analysis, without the benefit of statements by Park, Burgess and the other Chicago sociologists as to whether they felt the city of Chicago had been overstudied, one is at a loss to suggest criteria which could be used to make such an assessment. Possibly a more fruitful course would be to examine the changes which took place in the Chicago

department, in American sociology and in American society in the late 1920s and 1930s.

The appointment of William F Ogburn, who accepted a professorship at the Chicago department in 1927 was to have a decisive effect upon students and members of staff in bringing to the fore the use of quantitative techniques in social research. Ogburn had been a graduate student under Giddings at Columbia completing his Ph D in 1912, and after some years spent teaching sociology and working for the National War Labour Board, he returned to Columbia as a professor in 1919[122]. R E L Faris mentions that prior to Ogburn's arrival statistical instruction had only been available in other departments of the university. The situation was soon to be altered for "Ogburn immediately increased the offering in coursed in statistics, and graduate students were promptly required to take some of this work."[123]. There was an initial reaction against this new emphasis on statistics by some department members and students. Informal debates took place in the late 1920s with Ogburn, S A Stouffer and T C McCormick putting forward the advantages of the statistical method as against the case study method which was defended by Blumer and Burgess. Elsworth Faris, referring to this rivalry pointed out that "Men of the Park school were scornful of statistics and the statisticians seemed at times to have a superior air because they got the answers in exact figures, though whether exactness always corresponded with accuracy was sometimes a question.[124]" A further indication of Park's attitude towards the new statistical emphasis is given by E C Hughes, who recalled that he and some of the other graduate students along with Burgess attended seminars with Park who 'thundered' against statistics, while Burgess - who had been attending Ogburn's statistics courses at the time - sat silent in the corner 'twinkling' at Hughes and the others.[125] Park had expressed similar views a few years earlier when he cautioned against the reduction of social relation to spatial relation which could be quantified and measured. In his ASS presidential address reprinted as "The Urban Community as a Spatial Pattern and a Moral Order" he commented "in the case of human and social relations...the elementary units - that is to say, the individual men and women who enter into these different combinations - are notoriously subject to change. They are so far from representing homogeneous units that any thoroughgoing mathematical treatment of them seems impossible."[126]. It would seem however that the 'dynamic Burgess' was more receptive than Park to the new trend, for after attending Ogburn's statistics courses in 1928, he went on to under-

take a number of statistically orientated investigations, the most notable being 'Predicting the Success and Failure of Marriage', written in collaboration with L S Cottrell.[127]

Ogburn clearly believed that the future would see the rise of an objective scientific sociology based upon quantitative techniques, and in his ASS presidential address in 1929 he stated "In the past the great names of sociology have been social theorists and social philosophers. But this will not be the case in the future. For social theory and social philosophy will decline, that is in the field of scientific sociology. Social theory will have no place in a scientific sociology, for it is not built upon sufficient data."[128] An example of Ogburn's conception of the new approach was his interest in the study of social trends - the examinations of changes which have taken place in population, production, consumption, employment, labour social legislation, family life, the government etc. in the form of the measurement of some aspect of the social phenomena which is plotted over time so that a trend can be observed. The AJS published a series of special volumes on social trends under the editorship of Ogburn for the period 1928-42[129]. Ogburn also directed the most famous social trend study, President Hoover's Research Committee on Social Trends, and managed to raise over half a million dollars for the study from the Rockefeller Foundation. Howard Odum, the assistant director of the study which ran from 1930-33, recalled that "Ogburn was able to urge on the committee one of his major indices of methodology, namely that research be undertaken in no area unless statistical data were available for objective measurement."[130] Needless to say the research team were not short of topics, and collected data on practically every aspect of American life, to produce a report of some 1,500 pages in 1933 entitled 'Recent Social Trends in the United States.'[131]

Ogburn's interest in and promotion of the statistical approach resulted in a gradual change in emphasis in the Chicago department. A number of Chicago sociologists had worked with him on the President's Committee on Social Trends, and other department members and students were to produce studies in the 1930s which showed an increasing pre-occupation with quantification.[132] The new mood involved a movement away from the interest in the spatial distribution of urban phenomena and the natural areas of the city of Chicago, to a greater interest in the compilation and comparison of data for cities and regions. Louis Wirth writing in 1940 mentioned

that "In recent years... we have shifted our emphasis from the minute analysis of the local communities within the city to the larger sections and zones of the metropolitan region."[133] The Chicago department also collaborated with the National Resources Committee to conduct research which led to the publication of two national studies of urbansim 'Our Cities: Their Role in the National Economy'[134] and 'The Urban Government'[135]. A concise statement of some of the changes associated with Ogburn's influence which led to a movement away from cultural and ecological studies of the city in the tradition of Park and Thomas is provided by Edward Shils: "Burgess' family adjustment studies with a predictive interest, Ogburn's statistical time series of various social phenomena and concentration on the improvement of techniques of quantitative analysis, without a persistent substantive interest reduced the radiative and attractive power of Chicago as a center. Ogburn's interest in the quantitative description of trends and his simplistic and undifferentiated concept of "cultural lag" was not fitted into microsociological analysis of situations which could be studied by methods of participant-observation. The inchoate global, macrosociological interests of Park found no forceful reformulation in a way which could give coherence to the work of the department."[136]

While Ogburn played an important role in introducing quantitative sociology and measurement techniques to the Chicago department, it should be made clear that the shift in emphasis was not solely the result of Ogburn's messanic zeal, or an acknowledged superiority of the techniques he advocated. Other conditions prevailed both at Chicago and nationally which also favoured the use of quantitative methods. Of importance would seem to be the fact that statistical techniques had been used in the ecological studies of the city of Chicago. These studies were concerned with the examination of the distribution of phenomena such as juvenile delinquency, divorce and desertion, prostitution suicide etc. and the explanation of the resultant concentrations. Quantitative methods were used to show the ecological distribution of phenomena, but it would seem that for the most part the techniques used were relatively unsophisticated - the exceptions being the later studies of Shaw and McKay (1942) and Faris and Dunham (1939). Furthermore the presentation of statistical information was merely one part of Park's programme of research into the city, for the statistical evidence which provided an indication of the spatial distribution of urban phenomena was accompanied in many of the studies by an analysis of the types of

social and cultural relationships which were associated with the given spatial pattern. The important point here would seem to be that the use of quantitative techniques was only one aspect of the programme for the study of the city conceived by Park and carried out by his students. Ogburn's emphasis upon measurement and prediction, in contrast to Park's programme seemed to lack a substantive interest, in that Ogburn concentrated on the examination of social trends for a whole range of phenomena at a local and a national level, and it would seem that the city did not merit special emphasis nor need a specific theory of its own. Hence it seems possible that Ogburn's impact resulted in an increasing emphasis upon measurement and a diffusion of the Chicago research effort. It is also of interest to note that at this time in 1929, when sociology was moving in a statistical direction, anthropology split away and assumed the status of a separate department. The impact of the Depression may have acted as a further stimulus to statistically orientated research with President Hoover's Recent Social Trends Committee proving to be the forerunner of other studies in which Chicago social scientists worked in close co-operation with government agencies.[137]

