

ASPECTS OF THE SOCIAL GEOGRAPHY OF LEICESTERSHIRE TOWNS
1837 - 1871

by

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A thesis submitted for the degree of Doctor of Philosophy,
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1976

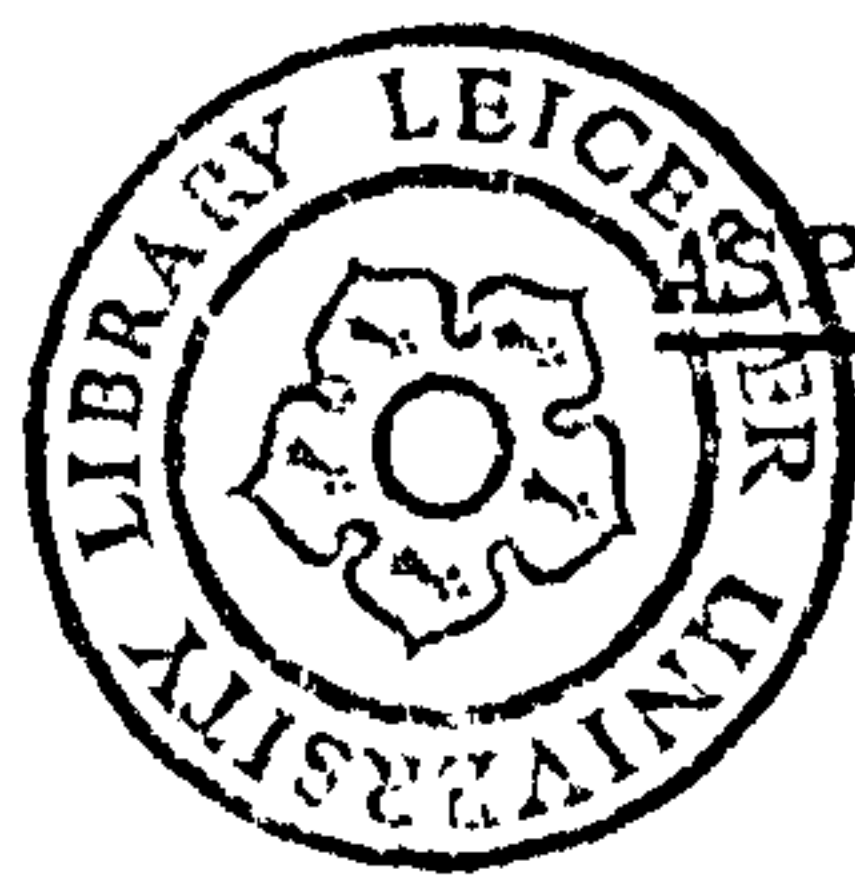
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Ph.D. THESIS : UNIVERSITY OF LEICESTER 1976

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SUMMARY

This thesis attempted to further knowledge of urban development by examining two related themes: firstly, it considered the socio-spatial structures of a series of small English towns during the mid-19th century, a period of industrialization and urbanization, paying particular reference to the relationship between their development and the urban spatial continuum model known to operate in large cities undergoing industrialization; secondly, it examined the effect of economic function on urban structure and development at this small town scale and, to this end, the four study towns were selected on the basis of their functional dissimilarities.

The analytical processes used ranged from simple manipulation of information from sources of limited utility to three series of multivariate analyses of Census Enumerators' Book data - cross-sections of the towns based on information from the 1851 and 1871 censuses and longitudinal analyses of relative change between these two censuses. The results indicated that the towns did conform to the continuum model, at least in morphological terms, since, in 1851, their residential patterns could be associated with its 'pre-industrial' stage but, by 1871, three of the towns were progressing towards its second or 'industrial' phase. The factor analyses also identified considerable social change and this theme was continued in examinations of the towns' migration patterns and their social interaction and mobility rates (using marriage licence data for these last two investigations). In each town, differences were found between the mobility patterns of various social groups within their

populations but these did not mask the differences between the populations as a whole. However, contrary to expectations, it was not the industrial towns' populations that had the highest overall mobility rates, but those of the more prosperous market towns. This result demonstrated that while social change might have been associated with industrialization at a national level, this was not necessarily the case in small towns where local factors were of more importance.

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VOLUME I

TEXT

P R E F A C E

Since urban geography's development as a specialised systematic discipline, much of its research activity has been concentrated on modern aspects of urban growth. However, in the post-war period increasing numbers of urban geographers have begun to investigate the roots of this modern development by turning their attention to the past, particularly to the industrializing era of the 18th and 19th centuries. Much of this work has been focussed upon large towns and cities, these being the most important components of the urban hierarchy, but, as a consequence, the evolution of towns of smaller size is still far from fully understood. The present thesis attempts to contribute to this sparse knowledge by examining the social and spatial structures of several small English towns during the mid-19th century (1837-1871), a period of far-reaching industrialization and urbanization. The study also seeks to investigate the effect of economic function on the evolution of small towns and, to accommodate this aspect of the research, the four towns to be studied in detail were selected to encompass a wide range of occupational specialisms. The towns, all of which are located within Leicestershire, consist of: Coalville, a mining settlement whose origins date back only to the 1820s when coal was discovered in the concealed part of the Leicestershire field; Hinckley, a manufacturing town which was dominated by framework knitting, a domestic industry in severe economic difficulties throughout the study period; Lutterworth, a small agricultural market town with a fairly stagnant economy and a declining population; and, Melton Mowbray which was a prosperous service centre that enjoyed the added function of being the 'metropolis' of 19th century fox-hunting.

The thesis consists of three sections and a concluding chapter. The first section sets the area of investigation into context by reviewing the relevant literature and, also introducing the towns to be examined and the sources of data to be used; the second identifies the towns' socio-spatial structures and development by means of both simple analyses of data from a series of sources of limited potential and more sophisticated multivariate analyses of data from Census Enumerators' Books; and, the third concentrates on the physical and social mobility of the towns' populations. The various tables drawn up during the investigation are incorporated into the text but the maps, diagrams and plates are presented in a separate volume.

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A C K N O W L E D G E M E N T S

Many people and organizations have been of assistance to me during the preparation of this thesis and I would like to take this opportunity of acknowledging my debt to them. Firstly, to my parents for their constant support and encouragement through the long years of my education and, more specifically, for their financial aid in my first year of research. I was in receipt of a grant from the Social Science Research Council for the second year but, latterly have been able to support myself (with increasingly frequent contributions from my wife!). I was very fortunate in having Dr Gareth Lewis as my supervisor and many thanks to him for his efforts on my behalf and for his patience as he struggled to clarify my sometimes muddled thinking.

For their help to me during the data collection process I would like to thank the staffs of Leicester Museum and Art Gallery Archive Department and Leicestershire County Record Office, and, also, the Registrars of Coalville, Hinckley, Lutterworth and Melton Mowbray. Leicester University's computer staff aided me with the computer programming while the Geography Department's cartographic section were always ready to lend me their equipment and expertise. As will probably be appreciated, I drew the maps myself but they, the photographs and diagrams were prepared for insertion into the thesis volumes by the University's Central Photographic Unit.

Figures 3.1 and 3.2 are reproduced with the permission of the Registrar General who also allowed me to consult the marriage licences held by the Registrars in the four study towns. Figure 3.3 is reproduced with the permission of the Vicar of Hinckley. Plates 2.9, 8.8, 8.14, 8.22, 8.30, 8.31, 8.36, 8.37, 8.39, 8.41, 8.42, 8.44, 8.46, 8.50, 8.51, 8.63, 8.64 and 8.66 were taken from originals held by Leicester

Museum in Newarke House, the originals of Plates 2.7, 8.48, 8.49, 8.53, 8.55 and 8.56 are owned by Mrs E.Heawood, Thorpe Satchville, Leicestershire who allowed me to copy them, and Plates 2.11 and 8.3 come from Coalville Public Library. The remaining plates are from my own photographs except for a few taken from published sources, due acknowledgement is given to these where necessary. The thesis was typed, most efficiently I might add, by Maureen Thompson to whom many thanks.

Finally, I cannot close without mentioning my gratitude to my wife, Lisa, for all her help and support throughout. Only wives of other thesis writers will be able to appreciate quite what she must have been through these last years.

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S E C T I O N A

I N T R O D U C T I O N

CHAPTER ONE

THE INDUSTRIALIZING CITY

"The natural history of urbanization has not yet been written, for only a small part of the preliminary work has been done. The literature of the city itself, until half a century ago, was barren to the point of non-existence and even now the ecologists of the city, dealing too largely with a late and limited aspect of urbanization have hardly staked out the ground to be covered."

(Mumford (1956) p.382)

Although at first sight, recent developments in urban geography appear to have made Mumford's stricture rather time-bound, there are, however, certain aspects of urbanization which still remain poorly researched. Certainly the geography of the industrial city has been investigated in considerable detail for some time while the pre-industrial city is being increasingly subjected to empirical analysis and theoretical model building (Sjoberg (1955, 1960), Vance (1971)). However, the geography of the city during its transformation from a pre-industrial to an industrial structure has been largely overlooked.

The industrialization of Britain during the 18th and 19th centuries¹ did more than just bring about new means of gaining employment since it profoundly and irrevocably altered the whole fabric of society. In Medieval times most towns were service and marketing centres for their agricultural hinterlands, but with the coming of industrialization the limited small-scale domestic manufacturing sector of a number of these towns was transformed by the establishment of a factory system. At the same time other agricultural settlements took on new functions as mining or manufacturing centres. Since both mining and manufacturing need large labour forces, the towns involved in these activities experienced a vast inflow of migrants. This resulted in a rapid

1. For a survey of British industrialization see Deane (1967).

increase in their population size and also a radical change in their internal spatial structure. The old pre-industrial street patterns were often erased and replaced by a plethora of artisans' dwellings while the built-up area encroached onto the surrounding countryside, often at a considerable distance from the core of the original settlement. The changes occasioned by industrialization brought about not only new patterns of urban growth but also a different social order. To the new urban inhabitants, migration to the town had involved different types of occupation and, also, greater ^{opportunities for} social mobility as well as new forms of social interaction. For the first time the urban migrant was removed from the constraints of the traditional rural way of life and, therefore, was freer to make his own way in the world.

Of the limited geographical literature on this theme,¹ the overwhelming majority of the studies have been concerned with the larger towns and cities. In a way this is surprising, since, in general, smaller towns have simpler social and functional structures and, therefore, are more amenable to detailed investigation. Within such a context a deeper understanding of the impact of industrialization upon urban areas may be achieved. In addition, despite repeated reference to the role of migration in the growth of towns and cities during the industrial era, its effect upon their residential and physical expansion has not been traced in any detailed fashion. A good deal has been written, largely within the context of the North American city, about the significance of the 'filtering' process in the spatial development of the industrial city, but its applicability to the British city has yet to be proved. Such a process, of course, involves a good deal of social mobility and opportunities for meeting

1. There are signs, however, that this will not long be the case. For example, the Institute of British Geographers' Historical Geography Study Group Spring Conference 1975 had a theme of 'Social Patterns in 19th Century Britain' and many of the papers were concerned with the internal structures of industrializing cities.

and interacting with people from different backgrounds and cultures. At the same time, an individual who experiences social mobility may be involved in new patterns of social interaction. Unfortunately, the effects of these processes upon the social and spatial structure of the industrializing city has been almost completely neglected by the geographer.

The purpose of this study is, therefore, to cover some of this neglected ground by analysing a series of small towns during the period of industrialization within the context of three interrelated themes : spatial structure and urban development; rural to urban migration; and social mobility and social interaction. In addition, since the study towns were selected on the basis of their functional dissimilarity, there will be a further dimension to the analysis: the effect of economic function on social and spatial development.

Urban Structure and Development

The internal spatial structure of towns and cities has long been of interest to observers. For example, according to De Planhol (1959, pp.10-11), even Marco Polo took time off from his travels to describe the internal structure of the Iranian oasis town of Lut. However, it is only during the present century that research on urban structure has advanced to such a level that a series of theoretical models have been constructed.¹ Although these models are essentially concerned with the industrial and post-industrial city, it will be instructive to briefly detail their components as a norm against which the industrializing city may be viewed.

1. Although the work of Kohl (1841) might be regarded as an exception to this generalization. See below.

Classical Models of Urban Structure

One of the earliest models of urban structure and development was the 'star' theory¹ put forward by Hurd in 1903. He suggested that cities originate at a favourable site and grow along lines of least resistance or towards areas of greatest attraction, while

"the original simple utilities develop into a multitude of differentiated and specialised utilities tending constantly to segregate into definite districts." (Hurd (1903) p.14)

Hurd's axial growth scheme was the inspiration for considerable model building during the inter-war period. Perhaps the best known of these models was that developed by Burgess (1925, 1929) who suggested that:

"typical processes in the expansion of the city can best be illustrated, perhaps, by a series of concentric circles which may be numbered to denote both the successive zones of urban expansion and the types of areas differentiated in the process of expansion." (Burgess (1925) p.50)

Burgess visualised the city as being made up of a series of concentric zones with the Central Business District (CBD) as the pivotal point. Beyond the CBD was a zone of transition, an area undergoing social and physical deterioration occasioned by the encroachment of commercial establishments, the out-migration of wealthy inhabitants and the filtering down of their property to the poorest sections of the community, in particular the most recent immigrants. The next zone was occupied by industries and associated working class housing while beyond were residential zones differentiated by wealth with the wealthiest groups being farthest from the CBD. This model has met with considerable criticism² both for the patterns it defined and the processes it emphasized, but recent reviews have been more sympathetic:

1. See Thomlinson (1969).

2. See, for example, Fisher (1930); Davie (1937); Jones (1960); Murdie (1969); Thomlinson (1969) and Giggs (1970). However, Quinn (1940) supported Burgess.

"The model is crude and unrefined but it provided a set of ideas about urban spatial structures which could be empirically tested and a framework for the more detailed study of natural areas within the city." (Berry and Horton (1970) p.307) ¹

The failure of the concentric zone model per se to adequately explain city structure led Hoyt (1939) to suggest an adaptation in the form of a sectoral model. After studying a number of American cities in terms of the distribution of their land and housing values he noted that rentals increased in value away from the city centre, not in the concentric manner that Burgess' work would suggest, but in a pattern of wedges (sectors) of different rental values. However, Hoyt's model has met with no more general acceptance than that of Burgess. Alonso (1964) and Rodwin (1950), for example, have criticised its lack of universal application and weak explanation of the manner in which the sectors evolved.² Similarly Berry and Horton (op.cit, pp.308-309) have claimed that:

"Hoyt's view of the city is at best partial, constrained by his narrow focus of interest on housing characteristics in general and rent in particular. He gave little consideration to the characteristics of the inhabitants who occupied the structure."

Earlier, Firey (1945, 1947) had made a similar point. Although conceding that vague concentric and zonal patterns could be found in a city, he argued that cultural factors could be a distorting influence and, therefore, should be incorporated into any model of city structure. Firey based his case on research on the Beacon Hill district of Boston.³ According to theory this district ought to have degenerated into a slum but it still remained a high class residential area as a result of its inhabitants'

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1. See also Carter (1972) and Schnore (1963, 1964) who used Burgess' theory to construct an evolutionary cycle of city types.
 2. Hoyt's papers of 1950 and 1964 gave his reaction to this criticism.
 3. Ross (1962) has also written about Beacon Hill and his paper should be read in the context of Firey's work.

strong sense of community and their ample wealth which provided them with the means to resist the tide of urban change.

A third major theory of urban structure, devised by Harris and Ullman (1945), rejected the pivotal rôle assigned to the CBD in the concentric and sector models and suggested that in the growth of cities different functions develop around separate nuclei. Clearly, the city as envisaged by Harris and Ullman has a more complex morphology than those put forward by either Burgess or Hoyt. Empirical research has revealed, however, that this theory is more applicable to the North American city than to those of Europe where the original core has often remained dominant despite rapid industrial growth.¹

At one time the classical models were regarded as rivals but more recent research tends to view them as complementary. According to Murdie (1969, p.6):

"Results ... suggest that economic status is primarily distributed sectorally, family status is a concentric phenomenon and ethnic status is associated with the existence of ghettos or similar clustering of peoples with common cultural backgrounds (Firey)."²

Although none of the models are entirely successful in describing the structure of the city, it does not, however, follow that they lack any utility since they can readily be used to provide a normative framework for urban analysis. Further, the spatial order which they identify has suggested a series of concepts and ideas which have formed the basis of considerable detailed research.

-
1. This polynuclear theory could be regarded as an expression of the 'post-industrial city', the best examples of which are the North American 'megapolitan' regions. Some researchers, such as Robson (1973), seem to view the post-industrial city as an inevitable stage in urban development but others, for example Schnore (1965, p.374), have suggested that transport congestion and urban renewal are transforming some cities back to a pre-industrial form as wealthy commuters take up new city centre apartments rather than face increasingly difficult journeys to and from suburbia.
 2. Figure 1.1 is taken from Murdie's book and represents this concept in diagrammatic form. Berry (1965), Berry and Horton (1970) and Johnston (1969a) reach broadly similar conclusions. Full discussions of the classical models can be found in Robson (1969), Thomlinson (1969), Johnston (1971), Timms (1971) and Carter (1972).

Pre-Industrial and Non-Western City Structure

Although there has been a great deal of debate over the precise applicability of the classical models of urban structure, it is generally agreed that there is considerable spatial order in the morphology of the modern Western city and, important though unique factors may be to the individual city, they cannot completely conceal underlying common patterns. However, this does not mean that cities from different cultures or earlier time periods will necessarily share the same spatial structures.

The first attempt to conceptualize the structure of the pre-industrial city was that by Kohl in 1841.¹ Kohl argued that the spatial layout of the early 19th century city was differentiated along both the vertical and horizontal planes. He envisaged the upper classes living in the centre of the city at first floor level (the ground floor usually being given over to commerce or manufacture) and the working classes inhabiting rooms either above the first floor, below the ground floor or away from the centre altogether.² Without actually acknowledging Kohl's work, a number of studies of pre-industrial British cities have identified certain elements of his theory.³ For example, Hoskins (1935) using 17th century Hearth Tax returns for Exeter concluded that:

"the quarter of the city between the South and East Gates was inhabited almost exclusively by the well-to-do ... the other half of the city from the East Gate around to the West Gate was more densely built over and was inhabited away from the High Street by a less prosperous class, becoming poorer and poorer as one went towards the walls and outside them ... In this area was a network of tortuous alleys and courts ... The seven wealthiest parishes form a compact nucleus in the heart of the city, though mainly to the East of the carfax, while the five poorest parishes all lie against or outside the line of the mediaeval walls."⁴ (Hoskins (1935) pp.22 and 116)

-
1. Peucker (1968) has claimed that this research has been shamefully neglected but in 1969 Berry and Rees revived interest in Kohl's work.
 2. The two dimensions have led to Kohl's theory being termed the 'dome theory'.
 3. Although data difficulties usually prevent its vertical component being investigated. However George (1964) has analysed status and floor level for 18th century London and Vance (1971) has suggested reasons why buildings should have been vertically differentiated in this manner.
 4. Figure 1.2 is Hoskins' map of this structure.

A similar pattern has been identified for other 17th century cities in the British Isles, for example, in Butlin's (1965) analysis of Dublin and Welford's (1911) study of Newcastle-on-Tyne. Using empirical evidence of this type, Sjoberg (1955, 1960) went as far as to postulate a normative model of the pre-industrial city:

"Consider the concentric zone theory of Burgess ... cities of the pre-industrial type display quite a different spatial arrangement ... The pre-industrial city's central area is notable as the chief residence of the elite and here are the luxurious dwellings ... the disadvantaged members of the city fan out towards the periphery with the poorest and outcasts living in the suburbs farthest removed from the centre."
(Sjoberg (1960) pp.2-3 and 97-99)¹

However, despite the elegance of Sjoberg's model Vance, (1971) has emphasized its oversimplification by suggesting two alternative morphologies for cities during the pre-industrial era. First, the pre-capitalist city, in which segregation was not by class but occupation with each of the guild-controlled craft quarters having its own social spectrum, and second, the mercantile pre-capitalist city, in which the core housed those of the highest class, in particular, the leading members of the mercantile guilds who occupied this area as a result of its superior trading facilities. Further, Vance postulated that this pre-capitalist structure gave way to the capitalist city when the ownership of property became divorced from land-use and the ability to pay rent became the new determinant of residential location. When these changes took place the wealthy began to take up new houses on the city's periphery and the ecological transformation and social downgrading of the inner city commenced.

In a recent paper, Langton (1975) has attempted to test the theories of both Sjoberg and Vance by reworking the data contained in the three studies of Exeter, Dublin and Newcastle mentioned above. From his

1. See also Timms (1971, p.222) who explains why Burgess' transitional zone would not have been found in pre-industrial cities.

analysis Langton concluded that there was no sign of Vance's pre-capitalist or capitalist spatial structures in any of the three cities and that Sjoberg's pre-industrial morphology was common to all of them. By specifically focusing his attention on Newcastle, the author went on to demonstrate that the social structure of the city during the 17th century was far more complex than either Vance or Sjoberg had suggested. It would appear that there existed at Newcastle a mixture of Vance's pre-capitalist and capitalist societies with Sjoberg's pre-industrial feudalism being absent. Clearly, Langton's paper emphasised that, as with the modern city, there is no completely adequate theory to explain the social and spatial structure of the pre-industrial city. However, within both theories there is some agreement that the rich tended to reside close to the city centre with the poor towards the periphery. A number of reasons have been put forward to explain this, for example Boal (1968) and Schaeffer and Sclar (1975) have argued that since walking was the main means of movement within the city it was, therefore, essential for people to live close to their work. As the workplaces of the merchants and officials who made up the upper and middle classes were located at the centre it follows that their residences would also be found there (in fact many of them would have lived and worked in the same building). In addition, as the activities of enemies or footpads would normally have been concentrated in the peripheral or extra-mural suburbs, the centre of the city was the safest place in which to live and it was little wonder, therefore, that it was chosen by the wealthy.