An additional factor associated with the decline of human ecology in the latter part of the 1930's was the growth in popularity of survey analysis. The sample survey techniques which were used by sociologists had been derived from the market research and public opinion surveys first developed by psychologists. Edward Shils mentions that the use of this new technique of social research had a profound impact on sociology, for it "caused sociologists to think of whole national populations as their subjects, rather than of those accidentally at hand, and greatly enhanced the statistical sensitivity of sociologists."[138] The coming of survey analysis meant that correlation studies without specific reference to spatial location were feasible. Consequently it became possible to correlate the characteristics individually, whereas the empirical ecological studies had been concerned with correlating the characteristics of aggregates of individuals in natural areas, census tracts and other spacially bounded units. Edward Shils has suggested that this movement towards macro-sociological sample survey was aided by the fact that many of the empirical ecological studies were carried out without sufficient attention being given to the human ecological theory underlying the research, in that the ecological approach was regarded as merely a technique for establishing correlations among different sets of events.[139]

The 1930s saw a challenge to Chicago's position of dominance in American sociology. The departments very success in constructing a satellite system throughout the Midwest caused some resentment in the Depression when a sudden contraction of academic openings for sociology graduates, led to some bitterness within the sociological profession which was directed at Chicago's hold over the job market. Faris mention that the "size and effectiveness of Chicago's influence in sociology began to appear to some as a power seeking conspiracy."[140] The Chicago department had exerted a strong influence on the American Sociological Society, supplying a large number of the leading members and the presidents of the society in the 1920s and early 1930s, as well as owning and dominating the society's official journal, the AJS. The reaction against Chicago's dominance reached a head at the 1935 ASS meeting which Faris notes had a "distinctly anti-Chicago character."[141] The oppostion led by L L Bernard succeded in replacing the AJS as the society's official journal with a new journal, the American Sociological Review. Looking back on the dispute Bernard justified his action by stating "I took these steps because the department of sociology at the University of Chicago under its leader at that time, had become arrogant and was suspected of making the interests of the American Sociological Society subsidiary to those of the Chicago Department."[142]

Another factor in the relative decline of the Chicago department's position was the growth of other institutions in the 1930's and 1940's. While universities such as Michigan, Wisconsin, North Carolina, the University of California at Los Angeles, experienced a rapid expansion in sociology, the major challenge to Chicago came from Columbia and Harvard. The Columbia department increased in size and power under the guidance of Lazarsfeld. At Harvard sociology had been given a separate department in 1929 under Sorokin. Talcott Parsons, a member of the department produced his influential work 'The Structure of Social Action'[143] in 1937, an event which symbolised a return to sociological theory at a time when American sociology seemed to have worked itself into a theoretical vacuum[144]. The particular changes which took place in the period 1930-45 have been characterised by Henrika Kuklik in a recent article[145] as amounting to a scientific revolution in sociological theory, which saw the eclipse of the Chicago 'ecological-interactionist paradigm' and the foundations laid of the functionalist paradigm. One might quarrel with this

narrow view of Chicago sociology [146] and with the over emphasis on the role of ideas in bringing about changes in sociology which the Kuhnian approach seems to involve. It would seem that as a result of the shift in theoretical emphasis, changes in the institutional arrangements of the Chicago department and the impact of national and international events in the 1930's such as the Depression and the rise of national socialism in Germany, a movement away from the systematic study of the city within a human ecological frame of reference, which gave rise to a body of work which is identified among sociologists as 'the Chicago School of Urban Sociology' had taken place.

NOTES

1. B L Pierce, (1957) History of Chicago, volume 3, Knopf, page 390.
2. A Oberschall, (1972) The Establishment of Empirical Sociology, Harper, page 194. The importance of the power of the university president in American universities contrasts with the influence of professors and the national ministry of education which occured in France and Germany. As E Shils states "Sociology first became institutionalized in the era of the autocratic university president. Such a president could create a new department if he could persuade the board of trustees to agree and could raise the financial resources to pay for it. The availability of private financial support and the practice of its active solicitation gave a flexibility to university budgets which European universities did not have." E Shils, (1970) 'Tradition, Ecology and Institution in the History of Sociology', Daedalus, 99, 4, page 779.
3. A Small, (1916), Fifty Years of Sociology in the United States 1865-1915', American Journal of Sociology, 21, 6, page 764.
4. R E L Faris, (1970), Chicago Sociology 1920-1932, Chicago UP, page 25.
5. E Shils, (1970), 'Tradition, Ecology and Institution in the History of Sociology', page 780.
6. R Hofstadter, (1962), The Age of Reform, Cape, page 136.
7. R Hofstadter, (1962), The Age of Reform, page 173.
8. W A Williams, (1961), The Contours of American History, World Publishing Co, Cleveland, page 350.
9. R Hofstadter, (1962), The Age of Reform, page 169. Between 1898 and 1904 6/7 of the trusts came into existence.
10. See M Lerner, (1964), 'The Triumph of Laissez Faire" in A M Schlesinger Jr, and M White, (eds), Paths of American Thought, Chatto and Windus, page 149.
11. R Hofstadter, (1962), The Age of Reform, page 169.
12. R Hofstadter, (1962), The Age of Reform, page 150.

13. See R Hofstadter, (1955), Social Darwinism in American Thought, Boston.
14. In Chicago for example B L Pierce tells us that the Methodist Ministerial Association opened their sessions to leading Socialists in 1878. Speaking of the late 1880s she goes on to state "Protestant ministers in increasing numbers turned to discussions of the sweating system, of children and women in industry, of the leisure time activities of men and women who toiled in the factories, and of the hardships of unemployment. They endorsed remedial legislation; they condemned manufacturing and mercantile establishments responsible for long hours, low wages and poor working conditions." B L Pierce (1957), History of Chicago, Volume 2, page 440.
15. See A Oberschall, (1972), The Establishment of Empirical Sociology, pages 198-202.
16. Concerning the origin of the term Bottomore tells us "The title of 'muckraker', borrowed from Bunyon's Pilgrim's Progress, was bestowed by President Theodore Rossevelt in a speech of 1906 which expressed his displeasure with those writers and journalists who devoted themselves too exclusively and too sensationally, as he thought, to the exposure of evils in American life, without taking due account of what was good and improving in it." T Bottomore, (1967), Critics of Society: Radical Thought in North America, Allen and Unwin, page 27. See also A Weinberg and L Weinberg, (eds), (1965), The Muckrakers, New York.
17. A Oberschall, (1972), The Establishment of Empirical Sociology, page 203.
18. C Booth, (1892-7), The Life and Labour of the People of London, 17 vols, Macmillan.
19. E C Hughes, (1960), 'Introduction' to B H Junker, Field Work: An Introduction to the Social Sciences, Chicago U P, page vi.
20. Crowell, New York, 1895.
21. A Oberschall, (1972), The Establishment of Empirical Sociology, page 216.
22. P V Young, (1949), Scientific Social Surveys and Research, Prentice Hall, page 24.
23. E Shils, (1970), 'Tradition, Ecology and Institution in the History of Sociology', page 772.
24. A Oberschall, (1972), The Establishment of Empirical Sociology, page 215.

25. E Shanas, (1945), 'The AJS Through Fifty Years', American Journal of Sociology, 50, page 525.
26. Quoted in A Oberschall, (1972), The Establishment of Empirical Sociology, page 211.
27. P V Young, (1949), Scientific Social Surveys and Research, page 24.
28. Quoted in A Oberschall, (1972), The Establishment of Empirical Sociology, page 203.
29. E C Hughes, (1969), 'Robert E Park' in T Raison (ed) The Founding Fathers of Social Science, Penguin, page 165.
30. D Levine tells us that there were 15 articles by Simmel between volumes 2 and 16 of the AJS, mostly translated by Small. D Levine, (1972), 'Introduction' to D Levine (ed), George Simmel On Individuality and Social Forms, Chicago UP, page xlix.
31. R E L Faris, (1945), 'American Sociology' in G Gurvitch and W E Moore (eds) Twentieth Century Sociology, New York, page 546.
32. L Wirth, 'American Sociology 1915-47' AJS Index vols 1-52, quoted in L Bramson, (1961), The Political Context of Sociology, Princeton UP, page 87.
33. R E Park, (1929), 'The City as a Social Labaratary', in R E Park, (1952), Human Communities, Free Press, page 78.
34. 2 volumes, Dover, 1958.
35. E Shils, (1970), 'Tradition, Ecology and Institution in the History of Sociology', page 771.
36. K Young, (1962), 'The Contribution of W I Thomas to Sociology', Sociology and Social Research, 47, 4, page 125.
37. R E Park and H A Miller, (1921), Old World Traits Transplanted, Harper. Janowitz tells us that Thomas was primarily responsible for the book. The book was published under the authorship of Park and Miller 'to protect the name of the foundation and sociology" in the wake of the publicity surrounding Thomas' dismissal from Chicago. M Janowitz, (1966), 'Introduction' to W I Thomas on Social Organization and Social Personality, Chicago U P, page xvi.
38. Recently translated as R E Park, (1972), The Crowd and the Public, Chicago U P.

39. M Janowitz, (1966), 'Introduction' to W I Thomas on Social Organization and Social Personality, page liv.
40. Quoted in H Odum, (1951), American Sociology, Longmans Green, pages 132-3 and reprinted in L Coser, (1971), Masters of Social Thought, Harcourt, page 357.
41. See R E Park, (1950), 'Autobiographical Note' in R E Park, Race and Culture, Free Press, page vi.
42. D Levine, (1972), 'Introduction'to Georg Simmel on Individuality and Social Forms, page li.
43. R E L Faris, (1970), Chicago Sociology 1920-1932, page 35.
44. E W Burgess, (1961), 'Social Planning and Race Relations' in J Masuoka and P Valien, (eds), Race Relations: Problems and Theory: Essays in Honour of Robert E Park, N Carolina UP, page 17.
45. A Oberschall, (1972), The Establishment of Empirical Sociology, page 236.
46. R E L Faris, (1970), Chicago Sociology 1920-1932, page 30.
47. E Faris, (1944), 'Robert E Park 1864-1944', American Sociological Review, page 324.
48. R E Park, (1915), 'The City: Suggestions for the Investigation of Human Behaviour in the City Environment', American Journal of Sociology, 20.
49. L Wirth tells us that Park's paper "was designed to call attention to the opportunities for empirical research and to offer a systematic body of hypotheses for the would-be social scientist who could be lured from the library long enough to look urban life square in the face". Wirth adds that Park's paper at the time was regarded as unconventional and stirred up an intellectual ferment which was felt at the end of the war. L Wirth, (1940), 'the Urban Society and Civilisation' in L Wirth, (ed), Eleven Twenty Six: A Decade of Social Science Research, Chicago UP, page 54.
50. Mentioned by J A Quinn, (1940), 'The Development of Human Ecology in Sociology' in H E Barnes and H Becker (eds), Contemporary Sociological Theory, Appleton-Century Crofts, page 230.
51. AMS Press 1971, original edition 1926.
52. Chicago UP, 1967, original edition 1925.
53. See R E L Faris, (1970), Chicago Sociology 1920-1932, Appendices A and B.

54. E W Burgess, (1964), 'Research in Urban Society: 'A Longer View' in E W Burgess and D J Bogue (eds), Contributions to Urban Sociology, Chicago UP., page 4.

55. Burgess clearly saw the need to amass social data as is illustrated by P V Young's remarks "The 'dynamic Burgess' has been steadily engaged in a series of studies in which he attempted to secure a wider and more penetrating knowledge of community forces which determine man's behaviour. As early as 1920 he pointed out that to gain such an understanding we need comparable masses of data collected from vital and standardised units, by uniform and permanent districts, continuously gathered and uniformly reported over long periods of time. To achieve these goals Burgess proposed (1) the funding of existing research data (2) tabulation of census statistics as basic data (3) preparation of a social research map (4) working out a scheme for detailed continuous reporting of basic data, all of which is clearly a pioneering effort." P V Young, (1949), Scientific Social Surveys and Research, page 90.

56. E W Burgess, (1964), 'Research in Urban Sociology : A Longer View' in E W Burgess and D J Bogue (eds), Contribution to Urban Sociology, page 3.

57. H E Barnes and H Becker, (1938), Social Thought From Lore to Science, page 982, mentioned by R E L Faris, (1945), 'American Sociology' in G Gurvich and W E Moore (eds), Twentieth Century Sociology, page 547.

58. See L Braude, (1970), ' Park and Burgess' : An Appreciation', American Journal of Sociology, 76, page 2.

59. See J A Quinn, (1940), 'Development of Human Ecology in Sociology' in H E Barnes and H Becker, (eds), Contemporary Sociological Theory, page 224. The article is entitled 'Education and its Relation to the Conflict and Fusion of Cultures'.

60. R E Park and E W Burgess, (1921), Introduction to the Science of Sociology, Chicago UP, 1969 reprint, ed page 212.

61 Oxford UP.

62 Carnegie Institute, Washington.

63 E W Burgess, (1923), 'The Growth of the City', Publications of the American Sociological Society, 18. That Park and Burgess showed such a great interest in plant ecology may have in part arisen from the fact that Park dined a great deal at the Faculty Club of the University of Chicago, which proved to be a great intellectual centre in the 1920s. Anthony Oberschall has

mentioned that Harold Laswell told him that Park learned a great deal about ecology through meeting biologists at the Club. (This point was communicated to me personally by Anthony Oberschall).

64. In 1925 Burgess told an audience at the National Conference for Social Work that they could obtain a 'more adequate understanding of the basic factors in the natural organization of the community' from plant ecologists than from any other source. Mentioned in J A Quinn, (1940,), 'The Development of Human Ecology in Sociology', in H E Barnes and H Becker, (eds), Contemporary Sociological Theory, page 214.

65. Wisconsin Agricultural Experimental Station Research Bulletin, No3, 1915.

66. Quinn mentions that Young, Ogburn and Park selected Galpin's monograph as the first significant human ecological study in their capacity of advisory committee from the ASS to select contributions to analyse in S A Rice (ed), (1931), Methods in Social Science. J A Quinn, (1940), 'The Development of Human Ecology in Sociology' in H E Barnes and H Becker (eds), Contemporary Sociological Theory, page 223.

67. A B Hollingshead, (1948), 'Community Research: Development and Present Conditions', American Sociological Review, 13, page 138-9.

68. The Record and Guide, New York, 1911.

69. R E Park, E W Burgess and R D McKenzie, (1925), The City, pages 5 and 48.

70. L Wirth contrasts the earlier approaches to the study of the city with Park's approach. "What was lacking (ie, in the earlier studies) and what Professor Park's stimulation supplied was a coherent body of concepts which would furnish a suitable optic for the formulation of problems, and their relations, description and systematic interpretation of facts." L Wirth, (1939), 'The Urban Society and Civilisation) in L Wirth (ed), Eleven Twent Six: A Decade of Social Science Research, page 54.

71. E C Hughes, (1969), 'Robert E Park', in T Raison (ed), The Founding Fathers of Social Science, page 166.

72. E W Burgess (1964) 'Research in Urban Sociology' in E W Burgess and D J Bogue, (eds) Contributions to Urban Sociology, page 6, 1923 was also the year in which the Chicago University Sociological Series was founded with the publication of Nels Anderson's 'The Hobo'.

73. Louis Wirth informs us that the Local Community Research Committee was a direct result of the foundation grant. He states that financial assistance "served to bring into being an organization unprecedented in academic history, designed for the special purpose of facilitating social science research." L Wirth, (1939), Urban Society and Civilisation' in L Wirth (ed), Eleven Twenty Six: A Decade of Social Science Research, page 55.