A number of empirical studies have shown that some modern non-
that of
Western cities have a spatial structure similar to/the pre-industrial
city. For example, Chatterjee (1960) revealed that in Howrah in India:

"The influence of the caste system is reflected in the usual concentration of higher castes in the central area of good residential localities while the lowest class groups usually

occupy the fringe ... This is in spite of modern developments of road transport, the residential decentralization ... to outside the old residential districts is not very marked." (Chatterjee (1960), quoted in Berry and Rees (1969) p.445.)¹

Although a similar pattern has been found in many Latin American cities,² Schnore (1965) has recently identified a trend towards some high status residential decentralization. This process of spatial change has also been documented for cities in Iran by Clark and Costello (1973) and those in some parts of the Far East by McGee (1971). In general, this shift in the residential structure of the non-Western city has been interpreted within the context of industrialization while, in the specific case of Iran, Clarke and Costello (1973) argued that it involved a major shift in wealth from land to oil and industry. This reversal of the Sjoberg model in a number of non-Western cities makes comparisons between them and the pre-industrial cities of the past considerably less meaningful although, during the period of their industrialization, the modern Western cities must have undergone a similar metamorphosis.

The Industrializing City

Although the modern cities of North America, Europe and Australia have relatively similar spatial structures, this was not always the case since they were founded at different times and so the date of their transposition from a pre-industrial to a modern layout was far from universal. For example, Butline (1965) has revealed that the process could be observed in Dublin as early as the beginning of the 18th century³ when the wealthy classes moved out of the central area, parts of which then began to degenerate into congested slum districts. In contrast, Belfast's change took place in the early 19th century (Jones (1960)) while in London large scale peripheral movement of the wealthy did not occur until the 1850s

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1. Berry and Rees went on to find that Calcutta shared the same type of structure as Howrath.
 2. Hansen (1934) has attributed this pattern to the original Spanish influence.
 3. However, Ward (1975) has postulated that changes at this period were small scale rearrangements of the mercantile centre and thus must be isolated from the major changes concomitant upon industrialization.

(Glass (1955)¹). In Manchester a modern structure had developed rather earlier:

"Around the commercial quarter there is a belt of built up areas on average one and a half miles in width which is occupied almost entirely by working class dwellings ... beyond ... lie the districts inhabited by the middle and upper classes. The former are to be found in regularly laid out streets near the working class districts ... the villas of the upper classes are surrounded by gardens and lie in the higher and remoter parts ... The upper classes enjoy healthy country air and live in luxurious and comfortable dwellings which are linked to the centre of Manchester by omnibuses."

(Engels (1845) p.55 of Henderson and Challoner's translation (1958)).

However, in a recent paper, Ward (1975) has argued that spatial transformation did not take place within any British city until quite late in the 19th century. He discounted Engels' description of Manchester as being an oversimplified generalization since it failed to identify the internal complexity of the working class districts. But, in spite of Ward's views, the empirical studies cited above would suggest that some British cities were experiencing at least the first phases of a social transposition fairly early in the 19th century. These changes were at least partly brought about by the development of intra-urban transportation which enabled the wealthy residents of the city's central area to escape to the periphery when the core lost its exclusiveness as a result of the high rates of immigration attendant upon industrialization.² Such transport links, for example, the horse drawn omnibuses noted by Engels,³

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1. See also Booth (1902-1902) who described an almost perfect Burgess pattern for the London of the 1890s. His 17 volume survey has been abridged by Pfautz (1967).
 2. Inter-urban transportation also affected the city's morphology in a more direct manner for the building of railways through urban areas often resulted in the wholesale destruction of many poor districts. Dickens' well-known description of railway construction in *Dombey and Son* (1846-1847, Chapter Six) illustrates this while Booth (1902-1903), Kellet (1969) and Dyos (1961) have made the same point.
 3. Other examples would be the omnibuses and later trams of Leicester and Birmingham and the underground railway of London. Schaeffer and Sclar (1975), following (without acknowledgement) the lead of Boal (1968), have spoken of cities at this stage of development as being 'tracked cities'.

finally ended the necessity for residences to be situated close to workplaces, at least for those members of the middle classes who could afford to pay for daily travel. In addition, industrialization was also responsible for the separation of the working classes' homes from their workplaces:

"As factory production was brought together in industrial cities both isolation and social responsibility (of the owner to his workers) tended to disappear. The creation of a proletariat was accompanied by the creation of a residential quarter as distinguished from a mill village. This was the watershed of housing generalisation ... and once commuting became a shaping force economic stratification became inevitable." (Vance (1967) p.126)¹

It was not only British cities which experienced spatial changes as a result of industrialization as there exists considerable research to indicate the occurrence of a similar process in North American and Australian cities. In a study of Toronto in the 1860s, Goheen claimed that although:

"the wealthy were able to segregate their quarters they were in general constrained to remain in the centre in order to take advantage of urban amenities and manage the life of the city. At the other end of the economic spectrum the unskilled were segregated into pockets at the periphery of the city where maximum inconvenience eliminated competition." (Goheen (1970) p.138)

By the turn of the century the spatial structure of Toronto had completely reversed from a pre-industrial layout to one more akin to the industrial city as the development of a street-car network altered the relative accessibility and attractiveness of peripheral districts. A similar transposition was traced by Johnston (1969b) in Melbourne during the late 19th century.

Of the few published studies of small towns during the period of industrialization the most significant are those by Warnes (1969, 1970, 1973) of Chorley in Lancashire. With the aid of a local source, Warnes

1. See also Vance's earlier papers of 1960 and 1966.

(1973) was able to subdivide Chorley in 1816 into various social areas which basically formed a typical pre-industrial layout. By 1851 considerable changes had taken place within the town as a result of increasing industrialization and the separation of residence from workplace:

"The inner and outermost zones have the highest proportions in social class I and II. The proportion drops sharply from the centre to its minimum in the second area but with increasing distance from the centre rises steadily to the 6th zone. Social classes IV and V had relatively low densities in the inner and outermost zones and relatively high densities in zones adjacent to the centre." (Warnes (1973) p.182)

Clearly, Warnes' research has indicated that this small town seemed to have experienced at least the preliminary stages of socio-spatial transformation with the onset of industrialization. This thesis will pursue this theme further by attempting to discover whether a series of small towns of dissimilar functions underwent a similar metamorphosis.

The Migration of People

The industrialization of a predominantly agricultural society cannot be accomplished without it undergoing considerable disruption. One of the most notable changes involves the redistribution of population since, although industrial developments might originate in rural areas (as was the case in Britain - see Deane (1967)), their ultimate success depends on the establishment of economies of scale and/or a factory system,¹ both of which necessitate the migration of a dispersed agricultural population to more restricted locations. Therefore, any investigation seeking to understand urban development during a period of industrialization must be concerned with the contribution of migrants

1. Large scale industrial production can take place without the establishment of a factory system - the domestic textile manufacturing of Hinckley, one of the study towns of this thesis, is an example.

to the towns and cities being studied.

Of the vast amount of literature on 19th century migration in Britain, by far the most influential is that by Ravenstein (1885, 1889)¹ who argued in his 'Laws of Migration' that: most migration was over short distance; most individuals moved in a series of short stages; long distance direct migration was primarily to large centres of population; each migration current had a counter current; females were more migratory than males; the usual motivation for migration was economic pressure; and migration was selective of individuals. A wide variety of studies of 19th century migration provide considerable evidence in support of the majority of Ravenstein's postulations. For example, with regard to the effect of distance on migration, Redford (1926) found the existence of a marked distance decay in migration flows during the first half of the 19th century while Lawton, with specific reference to the West Midlands between 1841 and 1861, noted that:

"any area of rapid population growth drew in people from the surrounding rural areas, but its attraction diminished outwards in intensity until it was superceded by attraction from another area of rapid growth." (Lawton (1958) p.176)

Further support can be found in Dyos's study of Camberwell (1961) where 60% of the migrants in 1871 were from the Home Counties and in Anderson's (1969, 1971) research on Preston where, in 1851, 70% of migrants had been born within a 30 miles radius of the town. In his study of York in 1841 and 1851 Armstrong (1967) also found that most migrants were from the surrounding area. At a national scale Smith (1951) has demonstrated that most 19th century migrants travelled only as far as the nearest expanding town or city.² Despite this evidence in support

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1. Lee (1966) has pointed out that despite the large number of migration studies since Ravenstein, his 'laws' are still of great value. See also Grigg's (1974) appreciation of Ravenstein.
 2. Smith also noted that the majority of foreign emigration in the 19th century originated from areas such as East Anglia and the Southwest which did not have a local network of growing towns and cities. See Best (1971) for a discussion of the mid-Victorian's attitude to emigration.

of short distance migration, Darby did not find this type of movement in his study of Cambridgeshire between 1851 and 1861:

- "For Cambridgeshire, during these ten years at any rate, the call of the London area and of the industrial districts was a force as strong as the earlier movement over short distances. This may have been due to the increasing railway facilities ... all we can say is that in this particular example the short distance theory to a great extent breaks down; before 1851 short distant movement was predominant; after 1851 it may still have been a characteristic feature for many counties." (Darby (1943) pp.124-125)

With the exception of Darby's work, most studies have shown that the majority of movement to cities was of short distance. At the same time, it can be seen that residential mobility within 19th century cities was also narrowly circumscribed. In Preston, Anderson (1969) was able to trace only 14% of the 1851 population to the same address in 1861, but found that 40% of the migrants were living no more than 200 yards away. A similar pattern was identified by Taylor (1970) in the Abercrombie district of Liverpool where in one particular street 32 families had moved between 1851 and 1861 but 20 of them had relocated within the same street.¹ With regard to rates of turnover, Holmes (1973) noted that no less than one third of the houses in Ramsgate experienced a change of ownership between 1851 and 1853. Many of these intra-urban movements could be conceived as an adjustment to changes in social status although it should be pointed out that in the modern city, it has been argued that this fact is not as important as life-cycle changes (Simmons (1968)).

In contrast to the general accord on the circumscribing effect of distance on migration, there is no universal agreement on Ravenstein's hypothesis that migration flows were made up of a series of short distance stages or waves. For the early part of the 19th century Redford has revealed that:

1. See also Lees (1969) who found a similar structure to intra-urban migration in the Irish communities of London, and Knights (1969) who studied migration within Boston, Mass.

"All the rising centres of industry and commerce were attracting workers by a process of short distance migration from the surrounding country. Where the attractive force of a large town was extended over a large area, the inward movement usually took place by stages. The majority of migrants to the towns came from the immediately surrounding counties, their places in turn being taken by migrants from places further away." (Redford (1926) p.183)

However, Saville (1957) and Smith (1951) have suggested that during the second half of the century migration stages had given way to direct movement to the rapidly growing industrial centres. This change in migration pattern has often been attributed to the extension of the railway network¹:

"The important question arises as to whether short distance migration was merely a reflection of the transport difficulties of the period (pre-1851) and was therefore greatly to be modified in the latter half of the century by the increasing influence of railways in stimulating the mobility of labour and encouraging long-distance migration." (Redford, op.cit. p.183)

Later in the same book Redford attempted to answer his own question:

"While railway communications evidently strengthened the volume of migration from the country districts to the towns, it does not seem to have changed the main characteristics of the movement. The railway, it is true, induced many people to migrate for long distances who would otherwise not have moved far; but it also induced many more people to move short distances who would otherwise not have moved at all." (Redford, ibid. p.190)

Unfortunately, the limited nature of the data available for 19th century migration studies (often only the birthplace and place of current residence of each individual in the sample) precludes a rigorous testing of this controversy.

It is well established in the literature that migration is selective of certain individuals, for example, females were generally more mobile than males during the 19th century. This can be confirmed by Bryant's (1971) study of mid-century Devon in which he found that the most mobile elements of the population were young women while Gurney (1970)

1. This would also affect mean migration distances. See the quotation from Darby given above.

discovered that in the Peak District in 1861 most migrants were females aged 20-59. These two studies and others such as that by Saville (1957) indicated that age was a further factor in the selection of migrants and it is generally accepted that in any voluntary migration stream young people will predominate as it is they who are more ambitious and have most to gain by moving. Only when domestic conditions deteriorate beyond endurance do whole communities leave, as happened to a certain extent in Ireland during the 1840s.

Another factor in selection is social class for, normally, people of high status have more knowledge of the opportunities that exist in other areas¹ and might also be more willing to move to them.² The influence of status upon migration can also be linked with Stouffer's (1940, 1960) theory of intervening opportunities:

"The number of people going a given distance is directly proportional to the number of opportunities at that distance and inversely proportional to the number of intervening opportunities." (Stouffer (1940) p.840)

In absolute terms there are fewer jobs available to people of high status and, therefore, they may have to travel further than migrants of working class to obtain a suitable position. A number of empirical studies have confirmed this point. In 19th century York, for example, Armstrong (1967) found that those residents born outside Yorkshire, with the exception of the Irish, tended to be of higher status than the native-born Yorkshiremen. Smith (1968) came to a similar conclusion in his study of Nottingham. Interestingly, Gurney (1970) in her study of the Peak District pointed out that although low class labourers were very

1. In other words they have a wider 'mean information field'. See Morrill and Pitts (1967).

2. See Rose (1968) who has investigated the relationship between status and migration distances.

mobile, their movements were within narrowly circumscribed limits.¹

Intervening opportunities vary not only with the status of the occupation sought but also with the degree of specialism involved. For example, in his study of the West Midlands, Lawton (1958) found Cornish china clay workers in the Potteries and metal workers from the northeast in Birmingham.

A feature common to all migrations of whatever century is that a definite decision to move has been taken, and the factors that cause people to change their environment² have interested researchers for many years. Various authors have put forward lists of migration causes³ but, as Ravenstein noted, most causes can be associated with a desire for economic betterment. It is usual to conceive of this in terms of a 'push and pull' concept,⁴ the push being defined as the migration stimulus occasioned by adverse economic and social circumstances in the area of origin while the pull factors are brought about by the attractions of the area of destination. The Irish, driven from their land by the potato famine of the 1840s, are examples of migrants who were 'pushed', but the overwhelming majority of the rural to urban migration in 19th century Britain was initiated by the attractions and economic opportunities of the towns and cities which outweighed those of the rural areas.

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1. See Patten (1973) for a discussion of the distinction between local mobility and migration proper.
 2. Patten, *ibid.* has suggested that in local movements in pre-industrial times a new environment was not involved as the migrant would remain within his rural context. However, rural migrants entering a 19th century industrial town would obviously have met a completely unfamiliar environment and life-style.
 3. See, for example, Bogue (1959) or Beaujeu-Garnier (1966).
 4. In a study of 16th and 17th century migration in Kent, Clark (1972) tried to give greater sophistication to this concept by distinguishing between 'betterment migration' - a planned movement for social and economic improvement (pull) and 'subsistence migration' - a forced movement, often of poor people, caused by famine, disease or abject living conditions (push).

Robson has listed some of the pressures to which a potential migrant was subjected during the 19th century and suggested that moving was less of a financial risk than it might be today:

"Higher fertility and a larger family size increase the potential pressure for movement and the greater regional differentials in wage rates (in the 19th century) ... meant that the economic incentives to mobility were high ... The greater ease of moving house in the 19th century acted as an enabling agent in translating the desire to move into high rates of mobility ... The 19th century housing market was predominately one of privately rented accommodation ... Thus reducing the legal and financial constraints upon moving." (Robson (1973) p.97)

Although various pressures which might have led to 19th century migration can be postulated in this manner, it is impossible, unfortunately, to investigate more fully the actual decision-making processes involved and, therefore, the psychological aspects of migration, which are an increasingly important aspect of modern research, cannot be studied.

Social Interaction and Mobility

The major migration streams of the 19th century were composed of individuals and families moving from rural to urban areas to take up the employment opportunities offered by industrialization.¹ This urbanization process had profound effects not only on the distribution of population but also on society as a whole since it brought about a social as well as an economic revolution. In the rural areas a feudal type of social order still existed with each person born to his station in life, but, in the industrializing towns there was no place for such an immutable system since the arbiters of social status were wealth and occupation and not breeding or land holding. This is not to say that inherited status was not important in urban areas for, certainly, few people of working class origin could hope to reach the upper echelons of

1. There was always a smaller reverse current from urban to rural area though. See Ravenstein (1876).

society but within the new order individuals became responsible for their own position in life and the urban inhabitant was offered greater opportunities for social mobility than ever before.¹ The industrial-
also
izing urban areas were/characterised by a more open social structure since interaction between members of different social groups became commonplace and so intergroup contact lost a good deal of the formality of pre-industrial times. Therefore, social mobility and social interaction are, to a certain extent, measures of the progress of the industrialization and urbanization of a society and any study seeking to understand urban development must take them into consideration. However, the social relationships between members of long dead populations are not easily recreated and, therefore, more often than not the researcher is forced to utilise a suitable surrogate. In the study of social relationships during the 19th century, one of the most meaningful of such surrogate sources of information is the marriage records. These provide firm evidence of social interaction while mobility can be identified from links between partners of different classes.² Further, the relative efficacy of the constraints which act upon marriage can provide a measure to the openness of society in each of the different study towns.

In contrast to the situation with regard to migration, the body of theory relating to marriage contacts dates only from the present century. This is not really a problem, however, since there is little reason why the constraints on marriage should have been different in the past although their effects will, of course, have varied over time. In addition, since

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1. See Rossi (1955) who linked geographical and social mobility by noting the importance of social changes on migration.
 2. The mobility study will not depend on marriage contacts alone, but will also be concerned with intergenerational status transmission and individual career patterns. See below.

the marriage contact theories were developed, a number of studies of 19th century marriages have been made and, thus, this review will be able to present both theoretical and empirical conclusions against which the findings of the analysis to be made in the later chapters of this thesis will be compared.

It has already been noted that migration was subject to a distance decay in that the number of migrants to a town varied inversely with distance from it. A similar situation has been found with regard to marriage contacts:

"Cupid may have wings but they are not adapted for long distance flights" (Bossard (1932) p.222)

The propinquity of partners can be measured from marriage records since their addresses are usually recorded, although, as Morrill and Pitts (1967) and Küchemann et al. (1974) have pointed out, the birthplace of each partner or their addresses at the time of their first meeting would provide more satisfactory measure. However, this study, like the majority of others on this topic, has to be content with marriage addresses alone. The most influential study on this theme is that of Bossard (1932) who investigated marriages in Philadelphia in 1931. He concluded that (p.222):

"Outstanding ... is the marked decline in the percentages of marriages as the distances between contracting partners increases. The decline is even more striking in view of the fact that the area included in each successive circumscribing belt (i.e. blocks, miles) becomes larger and hence under normal circumstances includes, other factors being equal, a larger number of marriageable persons."¹

Ramsøy (1966a), in a paper on Oslo marriages, has attempted to investigate this topic more precisely by constructing an observed to expected ratio of marriage contacts by comparing the actual numbers of

1. A number of other American studies have duplicated Bossard's findings. See, for example, Davie and Reeves (1939); Barron (1946); Killer (1948) and Marches and Turbeville (1953).

links over various distances to a random mate selection figure. From her analysis she found that partners living less than two miles apart married more frequently than expected while, at over two miles, the marriages were fewer than random mate selection would suggest.

Clarke, in trying to explain why propinquity should be a factor in marriage contacts, has stated that:

"Locality may tend not only to select but also to produce persons who are suitable in attitudes, behaviour patterns and probably other characteristics. Hence to some extent propinquity may be considered a primary element in mate selection". (Clarke (1952), p.22)¹

Stouffer's (1940, 1960) principle of intervening opportunities is also of value here since the potential partners in a locality can be seen as intervening opportunities which reduce the necessity of long distance movement. The number of such opportunities will vary with each individual's requirements and, as with migration distances, there is a class dimension involved since persons of a high status wishing to marry homogenously may have to look farther afield than their lower class fellows. For example, Peel's (1942) study of the English Midlands during the 18th and 19th centuries found that while most men married within five miles of their homes, the landed classes were far less constrained by distance. The principle of least effort might also be invoked to explain marriage propinquity and, in fact Zipf (1947), in proposing this concept, reworked Bossard's marriage data to demonstrate that it took less effort to find and court a partner from close at hand than one from some distance away.

As with migration, it must be expected that developments in transport technology would reduce the frictional effects of distance

1. See also Katz and Hill (1958) but Burgess and Locke (1946) dismiss propinquity as being no more than a passive factor in mate selection.

upon social interaction. Within the context of mate selection, this has been confirmed by a number of studies. Perry (1969a, 1969b), in an investigation of working class marriages in rural Dorset between 1837 and 1936 found that the median distance in the second half of the period (9 miles - 14.4 kms) was well above that of the first half (5 miles - 8 kms). Similarly, Constant (1948) found that the mean marriage distance in Huntingdonshire and Northamptonshire between 1754 and 1844 was 2.9 miles (4.6 kms), while in the succeeding hundred years it had increased to 12.6 miles (20.2 kms).¹ However, Küchemann et al (1974) found no significant increase in mean marriage distances in Oxford between 1837 and 1972, but they did concede that the innovation most likely to affect distances, the railway, came to Oxford in 1844, almost at the start of the study period, and so its influence could not be successfully isolated.