74. 'Address of Welcome' in L D White (ed), (1956), The State of the Social Sciences, Chicago UP, page 2.

75. E Shils, (1970), 'Tradition, Ecology and Institution in the History of Sociology, pages 772-3.

76. The editors were: Small 1895-1926, Elsworth Faris 1926-36, Burgess 1936-40, See E Shanas, op cit.

77. See H Odum, (1951), American Sociology. The Chicago Faculty members or ex-graduate students were:- Elwood, Park, Thomas, Gillet, Ogburn, Borgardus, Bernard, Reuter and Burgess. The two exceptions were Gillin and Odum.

78. H Odum, (1951), American Sociology, page 255. The survey was for textbooks from 1949 back.

79. B Berelson, (1960), Graduate Education in the United States, McGraw-Hill, page 25.

80 See L L Bernard, (1945), 'The Teaching of Sociology in the United States in the Last Fifty Years'. American Journal of Sociology, 50.

81. E Shils, (1970), 'Tradition, Ecology and Institution in the History of Sociology, page 792.

82. See Appendix for dates of completed theses and publication. The exceptions are: Shaw and McKay's 'Juvenile Delinquency and Urban Areas' published in 1942, after the earlier books in 1929 and 1931; and Faris and Dunham's 'Mental Disorders in Urban Areas' published in 1939, after Faris had completed a PhD entitled 'The Ecological Study of Insantiyin the City' in 1931.

83. R E Park: 'Urban Community as a Spatial Pattern and a Moral Order' (1925), Sociology, Community and Society', (1929), 'The City as a Social Laboratory', (1929). E W Burgess: 'The Growth of the City' (1925), 'The Determination of Gradients in the Growth of the City', (1927), 'Residential Seggregation in American Cities' (1928), 'Urban Areas', (1929).

84. J A Quinn, (1940), 'Topical Summary of Current Literature on Human Ecology', American Journal of Sociology, 44.

85. W W Weaver, (1930), West Philadelphia: A Study of Natural Areas, Philadelphia.

86. C F Schmid, (1937), Social Saga of Two Cities: An Ecological and Statistical Study of Social Trends in Minneapolis and St Paul, Minneapolis.

87. C A Dawson and W E Gettys, (1935), An Introduction to Sociology, Ronald Press, 1935.

88. H W Green, (1932), 'Cultural Areas of the City of Cleveland', American Journal of Sociology, 38.

89. J H Bossard, (1938), 'Ecological Areas and Marriage Rates', American Journal of Sociology, 44.

90. J H Bossard and T Dillon, (1935), 'The Spatial Distribution of Divorced Women', American Journal of Sociology, 40.

91. E Longmoor and E Young, (1936), 'Ecological interrelations of Juvenile Delinquency Dependency, and Population Mobility', American Journal of Sociology, 41.

92. C F Schmid, (1933), 'Suicide in Minneapolis, Minnesota: 1928-32', American Journal of Sociology, 29.

93. S A Queen, (1940), 'Ecological studies of Mental Disorders', American Sociological Review, 5.

94. M Smith, (1937), 'Relief Intensity Gradients', Social Forces, 16.
M Smith, (1943), 'An Urban-Rural Intellectual Gradient,' Sociology and Social Research, 27.

95. P K Whelpton, (1936), 'Geographic and Economic Differentials in Fertility', Annals of the American Academy of Political and Social Science, 188.

96. R C White, (1932), 'The Relation of Felonies to Environmental Factors in Indianapolis,' Social Forces, 10.

97. E Shils, (1948), The Present State of American Sociology, Free Press, page 9.

98. P Hauser, (1954), Ecological Aspects of Urban Research' in L D White (ed), The State of the Social Sciences, Chicago U P, page 247.

99. See R H Turner, (1967), 'Introduction' to Robert E Park on Social Control and Collective Behaviour, Chicago U P, pages xvii-xix.

100. R E Park 'Dominance: The Concept, Its Origins and Natural History' (1934) 'Succession, An Ecological Concept' (1936), 'Human Ecology' (1936), 'Symbiosis and Socialization' (1939).

101. M R Davie, (1937), 'The Pattern of Urban Growth' in G P Murdoch (ed), Studies the Science of Society', Yale U P.

102. W E Gettys, (1940), Human Ecology and Social Theory', Social Forces, 18, 4.

103. H Hoyt, (1939), The Structure and Growth of Residential Neighbourhoods in American Cities, Federal Housing Administration, Washington D C.

104. P Hatt, (1946), 'The Concept of the Natural Area', American Sociological Review, 11.

105. W Firey, (1947), Land Use in Central Boston, Harvard U P.

106. A B Hollingshead, (1947), 'A Re-Examination of Ecological Theory', Sociology and Social Research, 31.

107. A Hawley, (1950), Human Ecology: A Theory of Community Structure, Ronald Press.

108. J A Quinn, (1950), Human Ecology, Archon Books, reprinted 1971.

109. M M Gordon, (1958), Social Class in American Sociology , Duke UP, page 22. Gordon takes this view from A B Hollingshead, (1948), 'Community Research : Development and Present Condition', American Sociological Review, 13.

110. P V Young, (1949), Scientific Social Surveys and Research, chapter XVI.

111. M Alihan, (1938), Social Ecology : A Critical Analysis, Cooper Square, 1964 reprinted, page xi.

112. R E Park, (1939), review of M Alihan, 'Social Ecology', Annals of the American Academy of Political and Social Science.

113. H P Becker, (1930), 'The Distribution of Space in the AJS 1895-1927', American Journal of Sociology, 36, and H P Becker, (1932), 'Space Apportioned to 48 Topics in the AJS 1895-1930', American Journal of Sociology, 38.

114. H P Becker, (1932), 'Space Apportioned to 48 Topics', American Journal of Sociology, 38.

115. E Shanas, (1945), 'The AJS Through Fifty Years'.

116. One also might mention that presumably the AJS editorial policy - with Chicago editors - would be receptive to human ecology.

117. H G and W Duncan, (1933), 'Shifts in Interests of American Sociologists', Social Forces, 12, 1.

118. G Lundberg, (1931), 'The Interests of Members of the ASS 1930', American Journal of Sociology, 37.

119. 'Human Ecology' (1936), 'Symbiosis and Socialization', (1939).

120. Here we are referring to Anderson (1923), Mowrer (1927), Thrasher (1927), Wirth (1928), Cavan (1928), Shaw (1929), Zorbaugh (1929), Shaw and McKay (1931), Frazier (1932). The major exceptions are Shaw and McKay (1942) and Faris and Dunham (1939).

121. C Bell and H Newby, (1971), Community Studies, Unwin, page 94.

122. See H Odum, (1951), American Sociology, pages 147-52.

123. R E L Faris, (1970), Chicago Sociology 1920-1932, page 114.

124. Elsworth Faris in H Odum, (1951), American Sociology, page 182.

125. E C Hughes, (1955), 'Introduction' to R E Park, Society : Collective Behaviour, News and Opinion, Free Press.

126. R E Park, (1925), 'The Urban Community as a Spatial Pattern and a Moral Order', in R E Park, (1952), Human Communities, page 173.

127. Prentice-Hall, 1939. Burgess made an unpublished study with Ethel Shanas on the effects of depressions on insanity, he also helped organise the 1934 Chicago census, which produced urban data for 935 census tracts which was published in L Wirth and L Furez (ed), (1939), Local Community Fact Book, Chicago Recreation Commission. See the discussion of this in W F Ogburn (1939), 'Social Trends' in L Wirth, (ed), Eleven Twenty Six : A Decade of Social Science Research.