Apart from distance, a number of other constraints upon marriage have been investigated. For example, Glass (1938) considered the influence of economic conditions and discovered that there was a correlation of 0.87 between marriage rates and real wages in England and Wales between 1856 and 1873. Earlier the importance of unemployment as a marriage constraint had been emphasised by Yule (1906) and it seems that depressed circumstances cause the cancellation or postponement of many marriages, especially those of young couples who have to shelve their plans until their financial conditions improve. Age itself can be a constraint on interaction since there are usually few marriages between partners of widely differing age groups. Age at marriage can also be related to class, for Ansell (1874) has shown that in 1851 upper class grooms were, on average, 4.5 years older than manual grooms

1. See also Abrams (1943) who found that marriage distances increased steadily in Philadelphia between 1855 and 1931.

and the upper class brides were 1.75 years older than their manual counterparts. Marriage age has also been associated with marriage distances for, in their study of Oxford between 1837 and 1972, Küchemann et al found that the older age groups chose a lower proportion of local partners. A further minor constraint on contact might be differing educational levels and, to a certain extent, this can be investigated for the 19th century as both partners had to sign the marriage register and it can thus be seen whether or not they were literate (although the ability to sign a name is not concrete evidence of literacy). It must be hypothesised that there would be few marriages between literates and non-literates although, as the need or even opportunity for the use of literacy skills was then much less frequent than in the present media-dominated century, the hypothesis might remain unproven. Another difficulty with an investigation of this type is that educational levels were inevitably bound up with social status and, of course, status differentials would be more circumscribing than differences in literacy.

Interaction between partners of different classes may prove to be evidence of social mobility and, therefore, in a study which seeks to analyse both these topics, social status must be a significant constraint. It has been postulated by many authors, including Marvin (1918) and Davis (1941), that the majority of marriages are homogenous i.e. between social equals. This hypothesis can be checked from the occupational data recorded on the marriage licences for, although there is a good deal of controversy about the assumption that occupation can be used as a surrogate of social status (see Chapter Five), it is here sufficient to cite Katz (1969, p.233):

"In contrast to the situation in the 20th century, in the 19th century a man usually occupied a similar economic and status rank which was signified by his occupation."

In addition, Burgess and Cottrell (1939, p.14) have stated that a man:

"is rated as a marital risk largely upon calculations of his chances for occupational advancement."

Thus, given that occupation can serve as a substitute for status, the marriage licence data would be expected to show that most marriages were between partners of similar standing. This concept of social propinquity has been linked with marriage distances:

"The possibility of two persons marrying each other, other things being equal varies inversely with the distance between their residences and socio-economic factors which taken together can be called 'social distance' also influence the choice of marriage partners and may tend to intensify or offset the effects of residential propinquity."
(Ellesworth (1948) p.444)

The same point was made by Ramsøy (1966a,p.784):

"People marry their equals in social status. They marry their neighbours : neighbours tend to be equals."

Ramsøy based her conclusions on a study of Oslo in 1962 where she found that intra-class marriages occurred with greater frequency than a random mate selection would predict.¹ The incidence of non-homogenous marriage is an illustration of the relative openness of society and it will be of interest to see if this changes over the study period or varies between the different towns.

Kerckhoff (1963-1964) has put forward two contrasting theories relating to marriage contacts. The first suggested that marriage is a function of opportunity and that these are greatest in the local area amongst social equals, while the second postulated that marriage is a function of choice and thus the more widely travelled a person is the more homogenous will be his marriage as he will be selecting from a wider field. It has been seen that travel was to an extent an upper class activity in the 19th century and, thus, Kerckhoff's two theories are immiscible as the higher classes should be more homogenous because of their greater experience, while the lower classes should be more homogenous as they choose from social equals living in the local area. Only one theory can be correct and a solution to the paradoxical situation

1. Similar results can be seen in Davie and Reeves (1939), Hunt (1940), Hollingshead (1950).

will be sought with regard to the small towns of this study.

If a marriage is not homogenous (or socially endogamous) it can either be hypergamous in which case a man has married his social inferior or hypogamous, if the bride is of the higher class. Hypergamous marriages are more common,¹ except in a caste society (Merton, 1941), although, in this situation, intermarriage is rare.² Roth and Peck (1951) postulated that hypergamous marriages are likely to be more successful because women find it easier to adjust to a higher status while MacDonald (1974) hypothesised that wives who marry 'beneath' themselves compensate vicariously by ensuring that their children are upwardly mobile. The relative proportions of mixed status marriages will be given in the analysis both as a guide to the structure of the towns' societies and as part of the social mobility investigation.

A study such as this, which includes data from both marriage and Census Enumerators' records can, by tracing people from their marriage to the censuses, present a detailed history of a man's status from its starting point - his father's occupation - through to his own status up to 30 years later. This data allows such topics as inter-generational mobility, occupational inheritance and career histories to be studied and it will be seen how often the 'American Dream' was found in English small towns in the mid-19th century.³ The investigation proceeds in spite of the claim by Duncan (1966) that no study of mobility based on marriage records can be valid, or of the warning by Wilensky (1966, p.136) that:

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1. See Anderson (1938), Berent (1954), Centers (1949), Hollingshead (1950).
 2. See Kennedy (1943), Kerckhoff (1955).
 3. Although Gutman (1969) and Thernstrom (1969) show it to have been poorly represented in American itself at this time despite a few spectacular exceptions.

"intergenerational mobility may be the least promising variable in stratification research".

In fact this study does not use marriage records alone and thus Duncan's objections must be at least partially overruled while, with regard to Wilensky's statement, it must be stressed that social mobility is not being studied per se but only as one variable in a wider ranging study of urban development. Some have argued that a certain amount of intergenerational mobility is inevitable¹ but the level of this mobility must vary with the different opportunities offered by towns of differing function and, thus, mobility levels will provide further information on the social differentiation between the study towns.

Germani (1966) has listed seven major factors which influence social mobility:

1. The profile of stratification - mobility will vary with the relative sizes of the different class groups.
2. Degree of discontinuity between strata.
3. Degree of hierarchization of interpersonal relationships - the level of aspirations.
4. The image of the system - whether the barriers to mobility are clear to those involved or not.
5. Mobility norms - whether mobility is usual or not.
6. Mobility values - whether inherited positions are respected or not.
7. Mobility possibilities.

Unfortunately, historical data is inadequate to test all the constraints listed and, in particular, those based on psychological factors have to be neglected but nevertheless Germani's list does provide a useful background for the discussions to follow in the later chapters. Another study of mobility was by Ridge (1974) who postulated that occupational inheritance should decline during the 19th century as education improved

1. See, for example, Svalastoga (1959).

and a child's chances in life became less dependent on his father's status. Certainly Sorokin (1927), who dealt with four generations of Americans, found this to be the case although, as would be expected, the father's rank remained of prime importance at the most elevated reaches of the social spectrum especially as at such heights any downward movement could be cushioned for at least a generation by family ties and group cohesiveness. Ramsøy (1966b) has distinguished between industrial areas where, if the son does not take his father's job then it will be filled by someone else, and declining rural areas where the job will probably remain unfilled. Ramsøy's hypothesis could be extrapolated to the expanding and declining towns and/or occupations of this study.

This introductory chapter has set the scene. It has focussed upon the main themes of the study; the spatial structure and changing form of towns during a part of the industrializing period; the origin and background of the migrants involved in this process; the nature and form of the social interaction in rapidly changing towns and cities; and the relationship between geographical and social mobility. All of these themes underwent radical changes as a result of industrialization and urbanization but, surprisingly, they have not been analysed in any great depth from a geographical viewpoint. By deliberately limiting the investigation to a series of small towns of dissimilar functions, it is hoped not only to identify the processes involved in some depth but, also, to assess the effect of function upon spatial and social structures. In addition, by adopting a comparative approach, it will be possible to identify those facets of urban life unique to one town from those common to all of them.¹ The succeeding chapter will introduce the study towns.

1. For example, Schnore and Winsborough (1972) have noted that function has an effect on the social structure of cities.

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CHAPTER TWO

THE STUDY TOWNS

The purpose of this chapter is twofold : first, to outline the way in which the towns to be studied were selected and, second, to briefly identify major themes in their historical development, particularly those factors which had a bearing on the towns' 19th century economic functions.

Selection of Towns

In the previous chapter it was concluded that a worthwhile topic of study would be a comparative analysis of a series of towns of similar size but of dissimilar economic functions throughout a period of industrialization and urbanization. The study period was fixed at 1837-1871 and the search for suitable towns was instigated. It was restricted to settlements within Leicestershire and the selection was made on the basis of the occupational data given in the published volumes of the 1851 census. Unfortunately, details of occupations were not published for areas smaller than the Registration Districts (which were also the Poor Law Unions). However, in the case of Leicestershire, at least, these districts were based on the county's small towns and their tributary marketing areas and so form an adequate basis of differentiation. Table 2.1 enumerates the occupational groups of persons over 20 for each of Leicestershire's Poor Law Unions in 1851 and the towns to be studied were selected with regard to this information.

As this study focuses on small towns neither the city of Leicester¹ nor villages such as Billesdon, Blaby or Barrow-on-Soar were considered. Since the remaining settlements fall into four broad

1. Leicester has recently been scrutinized by Pritchard (1972) who examined social and spatial change from 1860-1960.

TABLE 2.1 : OCCUPATIONAL GROUPS OF ADULTS OVER 20 - LEICESTERSHIRE POOR LAW UNIONS 1851

% of adults over 20 engaged in:	Lutterworth	Market Harborough	Billesdon	Blaby	Hinckley	Market Bosworth
Primary industry	-	-	-	-	-	1
Secondary industry	23	17	11	41	52	20
Tertiary industry	20	21	21	15	15	14
Agriculture	27	29	38	22	14	32
Dependants etc.	30	33	30	22	19	33

-40-

% of adults over 20 engaged in:	Ashby-de-la-Zouch	Loughborough	Barrow-on-Soar	Leicester	Melton Nowbray
Primary industry	8	-	2	-	-
Secondary industry	19	40	33	44	9
Tertiary industry	19	15	16	23	21
Agriculture	20	16	20	2	37
Dependants etc.	34	29	29	31	33

functional categories: manufacturing, mining, agricultural marketing and mixed economy, one representative of each was chosen for study. Of those towns predominantly manufacturing in function, Hinckley was selected on the basis that it headed the only district where more than 50% of the adults worked in secondary industries. Similarly, Melton Mowbray was singled out as an agricultural market town since over a third of the adults in its district worked on the land with another fifth employed in the tertiary sector. Table 2.1 shows that Lutterworth was at the head of the union with the most balanced economy while the Ashby-de-la-Zouch union had the greatest number of people involved in mining. However, the town of Ashby itself has never had any mines¹ and, therefore, it was necessary to go beyond the Poor Law Union heads to choose a mining town. The obvious candidate was Coalville, a town a few miles from Ashby and, at present, of greater size and status but whose origins date only from the 1820s when its first mines were established and whose almost only economic function up to at least the 1860s was, as its name suggests, the extraction of coal.

Having provisionally chosen the towns on the basis of the Poor Law Union returns, their suitability was checked by tabulating their own occupational structures from the 1851 and 1871 Census Enumerators' Books² (Tables 2.2 and 2.3 respectively). From Table 2.2 it appears that Coalville was a remarkable example of a mining settlement since 65% of its gainfully employed population in 1851 worked in the pits. It had very few people employed in secondary and tertiary industries and less than 2% of its workforce on the land. The domination of a town's

1. Coal measures in Leicestershire outcrop in anticlinal form and as Ashby-de-la-Zouch is situated on the eroded crest of this anticline it has mines to east and west but none in its immediate area.

2. See Chapter Three, Section B, for a full discussion of the range of information given in these books.

TABLE 2.2 : OCCUPATIONAL STRUCTURE OF THE STUDY TOWNS 1851

% of total workforce engaged in:	Coalville	Hinckley	Lutterworth	Melton Mowbray
Primary industry	65.1	-	-	-
Secondary industry	17.8	75.8	32.2	26.0
of which:				
Textiles	10.4	67.9	19.5	11.7
Boot and Shoe	-	3.3	3.9	2.6
Tertiary industry	14.2	14.4	45.6	52.7
of which:				
Traders	4.0	5.7	15.2	14.6
Professionals	2.4	2.2	4.3	6.5
Servants	5.4	4.3	14.0	15.1
Grooms	-	0.2	1.8	5.7
Agriculture	1.4	3.9	15.8	10.6
Other occupations	1.4	5.9	6.4	10.7
of which:				
Labourers	0.8	1.6	0.4	3.7
Out Paupers	0.4	2.9	4.7	2.1
Annuitants	0.2	0.4	0.8	3.9

TABLE 2.3 : OCCUPATIONAL STRUCTURE OF THE STUDY TOWNS 1871

% of total workforce engaged in:	Coalville	Hinckley	Lutterworth	Melton Mowbray
Primary industry	52.5	-	-	-
Secondary industry	24.3	73.7	26.1	25.1
of which:				
Brickyard	9	-	-	1
Textiles	3.5	64.4	9.6	9.1
Boot and Shoe	1.5	4.6	3.4	2.4
Tertiary industry	19.4	19.2	46.8	56.5
of which:				
Traders	6.8	7.1	10.8	15.7
Professionals	2.7	2.6	7.2	5
Servants	4.3	5.3	17.3	19
Grooms	-	0.2	0.7	6.6
Agriculture	1.9	3.6	19.4	6.6
Other occupations	1.9	3.4	7.7	11.7
of which:				
Labourers	-	2.6	-	7.1
Out Paupers	-	6.1	5.0	-
Annuitants	1.1	0.3	-	2.5

occupational structure by a single sector was even more marked at Hinckley in 1851; over three-quarters of its working population were engaged in manufacturing, especially of textiles, and only small numbers were employed in service or agricultural industries. In contrast, Lutterworth had a fairly well-balanced economy although the town itself had a smaller proportion of agricultural workers than its Poor Law Union as a whole. This was also true of Melton Mowbray since it had far fewer agriculturalists and many more service workers than its union. This was to be expected since by its very nature a market town has a strong trading and service function but in the case of Melton Mowbray this was reinforced by its role as a social and sporting centre.

In the twenty year period between 1851 and 1871 the functional base of the four towns did not alter a great deal, although some changes can be identified (see Table 2.3). The proportion of miners in Coalville fell as the town's economy began to diversify while Lutterworth became increasingly concerned with agriculture as its manufacturing industry declined. In contrast, Melton had fewer agricultural workers but more in the tertiary sector by 1871. The basic dissimilarities in these four towns' economic structures in both 1851 and 1871 were such that they provide a suitably wide range of functional types for this investigation. However, before this can begin, a brief resume of the towns' histories needs to be undertaken in order that the findings of some of the later chapters might be better understood.¹

Parallel Developments

Of the four study towns, three: Hinckley, Lutterworth and Melton Mowbray, experienced a number of centuries of parallel development but the fourth, Coalville, dating only from the 1820s, did not share in this process. All three of the long-established towns are probably of

1. The location of the towns within Leicestershire is shown in Figure 2.1.

Saxon foundation,¹ although there is evidence of a brief Roman presence in each.² In Domesday Book they are recorded as Hinchelie, Lutresurde and Medletune,³ respectively, at which time they were typical small agricultural settlements although Melton was one of few towns to have a recorded market.⁴ However, Lutterworth was granted a market in 1214⁵ and Hinckley in 1311,⁶ and so, by the early 14th century, the three towns had developed into small agricultural market towns probably similar to many other centres throughout Britain. From this period onwards some fragmentary records have survived and these enable the individual characters of each town to be distinguished.

There is evidence, for example, to suggest that Hinckley was suffering certain economic difficulties during the Middle Ages, since just twelve years after its incorporation as a market town there were seven vacant plots in its market place and the 20th tax of 1327 recorded returns for the town only twice those of the surrounding villages.⁷ However, Hinckley's fortunes revived slightly after Edward VI granted it a fair⁸ but, in spite of this, the early Leicestershire historian, Burton, noted that:

"the streets and buildings I cannot greatly recommend, there being no uniformity or neatness about them." (Burton (1622) p.233 (of the 1777 edition))

1. Nichols (1811).

2. ibid.

3. The 'Mowbray' is a later addition, the family of that name being the lords of the manor of Melton Mowbray for a number of centuries. The shortened name 'Melton' is usually sufficient however, and that abbreviation will be adopted throughout this thesis.

4. Nichols, op.cit.

5. Dyson (1913).

6. Pickering (1940).

7. ibid.

8. ibid. To Hinckley's everlasting pride the fair became sufficiently well known for Shakespeare to mention it (anachronistically) in Henry IV part II.

Fewer details are known about the early history of Lutterworth and although Burton recorded that its market was active it seems to have remained an insignificant market town throughout the Middle Ages.¹ In contrast, Melton enjoyed considerable prosperity during this period thanks to its position as the service centre of a rich agricultural region. Its market, which had been granted a fresh charter in 1322,² was commended by Burton and was sufficiently large to warrant sub-division around four market crosses (Sheep Cross in Nottingham Street; Corn Cross on Cornhill; Butter Cross in Market Place and Sage Cross in Sage Cross Street (see Figure 2.2)). In addition, Melton had so many wealthy families that a Chantry House had to be erected (in 1384) to accommodate all those priests engaged by the families to say mass for the souls of their departed.³

During the period from their foundation to the end of the Middle Ages the three towns had a similar pattern of development although Hinckley was the most populous (Table 2.4) while Melton was certainly more prosperous than the others.⁴ However, basically each of the towns was a small agricultural marketing centre and it was only from the mid-17th century that they began to develop along different economic lines.

Tangential Developments

1) Lutterworth

Of the three towns described in the previous section, it was Lutterworth which experienced least development from the common Medieval

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1. Lutterworth's sole claim to fame in the Middle Ages was that its rector between 1374 and 1384 was John Wycliffe.
 2. Ward (1889).
 3. Hunt (1957). The building still stands in Burton End. It is now a restaurant known after one of its (non-resident) owners, Anne of Cleves. See Plate 2.1.
 4. Thanks to the foundation of a Town Estate in the 16th century Melton had far greater control of its wealth than most towns of the time. See Pockley (1969-1970).

TABLE 2.4 : POPULATION OF THE STUDY TOWNS

Date	Coalville	Hinckley	Lutterworth	Melton Mowbray
1086		c.250 ⁴	c.135 ⁴	c.200 ⁴
1273			c.350 ⁷	
1377				c.400 ⁸
1540		c.550 ⁵		
1564			c.530 ⁵	c.450 ⁵
1640		c.1000 ⁶		
1717		c.2250 ⁶		
1780		c.4500 ⁵	c.1484 ⁵	c.900 ⁸
1789			c.1620 ⁵	
1801		5676 ³	1652 ³	1776 ³
1811		6058 ³	1845 ³	2145 ³
1821	c.100 ¹	5835 ³	2102 ³	2815 ³
1831		6468 ³	2262 ³	3556 ³
1841		6459 ³	2531 ³	3740 ³
1846	c.1200 ²			
1851	1449 ³	6177 ³	2446 ³	4434 ³
1861	1540 ³	6461 ³	2289 ³	4446 ³
1871	2081 ³	6779 ³	2080 ³	5033 ³
1881	1904 ³	7673 ³	1965 ³	5820 ³
1891	2692 ³	9638 ³	1800 ³	6392 ³
1901	7157* ³	11304 ³	1734 ³	7454 ³

* Boundaries change

1. Urban District of Coalville : Guide (1971)

2. White's Directory (1846)

3. Census figures

4. Estimated from Domesday Book

5. Nichols (1811)

6. Pickering (1940)

7. Dyson (1913)

8. Ward (1889)

position and it remained primarily an agricultural market town. However, Dyson (1913) has claimed that the town's innkeepers enjoyed a period of prosperity in the 18th century as a result of Lutterworth's situation on a major route south from Leicester while Nichols (1811) noted that at the dawn of the 19th century the town had a number of cotton weavers working for Manchester entrepreneurs. This latter trade seems to have had an effect on the town's morphology for Nichols implied that the yards to the north of Woodmarket were built to house apprentice weavers. In spite of this, Lutterworth, unlike Hinckley, did not become dominated by textile manufacture and generally its economy throughout the 19th century was in a state of stagnation or decline. Lutterworth's 19th century population totals were also indicative of a declining settlement and, in spite of recovering from losses caused by epidemics of smallpox in 1750 and 'putrid fever' in 1778¹, the town's population fell steadily after 1841. This is reflected in Figure 2.3 which indicates that between 1851 and 1871 only two new housing developments were completed outside the 1851 built-up area.

2) Hinckley

By the early 19th century, in complete contrast to Lutterworth, Hinckley's economy had undergone considerable change since it had become completely dominated by textile manufacture, particularly framework knitting. This trade had been introduced in 1640 when one William Illife had taken up residence in Market Place and began a profitable manufacture by knitting stockings on a wooden machine called a frame.²

At this time the town had approximately 1000 people³ and was

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1. Nichols (1811). Nichols also cited a Sir Thomas Cave who "was of the opinion that there were formerly some more buildings in the town than at present". (Nichols (1811) Vol.IV, p.257).
 2. For which he had paid £60, a considerable sum in the 17th century (Nichols (1782)).
 3. Pickering (1940).

relatively poor since 1143 houses were excluded from the contemporary hearth tax.¹ However, Illife's success at framework knitting² attracted a large number of people to the industry and Hinckley's population grew rapidly, more than doubling to 2250 by 1717³ and doubling again to 4500 by 1780.⁴ In his 1782 history of Hinckley, Nichols noted that (p.27):

"The introduction of the stocking frame has considerably augmented the traffick (sic) of the town".

In fact rather than augment, the framework knitting industry had taken over Hinckley's 'traffick' since, according to Nichols' estimates, almost a half of its population in 1780 were employed in one of the branches of knitting, viz:

Framework knitters	1000
Seamers ⁵	250
Woolcombers	50
Framesmiths ⁶	28
Spinners, winders etc. ⁷	822
	<hr/>
	2150
	<hr/>

1. ibid.

2. The stocking frame had been invented in 1589 by the Rev. William Lee of Calverton, Nottinghamshire. Tradition has it that Lee constructed the first frame out of spite to hand knitters for either his suit had been rejected by a lady who was knitting at the time or, as in Plate 2.2, because his wife was too busy knitting to pay him any attention. Lee failed to interest Elizabeth I in his machine and met with little greater success on the continent where he died in poverty. However, his brother managed to establish the machine in London, working for the luxury market and later, when it had been adapted for mass production, it became widely adopted in the East Midlands. See Nichols (1811), Parker (1955), Chandler (1955) and Rawstrom (1958).

3. Pickering, op.cit.

4. Nichols, op.cit.

5. Seamers attached the foot of the stocking to the hose. From the earliest days Hinckley specialised in the production of hose and stockings.

6. Framesmiths constructed and set up the frames. Plate 2.3 shows three frames of various dates and Plate 2.4 shows a frame in operation. For technical details of the operating process see Felkin (1867) or Smith (1965).

7. Spinning and winding were unskilled processes usually performed by the elderly, the infirm or young children.

These functional and demographic developments had a direct effect upon Hinckley's morphology for, before the growth of the textile industry, its main streets had been fronted by farmhouses with yards and outbuildings behind but, when manufacturing became the town's main function, the farmers moved away and their houses were adapted to the needs of publicans, traders or entrepreneurs while the yards were infilled with small cottages to accommodate the knitters (Nichols (1811)). Access to these cottages was provided in the form of narrow passages (called jitties) leading off the main streets while roads were laid down behind the yards to provide rear entrances (Figures 2.4 and 2.5).

In spite of its stimulus to Hinckley's economy and population growth, framework knitting was to bring the town little prosperity since, from quite early in the 18th century, there were periods of severe over-supply in the East Midlands hosiery trade and the ominous phrase 'as poor as a stockinger' was heard as early as 1740.¹ In 1778 the first of many petitions requesting relief for Midland knitters was sent to Parliament but it received no attention.² However, Parliament's lack of interest was not immediately important since the next few years marked Hinckley's greatest era of prosperity as its workforce was reduced as many of its young men went off to fight in the Napoleonic Wars while its trade was increased by lucrative contracts for military hose. This favourable trading position lasted only as long as the war since with peace the workforce grew as discharged soldiers returned to take up their old occupations and the military contracts were not renewed. Further misfortune was brought about by the whims of fashion which decreed that men should wear trousers rather than half-breeches and, therefore, short socks rather than full-length hose. As the former require less material and

1. Pickering, op.cit.

2. ibid.

labour per pair the returns to the knitters were markedly reduced. The downturn in Hinckley's fortunes was worsened by new technical developments in the framework knitting industry of Leicester where a wide frame system of stocking making was perfected. Basically this meant that, unlike the Hinckley frames, those used in Leicester could make several stockings at the same time and, although Hinckley's individually manufactured products were far superior, the cheaper Leicester 'cut-ups'¹ (as they were known) captured the greater part of the mass market.²

The fall in demand for Hinckley's output resulted in many of its inhabitants being reduced to a state of poverty and their plight is poignantly illustrated by a famous local poem of the 1840s:

"A weaver of 'inckley sot in 'is frame
'is children stood mernfully by,
'is wife pained with 'unger, near naked with shame,
As she 'opelessly gazed at the sky.
The tears rolling fast from 'er famishing eyes
Proclaimed 'er from 'unger not free,
And these were the words she breathed with a sigh,
'I weep, poor 'inckley, for thee."

(Anon. 1840s.

Cited by Francis (1930) p.129)

This poem, in its Leicestershire dialect, has rather more importance as a social document than as a milestone in English literature since it exudes something of the hopelessness and despair that characterised 'inckley' at the time of its composition when the framework knitting trade had reached its nadir. However, not all the frustration of Hinckley's residents expressed itself in poetry and there were many riots in the town,³ that of 1829 being particularly severe. In that year two-thirds of Hinckley's estimated 6000 residents were on parish relief despite there being only 400 ratepayers.⁴ So severe was the poverty that the

1. So called because sock shapes were cut from a piece of cloth and then stitched.

2. See Parker op.cit. for a full exposition of the history and development of Leicestershire's hosiery industry.

3. In 1816 over food prices, in 1818 and 1819 over cut-ups, in 1826 and 1829 over wages.

4. Pickering, op.cit.

parish itself entered the hosiery industry in order to absorb some of the underemployment in the town but, unfortunately, it rapidly lost some £4000.¹ After this failure the situation continued to deteriorate and Engels (1845) was moved to single out Hinckley for particular attention in his survey of the English working classes.² However, Hinckley was only one of a number of hosiery centres in distress, and so during the 1840s 25,000 Midland framework knitters banded together to petition Parliament for relief. The Government set up a Commission of Enquiry whose report³ (1845) roundly condemned a number of unfair practices which had contributed to the difficulties in the industry. These were the system of charging frame rent,⁴ the payment of low wages,⁵ stinting⁶, shop charges⁷ and, worst of all, the evil truck system.⁸ In Hinckley these problems were exacerbated by the local system of domestic working to a middleman rather than direct to a hosier. This isolated the worker from his ultimate employer and allowed the middleman far too many opportunities for sharp practice.

1. ibid.

2. See pp.214-215 of Henderson and Challoner's (1958) translation.

3. Published as 'Report of the Commission to Enquire into the Condition of the Framework Knitters', 609 H.C. XV. It was written by R.L. Muggerridge.

4. Few knitters owned their frame, most were rented for 1s.0d. (5p) per week.

5. Returns per frame may not have exceeded 6s.6d. (32½p) per week.

6. The practice of spreading a small amount of work over a large number of frames, thus giving them all some work but at the cost of perpetuating an overlarge workforce when otherwise many knitters might have left the industry to its immediate and overall benefit.

7. As the industry was domestic the knitters had to provide their own candles, coal and needles adding perhaps 3d. or 4d. (1½ - 2p) per week to their expenses.

8. Truck payment was the system whereby wages were paid in kind, not cash, either directly in goods or in credit to a particular shop. The knitter was usually supplied with overpriced produce and thus in real terms was worse off than his fellow paid in cash.

The report presents much information on the organization of the trade and notes that in Hinckley, as in other hosiery centres, whole families were engaged in knitting. The adults and children in their teens would each work a frame with younger children (often from the ages of three or four), the elderly and the infirm carrying out the ancillary tasks of winding the cotton onto the bobbins or seaming the knitted stockings. The necessity of using children for these duties (if the knitter had no family, he would have to pay for his winding and seaming to be done outside the home) ensured that they were brought up into the hosiery trade and, therefore, had few opportunities to seek a career in other fields, thus perpetuating the overlarge workforce throughout the generations.

In an appendix to the report interviews with Hinckley residents are detailed and these provide a picture of appalling hardship and poverty. Many families occupied a single room, often without furniture except for the ubiquitous frames. The dwellings themselves were often damp and insanitary and this, together with an inadequate diet, led to the spread of diseases such as consumption, typhoid and scarlet fever. A local doctor even suggested that the knitters' physiology had been altered since many of them were pale, undersized and had poor eye sight. The pawn-brokers did brisk business since many families pledged their best clothes each Monday and some their blankets each morning (the charges accumulating until the Saturday when the knitters were paid). In such poverty many of the young girls were forced into prostitution, and it was estimated that during the early 1840s one baby in eight was illegitimate. The report indicated that hundreds were leaving the town - the poor knitters to look for work elsewhere¹ and the wealthy to escape from the high poor rates.

1. Many of the knitters were wary of accepting parish out relief and waiting for the trade to improve for as out relief consisted of breaking stones (for 8s.0d. (4Op) per week) they were afraid that such work would harden their hands and rob them of the manual dexterity needed to work a frame.

Property values fell rapidly, for example the Chairman of the Board of Guardians claimed that the property he owned 'in the best and central part of the town' had been worth 1700 guineas in 1827 but only 800 guineas in 1844.

The evidence presented to the Framework Knitters Commission has been set out at some length since the picture it draws of both the organization of the industry and the plight of its workers provides a backcloth to an understanding of the town's social and economic structure during the middle years of the 19th century.

Although conditions in Hinckley improved somewhat during the 1850s, the American Civil War marked another downturn in its fortunes since the blockade of the Confederacy ensured that most of its cotton could not be exported. This meant that Hinckley was cut off from the main source of its raw material and the effects of this cotton famine can be seen from the report of the Children's Employment Commission of 1863.¹ According to this report there was considerable lay-off of knitters as well as short-time working and the town was in as much distress as in the 1840s. In spite of an improvement in the organization of the industry, many of those interviewed² by the Commission still complained of low wages³ and the continuation of frame rent⁴ which was charged even though few frames were actually in operation during the cotton famine.

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1. Children's Employment Commission. First Report with Appendix. Children Employed in Trade and Manufacturing. 3170 H.C. 1863, XVIII.
 2. pp.286-288 of the report. (*ibid.*) present interviews with Hinckley residents.
 3. A 90 hour week would be rewarded by 12s.0d. (60p). Evidence was taken from one small girl who seamed on contract for thirteen hours per day (excluding breaks), six days per week for 1s.0d. (5p)!
 4. At a rate of 2s.0d. (10p) per week.

In addition, many knitters were worried lest the recent introduction of steam power into the industry would cost them their jobs. In fact this was not to be the case since it was the belated application of steam power to the framework knitting branch of hosiery that finally rescued Hinckley from its two generations of poverty. Although the first powered frame had been invented in 1816,¹ its general adoption in stocking making took place much later in the 19th century. This can only be partly related to technical problems in the mechanical reproduction of the intricate movements of framework knitting since of greater significance was the fact that the plentiful supply of cheap labour meant that there was little pressure from the entrepreneurs for mechanical aids. However, from the late 1860s onwards many steam powered factories were created², and, since from the outset these were under the control of the factory inspectorate, they did not suffer from the evils of many early 19th century establishments. Child labour was forbidden and this, together with the 1870³ Education Act, at last broke the chain of occupational inheritance that had bedevilled Hinckley for so long. Towards the end of the century large scale shoe factories were also established in the town⁴ and these brought a much-needed diversification to its economy. Therefore, by the beginning of the 20th century the^{de}privations experienced by Hinckley's population were a thing of the past since its industries were prosperous

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1. Hinckley's first steam powered hosiery factory had been set up in Wood Street in 1855.
 2. These should not be confused with the earlier 'factories' which were merely collections of hand frames in a large room. These 'factories' despite having superior working conditions were unpopular with the domestic knitters who prized their 'freedom'. (Pickering (op.cit.)). See Plate 2.5.
 3. Much education earlier in the century had been in 'seaming schools' where the children learnt aurally while seaming stocks.
 4. See Hoskins (1955).

and highly mechanized.¹

From the evidence presented in the preceding paragraphs it is clear that throughout the study period (1837-1872) Hinckley was in a state of economic depression. It was very much a one-industry town but, unfortunately, this industry was unable to provide a decent living for most of its residents. In the analysis that follows in the succeeding chapters the town's poverty will be a recurrent theme in all aspects of its social and spatial structures, and it is little wonder, therefore, that Hinckley did not experience the rapid population growth associated with the majority of manufacturing towns during this period.

3) Melton Mowbray

Although Melton Mowbray also experienced a transformation of its economy during the 18th and 19th centuries, in contrast to Hinckley, this resulted in an increase in its prosperity. This change was brought about by a shift in Melton's function from that of a quiet market town to the 'metropolis' of fox-hunting.² This resulted directly from Melton's position at the heart of a pastoral district eminently suited for fox-hunting. In Medieval times the hunting of foxes was regarded as an inferior sport fit only for a rabble armed with sticks³ but with the decline in numbers and increasing inaccessibility of more exciting prey the gentry perforce took to hunting foxes, although from horse-back with the aid of dogs.⁴ During the 18th century the sport

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1. At the turn of the century only a handful of traditional knitters were left. They were engaged on making combinations for the army, an intricate operation that had not been mechanized.
 2. A term used by the 19th century hunting journalist Nimrod (pseudonym of Charles James Apperly).
 3. See Chaucer's Nun's Priest's Tale for a description of such a mob.
 4. See Nimrod (1832) for the history of the fox's change in status.

became formally organized with the establishment of hunts and Leicestershire's first, the Quorn, was founded by Hugh Meynard in 1753. Soon the eastern part of the county became the country of no less than five packs: the Quorn, Fernie, Belvoir, Cottesmore and Pytchley and, although not all of these were based at Melton, each could be reached from the town. In 1787 a William Lambton realized that by staying at Melton he could hunt for six days a week¹ throughout the season and his example was quickly followed by others, especially after 1794 when the problem of provisioning Melton's winter visitors was overcome by a canal being built through to the town² which thus allowed large quantities of coal and other bulky goods to be easily secured.

By Regency times fox-hunting was as much a social as a sporting activity and the legends of the 'Meltonians' both on and off the hunting field³ gradually grew to such an extent that it became the accepted ambition of every sportsman to hunt from the 'metropolis' of Melton Mowbray⁴. According to Paget:

"The custom, then as now, for all those who really fancied themselves on a horse and could afford it was to try their luck in the Shires. These adventurous individuals left their comfortable homes to take houses in a pokey little market town more fitted for small tradesmen who alas now inhabit too many of them ... The local inns were filled with people who put up with accommodation which their upper servants would have scorned in their own homes." (Paget 1931) p.28)

The early 19th century journalist Nimrod (1832, pp.222-223) had fewer complaints about the accommodation:

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1. Brownlow (1967).
 2. See Chandler (1958).
 3. Not all the legends reflected credit on their participants. In particular the Marquis of Waterford was a notorious rake and on one notable occasion in 1837 after assaulting a constable and a toll-gate keeper he and his cronies literally 'painted the town red', the occasion giving rise to the expression. See Plate 2.6.
 4. Nimrod even wrote a novel with this theme and in the 'Life of a Sportsman' (1842) the hero, after suitable trials and adventures, eventually achieves his lifelong ambition to be a Master of Fox Hounds at Melton Mowbray.

"At no distant date - within almost 25 years - Melton Mowbray was an insignificant looking town ... (it) had nothing an artist would have called a feature about it except its beautiful church. But of late it has put on a very different appearance owing to the number of comfortable houses that have been erected for the accommodation of its sporting visitors who now (1832) spend not less than £50,000 per annum on the spot."

Many of the comfortable houses mentioned by Nimrod were specifically built as hunting lodges¹ or clubs². The inhabitants of such houses of course required the attentions of large numbers of servants and grooms³ and they, together with others who were attracted to the town by its increasing employment opportunities, also had to be housed. Most of them were accommodated in rows of terraced cottages, the majority of which were erected to the north of Sherard Street. Hunt (1957) has noted that the north end of King Street, Chapel Street, New Street, Bentley Street, Pall Mall, Timber Hill and Goodriche Street were all built in a flurry of ill-planned activity between 1837 and 1839.⁴

Melton's development as a hunting centre profoundly affected its social structure since the gentry and nobility, who became at least temporary residents, formed a strata of society not usually present in such large numbers in a small town.⁵ The life style of these new residents was often one of conspicuous consumption. It has already been noted that these sporting visitors spent in the region of £50,000 per annum in the town ^{during} / the 1830s, while Gardiner has recorded that in 1838:

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1. Egerton Lodge (Plate 2.7) was the most opulent. Built for the Earls of Wilton, it now serves as the District Council Offices.
 2. The most famous being the Old and New clubs situated in Burton End.
 3. There were so many horses stabled in Melton during the season that there was a brisk trade in manure which was sold to the local farmers whose pasture made the hunting possible.
 4. See Figure 2.2 for the location of these streets.
 5. Even royalty often visited and Ward (1889) recounted how George IV (when Prince Regent) was snowballed by bellringers when he refused to tip them after they had rung a peal in his honour.

"The killing of a horse of 300 or 400 guineas value is no uncommon thing. Three have been ridden to death in the last month. The domestic economy is on the most luxurious scale : one nobleman's establishment costs not less than £6,000 for the season." (Gardiner (1838) vol.I, pp.81-82)

The gentry's money, if not the opulence of their lives, filtered down through Melton's social structure¹ and had the effect of making the town and most of its inhabitants relatively prosperous. Brownlow has stated that:

"Melton changed from being an obscure little market town to become the most fashionable winter sporting and social centre of Georgian and Regency England". (Brownlow (1967) p.7)

and it will be seen that Victorian Melton could also claim this social pre-eminence while the 'obscure little market town' cannot be dismissed so lightly for Melton, being the service centre for a rich agricultural district, made a good deal of profit from its marketing functions.

19th century Melton Mowbray had little in common with the similarly sized Hinckley, for it was thriving and wealthy with the majority of its growing population² being relatively well educated,³ prosperous, and accommodated in modern houses⁴ which, even though some were poorly built, were, nonetheless, a far remove from the cramped and squalid cottages of Hinckley's yards.

4) Coalville

Until the 1820s what became Coalville was nothing more than an

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1. Although a good deal of it was intercepted by the artist John Ferneley (1782-1860) as a sporting picture of his was an almost essential part of a gentleman's furniture and fittings. Ferneley lived in Elgin Lodge, Scalford Road and Plate 2.8 shows his painting of Melton High Street in 1818. See Paget's (1931) biography.
 2. Melton's population grew rather quicker than the figures of Table 2.4 would suggest for its administrative boundary was very circumscribed in the 19th century.
 3. See Hunt (1957)
 4. Modern Melton has been left with a splendid legacy of Georgian buildings which are a tribute to its former social pre-eminence even though the town of today is more famous for its cheese (Stilton - five factories were operating around the town in 1846), its pork pies (the first of which were made in the 1830s) and its petfood, than for its still extant fox-hunting.

insignificant hamlet called Long Lane¹ whose 100 or so inhabitants,² most of whom were agricultural workers, lived in cottages stretching along the Leicester to Ashby-de-la-Zouch turnpike road.³ However, in 1822 Long Lane's agricultural quiet was irrevocably disturbed when coal was discovered just to the north of the turnpike⁴ by one William Stenson from Coleorton who, two years later, opened Long Lane Colliery (later renamed as the Whitwick Colliery). In its early days this enterprise was on a very small scale for the 1831 census enumerated only 72 miners in the whole of Whitwick parish, an area which encompasses a number of established mines as well as Stenson's new venture. Although few collieries in the early 19th century were of any size, the mines in this part of Leicestershire were particularly small because poor transportation effectively isolated the coalfield from any large markets. The biggest local market was Leicester and for a brief period the coalfield had had a canal link to that city but this mode of transportation never proved to be a great success. The problem was that the canal, opened in 1791, had to cross the difficult terrain of Charnwood Forest and this necessitated breaks in the canal's course where the coal had to be transferred to horse drawn tramways. The consequent load-changing made the journey very costly and so when the canal's reservoir burst its banks in 1799 it was not considered to be worth repairing and the whole system was abandoned, isolating the coalfield once again.⁵ Thus, when

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1. Long Lane was so insignificant that it was not even recognised by the church since, although on the boundary of six parishes (Coleorton, Hugglescote, Ravenstone, Snibston, Swannington, and Whitwick), it was not part of any of them.
 2. Urban District of Coalville (1971).
 3. See Massey (1968); Hawthorne (1953).
 4. Coal had not been discovered earlier in spite of centuries of mining in northeast Leicestershire because at Coalville the coalfield becomes concealed beneath tertiary deposits. See Fox-Strangeways (1907), McKinley (1955), and Holmes (1958).
 5. Details of the construction and ultimate collapse of this canal can be found in Patterson (1955), Chandler (1958) and Smith (1965).

Long Lane Colliery was opened the only means of taking its coal to Leicester was by pack-horse or cart and the costs of such a journey made it more expensive than coal brought down from Nottingham by canal and it was only the high quality of the 'Whitwick Brilliant' (as Long Lane coal was called) which enabled it to be sold there at all.

In order to overcome these transport problems Stenson investigated the possibilities of having a steam railway constructed to link his colliery with Leicester. Robert Stephenson¹ was employed as the engineer and work began on what became the Leicester-Swannington Railway in 1830. Despite a series of major difficulties,² the line was opened from Leicester to Bagworth in 1832 and through to Long Lane³ and Swannington in 1833.⁴ The line at last gave Leicestershire coal ready access to a fairly large market and this was a great stimulus to mining in the area.⁵ Among those to take advantage of the new opportunities was Robert Stephenson who persuaded his father, George, to buy land in Coalville upon which they founded the Snibston Colliery, opening the Number One pit in 1831 and the richer Number Two pit soon afterwards.⁶

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1. Stenson had originally wanted Robert's father, George, to build the line but he was tied by contract to the Liverpool-Manchester line then being built. George Stephenson was able to act in an advisory capacity, however, and also helped to raise the necessary capital.
 2. Particularly the high ground at Glenfield (which necessitated the world's first railway tunnel) and steep inclines at Bagworth and Swannington. At Bagworth the incline favoured the loaded coal wagons and so they were attached to a self-acting pulley and used to haul up the empty wagons making the return journey. At Swannington this system could not be used as the slope was against the loaded wagons and so a stationary engine had to be installed to help the locomotive pull them to the top.
 3. At about this time Long Lane became known as Coalville. There are various legends as to how the peculiarly descriptive name was coined but the most likely concerns a shopkeeper who had 'Coalville' printed on his handbills.
 4. See Stretton (1901), Clinker (1954) and Simmons (1955) for histories of this railway. It was built exclusively to serve the mines and, although passenger coaches were hitched to the coal wagons, in the 1830s only 450 passengers a week were carried compared to 27,000 travelling between London and Greenwich. (Stretton (1901)).
 5. See Chandler (1957).
 6. The Whitwick and Snibston Collieries were the only ones opened in Coalville. See Wise (1968). The Stephensons also completed Coalville's railways by opening branch spurs to their own Number Two pit and to the Whitwick Colliery. See Stretton (1904).