128. 'The Folkways of a Scientific Sociology', Scientific Monthly, April 1930, quoted in H Odum, (1951), American Sociology, page 152.

129. See P V Young, (1949), Scientific Social Surveys and Research, page 100,

130. H Odum, (1951), American Sociology, page 148. Edward Shils in 'The Contemplation of Society in America' comments "No comparable large or thorough investigation - past or present - of 'political arithmetic' had ever been undertaken or carried out". E Shils in A M Schlesinger Jr and M White (eds), (1964), Paths of American Thought, page 397.

131. McGraw-Hill, 2 volumes.

132. For a discussion of these studies see W F Ogburn, (1939), 'Social Trends' in L Wirth (ed), Eleven Twenty Six : A Decade of Social Science Research.

133. L Wirth, (1939), 'The Urban Society and Civilisation 'in' L Wirth (ed), Eleven Twenty Six : A Decade of Social Science Research, pages 56-7.

134. US Government Printing Office, Washington, 1937.

135. US Government Printing Office, Washington, 1939.

136. E Shils, (1970), 'Tradition, Ecology and Institution in the History of Sociology', page 793.

137. The interest in statistical methods may also have been increased by what Howard Odum saw as a return to social reform. Talking of the years 1928 and 1929 he states "At no time in the history of the United States however has there been attempted a comprehensive well integrated and coordinated compaign in which the social sciences attacked the emergent social problems of the nation" he went on to describe 1929 through to 1933 as a time when the social sciences were forced to face the question "what are they good for, what can they do in actual situations". H Odum, (1933), 'Notes on Recent Trends in the Application of the Social Sciences', Social Forces, 11, quoted in C O'Kelley and J W Petras, (1970), 'Images of Man in Early American Sociology', Journal of the History of the Behavioural Sciences, 6, 2, page 326.

138. E Shils, (1964), 'The Contemplation of Society in America', in A M Schlesinger Jr and M White, (eds), Paths of American Thought, page 402.

139. E Shils, personal communication.

140. R E L Faris, (1970), Chicago Sociology 1920-1932, page 120.

141. R E L Faris, (1970), Chicago Sociology 1920-1932, page 121.

142. H Odum, (1951), American Sociology, page 410.

143. Free Press, reprinted 1968.

144. D Levine, (1970), 'Introduction' to George Simmel on Individuality and Social Forms, page Lvii.

145. H Kuklik, (1973), 'A Scientific Revolution : Sociological Theory in the United States, 1930-1945', Sociological Inquiry, 43, 1.

146. R E L Faris provides a useful account of the range of Chicago sociology. See R E L Faris, (1970), Chicago Sociology 1920-1932.

CONCLUSION

Robert Park ends his review of Alihan's 'Social Ecology' with the wry comment that "there are other theories besides those of the ecologists that need to go through the wringer."[1]. Alihan's analysis of human ecology clearly amounted to a thoroughgoing critique in which she threaded her way through the many scattered writings on human ecology to reveal contradictary presentation of central concepts and logical inconsistencies. An assessment by Quinn refers to the book as "Challenging and stimulating, but essentially destructive. Proves confusing rather than helpful to many undergraduate readers."[2]. Certainly the implications of Alihan's critique are destructive as far as the central theoretical assumptions of human ecology are concerned; however it could be said in her defence that any confusion experienced by the reader, be it undergraduate or other, does not solely arise out of her painstaking attempt to comb through the literature on human ecology with the intent of exposing the inadequacies of human ecology by juxtaposing contradictory statements of the theoretical concepts, but in part arises out of the loose and inconsistent way in which these concepts were formulated and the difficulties encountered in attempts to logically integrate them. The lack of theoretical systematisation in human ecology may have partly arisen, as we have indicated in the previous chapter, out of the fact that the various papers on human ecology which were produced by the Chicago sociologists were written in a close relationship with empirical research. The intention for the large part seems to have been to suggest possible directions for research and to discuss and report current research findings, rather than to formulate a consistent general theory for human ecology. Park emphasised the tentative exploratory character of human ecology when he stated "Most of the theories which have been current in ecological literature were hypotheses formulated ad hoc, without reference to any fundamental doctrine or

system of thought."[3.] Here it would seem that Park is claiming that the human ecologists followed his directives in the first chapter of the 'Introduction to the Science of Sociology' that a science should be concerned with the formulation of hypotheses. He does however make a corollary to this statement - that a scientific sociology can only proceed by endeavouring to test the validity of hypotheses.[4.] This latter stage of the procedure would seem to have been neglected, for the empirical studies of the city of Chicago which were conducted by Park's students and associates in the 1920s and 1930s did not explicitly seek to test out hypotheses, rather human ecology was accepted as a frame of reference which would provide the basis for the analysis of a particular urban phenomenon (usually conceived as a social problem).

It has not been the intention of this study to either provide a critical analysis or to attempt to reconstitute Chicago human ecology, for numerous efforts have already been made in both of these directions. Moreover if the object had been to provide a critical analysis of human ecology, it would seem that to concentrate on the examination of Chicago human ecology alone would be inadequate. For such a project would entail a rigorous examination of the whole corpus of work on human ecology as well as an exploration of the philosophical and sociological dimensions of the theoretical possibilities and empirical instances of the relationship between man, nature and the environment. While such a project is worthy of attention by sociologists, the object of this study has been of a more limited scope, that of understanding the various facets of human ecology which was developed and used by sociologists at the University of Chicago in the 1920s and 1930s. In attempting to pay due respect to a body of material which appears to be riddled with contradictory statements and seemingly loose writing in which little attempt is made to systematically address many of the problems of the subject, the difficulties and responsibility of

interpretation are daunting. It is of course possible to amass evidence for a representation of human ecology which characterises it as "markedly positivistic, deterministic, mechanistic and organismic."[5.] A description which while not without foundation adds little to our understanding of Chicago human ecology, and does not suggest answers to the questions of what led Park and the other Chicago human ecologists to be concerned with formulating the subject in the first place, what objectives they felt human ecology could achieve, how and within what limits it provided an adequate explanation of the phenomena it was addressed to, why it became an influential subject within American sociology in the 1920s and 1930s. Clearly in this study we have been able to pose some of these questions without having answered them in any conclusive fashion.

While it would take another lengthy study to analyse the problems raised by human ecology in an attempt to work out a sociological theory which could take account of the subtleties of the sustenance and spatial relations arising out of the interaction between man and the environment, it would seem useful in these concluding remarks to comment briefly on a number of aspects of this relationship. Our point of orientation is taken from one of the perspectives which were adopted in earlier chapters in an attempt to highlight what seemed to be central features of Chicago human ecology. Human ecology, can be understood as a subject closely related to general ecology, in that the same principles which organise the sustenance relations of the plant and animal species of a territorial area which result in a given spatial pattern of distribution of the population and system of interdependencies among the species, are said to apply to man. Thus man's social relationships can be understood as being influenced by his sustenance and spatial relations, and therefore an examination of the nonthoughtful adjustments man makes in these 'community' relationships will provide a basis for the explanation of his moral and social relationships.