The Colliery companies were not only responsible for the provision of the employment opportunities which attracted a large number of migrants into Coalville¹ but also for the building of housing to accommodate most of them. While not luxurious, the dwellings rented to the miners² were far superior to the majority of mining company cottages else/George where. Stephenson had seen the back to back terraces of Newcastle and was determined that his colliers would not have to live under such squalid conditions.³ In fact they occupied rows of two-up, two-down terraces with airy rooms and gardens along Ashby Road and Mantle Lane close to the Snibston pits. The Whitwick Colliery's cottages were built to a similar specification in the streets off Whitwick Road and along parts of Long Lane (Figure 2.6).⁴ Another company to provide housing for its workers was the Midland Railway who, having taken over the Leicester-Swannington line in 1846, built a station⁵ and some terraces nearby.⁶ The two colliery companies also contributed to the building of the Anglican church (1836) and the non-conformist chapel (1854).

As for Hinckley, a good deal of information about conditions of employment in Coalville's major industrial sector were illustrated by Government reports, in particular the Children's Employment Commission's report on mines published in 1842.⁷ The Commissioners were full of

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1. Table 2.4 shows that Coalville's population increased twelvefold between 1821 and 1846.
 2. See Plates 8.1 through 8.9.
 3. Stephenson was a representative of the philanthropic upper strata of Coalville's society, another member of which was George Smith, the brickyard manager who agitated for improved conditions for brickyard children, gypsies and canal boat inhabitants. See Hodder's biography (1896).
 4. See Wise (1968); Massey (1968).
 5. Prior to this a room at the Railway Hotel had been used (Plate 2.10).
 6. In the 1880s, outside the present study period, the railway company built more houses just to the north of Long Lane to accommodate those employed in its expanding wagon works. See Leicestershire Association for Local Geographical Studies (1970).
 7. Children's Employment Commission. First Report of the Commissioners : Mines. 380 H.C. 1842 XV.

praise for Coalville especially because of its mining companies' policy of not employing women or children under ten. This was by no means universal and the report presents some harrowing descriptions of some pits in other parts of the country where very young children of both sexes were forced to pull loaded skips of coal along passages so low that they had to go on their knees. In Coalville the youngest children were employed at less demanding tasks such as the control of ventilation doors and the leading of pit ponies. In fact the Whitwick pit was held up as a model by the Commissioners (p.102):

"The proprietors of the Whitwick Colliery have a day school and no children under ten years of age are admitted to the mines. This is just what ought to be and is an example worthy of imitation in the other collieries of the Ashby district and all the coal districts of the Empire."

The colliery companies directly employed only the 'butties', who were the face workers, and each butty was responsible for hiring his own support staff although he had to follow company guidelines. Wages ranged from 8d (3½p) per week for a boy of ten to £1 8s 0d (£1.40) for a butty and this relatively high rate of pay together with the cheap rent of the company cottages (1s 0d (5p) per week, the same as for a frame in Hinckley) and 12 cwt of free coal per month ensured a reasonable standard of living for Coalville's miners. However, hours were long (12 hours per day, 6 days per week with half a day off on pay days (alternate Saturdays)), there were no holidays unless the men were laid off for part of the summer and a miner would probably no longer have the strength to work after the age of 50. Further, lest it be thought that Coalville's mine owners were purely motivated by altruism, it must be stated that the good working conditions were at least partly the result of favourable geological factors, for, since the seams were six feet thick this was the minimum height of the faces and passages and thus the miners could work in an upright position and ponies, rather than children, could be used to haul the skips of coal. Another reason for not employing many young children in the mines was their lack of sufficient strength to handle Coalville's

very hard coal which came off the face in such large pieces that only full grown youths and men could manage it. Had Coalville's entrepreneurs owned collieries with two foot seams of friable coal it is a matter of conjecture whether they would still have been such model employers. However, the owners did insist that the machines in the pits were checked daily¹ and this contributed to the mines' excellent safety record during the 19th century.

Coal mining has remained the prime industry of Coalville to the present day although by now mining is but one element of a diversified employment structure. This broadening of the economic base was in progress by the end of the study period since, according to data in Table 2.3, the brickyards² and the wagonworks had become more significant employers. However, there were still few opportunities for women to find employment outside domestic service or small scale clothing manufacture and this situation did not alter until 1878 when an elastic web factor was established.

Coalville's administrative recognition did not keep pace with its growth in the middle years of the century and, although an ecclesiastical parish from 1842, it was not made an urban district until 1892 and the paucity of the amenities³ in the town throughout most of the 19th century was a clear reflection of its lack of control over its own affairs. Since Coalville is a 19th century foundation it lacked the tradition and continuity of the other three study towns and, as will be seen later, it contained many of the features of a pioneer settlement or new town. However, by the late 19th century Coalville's character had begun to change as it developed from a collection of miners cottages to a mature urban place.

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1. Including the winding cages. Plate 2.11 is that of Whitwick Colliery in the late 19th century.
 2. Holmes (1959) showed how the extension of Coalville's railway to Burton on Trent in 1849 stimulated activity in the town's (fireclay) brickyards.
 3. The roads were unpaved, the streets were unlit and the night soil man found employment up to 1905.

Having selected the four study towns and revealed their dissimilar 19th century economic functions, their historical developments were outlined and it was seen that these contained both parallel and tangential features. The three ancient towns of Hinckley, Lutterworth and Melton Mowbray developed in parallel from Saxon times up to the 17th century, at which point Hinckley began to concentrate on stocking making while in the 18th century Melton's future position as a social and sporting centre began to become apparent. Only Lutterworth remained unchanged and during the study period it was a declining agricultural market town with a small manufacturing sector. Hinckley, despite its rapid growth in the 17th and 18th centuries, was far from being a burgeoning manufacturing centre during most of the 19th century since, throughout the entire study period, it was in a state of desperate poverty; on the other hand, Melton Mowbray was extremely prosperous thanks to the spending power of its winter visitors and the richness of the local agricultural district. In contrast to the other three towns, Coalville is of relatively recent foundation being essentially a 19th century coal-mining settlement. The different levels of prosperity in each town and their dissimilar economic and social structures will, of course, be reflected in many of the analyses that follow but, before these can commence, it is necessary to introduce the major sources of data.

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CHAPTER THREE

THE DATA SOURCES

Data availability is usually the most serious problem facing anyone embarking on a study in an historical time period but as a result of the Victorians' passion for self-examination¹ this difficulty is not as acute for the 19th century as for earlier periods. In fact, so extensive are the available data sources in certain fields that the researcher can begin to become selective. However, quantity rarely co-incides with quality and even with 19th century data the researcher still faces considerable problems, in particular, those of interpretation, of legibility, of omission, and, perhaps most important of all, of trying to extract meaningful and objective information on topics other than those for which the documents were designed.

For the purpose of the present study, ten separate sources of varying levels of utility were selected. Of these, by far the most valuable were the Census Enumerators' Books since they allowed the identification of not only the social and spatial structures of the towns but also their migration fields and the social mobility of their inhabitants. Of secondary significance were marriage records; they provided data for an analysis of the social interaction patterns of the towns' residents. In addition, seven minor sources were used as a basis for an introductory analysis of the towns' economic and social structures whilst a disparate set of early Leicestershire maps and town plans provided background information for the whole study.

Since the data available to a study such as this are so crucial to its success, an investigation of the strengths and weaknesses of the various sources must now be undertaken.

A) Minor Sources

While the problems to be studied in this investigation could be

1. This passion has continued into our own times and one reviewer (Bagley 1971) has likened 20th century data sources to a cornucopia, a horn of plenty.

analysed using data from the Census Enumerators' Books and the marriage licences alone there also exists a number of additional sources that can provide worthwhile, if limited, information. These minor sources, which are to be analysed in a time series in the next chapter, are of two types: firstly, those which can be used to illustrate the towns' internal spatial structures and, secondly, those of less utility which can be used only to differentiate between the social structures of the four towns. The three sources of this second type will be reviewed first.

1) The Value of Real Property 1843

Some idea as to the differences between the towns may be gleaned from statistics collected by the Government in 1843¹ relating to the value of real property in each parish in England and Wales. Unfortunately only three of the study towns' parishes can be compared² and even simple comparisons may be misleading because of their size differences. However, this difficulty can partly be overcome if the property values are related to the number of people and houses in each parish which can be obtained from the almost contemporaneous census of 1841.

2) The Ecclesiastical Census 1851

Additional information on the towns' social structures is provided by the 1851 Ecclesiastical Census.³ This was a supplementary enquiry to the 1851 census in which each place of worship was asked to compile a record of the size of its congregation at each service on Sunday 30 March 1851 and to furnish details as to the age of its building and

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1. 'A Return Showing the Total Annual Value of Real Property in Each Parish of Each County of England and Wales.' H.C.1845 XXXVIII.
 2. Separate data for Coalville was not given.
 3. Published as 'Religious Worship in England and Wales. Report and Tables. Census of Great Britain 1851'. 1690 H.C. LXXXIX.

the number of seats it held. This simple enquiry has been a source of controversy not only during the 19th century¹ but also in more modern times when researchers have cast doubt on the accuracy of its findings (Thompson (1967), Pickering (1967)). However, despite these weaknesses the records are still accurate enough to identify the proportion of each town's population at church on the census Sunday while the relative popularity of the different religious sects can also be identified.

3) The Educational Census 1851

Although this enquiry was conducted along similar lines to the Ecclesiastical Census, it is of less use to the researcher since few of its manuscript returns have survived.² Therefore, data has to be taken from the published volume³ where statistics for areas smaller than Poor Law Unions are not given and so the study towns themselves cannot be compared. However, some idea about educational standards can also be gleaned from marriage licences (see below) since both bride and groom had to sign the register and the proportion of those unable to write their own name can give some indication of the prevailing level of literacy in each town.

4) Rate Revaluations 1837-1838

In the 1830s the rateable value of property in Leicestershire was re-assessed, and the surviving documentation of this process can be used to provide the earliest reliable spatial breakdown of the towns. The revaluation documents⁴ take the form of a number of bound pages which list

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1. The established church was (correctly) worried that the evidence would show that non-conformity was a major force in British religion and there were some accusations that the non-conformist sects had given inflated attendance totals. See the paper by the census controller, Mann (1855) and also Inglis (1960).
 2. See Coleman (1972).
 3. 'Education in England and Wales. Census of Great Britain 1851'. 1690 H.C. 1852/1853.
 4. Held in Leicestershire County Record Office.

the names of the occupier and owner of each property as well as its type,¹ address, rateable class, gross estimated rent and, finally, rateable value. However, with regard to this investigation these documents were of limited utility since Coalville's property was not revalued, and it proved impossible to locate precisely all the buildings listed in the other towns while for Hinckley no addresses at all were recorded on the schedules.

5) Tithe Awards 1840s

Prior to 1836 each separate tithe commutation² required an individual Act of Parliament, but in that year a blanket act was passed enabling surveyors to be sent to each remaining uncommutated parish to modernise their tithe payments without the need for further legislation. The tithes of Melton, Hinckley and Lutterworth were commutated in 1842, 1844 and 1849 respectively,³ and a standard set of documents consisting of a detailed map and a schedule listing the owner, occupier, area, crop and rent charge for each plot of land subject to tithe have survived for each town.⁴ In theory these records should be of considerable value to studies of small areas but although they have been successfully used to investigate agricultural land use (Prince (1959)) and land ownership (Kain (1975)), when applied to a study of urban development the documents are of less utility since most plots subject to tithe were located outside the urban built-up area. Therefore, the tithe awards have contributed little to this study but retain a place if only to serve as a practical example of the problems of trying to extract information from an historical

1. House, shop, public house etc.

2. Tithe commutation is the process by which parishes' traditional tithe payments in kind are replaced by payment in cash. Each plot subject to tithe was assessed for a rent payment which fluctuated with the prevailing price of cereals.

3. Coalville, not being an ancient parish did not require commutation.

4. Held in Leicestershire County Record Office.

document on a subject for which it was not designed.

6) Parliamentary Electors' Lists 1851

Under the Reform Bill of 1832 all male householders with property worth at least £10 per annum were enfranchised. This legislation had far reaching effects but for present purposes its importance lies in its documentary legacy. Each year lists of voters were published, and in the case of Leicestershire these survive for a number of years in the 19th century including 1851-1852. The lists, which are in the form of two printed books,¹ give the names, addresses, and electoral qualification of each voter in the county. This information can be used to make internal subdivisions of the study towns since the number of electors in each street can be related to the number of households listed in the contemporaneous Census Enumerators' Books. Similarly, at the whole-town level the overall ratio of voters to population can be calculated. The ratios will probably vary with the social structure of each street/town for as Thompson (1963, p.900 (of the 1968 Pelican Edition)) stated, quoting contemporary sources:

"in the parts occupied by the working classes, not one householder in fifty would have the vote. In the streets principally occupied by shops almost every householder had a vote."

Although these records are one of the most useful of the minor sources in the differentiation of disparate types of area within the towns, they are however, still subject to a number of inherent weaknesses, for example, very few Coalville voters could be traced while in the other towns by no means all of the electors' addresses were given in full.

7) Jurors' Lists 1872

Unfortunately, no electoral lists survive for any of the study towns for a date close to the end of the study period but a reasonably

1. Held in the Leicestershire County Record Office. One book deals with north Leicestershire, the other with the south of the county.

adequate substitute is the Jurors' List of 1872. These lists not only provide information on the names, addresses and qualifications¹ of persons who were entitled/required to perform jury service but also record two measures of personal wealth in the form of the amount assessed to poor rate and the amount assessed to inhabited house duty. Unfortunately, the usefulness of these lists is limited since they survive for Lutterworth and Melton Mowbray only.²

Each of the seven sources discussed above is subject to a number of weaknesses and, therefore, any data that are taken from them are inevitably of limited quality. In the context of this study, the greatest problem is that not all four of the towns are represented in each set of documents, particularly in the cases of Coalville and, to a lesser extent, Hinckley. This, of course, hinders any attempt to make comparisons between all of the towns. Another problem with these data is the difficulty of comparing results from the different sources since each is completely independent and they all deal with separate topics. Consequently, any information drawn from these sources is not adequate for anything but a cursory analysis, and therefore, a complete picture of the towns' social and spatial structures requires data of a more reliable and detailed nature. One source of such data is the Census Enumerators' Books.

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1. The majority of potential jurors qualified for service on the grounds that they paid a minimum of £20 per annum in rates but there were a number of other qualifications. A full list may be found in Cornish (1968) p.27.
 2. These lists are held in the Leicestershire County Record Office.

B) Census Enumerators' Books 1851, 1871

The census records of the 19th century are of two types - the published volumes of tables and analysis and the manuscript Census Enumerators' Books from which the published volumes were compiled. The Enumerators' Books present much information about named individuals but in the preparation of the aggregated published data details of this nature are lost and no information is given for areas smaller than Registration Districts (which were also the Poor Law Unions). As a consequence any study which requires detailed information or uses a small areal scale has to use the Enumerators' Books. As Wrigley has stated:

"working from Enumerators' Books offers two great advantages over using census volumes, that the information can be extracted to fit the problem in hand and that each entry concerns a named individual ... The understanding of historical change depends upon using an appropriate framework within which the evidence can be marshalled. Often the appropriate framework is the individual family or household. These can then be combined and re-combined to suit the task in hand. But whereas it is always possible to build up in this way from the primary record in the Enumeration District Book it is not possible to reverse the process and adapt the printed tabulation by subdivision. Hence the importance of work based on the Enumerators' Books." (Wrigley (1972) pp.2-3)

Unfortunately the Enumerators' Books date only from the census of 1841 since the first four British censuses¹ (1801, 1811, 1821, 1831) were little more than simple head counts and no documents other than the published volumes have been preserved. In 1841 the authorities were more ambitious and for the first time householders were required to fill in their own forms. Details from these forms were copied by the enumerators into a series of special books and sent via various checking stages to the census headquarters for compilation into the published statistics. The manuscript books were subsequently stored for 100 years to preserve the guaranteed secrecy of the information given by individual households and

1. For histories of census taking in this country see Guides to Official Sources (1951), Taylor (1951), Drake (1972).

only after the expiration of this period were the books released for public perusal. The same procedure was adopted for every other nineteenth century census, and so at the present time the researcher can use the 1841, 1851, 1861 and 1871 books.¹ For both earlier and later dates only the published volumes are available.

Unfortunately the earliest schedules, those of 1841, are of limited use since their presentation is very confusing and the range of information given is very narrow.² For the 1851 census, however, the authorities were able to draw on greater experience and these books have a wider range of better presented ^{and} more reliable information than those of 1841.³ The improvements were such that this study, like many others, uses the 1851 books in preference to the earlier ones. The second set of Enumerators Books used here are those of 1871, selected because they are the latest currently available and thus the time period of the study is stretched to its maximum extent. In addition, it should be pointed out that the 1861 alternative is unsuitable for, as Beresford (1963) has warned, these books were made out in pencil and are now very difficult to read as the writing has faded. Some of them are also water stained while a number appear to be missing.

The range of information available from the 1851 and 1871 Census Enumerators' Books can be seen from Figures 3.1 and 3.2. For each person the sheets record a name, address, age, occupation (plus the number of workers employed and acres farmed where applicable), relationship to head of household, birthplace, sex, marital condition and whether blind, deaf or dumb.⁴

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1. The books are held in the Public Record Office but most County Record Offices have microfilm copies of their areas.
 2. However, Armstrong (1966, 1967, 1968) has suggested ways in which some of these problems may be overcome.
 3. See Cheshire (1854) for a contemporary evaluation of the improved process.
 4. Occasionally other handicaps were entered under this column but most enumerators seemed to neglect it completely.

Although as historical documents these books contain what can be described as high quality data it must, however, be emphasised that their use is not without problems. Drake has warned that:

"one ought to approach the enumerators' returns with all one's critical faculties fully alerted. This is particularly so in the study of small areas where the idiosyncrasies of an enumerator might lead to quite a misleading set of returns." (Drake (1972)p.129)

Some of the problems are illustrated on Figures 3.1 and 3.2, both of which depict enumeration sheets taken from Hinckley districts.¹ The most striking of the problems is that of deciphering the handwriting. Most 19th century scripts were far from the copper-plate traditionally associated with this period while the obliterating strikes of the checkers' pens and the use of non-standard abbreviations ('Lester' for Leicestershire, for example) does not make interpretation any easier. The greatest problem with these records, however, is the unquantifiable number of errors they must contain. If a householder made a mistake in the completion of his schedule or the enumerator copied down incorrect information when making out his book these cannot now be rectified. Occasionally errors can be seen, however; for example, on both the sheets represented as Figures 3.1 and 3.2 the Hawkins family are depicted and it is clear that mistakes have been made in their ages since in 1851 John and Mary were recorded as 25 and 20 respectively but in 1871 they were only 40 and 38! Unfortunately, even the extent of such obvious errors is impossible to gauge since not all of the couples in the samples featured in both censuses and, at any rate, the time involved in attempting checks of this nature would be prohibitive. Therefore, like the majority of studies which have used Census Enumerators' Books as their information source, this one must also accept that the data contains in-built errors. Provided the researcher adopts a common sense approach, however,² and has some local knowledge, the

1. At a parochial-level, these sheets illustrate a number of features typical of mid-19th century Hinckley: the high proportion of Hinckley births, the preponderance of textile workers and the number of paupers. The 'factory workers' on the 1871 sheet were probably employed in one of the new steam powered hosiery factories.

2. The advice of authors such as Armstrong (1968), Tillot (1968, 1972) and Anderson (1972b) should also be noted.

Enumerators Books can prove to be the most valuable of all 19th century statistical sources.

The utility of these books in geographical research can be seen from the wide range of topics to which they have been applied. In spite of Prince's taunt that:

"historical geographers have scarcely begun to exploit the immense wealth of census material" (Prince (1971) p.9)

studies have been published on such diverse topics as agriculture,¹ economic structure,² migration,³ urban structure,⁴ family and household structure,⁵ and economic participation.⁶ This study does not attempt to replicate these, nor does it seriously seek out new uses for the enumerators' books. Rather, they are seen as a detailed⁷ source of data which can throw some light on the development and social structure of the study towns. In fact the books provide all 25 variables used in the factor analyses of Chapters Six, Seven and Eight. These three chapters specifically try to investigate change over time not merely by comparing the cross-sections of 1851 and 1871 but also by performing a longitudinal analysis on matrices of relative change prepared from the combined 1851 and 1871 data. This gives more of a 'moving picture' by which the course of change might be better understood. By adopting such an approach

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1. Thomas (1966-1967) for Southwest Carmarthenshire (Dyfed).
 2. Powell (1962) for Montgomeryshire (Powis); Lawton (1954) for Craven. Lawton's was an important pioneer study of the use of enumeration book data.
 3. Bryant (1971) for the Dart Valley.
 4. Lawton (1955) for Liverpool; Armstrong (1967) for York.
 5. Anderson (1969, 1971, 1972a) for Preston; Smith (1970) for Nottinghamshire.
 6. Vance (1971) for Birmingham.
 7. So detailed that sampling had to be employed to keep the data down to manageable proportions. For Hinckley, Lutterworth and Melton Mowbray a systematic 50% sample of households was taken, excluding institutions. For Coalville, a town much smaller than the others in 1851, a full 100% cover of all households was recorded.

some of Prince's criticisms of the utility of Census Enumerators' Book data are overcome:

"The nearest approach to instantaneous records before the invention of photography are population censuses - taken on appointed days ... a true cross-section of the past can only be drawn for a single instant in time ... and a single cross-section does not enable us to understand the course of change." (Prince, op.cit. p.9.)