In examining the relationship of human ecology to general ecology it would seem that a fundamental problem revolves around the status ascribed to human culture and intentionality by human ecologists.[6.] It will be remembered that Park's position basically revolved around his notion of a community-society dualism which neatly separated the study of man's sustenance and spatial relationships from man's moral and social relationships. Park's conception of the dualism is however tempered by his acknowledgment that the feedback of social relationships into community relationships complicated human ecology. In his paper 'Human Ecology' Park states "Human ecology has however to reckon with the fact that in human society competition is limited by custom and culture. The cultural superstructure imposes itself as an instrument of direction and control upon the biotic substructure."[7.] As mentioned in the previous chapter, some of the writers on human ecology who followed Park and the Chicago sociologists were drawn to this particular problem of the effect of culture on man's sustenance and spatial relationships - a problem which led some to seriously doubt the viability of human ecology as a distinct area of study.[8.] Other human ecologists however do not seem to have regarded the problem as having paramount importance for while they were willing to make concessions to the influence of culture on ecological relationships they did not allow this to change their basic conception of the subject. Thus Hawley states that "Sustenance activities and relationships are inextricably interwoven with sentiments, value systems and other ideational constructs."[9.] At an earlier point in the same chapter he had stated "In at least one of its aspects the human community is an organisation of organisms adjusted or in the process of adjustment to a given unit of territory. Hence the rise of human ecology has meant the logical extension of a system of thought and techniques of investigation developed in the study of the collective life of lower organisms to the study of man."[10.] Hawley manages to reconcile these seemingly antiposed statements by adopting a conceptualisation

of human culture as being passive and accommodative; he states "The term (human culture) simply denotes the prevailing techniques of adjustment by which a population maintains itself in its habitat. The elements of human culture are therefore identical in principle with the appetency of the bee for honey, the nestbuilding activities of birds, and the hunting habits of carnivora."[11.]

A further possibility for dealing with the problem of culture and intentionality in human ecology is that put forward in the various writings of Duncan and Schnore on what they call the 'ecological complex'.[12.] Their view of the subject involves a movement away from considering human ecology as a part of general ecology, and a rejection of the ecological metaphor for as Duncan puts it: "Human ecology has already inspired a generation of critics too easily irritated by figures of speech."[13.] The 'ecological complex' which Duncan and Schnore regard as the subject matter of human ecology involves the investigation of the "interconnections between variations in population, organisation, environment and technology in the context of such macroscopic units as communities, regions and societies."[14.] According to the nature of the problem which the researcher posits each of the four variables can be regarded as the dependent variable. In most instances however, Duncan and Schnore suggest that organisation should be viewed as the dependent variable, and that the ecologist should "set out to account for the forms that social organisation assumes in response to varying demographic, technological and environmental pressures."[15.] If we take the example of urbanisation (although it should be pointed out that they clearly feel that his mode of analysis can be applied to other 'social organisational' structue such as bureaucracy and stratification) they would envisage that an examination of comparative data would enable the ecologist to work out the precise technological, d emographic and environmental conditions under which various forms of urban organisation have appeared and may be expected to appear. Such an analysis would

yield information as to the varying population, environmental and technological interrelations which cause specific forms of urban organisation, as well as enabling predictions to be made of the expected direction and rate of change of urban organisation in the light of the range of combination of these factors. Duncan and Schnore have thus produced a theory of human ecology which has severed the subject's connections with general ecology, as well as providing it with a wider frame of reference than that used in traditional human ecological studies. They suggest that their approach also has the merit of being intrinsically sociological, in that a Durkheimian approach is adopted which concentrates on the analysis of aggregate phenomena and follows Durkheim's directive that social facts should be explained in terms of other social facts.[16.] Human ecology thus conceived is seen as avoiding the reductionism and etherealism which they attribute to the behaviourist and cultural approaches to the study of social phenomena, and at the same time human ecology has the advantage of offering a scientific approach to the study of society in its more concrete aspect.[17.]

In the light of this brief exposition of Duncan and Schnore's theory of the ecological complex it would be useful to examine some of the implications of their position with reference to a more general discussion of the relationship of culture and intentionality to human ecology. It would appear that Duncan and Schnore operate with two conceptions of culture. In one instance culture is seen as comprising of elements such as language, religious and aesthetic value patterns which are seen as residual to the ecological complex in that they operate in ways which do not affect the complex. Alternatively culture is seen as inconsequential in the sense that it forms part of a back-cloth to the ecological complex and operates in an invariant manner which means that for purposes of analysis its implications can be taken for granted.

A very different notion of culture which stresses its importance for ecological relationships

is put forward by Firey who states that "culture defines the very being and condition of survival."[18] The implication here is that the ways in which man perceives his environment, the form and nature of his sustenance relations, the type and degree of interest he expresses in the domination of nature through the development of science and technology, are all related to the cultural value patterns of specific socio-historical totalities. To concentrate on the primacy of culture in regarding man's relationships with his environment as mediated through the creation and application of symbols and values clearly serves as an important redress to the environmental determinism which is often evident in human ecology. However as Bates indicates, we must be aware of the danger of loosing sight of the environment completely, for as he states "man as we know him is always a bearer of culture; and if we study human culture we find that it in turn is modified by the environmental factors of climate and geography. We thus easily get into great difficulties from the necessity of viewing culture at one moment as a part of the man and at another moment as a part of the environment."[19]

The problem of deciding on the primacy of either cultural or environmental factors thus would seem to be extremely involved, especially so if we attempt to understand culture and the environment as engaged in an ongoing dialectical relationship over time. It does seem possible however, that detailed comparative research would reveal a range of differences in the degree which the culture-environment, environment-culture relationships are mediated both between societies and at different historical stages of the same society. Levi-Strauss in his remarks on human ecology in his paper 'Social Structure' has indicated part of the possible range of relationships between spatial and social organisation. He states "(It is) not intended to prove that spatial configuration is the mirror image of social organisation but to call attention to the fact that, while among numerous peoples it would be extremely difficult to discover

any such relation, among others (who accordingly must have something in common) the existence of the relation is evident, though unclear, and in a third group spatial configuration seems to be almost a projective representation of the social structure."[20]. To produce a classification or construct a typology which would do justice to the subtleties of the range of environment-culture relations on the basis of extensive comparative materials would seem a necessary but exceedingly difficult task; yet the very scope of such a task does seem to indicate the narrowness of schemes such as that of Duncan and Schnore which minimise the role of culture in taking the position that man's social organisation and spatial organisation are merely a function of population, environmental and technological factors.

A further problem posed by human ecology revolves around the concentration of human ecologists on aggregate characteristics of populations, as opposed to subjectively meaningful action. Duncan and Schnore refer to the pressure of 'social' factors - population, environment and technology - which operate, and can be examined independent of their individual manifestations. The majority of contemporary sociologists are regarded by them as behaviourists who have a "thoroughly nominalistic view of societies and groups; as a result they are methodological reductionists and have a trained incapacity to view social organisation as a reality sui generis in functional and evolutionary terms."[21]. This conceptualisation - as well as the use of the term behaviourist - clearly involves the neglect of a whole tradition of sociological theory deriving mainly from Max Weber, which attempts to grapple with the problem of dealing with social structure in a way which regards it as meaningfully produced, maintained and changed by social actors who take account of each others conduct.[22].