In addition the Census Enumerators' Books can also provide data for a study of the migration of population since each person's birthplace is recorded. However, as will be noted in the introduction to the migration analysis in Chapter Nine, such data is by no means satisfactory but, unfortunately, there are no suitable alternatives. The Enumeration Books also play a small part in Chapter Ten where the occupational details they contain are used for an investigation of status transmission and career mobility although the main source of data for that chapter comes from a different quarter - the marriage records.

C) Marriage Records 1837-1870

In the early 19th century a British marriage was legally recognised only if performed by a Church of England parson. This state of affairs displeased the growing number of non-conformists who pressurized the Government for change. This resulted in the Marriage Act of 1836 which divided the country into a series of Registration districts, within which Registrars were appointed with the power to license civil weddings as well as any Catholic or Dissenting marriages they witnessed. Details of such marriages were recorded on a standard form in a bound volume. In addition, the Anglican clergy were required to complete two similar forms for any marriages they conducted, one copy being kept by the church and the other eventually being sent to the Registrar.¹

1. When the last page in the volume had been filled.

The licences of Anglican marriages are the most readily available as the copies kept by the church have now usually found their way to local County Record Offices but in this study it was thought that to concentrate on these alone would perhaps bias the data. Permission was sought from the Registrar General to use the records held by the local Registrars and thus all weddings - Anglican, Catholic, Dissenting and civil - formed part of the sample.¹ The layout of the marriage licence has remained virtually unchanged since 1837, and as Figure 3.3 is considerable: shows the range of information given / the names, occupations, marital condition, ages and pre-marital addresses of both bride and groom together with the names and occupations of their fathers. The couple also had to sign the register and, therefore, some idea as to their level of literacy may be gleaned.²

Any manuscript record is liable to error, but, perhaps this is less true of the marriage licences since they had to be checked both by the partners and their witnesses. However, the ages of the couples were often not recorded in full and for example, Figure 3.3 shows that under the column entitled 'age' instead of figures the term 'both of full age' has been inserted.³ But since age of partners is of little significance to this investigation this weakness is of little concern. In the cases of addresses and occupations, which form the core of the study of social mobility, there appears, fortunately, to be no reason why these should be inaccurate unless there was a tendency for some occupational aggrandizement.

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1. As for the census records a systematic 50% sample was employed, every second marriage involving at least one resident partner in Hinckley, Lutterworth and Melton Mowbray between 1837 and 1870 noted. A full cover was taken for Coalville. In addition all the pre-marital addresses were noted as it was thought that marriage distances would be an important analysis and thus as full a cover as possible was required.
 2. For example Figure 3.3 shows that John Hawkins was illiterate.
 3. In fact even this type of broad grouping might not always have been accurate for Figure 3.3 is the licence of the Hawkins family also recorded on Figures 3.1 and 3.2 and while Mary was '38' in 1871, '20' in 1851, she is now a minimum of 21 in 1850!

Despite the marriage licences' range of accurate information and their universal availability they have not been extensively used by geographers.¹ This is particularly suprising since their use is free from the majority of problems that bedevil the pre-1837 marriage records (Walne (1958), Loschky (1967)). In this study marriage licence data is utilised in an investigation of social interaction and mobility in Chapter Ten, partly in conjunction with Census Enumerators' Book data to enable couples to be traced from their wedding through succeeding decades.²

D) Maps

The final source of information employed in this investigation were a disparate set of early maps and town plans. These maps and plans were of vital importance since they allowed the identification of street patterns and the location of individual houses in each of the four towns and, thus, made the construction of the small areal subdivisions needed by the study relatively straight forward. However, the quantity and, indeed, quality of each of the towns' early maps and plans varies considerably, Coalville, for example, was not mapped in any detail until the Ordnance Survey publication of 1883.³ The most detailed maps available for any of the towns are the 1:500 town plans of Hinckley and Melton Mowbray;⁴ in fact they are so detailed that even the myriad of yards and jitties which existed in 19th century Hinckley

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1. The works of Peel (1942), Berent (1954) and Perry (1969a, 1969b) are notable exceptions.
 2. The Hawkins family are one example of such a couple.
 3. Harley (1964) provided a useful guide to early Ordnance Survey maps and plans while Conzen (1968) suggested some ideas as to their use in urban historical studies.
 4. Unfortunately, Coalville and Lutterworth were never surveyed at this scale which is the largest ever used by the Ordnance Survey.

were clearly identified.¹

The data sources discussed in the preceding paragraphs do not form an exhaustive list of all those available but were selected either for the detailed range of information they provided, for example, the Census Enumerators' Books and the marriage records or for the date of their compilation: the Rate Revaluations of 1837 have been used since they enable two of the towns to be subdivided some 14 years before the 1851 census, and the Electors' Lists (1851) and the Jurors' Lists (1872) were employed because their information could be used in corroboration with contemporary censuses. Of the remaining sources the three used solely for social differentiation were selected as they . . . provide information on a topic not otherwise adequately covered, while the Tithe Award data is included as a salutary warning of the difficulties that can befall a researcher of trying to use historical documents to provide information on a topic for which they were not designed. Potential sources not used include those documents extant for individual towns only, for example, Lutterworth has a Town Estate Book² which provides a good deal of information about its administration and finances but since this study seeks to compare a number of different towns such unique sources are of little value and, therefore, have to be excluded.

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1. The maps used in this study were (with their locations):
 - Coalville: 1st Edition O.S. 1 : 250001883
 - Hinckley: Nichol's map in his History and Antiquities of Hinckley (1782)
 - Unnamed map of 1818 (Leicestershire County Record Office)
 - Tithe Award map of 1844 (Leicestershire County Record Office)
 - 1st Edition O.S. 1 : 250001885
 - 1st Edition O.S. 1 : 500 1886-1887 (Hinckley District Council)
 - Lutterworth: Tithe Award map of 1853 (award made 1849) (Leicestershire County Record Office)
 - 1st Edition O.S. 1 : 250001885
 - Melton Mowbray: Wood's map of 1839 (Leicestershire County Record Office)
 - Tithe Award map of 1842 (Leicestershire County Record Office)
 - Latham's map of 1871 (Leicestershire County Record Office)
 - 1st Edition O.S. 1 : 25000 1885
 - 1st Edition O.S. 1 : 500 (Leicestershire County Record Office)
 2. Held in Leicestershire County Record Office.

This chapter has concluded the introductory section to this thesis. Having defined the areas of investigation, chosen the study towns, given a brief background to each and now introduced the sources of information, the analysis can proceed.

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SECTION B

SOCIO - SPATIAL STRUCTURE
AND DEVELOPMENT

CHAPTER FOUR

AWAY FROM THE COMPLEX : SIMPLE PATTERNS FROM

NON-CENSUS SOURCES

In the previous chapter it was pointed out that, while the main part of this thesis will concentrate on the census and marriage licence records, there are also a number of minor sources which are worthy of examination. By employing a series of these individually simple data sets an illuminating introduction to the social and spatial structure of the four Leicestershire towns under study may be presented. However, despite the availability of a large number of disparate sources only a few can be mapped in any meaningful form and, therefore, it has been considered necessary to isolate those which can be used to show spatial variations from those which deal with social structure alone.

Social Structure

From an exhaustive survey of the data sources which could have been used to identify variations in the social structure of the four study towns, three sets of documents were selected for detailed analysis as they deal with material not covered elsewhere in this thesis, namely property values, religious worship and educational standards.

1) Property Values

The property values presented in Table 4.1 were taken from a Government report¹ and relate to the tax year ending in 1843. By dividing the total value of property in each town² by the number of people

1. See Chapter Three, Section A1.

2. The property values relate to whole parishes, which means the figures for Hinckley and Melton Mowbray are inflated as a number of subsidiary hamlets were included. Hinckley was divided into its two ancient parishes of Bond and Borough but for comparative purposes these have been combined. There are no property values for Coalville which in fact features very little in this chapter, its belated administrative recognition precluding it from appearing as an individual entity in most of the sources studied. In Robson's (1973) terms Coalville is 'born' as a town only in 1891.

TABLE 4.1 : VALUE OF REAL PROPERTY 1843

Parish	Total Annual Value £	Population of Parish* 1841	Mean Value per Head £	Value of Houses £	No of Inhabited Houses 1841*	Mean Value per House £
Hinckley Bond	13,422.21			6,078.25		
Hinckley Borough	3,270.21			3,020.15		
	<u>16,692.42</u>	7312	2.29	9,098.40	1460	6.24
Lutterworth	11,828.58	2531	4.68	5,093.05	533	9.56
Melton Mowbray	24,302.62	4267	5.70	13,687.14	879	14.44

* Taken from the 1841 Census

and houses (taken from the 1841 census) a mean value per person and per house could be calculated. Despite the crudity of the data and the simplicity of the analysis some interesting results emerge. According to both indices Melton Mowbray was clearly the wealthiest of the towns closely followed by Lutterworth while, as expected, Hinckley, then at the nadir of its fortunes, had the lowest absolute property value despite having almost 600 more houses than Melton. These simple comparisons show that the relative prosperity of the towns' economic functions was clearly reflected in the value and, presumably, standard of their property.

2) Religious Worship

The second of the social indices concerns the patterns of religious worship within the study towns, and, since religion was a significant feature in the lives of many people during the 19th century, it may be regarded as a useful differentiator between them. The data for this study was taken from the Ecclesiastical Census of 1851¹ and, although it is subject to a number of weaknesses, some idea of the significance of religion in the lives of the towns' populations may be gleaned from it. Unfortunately, accurate data for all Coalville worshippers could not be isolated and so the town plays little part in the analysis.² Of the three remaining towns, Table 4.2 shows that Hinckley had the lowest proportion of worshippers (58.5%) although more than the national average of 53.36%.³ Lutterworth had 64.7% of its population at church on the

1. See Chapter Three, Section A2.

2. The Coalville data is not complete as the town's first non-conformist chapel was not erected until 1854 and thus in 1851 all worshippers of such persuasion must have travelled to neighbouring settlements to attend service and would not have been enumerated in Coalville.

3. In fact the total number of individual worshippers is not known and thus these proportions can only be approximate. The problem arises because head counts were made at each service throughout the day and an unknown number of people would have attended more than one service. Thus an index has to be used to convert the morning, afternoon and evening figures into an estimate of the total number of individual worshippers. That used in this study is that of the census controller, Mann, and consists of the total morning's congregation added to half the afternoon's and two-thirds of the evening's. This procedure has been criticised but will serve as well as any for the presented limited purposes.

TABLE 4.2 : PATTERNS OF WORSHIP 1851

Town	Church	Numbers attending services:			Mann's Index		Population	% Attending
		Morning	Afternoon	Evening	Church Attendance	% of Total		
Coalville*	Church of England	168	212	-	274	100	1449	18.9
Lutterworth	Church of England*	600	190	470	1008	63.777		
	Independent	461	-	-	461	36.324		
	Wesleyan	62	25	60	147			
	Total	1123	215	530	1583		2446	64.7
Hinckley	Church of England	555	-	500	888	24.847		
	Great Meeting	-	40	-	40			
	Providence	16	24	28	47			
	Primitive Methodist	41	101	-	92			
	Independent	305	110	250	526	75.154		
	Catholic	179	82	186	385			
	Wesleyan	215	-	224	364			
	Independent	343	341	298	712			
	Baptist	251	271	200	520			
	Total	1905	969	1686	3574		6111	58.5
Melton Mowbray	Church of England	1050	400	900	1850	57.561		
	Primitive Methodist	-	130	140	205+			
	Catholic	60	40	70	127	42.439		
	Independent	260	120	170	433			
	Wesleyan	369	60	300	599			
	Total	1739	750	1580	3214		4434	72.5

* See footnotes on previous page

+ The evening congregation plus half of the afternoon's

census Sunday¹, rather fewer than Melton where almost three-quarters of the population attended a service. The relative order of the towns in terms of religious worship clearly confirms the widely held view that religion played a less significant rôle in the lives of the population of industrial towns compared to those in market towns or in rural areas.²

A similar type of differentiation emerges from the data on religious denominations. In Melton and Lutterworth well over half of those who attended a service chose the Church of England³ while in Hinckley less than a quarter did so. Such a pattern was not unexpected for during the 19th century industrial towns were usually associated with non-conformity.⁴ However, in Hinckley this religious radicalism was reinforced by the attitude of the Anglican clergy who apparently made no concession to the poverty of the times and did not welcome worshippers whose clothing was not of good quality.⁵ This alienated many of the framework knitters who found themselves unable to achieve a sufficient standard of dress and so turned toward some of the less formal non-conformist denominations. In addition, the Anglican vicar at this time seemed to have been rather remote from his parishioners and, in the 1845 Framework Knitter's Commission report, he was the only witness who felt that Hinckley's poverty was the result of moral turpitude and not outside economic pressures. On his manuscript return to the religious census he commented:

"The spiritual destitution is excessive - the poverty overwhelming. Out of a population of 7000 only 300 are rate payers. Poor rate higher than any other parish in England - Trade, stocking making."

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1. Lutterworth's Anglican incumbent (notorious in the towns' annals for his neglect of his duties - see Dyson (1913) did not co-operate in the (voluntary) enquiry and thus the Church of England attendances have had to be estimated from the average Leicestershire worshipper: seat ratio, the number of seats in Lutterworth church having been counted in a follow-up enquiry by one of the 1851 census enumerators.
 2. See, for example, the report of the Ecclesiastical Census (1851).
 3. Although the figures for Lutterworth may not be accurate. See above.
 4. See the Ecclesiastical Census, op.cit.
 5. This information is taken from the 1845 Framework Knitter's Commission Report.

Finally it is interesting to note that Smith (1968) in a study of religious worship in three Nottinghamshire towns in 1851 discovered a pattern of differentiation very similar to that noted above (Table 4.3). The economic structures of 19th century towns thus seem to be reflected both in the proportion of their populations who attended church and in the type of sects they patronised. In particular, it can be seen from the table that the working class, industrial towns had fewer worshippers overall but a higher rate of non-conformity than other types of settlement.

3) Educational Standards

The third surrogate of social differentiation concerns education and once again a supplementary enquiry to the 1851 census provides the data,¹ although, as explained in Chapter Three, the figures from this Educational Census cannot be broken down beyond the Registration District (Poor Law Union) level. Further information on educational levels could have been taken from the Census Enumerators' Books where those at school were returned as 'scholars' under the occupation column, but, as Coleman (1972, p.402) has pointed out, this source is weakened by the fact:

"that a considerable number of the children ... returned were under tuition although not described as scholars in the householder's schedules".

However, the published report on the Educational Census recorded that upwards of a million children between the ages of five and twelve were not at school with insufficient cause to account for their absence and even for those who did attend, the average length of schooling was only

1. See Chapter Three, Section A3.

TABLE 4.3 : WORSHIP IN NOTTINGHAMSHIRE* AND LEICESTERSHIRE TOWNS 1851

Type of Town	Nottinghamshire	% of worshippers	Leicestershire	% of worshippers
Middle Class	Bingham	82.5	Melton Mowbray	72.5
Manufacturing	Nottingham	58.5	Hinckley	58.5
Working Class	Radford	25.7	Coalville	18.9+

* Source: Smith (1968)

+ Attendance at Anglican services only

five years.

Information of sufficient detail is contained within this report to enable some indication to be gained of the educational standards prevalent within the four case study towns since the number of children in each Poor Law Union under day school instruction was recorded and by comparing this number to an estimate of the towns' Poor Law Unions' population aged between five and fifteen¹ a simple index of attendance of potential scholars at day school can be calculated. In fact, these indices (Table 4.4) relate to the Poor Law Unions and not to the towns themselves but they can still serve as a very approximate indication of the standards within the towns. Similar indices based on attendance at Sunday schools and private schools could also have been drawn up but it was considered that the day school figures would be sufficient to highlight the differences between the four Unions. The Ashby-de-la-Zouch Union had the highest index of attendance but it is unlikely that this accurately reflected the situation within the small town of Coalville although the schools run by the mining companies there had been praised in the Children's Employment Commission's report of 1842. Of the other study towns' Unions, that of Melton Mowbray had the next highest index with almost 70% of its five - fifteen year olds at day school but in the Unions headed by Hinckley and Lutterworth less than half the children in these age range received day school instruction. The accuracy of these figures and their relationships to the towns within the districts are questionable but it is significant that at Melton Mowbray there was a much higher attendance ratio than was the case for the Hinckley Union.

The 1851 Educational Census is not the only source of data on this topic for further information on educational standards may be gleaned from marriage licences¹ since both the bride and groom had to sign them and a comparison of the proportions of signatures to marks enables an estimate of the general level of literacy within the towns to be made.

1. The published census volumes do not provide age breakdowns beyond county level and the Unions' population aged five to fifteen had to be estimated from the proportion of the whole county between these ages applied to the population of each Union.

TABLE 4.4 : CHILDREN AT DAY SCHOOL - REGISTRATION DISTRICTS 1851

Registration District	Number of scholars at day school	Estimated population aged 5-15	% population 5-15 who were scholars
Ashby-de-la-Zouch	4171	5871	71.045
Hinckley	1761	3536	49.802
Lutterworth	1578	3671	42.986
Melton Mowbray	3255	4666	69.76

However, it should be emphasized that the proportion of literates might bear little relationship to the provision of schooling in the study towns for many people might have been taught to pen their name without ever having been to school while others might have been brought up in a different town to the one in which they were married. Despite these weaknesses in the data, however, literacy can still be regarded as a generalised measure of prevalent educational standards. Table 4.5 shows the proportion of those able to sign their marriage licences between 1837 and 1870.

Coalville and Hinckley had most illiterate partners (43.67% and 48.36% respectively) whilst in Melton and Lutterworth many more were able to sign their names (18.78% and 22.45% respectively were illiterate).¹ If Tables 4.4 and 4.5 are compared it can be seen that the two measures of educational standards are not truly compatible, since the population of Lutterworth seems to have been more literate than its proportion of scholars would suggest, whilst it would appear from the literacy rate that the number of scholars in the Ashby-de-la-Zouch district was far from being a reliable surrogate of Coalville's educational provision. However, in spite of the obvious weaknesses in the analysis it is apparent that the population of the four Leicestershire towns fell into two educational categories: the barely literate mining and industrial workers of Coalville and Hinckley and the better educated inhabitants of Lutterworth and Melton Mowbray.

1. In each of the towns it can be seen that far more brides than grooms were unable to sign their names. This gives some guide as to the relative importance put on education for the different sexes in the middle years of the 19th century.

TABLE 4.5 : LITERACY RATES FROM MARRIAGE LICENCES 1837-1870

Town	% of Partners Illiterate	% of Grooms Illiterate	% of Brides Illiterate
Overall	37.19	31.19	42.68
Coalville	43.67	37.96	49.38
Hinckley	48.36	40.15	56.57
Lutterworth	22.48	18.35	26.61
Melton	18.78	16.52	21.03

The survey of the three social indices of property values, religious worship and educational standards has revealed significant variations between the four towns. The prosperous hunting and service town of Melton Mowbray had the highest property values, greatest number of worshippers and the most educated population, while, in contrast, the declining manufacturing centre of Hinckley scored rather poorly on each criteria and Lutterworth occupied an intermediate position between these two. Where data for Coalville was available it tended to approximate to that of Hinckley. The relative ordering of the towns in terms of these indices enables it to be seen that their economic functions and associated prosperity levels were clearly reflected in their social structures.

Spatial Structure

A number of the additional non-census sources, while providing further information on the social structure of the four towns, also enable an analysis of their internal spatial structures to be made. If these sources are dealt with in chronological order it will be possible to gain some idea of the development of the towns' spatial structures over time.

1) Rate Revaluations 1837, 1838.