An attempt to apply a social action frame of reference to ecological phenomena is provided by Willhelm in his book 'Urban Zoning and Land Use Theory'[23]. Willhelm

examines the zoning process in the city of Austin in terms of decision makers who formulate a goal and select means by which the goal can be achieved in terms of specific value standards. While Willhelm is concerned to emphasise that individual decision makers have alternatives and make decisions within a definite cultural context and that the resultant land use pattern is the product of their actions, it would seem that for many people who live in urban areas the possibility of achieving a specific goal in terms of choice of residence is severely limited. That is, while it would seem to be a viable methodological position to start with the notion of goal-orientated action, many of the individuals who live in a given settlement are in a situation where the possibility of realising their choice is severely curtailed, or the choice is restricted to a narrow range of alternatives. The degree of limitation of choice experienced by individuals is of course linked to a number of characteristics such as the individual's class position in its various economic, cultural and social ramifications, his life cycle stage[24.] and his position in the housing class structure.[25.] The systems approach which conceives data as being 'social facts', 'aggregate phenomena' or 'factors' is a possible (although in terms of the above discussion methodologically limited) approach to the social word for the very reason that its focus of attention is upon individuals in aspects of their lives in which they do not seem to exercise choices by pursuing a range of alternative courses of action, rather they appear to behave in a regular, orderly manner. This position has been stated well by Gans who writes "Ecological explanation of social life are most applicable if the subjects under study lack the ability to make choices, be they plants, animals or human beings."[26.]

The 'ecological complex' approach of Duncan and Schnore established a mode of analysis which was essentially macrosociological in its attempt to provide generalisations about aggregate phenomena. This contrasts with the human ecological studies carried out by the Chicago sociologists in the inter-war period whose approach was implicitly

microsociological. It was emphasised in the previous chapter that one of the reasons for the decline of Chicago human ecology was that the microsociological mode of analysis which characterised the empirical ecological studies of Chicago was supplanted by the movement in American sociology towards macrosociological analysis which resulted from the development of survey analysis in the late 1930s. Edward Shils has suggested that the coming of survey analysis involved a general movement away from local human ecological studies which had used techniques of direct and participant observation, for survey analysis enabled sociologists to think of whole national populations as their subjects, and made possible correlation studies without specific reference to spatial location.[27] The 'ecological complex' approach of Duncan and Schnore would therefore seem to have developed out of the tradition of macrosociological analysis which had its origins in the social survey analysis of the late 1930s which had originally helped to usher in the decline of Chicago human ecology.

A major achievement of Chicago human ecology would seem to be the part it played in establishing a tradition of microsociological research which utilised techniques of first-hand observation which made possible the richness of the descriptive detail of the empirical studies of the city of Chicago. This tradition which went into a partial decline in the 1930s, as a result of the factors we have suggested above, has been taken up again by present day sociologists. Human ecology should therefore be seen as a frame of reference, a series of concepts orientated towards microsociological empirical research, and it is here that its contribution to sociology lies, rather than in its direct contribution to sociological theory, through the formulation of a macro theory of society. From a theoretical standpoint there are many problems which the Chicago sociologists were unable to resolve - especially the relationship of human ecology to general ecology, and the role of culture in human ecology. Schemes such as the 'ecological complex' approach of Duncan and Schnore while apparently displaying a higher degree of theoretical neatness, are unable, because of their macrosociological

scope, to match the richness of the descriptive detail which characterised the Chicago empirical studies.

Terry Clark has remarked that "For most new fields to develop, three fundamental elements are essential: good ideas to build upon, talented individuals, and adequate institutional support."[28] In the case of Chicago human ecology it would seem that the subject's success resulted from a combination of these three factors. Of crucial importance here was the creative imagination of Robert Park, the man who preferred to induce 'ten men to write ten books rather than to take time off to write one himself'. Park was responsible for establishing an atmosphere at Chicago in which a sociology department was enthusiastically committed to carrying out a programme of empirical research. It is extremely difficult, if not impossible, to recapture the richness of the oral tradition which Park instituted. The problem of interpreting and evaluating the written work of a man who had an inchoate global outlook, and did not set out to develop his ideas to the greatest degree of logical consistency, are very considerable. The meaning of those ideas that Park did set down on paper must consequently be approached with a degree of caution. For as E. C. Hughes remarks "There are quite a number of people who have available not merely Park's written work, but a store of memories. We perhaps do not read his words as they appear on the page to others, for every word recalls the man, his gestures, the circumstances in which he said this or that, the things which he said but did not write."[29] Park's achievement then was not to work out a logically consistent theory of human ecology, but to provide pointers for empirical research, to devise a loose theoretical frame of reference. Park helped to provide the intellectual atmosphere and institutional support which stimulated his students to produce a notable series of monographs, which have proved to be important in establishing a tradition of empirical sociological research in the United States.

NOTES

1. R E Park, (1939), Review of M Alihan 'Social Ecology', Annals of the American Academy of Political and Social Science, page 265.

2. J A Quinn, (1950), Human Ecology, Archeon Books, page 15.

3. R E Park, (1939), Review of Alihan, page 265.

4. R E Park and E W Burgess, (1921), Introduction to the Science of Sociology, Chicago UP, page 12 and 45.

5. W E Gettys, (1940), 'Human Ecology and Social Theory,' Social Forces, 18, 4, page 471.

6. This is of course only a problem if human culture and intentionality are regarded as qualitatively different from other animal species. A number of theories have been put forward recently which dispute this and regard man's social and cultural relationships as functions of man's basic territorial and aggressive instincts. Theses theories have of course been subjected to criticisms by sociologists such as Suttles and Alland. See D Morris, (1968), The Naked Ape, Corgi; D Morris, (1971), The Human Zoo, Corgi; R Ardrey, (1967), African Genesis, Fontana; R Ardrey, (1966), The Territorial Imperative, Atheneum; K Lorenz, (1966), On Aggression, Harcourt. For criticisms see: G D Suttles, (1972), The Social Construction of Communities, Chicago UP, and A Alland, (1971), 'African Genesis, Exodus and Leviticus', Social Research, 1971.

7. R E Park, (1936b), 'Human Ecology', in R E Park, (1952), Human Communities, Free Press, page 158.

8. See M Alihan, (1938), Social Ecology, op cit. W E Gettys, (1940), 'Human Ecology and Social Theory', W Firey (1947), Land Use in Central Boston, Harvard UP; A B Hollingshead, (1947), 'A Re-examination of Ecological Theory', Sociology and Social Research.

9. A Hawley, (1950), Human Ecology, Ronald Press, page 73.

10. A Hawley, (1950), Human Ecology, page 68. Deevey in his review of Hawley's book regards the author's emphasis on the connection between general ecology and human ecology and his familiarity with biological literature as being an important contribution. E S Deevey, (1951), 'Recent Textbooks of Human Ecology', Ecology, 32.

11. A Hawley, (1950), Human Ecology, page 69.

12. O D Duncan and L F Schnore, (1959), 'Cultural, Behavioural and Ecological Perspectives to the Study of Social Organization', American Journal of Sociology, 65. 2. O D Duncan, (1959), 'Human Ecology and Population Studies' in P M Hauser and O D Duncan (eds) The Study of Population Chicago UP. O D Duncan, (1961), 'From Social System to Ecosystem', Sociological Inquiry, 31. L F Schnore, (1961), 'The Myth of Human Ecology', Sociological Inquiry, 31, 1961. L F Schnore, (1958), 'Social Morphology and Human Ecology', American Journal of Sociology, 63.

13. O D Duncan, (1961), 'From Social System to Ecosystem', page 143.

14. L F Schnore, (1961), 'The Myth of Human Ecology', page 137.

15. O D Duncan and L F Schnore, (1959), 'Cultural Behavioural and Ecological Perspectives' page 144. The theory of the ecological complex seems to have been in part adapted from Ogburn, who saw the four variables - population, environment, organization and technology - as providing a complex from which the standard of living of a population could be calculated. W F Ogburn, (1951), 'Population, Private Ownership, Technology and Standard of Living', American Journal of Sociology, 56. For a discussion of this see K D Bailey and P Mulcahy, (1972), 'Sociolcultural versus Neoclassical Ecology: A Contribution to the Problem of Scope in Sociology', Sociological Quarterly, 13, 1972.