The data on the towns' rateable values given in Tables 4.6 and 4.7¹ indicate that the most substantial housing infrastructure was^{to be} found in Melton Mowbray since its mean rateable value of £9.64 far exceeded the £7.75 of Lutterworth and the £3.98 of Hinckley. This confirms the evidence of the 1843 real property valuations (Table 4.1). The rate documents also enable comparisons to be made in terms of the tenurial patterns of the towns and from previous evidence it would be expected that Melton, as

1. See Chapter Three, Section A4. There are no schedules for Coalville.

TABLE 4.6 : LUTTERWORTH AND HINCKLEY RATE REVALUATIONS 1837, 1838 (50% Sample)

	No. of houses	Owner Occupied			Tenanted			Overall		
		%	Position	Mean Rateable Value £	Position	Mean Rateable Value £	Position	Mean Rateable Value £	Position	
<u>Lutterworth</u>										
Harborough Road (London Road)	3	33.33	3	28	1	8.05	6	14.70	1	
High Street	20	25	5	13.80	5	14.32	1	14.19	2	
Oxford Street	7	28.57	4	27	2	6.81	8	13.15	3	
Worship Street	1	0	-	-	-	12	2	12	4	
Church Street	19	21.05	6	22.50	3	8.54	4	11.48	5	
Leicester Road	1	0	-	-	-	10	3	10	6	
Coventry Road	1	100	1	8	7	-	-	8	7	
George Lane	5	40	2	6.66	9	8.37	5	7.69	8	
Beast Market	23	8.69	9	9.25	6	7.38	7	7.55	9	
Wood Market	32	15.63	7	18.90	4	3.51	11	5.92	10	
Prince's Square	1	0	-	-	-	5	9	5	11	
Bitteswell Road	2	0	-	-	-	4.75	10	4.75	12	
Ely Lane	20	15	8	7.16	8	3.14	13	3.75	13	
Bakehouse Lane	15	6.67	10	2.50	10	3.41	12	3.35	14	
Shambles Lane	3	0	-	-	-	3.03	14	3.03	15	
Dixon's Court	7	0	-	-	-	2.22	15	2.22	16	
	159	16.35		15.51		6.19		7.75		
<u>Hinckley</u>										
	1421	21.82						3.98		

TABLE 4.7 : MELTON MOWBRAY RATE REVALUATIONS 1837 (50% Sample)

	No. of houses	%	Owner Occupied			Tenanted			Overall		
			Position	Mean Rateable Value £	Position	Mean Rateable Value £	Position	Mean Rateable Value £	Position	Mean Rateable Value £	Position
Corn Market	5	80	1	36.12	2	17.50	2	32.40	1	32.40	1
High Street	11	30	6	62	1	17.41	3	29.57	2	29.57	2
Market Place	21	9.52	17	22.62	6	20.44	1	20.65	3	20.65	3
Butcher's Row	5	40	4	31.37	3	12.41	5	20	4	20	4
Beast Market	33	42.42	3	26.63	4	10.95	7	17.60	5	17.60	5
Nottingham Street	24	27.27	8	20.79	7	14.20	4	15.72	6	15.72	6
Church Yard	6	50	2	22.91	5	4.92	11	13.92	7	13.92	7
Burton End	28	29.63	7	18.53	9	11.90	6	13.79	8	13.79	8
Rutland Street	5	25	9	3.75	17	7.88	8	7.05	9	7.05	9
Chapel Street	18	22.22	11	15.93	11	4.07	16	6.71	10	6.71	10
Scalford Road	29	14.29	14	19.68	8	4.49	13	6.59	11	6.59	11
King Street	33	9.68	16	17.58	10	5.07	9	6.21	12	6.21	12
Thorpe End	27	15.38	13	13.93	12	4.42	14	5.83	13	5.83	13
Thorpe Road	6	-	-	-	-	4.96	10	4.96	14	4.96	14
New Street	23	34.78	5	5.84	14	3.72	18	4.72	15	4.72	15
Gooseberry Square	5	-	-	-	-	4.70	12	4.70	16	4.70	16
Bradley's Row	15	-	-	-	-	4.25	15	4.25	17	4.25	17
Bentley Lane	20	25	9	5.40	16	3.84	17	4.23	18	4.23	18
Back Street	37	18.18	12	8.61	13	2.75	22	3.85	19	3.85	19
Granby Square	3	-	-	-	-	3.59	19	3.59	20	3.59	20
Timber Hill	26	11.54	15	5.66	15	3.20	20	3.49	21	3.49	21
Pigeon Row	9	-	-	-	-	2.87	21	2.87	22	2.87	22
	385	20.78		19.34		7.63		9.64			

the most prosperous of them, would have had the highest rate of owner occupancy. Surprisingly, this was not the case, for Hinckley had 21.82% of its property in owner occupation compared to 20.7% for Melton and 16.35% for Lutterworth. However, it is likely that the Hinckley figure was an exaggeration since on a number of occasions its schedule listed a single person as being the owner-occupier of several separate properties and since no addresses were recorded on the Hinckley schedules this paradoxical situation could not be checked.

The Melton and Lutterworth schedules, unlike those of Hinckley, did record addresses, and so enabled the spatial structure of the two towns to be presented (Figures 4.1 and 4.2). However, since it proved impossible to locate the sites of individual houses, the breakdown had to be at the level of whole streets only. Despite this weakness some interesting patterns were identified. In Lutterworth, apart from Worship Street and Leicester Road¹, the streets with the highest mean rateable values (over £10) were all located in the centre of the town. In contrast the poorer streets were to be found towards the periphery and a number, for example, Shamble's Lane, Dixon's Court, Ely Lane and Bakehouse Lane had very low mean values of less than £5. An additional contrast between these streets and those of the central area was in house size for the 19th century maps show that the streets with low values had the smallest houses.² A similar pattern was in existence in Melton Mowbray (Figure 4.2) where the streets with the highest rateable values radiated outwards from Market Place. This central area contained all the streets with values in excess of £10 and, in fact, there was a gulf between these

1. For the sake of clarity street names are omitted from the maps of spatial structure. They were given on the maps showing the built-up areas of the towns in Chapter Two.

2. The relationship between house type and socio-spatial structure is investigated in Chapter Eight.

streets and those in other parts of the town, for example, the houses in Burton End had a mean rateable value of only £13.79 which placed the street in eighth position whilst those in Rutland Street (in ninth place) had a mean value of only £7.05. Clearly the areas of most substantial housing were to be found close to the centre of Melton Mowbray (although the aptly named Back Street had values far lower than its geographical location would seem to have merited) whilst most of the poorer districts with their terraced cottages were to be found to the northeast of the centre.

The rate revaluation carried out in 1837 and 1838 were not only concerned with residential units since shops and public houses were also re-assessed. While this additional information is not of importance to the investigation of the towns' spatial structures, it does allow a brief comparison between the levels of service provision in each of the towns to be made. From an inspection of the schedules it would appear that Melton was the most important service centre of the three since it contained one shop for every 37 residents and one public house per 91 compared to Lutterworth's one shop per 115 residents and one public house per 148 and Hinckley's one shop or public house per 119 people (the Hinckley schedules do not differentiate between the two types of establishment). These results are not unexpected since Melton's service provision was not limited to the local district but was greatly extended by its position as a sporting 'metropolis' while Lutterworth dealt only with the population of its tributary area and Hinckley's main function was manufacturing rather than trading.

Some interesting and important similarities and differences between the study towns have been identified from the information contained in these revaluation schedules. Despite the greater social differentiation of Melton Mowbray's society compared to that of Lutterworth it is of some significance that their spatial structures were relatively similar. In both towns the wealthy tended to reside around the centre

with the poor being located around the periphery. Unfortunately, the lack of rate revaluation data for Coalville and its limited nature with respect to Hinckley precludes an overall generalization being made about the spatial structure of all four study towns during the late 1830s.

2) Tithe Awards 1840s

In the previous chapter it was noted that the Tithe Awards,¹ despite containing useful maps and being of considerable value to the agricultural historian,² were of little utility to the student of urban spatial structure since so few values of plots containing houses were recorded. For example, in Hinckley's 1844 Tithe Award only 17 valued houseplots were recorded while the 1841 census listed 1274 separate households in the town (see Table 4.8). A similar situation was found in Lutterworth and Melton (Coalville, not being an ancient parish did not require tithe commutation and, thus, has no award schedule) and, therefore, any attempt to derive social areas from average house values per street has to be very circumspect. In the case of Lutterworth (Table 4.9, Figure 4.3) the highest values corresponded to two outlying streets which according to other sources were inhabited by poor people of low social status. Much of this discrepancy can be explained by the fact that the scores for both Bakehouse Lane and Ely Lane, which are the two streets in question, were based on a single house tithe valuation only and as both these houses had very large plots their tithe rental charges greatly exceeded those of the smaller plots to be found in the central areas of the town. However, for both Hinckley (Table 4.8, Figure 4.4) and Melton (Table 4.10, Figure 4.5) the tithe valuations did differentiate the relatively prosperous central areas from the poorer outlying streets and, therefore,

1. See Chapter Three, Section A5.

2. See, for example, Prince's (1959) study of land use and Kain's (1975) investigation into land ownership.

TABLE 4.8 : HINCKLEY TITHE AWARDS 1844

Street	No. of plots with houses shown	No. of plots with rental charge given	Mean Rental Charge £	Relative Position
Lower Bond Street	11	3	0.82	1
Borough	10	1	0.60	2
Station Road	2	1	0.51½	3
Coventry Road	3	1	0.50	4
Castle Street	44	1	0.35	5
Upper Bond Street	20	6	0.33½	6
Market Place	10	1	0.32½	7
Stockwell Head	13	2	0.23½	8
Mansion Street	9	1	0.22½	9
King Street	2	0	-	-
Church Street	3	0	-	-
Priory Row	3	0	-	-
Wood Street	3	0	-	-
Trinity Street	5	0	-	-
Regent Street	9	0	-	-
	147	17	0.44	

TABLE 4.9 : LUTTERWORTH TITHE AWARDS 1849

Street	No. of plots with houses shown	No. of plots with rental charge given	Mean Rental Charge £	Relative Position
Bakehouse Lane	1	1	1.75	1
Ely Lane	3	1	0.42½	2
Woodmarket	9	9	0.34	3
Beast Market	1	1	0.20	4
Stovey Hollow	1	1	0.19	5
Morebarns	6	3	0.14	6
London Road	2	2	0.07½	7
Oxford Street	1	1	0.06	8
High Street	1	1	0.05	9
	25	20	0.32	

TABLE 4.10 : MELTON MOWBRAY TITHE AWARDS 1842

Street	No. of plots with houses shown	No. of plots with rental charge given	Mean Rental Charge £	Relative Position
High Street	1	1	0.19	1
Sage Cross Street	2	1	0.07½	2
Beast Market	8	8	0.07½	2
Mill Lane	1	1	0.06½	4
King Street	5	4	0.05½	5
Nottingham Street	4	4	0.04	6
Nottingham Road	3	2	0.04	6
Thorpe End	2	2	0.03	8
Back Street (Leicester Road)	3	3	0.02	9
Church Yard	2	1	0.02	9
Timber Hill	1	1	0.02	9
Little London (Norman Street)	3	1	0.02	9
Beck Mill Street	1	1	0.01½	13
Bradley's Row (Goodriche Street)	2	1	0.01½	13
Burton End	3	3	0.01½	13
Chapel Street	1	1	0.01½	13
New Street	1	1	0.01½	13
	43	36	0.05	

in the case of Melton it confirmed the existence of the pattern built up from the rate revaluation schedules. However, even where the Tithe Award distribution did correspond with evidence from other sources, it must still be emphasised that their revealed patterns were based on very few observations and cannot be regarded as reliable. It must be concluded, therefore, that whatever the utility of tithe awards to other aspects of research in historical geography, they are of strictly limited value in studies of urban structure.

3) Parliamentary Electoral Lists 1851

Although on first impression the Parliamentary Electoral Lists of 1851 appear to be of limited use¹ they can provide a good deal of valuable material on the social and spatial structure of the small towns under consideration. Variations in their social structures can be identified by simply relating the number of electors in each town to their population in 1851 (Table 4.11). Once again Coalville had to be excluded from the analysis since there was no separate list of its electors and a search of the Ashby-de-la-Zouch polling district yielded only three electors whose addresses were undoubtedly within Coalville. Of the other towns, Hinckley had the lowest proportion of voters to population with one inhabitant in 35 being an elector compared to Melton and Lutterworth where one in 25 were entitled to vote. However, these figures must be treated with some suspicion since in 1851 the franchise was dependant upon ownership of property alone and, therefore, there is a strong probability that each town's list of electors contained a number of absentee landlords. In order to overcome this weakness in the analysis the second part of Table 4.11 relates the number of resident electors to the total population of each town. Hinckley recorded a ratio of one resident elector per 58 inhabitants but for Lutterworth and Melton the ratios were much lower, one per 32 and one per 34 respectively. These ratios indicate that there must have been a fairly widespread occurrence of absentee landlordism in Hinckley in the mid-19th century.

1. See Chapter Three, Section A6.

TABLE 4.11 : 1851 ELECTORAL LISTS - POPULATION PER ELECTOR

Town	1851 Population	Total			
		No. of Electors	Population per elector	No. of Electors	Population per elector
Hinckley	6111	176	34.72	106	57.65
Lutterworth	2446	95	25.75	76	32.18
Melton Mowbray	4391	73	25.38	130	33.78

Some idea of the tenurial structure of the towns may also be derived from the lists. By simply constructing a threefold classification of voters into owner occupiers (those whose classification was the one house they owned and occupied), landlords (resident or absentee) and landowners (whose vote depended on landholding alone with no reference to the value of their house), a comparison of the towns readily can be made. According to Table 4.12 which records these comparisons, Melton Mowbray had by far the greatest proportion of owner-occupier voters in 1851 (51.45%) while in Hinckley the proportion was as low as 14.12%.¹ This suggests that of the three towns under study, Melton had the wealthiest population since more than half its £10 houses (£10 being the threshold for enfranchisement) were owner occupied whereas in Hinckley and Lutterworth most of these houses were in the hands of landlords, resident or absentee. The poverty of Hinckley's housing infrastructure is illustrated by the fact that despite a predominantly manufacturing economy it had more landholding qualified electors than either of the two agricultural market towns.

The electoral lists can also be used to identify the internal spatial structure of the towns since the ratio of householders to electors can be calculated for individual streets, thus giving some indication of the overall wealth of these streets. Hinckley had 106 resident electors of whom 92 could be located within particular streets and the resultant pattern of households to electors is revealed in Figure 4.6 (based on Table 4.13). It should be noted at this point that this type of street comparison is not really valid for sparsely populated streets on the outskirts of a town where a single farmer with a landholding qualification may make his part of the town seem to be unduly prosperous. This seems to have happened in the case of Hinckley where Hinckley Fields and Spa Lane recorded unduly high scores. With the exception of these two peripheral streets,

1. In the analysis of the 1838 rate revaluations for Hinckley, certain evidence suggested that 21.82% of Hinckley's houses were in owner-occupation but it was postulated then that this figure might have been an overestimation.

TABLE 4.12 : ELECTORAL QUALIFICATIONS 1851

Town	Owner Occupiers		Landlords		Non-Resident		Total		Landholders	
	No.	%	Resident	%	No.	%	No.	%	No.	%
Hinckley	25	14.21	58	32.96	47	26.71	105	59.66	46	26.14
Lutterworth	34	35.79	37	38.95	12	12.63	49	51.58	12	12.63
Melton Mowbray	89	51.45	23	13.3	34	19.65	57	32.95	27	15.61

TABLE 4.13 : HINCKLEY 1851 ELECTORAL LIST - ELECTORS : HOUSEHOLDS

Street	No. of Households*	No. of Electors traced	% of households with electors	Relative Position
Coventry Street	12	6	50	1
Hinckley Fields	2	1	50	1
Leicester Road	6	3	50	1
Spa Lane	2	1	50	1
Church Street	12	4	33.33	5
Borough	38	10	26.32	6
Holywell	4	1	25	7
King Street	14	2	14.29	8
Castle Street	178	25	14.05	9
Stockwell Head	80	9	11.25	10
Wood Street	14	1	7.14	11
Bond Street	346	21	6.07	12
Litchfield Street	36	2	5.56	13
New Buildings	64	3	4.69	14
Regent Street	24	1	4.17	15
Grove Street	28	1	3.57	16
Church Road	40	1	2.5	17
Total	1338*	106+	7.92	

*From 1851 Census - total includes streets with no electors
+ of whom 92 traced to a street

the areas with the highest proportion of electors in Hinckley were to be found in the centre of the town. A similar pattern was identified in Lutterworth (Table 4.14, Figure 4.7) where all 76 resident electors could be traced to a street, although, as in Hinckley, outlying areas such as Morebarns and Bitteswell Road had very high scores.¹ For Melton (Table 4.15, Figure 4.8) it was possible to locate 93 of the 130 resident electors and once again they were clustered in the central area. The only outlying streets with a high proportion of electors were Mount Pleasant which contained a number of hunting lodges and, surprisingly, Chapel Street which on all other criteria was not distinguishable from the network of low class streets which surrounded it.

In spite of the apparently limited nature of the electoral lists as a source of information, they have proved to be of considerable utility both in the analysis of inter-community variation and in the investigation of the internal spatial structures of the towns except for a tendency . . . to overvalue the status of some of the towns' outlying districts.

4) Jurors' Lists 1872

The 1872 lists of jurors² contain rather more information than the electoral lists for they record not only the addresses of potential jurors but also their occupation, and some measure of the value of their property (inhabited house duty) and personal wealth (assessment to poor rate). Unfortunately, the lists for Hinckley could not be traced and once again Coalville was not recorded separately. Table 4.16 shows that

1. One of the problems encountered when matching up two different sets of historical documents is illustrated in this analysis for Lutterworth as Worship Street although having an elector in 1851 had neither household nor population according to one contemporary census.

2. See Chapter Three, Section A.7.

TABLE 4.11 : LUTTERWORTH 1851 ELECTORAL LIST - ELECTORS : HOUSEHOLDS

Street	No. of Households*	No. of Electors traced	% of house- holds with electors	Relative Position
Bitteswell Road	2	1	50	1
Church Street	36	12	33.33	2
Morebarns	6	2	33.33	2
High Street	54	17	31.48	4
London Road	10	3	30	5
Leicester Road	4	1	25	6
Beast Market	70	11	15.71	7
Wood Market	94	13	13.83	8
Dixon's Court	20	2	10	9
Georges Lane	22	2	9.09	10
Princes Square	12	1	8.33	11
Oxford Street	16	1	6.25	12
Ely Lane	88	5	5.68	13
Factory Lane+	-	1	-	-
Worship Street	0	1	-	-
Total	546*	76	13.92	

* From 1851 Census - total includes streets with no electors

+ could not be traced

TABLE 4.15 : MELTON MOWBRAY 1851 ELECTORAL LIST - ELECTORS : HOUSEHOLDS

Street	No. of Households*	No. of Electors traced	% of house- holds with electors	Relative Position
Butcher's Row	6	5	83.3	1
Cornhill	4	3	75	2
Chapel Street	10	7	70	3
Corn Market	6	2	33.33	4
Church Yard	6	2	33.33	4
Mount Pleasant	16	5	31.25	6
Nottingham Street	40	12	30	7
High Street	16	4	25	8
Burton End	52	10	19.2	9
Market Place	32	5	18.7	10
Southern Lane	6	1	16.67	11
New Street	18	3	16.67	11
Sage Cross Street	12	2	16.67	11
Scalford Road	28	4	14.29	14
Sherrard Street	58	8	13.79	15
Church Lane	8	1	12.5	16
Burton Road	12	1	8.33	17
King Street	72	6	8.33	17
Timber Hill	50	4	8	19
Pall Mall	36	2	5.56	20
Goodriche Street	18	1	5.56	20
Queen Street	18	1	5.56	20
Thorpe End	104	3	2.89	23
Leicester Street	46	1	2.17	24
Total	844*	130 ⁺	15.403	

* From 1851 Census - total includes streets with no electors

+ of whom 93 traced to a street

TABLE 4.16 .: 1872 JURORS LISTS - POPULATION PER JUROR

Town	1871 Population	No. of Jurors	Population per Juror
Lutterworth	2080	52	40
Melton Mowbray	5033	120	41.9

the two remaining towns, Lutterworth and Melton, had almost identical jurors to population ratios, while Tables 4.17 and 4.18 present a breakdown of the overall statistics to street level. In Lutterworth (Figure 4.9) the streets with the highest proportion of jurors were found in a band from High Street to London Road with Church Street, Oxford Street and outlying areas to the east and west of the town having relatively fewer. In Melton (Figure 4.10) the streets with the most jurors radiated from Market Place as far as Burton End, Sherrard Street and Nottingham Road while Mount Pleasant and Southern Lane were high status outliers and the terraces to the northeast had very few jurors.

By presenting a measure of income (poor rate assessments) for potential jurors the lists provide another means by which the spatial structures of the two towns may be constructed.¹ The information was recorded for each person on Lutterworth's list and Table 4.19 and Figure 4.11 show that the map based on mean street poor rate assessments is in reasonable accord with the jurors: household map discussed above (Figure 4.9). Unfortunately, in Melton Mowbray only one third of the potential jurors had a poor rate assessment recorded and Table 4.20 and Figure 4.12 indicate that this was insufficient for a reliable picture of the towns' spatial structure to be drawn up for the map is at odds with the more reliable jurors: household map given earlier (Figure 4.10).

The manipulation of the data from the 1872 jurors' lists has demonstrated that they are a useful source of information although the mean street poor rate assessment map for Melton Mowbray was not very clear and, of course, with regard to this thesis the jurors' lists were subject to a drawback in that they were available for only two of the four study towns.

1. The jurors' occupations could also have been used for this but as the census enumerators' books are a far superior source of occupational data (see Chapter Three, Section B) the jurors' occupations were not utilised.