16. See L F Schnore, (1961), 'The Myth of Human Ecology', page 136, and L F Schnore, (1958), 'Social Morphology and Human Ecology'.

17. Duncan and Schnore, (1959),'Cultural, Behavioural and Ecological Perspectives'. page 136.

18. W Firey, (1947), Land Use in Central Boston, quoted in S M Willhelm, (1962), Urban Zoning and Land Use Theory, Free Press, page 32.

19. M Bates, (1965), 'Human Ecology' in S Tax, (ed), Anthropology Today, Chicago UP, pages, 224-5.

20. C Levi-Strauss, (1968), 'Social Structure' in C Levi-Strauss, Structural Anthropology, Allen Lane, page 292.

21. Duncan and Schnore, (1959), 'Cultural, Behavioural and Ecological Perspectives', page 135.

22. For a discussion of Duncan and Schnore from a position related to the Weberian tradition see A V Cicourel, (1964), Method and Measurement in Sociology, Free Press, page 122-3.

23. Free Press, 1962. For a discussion of Willhelm's study and other studies which emphasise the social action approach see R E Pahl and E Craven, (1970), 'Residential Expansion: The Role of the Private Developer in the South-East' in R E Pahl Whose City? And Other Essays on Sociology and Planning, Longmans, especially pages 160-3.

24. H J Gans, (1968), 'Urbanism and Suburbanism as Ways of Life' in R E Pahl, (ed), Readings in Urban Sociology, Pergamon.

25. J Rex, (1968), 'The Sociology of the Zone of Transition' in R E Pahl, (ed), Readings in Urban Sociology.

26. H J Gans, (1968), 'Urbanism and Suburbanism as Ways of Life', in R E Pahl, (ed) Readings in Urban Sociology, page 110.

27. E Shils, personal communication.

28. T Clark, (1973), Prophets and Patrons: The French University and the Emergence of the Social Sciences, Harvard UP, page 242.

29. E C Hughes, (1955), 'Introduction' to R E Park, Society: Collective Behaviour, News and Opinion, Free Press, page 6.

APPENDIX

1892 University of Chicago founded. W R Harper president. Albion Small appointed as head professor in sociology.

1894 Publication of Henderson's 'Catechism for Social Observation'.

1895 American Journal of Sociology founded, Small editor.
W I Thomas appointed as instructor in sociology.

1898 Publication of Thomas' 'Source Book for Social Origins'.

1909 Publication of Warning's 'Oecology of Plants'.

1911 Publication of Hurd's 'Principles of City Land Values'.

1914 Park starts teaching sociology at Chicago.
Publication of the Pittsburgh Survey.

1915 Publication of Park's paper 'The City : Suggestions for the Investigation of Human Behaviour in the City Environment.'
Publication of Galpin's 'Social Anatomy of an Agricultural Community'.

1916 Death of Henderson.
Burgess appointed as assistant.
Publication of Clements' 'Plant Succession'.

1918 Park starts teaching a field study course.
Publication of Park's paper 'Education and its Relation to the Conflict and Fusion of Culture' containing references to plant ecology.
Publication of Thomas and Znaniecki's 'The Polish Peasant in Europe and America' (five volumes 1918-20).
Ellsworth Faris appointed lecturer.
Thomas dismissed.

1921 Publication of 'Introduction to the Science of Sociology'.
Publication of Park and Miller (and Thomas) 'Old World Traits Transplanted'. Completion of McKenzie's PhD 'The Neighbourhood: A Study of Local Life in Columbus, Ohio.'.

1923 Social Science Research Council founded.
Local Community Research Committee founded.
Publication of Nels Anderson's 'The Hobo'.
Chicago University Sociology Series inaugurated.
Completion of N S Hayner's PhD 'The Sociology of Hotel Life'.

1924 Retirement of Albion Small.
Completion of E R Mowrer's PhD 'Family Disorganization - An Introduction to a Sociological Analysis'.

1925 Park president of the American Sociological Society. Section of the conference given to human ecology. Park's presidential address "The Concept of Position in Human Ecology".
Publication of Park, Burgess and McKenzie 'The City'.
Completion of W C Reckless' PhD 'The Natural History of Vice Areas in Chicago'.

1926 Publication of Burgess (ed) 'The Urban Community'.
Ellsworth Faris appointed editor of the AJS on the death of Small.
Completion of R Cavan's PhD 'Suicide: A Study in Personal Disorganization'.
Completion of FM Thrasher's PhD 'The Gang: A Study of 1,313 Gangs in Chicago'.
Completion of L Wirth's PhD 'The Ghetto: A Study in Isolation'.

1927 Ogburn appointed professor.
Publication of E R Mowrer's 'Family Disorganisation'.
Publication of F Thrasher's 'The Gang'.
Publication of Burgess' paper 'The Determination of Gradients in the Growth of the City'.
Completion of E H Shideler's PhD 'The Chain Store: A Study in the Ecological Organisation of a Modern City'.
Completion of H E G McGill's (Mrs E C Hughes) M A 'Land Values: An Ecological Factor in the Community of South Chicago'.

1928 Publication of L Wirth 'The Ghetto'.
Publication of R Cavan 'Suicide'.
Publication of Burgess' paper 'Residential Segregation in American Cities'.
Completion of E C Hughes PhD 'A Study of a Secular Institution: The Chicago Real Estate Board'.

1929 Publication of Park's papers 'The City as a Social Laboratory' and 'Sociology, Community and Society'.
Publication of Burgess' paper 'Urban Areas'.
Publication of Zorbaugh's 'The Gold Coast and the Slum.'
Publication of Shaw's 'Delinquency Areas'.
Social Science Research Building inaugurated.
Publication of T V Smith and L D White (eds) 'Chicago: An Experiment in Social Science'.
Publication of L D White (ed) 'The New Social Science'.
Completion of P G Cressey's M A 'The Closed Dance Hall in Chicago'.
Ogburn President of the ASS.
Anthropology formed into a separate department.

1930 Ogburn director of the President's Committee on Social Trends.
Completion of P F Cressy's PhD 'The Succession of Cultural Groups in the City of Chicago'.

1931 Publication of Shaw and McKay's 'Social Factors in Juvenile Delinquency'. Completion of R E L Faris' PhD 'An Ecological Study of Insanity in the City'.
Completion of E F Frazier's PhD 'The Negro Family in Chicago'.

1932 Publication of E F Frazier's 'The Negro Family in Chicago'.

1933 Publication of W Reckless' Vice in Chicago'.
Publication of 'Recent Social Trends in the United States'.

1934 Retirement of Park.
Publication of Park's paper 'Dominance: Its Origins and Natural History'.
Publication of McKenzie (ed) 'Readings in Human Ecology'.
Burgess president of the ASS.

1936 Publication of Park's papers 'Human Ecology' and 'Succession: An Ecological Concept'.
Burgess becomes editor of the AJS.
American Sociological Review founded as the official organ of the ASS.

1937 Ellsworth Faris president of the ASS.

1938 Publication of M Alihan's 'Social Ecology: A Critical Analysis'.

1939 Publication of Park (ed), An Outline of the Principles of Sociology'
Publication of Park's paper 'Symbiosis and Socialisation: A Frame of Reference for the Study of Society'.
Park reviews Alihan's 'Social Ecology'.

Publication of Faris and Dunham's 'Mental Disorders in Urban Areas'.
Publication of Burgess and Cottrell's 'Predicting the Success and Failure in Marriage'.

1940 Publication of L Wirth (ed) 'Eleven Twenty-six : A Decade of Social Science Research'.

1942 Publication of Shaw and McKay's "Juvenile Delinquency and Urban Areas'.

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