TABLE 4.17 : LUTTERWORTH 1872 JURORS LIST - JURORS :HOUSEHOLDS

Street	No. of Households*	No. of Jurors	% of households with Jurors	Relative Position
George Street	6	3	50	1
High Street	42	14	33.33	2
London Road	6	2	33.33	2
Shambles Lane	4	1	25	4
Morebarns	10	2	20	5
Beast Market	50	6	12	6
Church Street	34	4	11.77	7
Wood Market	72	8	11.11	8
Ely Lane	64	5	7.81	9
Bakehouse Lane	66	5	7.58	10
Dixon's Court	20	1	4	11
Factory Lane	0	1	-	-
Total	454*	52	11.45	

* From 1871 Census - total includes streets with no jurors

TABLE 4.18 : MELTON MOWBRAY 1872 JURORS LIST - JURORS:HOUSEHOLDS

Street	No. of Households*	No. of Jurors	% of house- holds with Jurors	Relative Position
Cheapside (incl. Butcher's Row)	12	6	50	1
Market Place	26	13	50	1
Nottingham Road	18	7	38.81	3
Nottingham Street (incl. Corn Market)	26	9	34.62	4
High Street	18	6	33.33	5
Mount Pleasant (Dalby Road)	6	2	33.33	5
Burton End	48	15	31.25	7
Sherrard Street (Beast Market)	60	18	30	8
Burton Road	8	2	25	9
South Parade	4	1	25	9
Southern Lane	8	2	25	9
Leicester Street (Back Street)	46	9	19.57	12
Egerton Brewery	6	1	16.67	13
Church Street	14	2	14.29	14
Asfordby Road	8	1	12.5	15
King Street	64	8	12.5	15
Prospect Place	10	1	10	17
Providence Place	10	1	10	17
Norman Street	26	2	7.69	19
Rutland Street	13	1	7.69	19
Scalford Road	30	2	6.67	21
Thorpe End	50	3	6	22
Pall Mall	36	2	5.56	23
Pigeon Row	18	1	5.56	23
Thorpe Road	18	1	5.56	23
New Street	20	1	5	26
Timber Hill	52	2	3.85	27
Bentley Lane	34	1	2.94	28
Total	995*	120	12.06	

* From 1871 Census - total includes streets with no jurors

TABLE 4.19 : LUTTERWORTH 1872 JURORS LIST - POOR RATE ASSESSMENT

Street	Poor Rate Assessments		
	No.	Mean Value £	Position
Morebarns	2	428.62 $\frac{1}{2}$	1
George Street	3	153.25	2
Shambles	1	136.12 $\frac{1}{2}$	3
High Street	14	73.12	4
London Road	2	39.94	5
Woodmarket	8	34.92	6
Church Street	4	32.43	7
Beast Market	6	30.21	8
Dixon's Court	1	27.30	9
Ely Lane	5	19.50	10
Bakehouse Lane	5	18.50	11
Factory Lane	1	16.00	12
	52	65.01	

TABLE 4.20 : MELTON NOWBRAY 1872 JURORS LIST - POOR RATE ASSESSMENT

Street	No.	Poor Rate Assessments	
		Mean Value £	Position
Mount Pleasant	1	251	1
High Street	2	102	2
Burton End	5	87.96	3
Nottingham Road	2	70.13	4
Nottingham Street	1	65.20	5
Leicester Street	3	49.03	6
South Parade	1	45	7
King Street	1	40.01	8
Sherrard Street	6	38.20	9
Corn Market	4	37.06	10
Thorpe End	2	36.75	11
Market Place	10	35.43	12
Scalford Road	2	26.50	13
Norman Street	1	26.45	14
41		51.63	

Comparisons Over Time

Although the four data sources used in the analysis of the towns' spatial structures were considered in chronological order any assessment of the rate of change over time is hindered by the different compositional base of each set of maps. Bearing in mind this major drawback, it was still considered worthwhile to attempt a comparison of the revealed patterns throughout the study period. By dismissing the unreliable tithe award maps and restricting our attention to the two towns (Lutterworth and Melton Mowbray) which were adequately covered by the other three sources- the 1837 rate revaluations, the 1851 electoral lists and the 1872 jurors' lists- some idea as to the nature of the towns' changing spatial form may be gleaned.

To facilitate the comparisons to be made between the different sets of maps they were so constructed as to divide the streets of the towns into four different status groups in each case and, thus, it is possible to trace the change in status of a particular street by reference to its position within these groups, for example, an increase in the overall status of a street might be accompanied by its progress from status groups three or four to groups one or two. Table 4.21 and Figure 4.13 show that in Lutterworth two streets made just such a progression- Shambles Lane and George Street- while Church Street and Oxford Street suffered a decline in status of similar proportions. In general, this indicates a tendency for the high status central area of 1837 to have stretched the whole length of the town along the Beast Market-London Road axis by 1872. In Melton Mowbray, Table 4.22 and Figure 4.14 show that the outlying streets of Burton Road and Southern Lane increased in status while the only street to decline significantly was Church Yard in the central area of the town. These movements, together with the high status of newly built-up streets such as Nottingham Road (as demonstrated on Figure 4.9), indicate that

TABLE 4.21 : LUTTERWORTH : INTERNAL STRUCTURE - COMPARISON OF NON-CENSUS SOURCES

Street	Status Groups		
	1837	1851	1872
Bakehouse Lane	4	*	4
Beast Market	3	3	3
Bitteswell Road	4	1	+
Church Street	2	2	3
Coventry Road	3	*	+
Dixons Court	4	3	4
Ely Lane	4	4	4
George Street	3	4	1
High Street	2	2	1
Leicester Road	2	2	+
London Road	2	2	1
Oxford Street	2	4	+
Princes Square	3	4	+
Shambles Lane	4	*	2
Wood Market	3	3	3

* No electors

+ No jurors

TABLE 4.22 : MELTON MOWBRAY : INTERNAL STRUCTURE - COMPARISON OF NON-CENSUS SOURCES

Street	Status Groups		
	1837	1851	1872
Beast Market (Sherrard Street)	2	3	1
Bentley Lane	4	*	4
Bradley's Row (Goodriche Street)	4	4	+
Burton End	2	3	1
Burton Road	-	4	2
Butcher's Row	1	1	1
Chapel Street	3	1	+
Church Street	-	3	3
Church Yard	2	2	+
Corn Market	2	2	1
High Street	1	2	1
King Street	3	4	3
Leicester Street (Back Street)	4	4	3
Market Place	1	3	1
Mount Pleasant	-	2	1
New Street	4	3	+
Norman Street	-	*	4
Nottingham Street	2	2	1
Pall Mall	-	4	4
Pigeon Row	4	*	4
Queen Street	-	4	4
Rutland Street	3	*	4
Sage Cross Street	-	3	+
Scalford Road	3	3	4
Southern Lane	-	3	2
Thorpe End	3	4	4
Thorpe Road	4	*	4

* No electors

+ No jurors

Lutterworth's shift in status locations was repeated for Melton with high class residents beginning to favour some of the outlying streets as much as the core, although it must be emphasised that in both towns the majority of streets retained their original status throughout the study period.

Conclusions

Each of the sources examined in this chapter contained only a narrow range of information usually based on a single measure and yet, by using a series of such individually limited sources, it has been possible to investigate both the social and spatial structures of at least two of the study towns in some detail. Although the towns' social structures differed according to their varied economic functions their spatial structures were relatively similar. In the cases of Lutterworth and Melton Mowbray it proved possible to identify what could be described as a pre-industrial layout (in Sjöberg's 1955, 1960 terminology) in the maps of 1837 and 1851 while those for 1872 indicated the beginning of the reversal of this original pattern. Thus, this chapter has demonstrated that a series of disparate sources can be used successfully in an examination of the socio-spatial structure of 19th century towns but it has also revealed a number of weaknesses inherent in such an investigation. The lack of comparability of the different documents and their patchy availability were but two problems while a more fundamental difficulty, perhaps, was the impossibility of assessing the degree to which these sources were a reliable measure of social and spatial differentiation. Certainly there were differences between and within the towns but how significant these really were cannot be calculated from these single index sources alone. Therefore, it is necessary to resort to more comprehensive data and more sophisticated techniques of measurement before it is possible to even begin to give adequate answers to the questions posed

in the opening chapter. This increase in the depth of analysis will involve the use of data derived from Census Enumerators' Books and this will be subjected to a series of multivariate factor analyses but, while such an investigation is, of course, far more reliable than that performed in this chapter, it will be seen that the spatial patterns depicted here were surprisingly accurate.

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CHAPTER FIVE

TOWARDS THE COMPLEX : TECHNIQUES IN THE ANALYSIS OF URBAN STRUCTURE

In the opening chapter brief mention was made of Marco Polo's observations on the morphological structure of the Iranian oasis town of Lut¹ and a description of this type serves as an example of early attempts to explain the internal organization of an urban area. Unfortunately such descriptions were personal and subjective and, therefore, a fuller understanding of urban structure had to await the development of more objective methods of analysis. In the previous chapter single index measures were introduced as such objective methods but it was concluded that these were too crude since they could never fully describe or explain the extremely complex socio-spatial structure of even a small town. Since single index measures are too simple and reality is too complex, the study of urban areas requires a compromise, a surrogate that will facilitate the understanding of urban structure without descending to the over-generalisation of a single measure alone. This surrogate is found in multiple factor indices and in recent years, therefore, research in urban geography has been concerned with the identification of suitable multiple measures and, as such indices form the basis of the next three chapters, it will be instructive to trace their development below.

TECHNIQUES

Simple Multifactor Indices

Charles Booth (1902-1903) was one of the earliest researchers to use simple multifactor indices to differentiate between areas within a city. In his survey of London, Booth attempted to identify areas of

1. See De Planhol (1959) pp.10-11.

differing prosperity by constructing a composite index of poverty associating poor areas with high birth and death rates, crowded accommodation and early marriage while wealthier districts had the opposite attributes. Boeth also pioneered the use of important single index measures such as rateable value and persons per room. From this latter index he drew up a social hierarchy of occupations ranging from architects (4% of whom lived in crowded conditions) to street sellers (65%). More recently, Herbert (1970) has emphasised the importance of this crowding index in modern multivariate analyses.

Burgess (1925, 1929), in the composition of his concentric zone theory of urban structure, gave few clues as to how he determined social different types of/area beyond the use of such broad terms as 'rooming' or 'immigrant' districts but his colleague, Park, did stress the importance of using social indices to explain physical patterns:

"Social relationships are ... frequently and inevitably correlated with spacial (sic) relationships and physical distances ... frequently are, or seem to be, the indexes (sic) of social distances." (Park (1926) p.18)

In his refinement of Burgess' theory, Hoyt (1939) was more explicit about his methods. He constructed the sector model on the basis of eight separate social, economic and behavioural indices which were combined into one composite score for each city block, and these block scores served as the empirical evidence for the validity of his theory. However, in the stimulus/^{given}to research in urban geography

by Hoyt's work it was its spatial aspects and not the use of indices that interested his contemporaries. Only Glass (1948) in her major study of Middlesborough made great use of these indices in the succeeding decade since such multifactor indices had to be laboriously constructed by hand. This difficulty was only overcome when the U.S.A. censuses of 1940 and 1950 first made available small area (census tract) data and the publication of this

new data proved to be the turning point in the history of the analysis of the city's socio-spatial structure.

Social Area Analysis

Social area analysis was the name given by its instigators to a method of classifying census tracts into social areas. It was first designed by Shevky and Williams (1949) and later modified by Shevky and Bell (1955) after Bell's (1953) empirical tests. The concepts behind social area analysis differ from those of urban structure modelling for, instead of starting with a spatial templet around which an urban area can be patterned, social area analysis determines first the social structure of a population and only then its spatial distribution. Shevky and his associates / postulated that the social structure and development of a population could be subsumed by three composite indices each selected to isolate an important component of social differentiation. They were social rank (or economic status), urbanization (or family status) and segregation (or ethnic status).¹ The subdivision of a city by social area analysis is carried out in three stages. First the scores of its census tracts on each of the three indices are calculated. These scores enable the tracts to be plotted on a social space diagram² and finally the 'social areas' are made up by grouping together spatially contiguous tracts with similar positions on the diagram. Shevky and Bell (1955, p.20) claim that:

"The social area generally contains persons having the same level of living (economic status), the same way of life (family status), the same ethnic background and we hypothesise that persons living in a particular area would systematically

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1. Each of these composite indices was associated with a number of derived measures and variables. See Table 5.1.
 2. Figure 5.1 shows that used by Shevky and Williams (top) and that by Shevky and Bell below. One axis is social rank, the other urbanization with high segregation scores being noted by subscript.

TABLE 5.1 : CENSUS TRACT INDICES FROM SHEVKY AND BELL (1955)

Variables	Derived Measures	Composite Indices
Years of Education		
Employment Status		
Major Occupational Group		
Value of Homes	Occupation	Social Rank
Rent	Education	(Economic Status)
Persons per Room	Rent	
Plumbing/Repair		
Heating		
Age/Sex		
Owner/Tenant	Fertility	Urbanization
Household Structure	Women in Labour Force	(Family Status)
Persons per House	Single Family Dwelling Units	
Race/Nativity	Concentration	Segregation
Country of Birth	National Groups	(Ethnic Status)
Citizenship		

differ with respect to characteristic attitudes and behaviour from persons living in another type of social area."

Although empirical studies have proved social area analysis to be of value in the breakdown of individual cities and in the comparison of different urban areas¹ it has never really been accepted as a valid analytical technique. Particular criticisms are that it neglects the important part played by the location of industry in the determination of residential structure (Duncan and Duncan (1960)) and that the indices were selected in a purely deductive fashion (Hawley and Duncan (1957))² although Bell (1955), using factor analysis, had successfully tested the validity and independence of the three indices. Ironically it was factor analysis that eventually replaced Bell's own social area analysis methods.

Tyron (1955) led the way. In a test of Shevky and Bell's procedure he performed a cluster analysis on data for San Francisco. This technique is used to reduce a long list of variables into a smaller number of multivariate clusters but has proved to be insufficiently objective or reproduceable for widespread adoption. Nonetheless, Tyron's work is important for he freed himself from the restricted theoretical and statistical nature of social area analysis and showed that more inductive methods could also be used to analyse urban structure. Urdy (1964) in another test of Shevky's technique found it to be partially valid, as had Tyron, but concluded that it was too confining and should

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1. See Van Arsdol, Camilleri and Schmid (1958a, 1958b), Anderson and Eggleard (1961), Anderson and Bean (1961). McElrath (1962) tested the technique for Rome while Herbert (1967) performed a British study using data from the 1961 census, the first in Britain to provide suitable small area statistics (although an experiment had been made on Oxford in 1951 - see Collinson and Mogey (1959)).
 2. See also the criticisms of Duncan (1955) and Van Arsdol, Camilleri and Schmid (1961). Their paper was answered by Bell and Greer (1962) with Van Arsdol et al replying (1962). Schnore (1962) stepped in to referee.

be abandoned in favour of the freer form of the rapidly developing computer technique of multivariate factor analysis. Abu-Lughod (1969) in her study of Cairo agreed. Bell and Moskos (1964) replied to Urdy and cited Tyron as evidence that social area techniques could exist alongside others but their cause was lost and social area analysis is now usually seen only as a stepping stone in the progress towards factor analysis.¹

Factor Analysis

"There has in recent years been a substantial development in the appreciation of the increasing complexity and dynamism of urban social structure which being multivariate itself can only be adequately understood by a multivariate approach."
(Herbert (1968) p.280)

This multivariate approach now usually involves factor analysis. Berry and Rees (1969) have acknowledged the debt students of factorial ecology owe to the preparatory work of the social area analysts and have also succinctly stated the principles involved in the work of their successors:

"Factorial ecology is the term now used to characterise studies involving the application of factor analysis to ecological study. A data matrix is analysed containing measurements of m variables for each of n units of observation (census tracts, wards) with the intent of

- 1) Identifying and summarising the common patterns of variability of the m variables in a smaller number of independent dimensions, r , that additively reproduce the common variance. and
- 2) examining the patterns of scores of each of the n observational units on each of the r dimensions." (Berry and Rees (1969) p.458)

Factor analysis thus basically consists of the selection of a number of variables each related to an operational taxonomic unit (OTU-these are the subdivisions of the city used as units of observation). The variables applied

1. See Rees (1972) for a discussion of the limitations of social area analysis and its abandonment in favour of factor analysis. He also gives a very full bibliography. Johnston (1971b) examines the limitations of both processes. See also Robson (1969), Thomlinson (1969), Timms (1971) and Johnston (1971a).

to the OTUs form a data matrix (for example 30 variables scored for 60 OTUs is a 30x60 matrix) which is then fed into a computer programmed to break the matrix down into a number of independent dimensions called components or factors, each of which is heavily weighted by a limited range of variables. The relative importance of each factor can be seen from the percentage of total variance explained by it while its spatial distribution is shown by factor scores, each OTU being scored for each factor. Thus the structure of the urban area under scrutiny can be illustrated and explained in terms of a few independent, empirically derived factors which summarise the information of a wide range of variables. In studies of urban structure¹ the technique was first used to analyse single modern cities² but more recent research has concentrated upon its use in the comparison of the structures of different towns³ and in the study of urban areas in the past. Warnes (1973), for example, has demonstrated that factor analysis can be used to distinguish social areas within small 19th century towns while Goheen (1970) has studied the 19th century socio-spatial development of Toronto by means of a number of factor analyses in time series.⁴

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1. The use of factor analysis in geography is not confined to studies of urban structure however. For example Berry (1972) edited a number of papers on city classification all of which used the technique following the pioneer study of Moser and Scott (1961). Berry (1961) also used factor analysis to derive large scale uniform regions over the United States and (1966) in work on commodity flows. Steiner (1965) made use of it in his research on climatic generalisation. See Rummel (1967) for a full account of factor analysis techniques.
 2. British studies in which factor analysis has been used include those by Gittus (1964, 1964-1965) for Liverpool; Cox (1969) for London; Norman (1969) for London; Timms (1965) for Luton; Giggs (1970) for Barry, and (1973) in work on Nottingham, Herbert (1973) for Swansea, and Davies and Lewis (1973) for Leicester.
 3. See Sweetser (1962, 1965a, 1965b, 1969) and Sweetser and Sweetser (1968) for separate analyses and comparisons of Boston, Massachusetts and Helsinki, Herbert (1970) for a comparison of Cardiff and Swansea, Evans (1973) for work on Cardiff, Swansea and Newport and Johnston (1973) for comparisons of New Zealand cities.
 4. Ward (1969) has also used factor analysis in an historical context in his study of New York's immigrant districts in the 19th century.

Having traced the development of multivariate indices from their simple origins through social area analysis to factor analysis it is now opportune to detail the procedures to be adopted in the multivariate analyses of this study.

SELECTION OF INDICES

In a recent paper Rees (1972), following the example of Grigg (1965, 1967), set out a four step procedure for the classification of urban sub-areas. So far in this study two of the steps, the discussion of the objectives and the choice of the methodology (factor analysis) have been taken. The remaining stages, the choice of the variables and the selection of the OTUs, will be outlined in the succeeding paragraphs.

Factor analysis programs of the type used in this study¹ require a greater number of OTUs than variables. This is not a problem in the factorial ecology of large cities since in such studies the OTUs are often numbered in hundreds and the variables in scores. However, in the analysis of a town as small as 1449 people (Coalville 1851) there is a severe limit as to the number of legitimate OTUs into which it can be sub-divided. Thus the number of variables used in this study had to be curtailed and, in fact, only twenty-five were chosen (Table 5.2). As the variable structure of an analysis can greatly influence its result a detailed discussion of the nature of the variables used here and the reasons for their selection is necessary.

1) Social Status Variables - Numbers 1, 2, 3, 4.

The majority of the variable input used in this analysis is perfectly straight forward and reproduceable but the structure of the variables measuring social status, might be a source of controversy. Although the form of the variables, the percentage of household heads of classes I and II, III, IV, V, appears unremarkable the means by which

1. See below.

TABLE 5.2 : VARIABLES USED IN THE FACTOR ANALYSES

Variable number	Variable	Abbreviations	Variable group
1	Percentage of household heads in classes I & II	Classes I, II	Social status
2	Percentage of household heads in Class III	Class III	
3	Percentage of household heads in class IV	Class IV	
4	Percentage of household heads in class V	Class V	
5	Percentage of population born in the town	Town born	
6	Percentage of population born within 15 miles	Local born	Birthplaces
7	Percentage of population born in Leicestershire and contiguous counties	Regional born	
8	Percentage of population born elsewhere	National born	
9*	Percentage of occupied people in primary industry (coal mining)	Primary	Occupational Groups
9	Percentage of occupied people in secondary industry (manufacturing)	Secondary	
10	Percentage of occupied people in tertiary industry (services)	Tertiary	
11	Percentage of occupied people in agriculture	Agriculture	Marital Status
12	Percentage of occupied people who were labourers	Labourers	
13	Percentage of population over 15 unmarried	Single	
14	Percentage of women over 15 married	Married women	

/Cont'd..

Variable 9* was used only in the Coalville analysis

TABLE 5.2 : VARIABLES USED IN THE FACTOR ANALYSES (Cont'd...)

Variable number	Variable	Abbreviations	Variable group
15	Percentage of women over 15 working	Working women	
16	Percentage of households with working children	Households with working children	Economic
17	Percentage of children under 15 working	Working children	participation
18	Percentage of population economically active	Economically active	
19	Percentage of population over 60	Elderly	
20	Percentage of population under 15	Young	Age/Fertility
21	Percentage of children under 5 to women 15-44	Fertility	
22	Mean population per house	Density	
23	Percentage of single family dwelling units	Single Family	Housing
24	Percentage of households with lodgers	Lodgers	

the household heads were assigned to the different classes could be subject of debate. There can be no doubt of the necessity for such variables since status differences are inevitable in even the most simple of human societies (Barber (1957)). All societies have distinct stratified role-fulfilling functions and only the complexity of these varies between groups and over time (Davis and Moore (1945), Pfautz (1953)). The researcher's tasks are thus to decide how the society under study was stratified and how its subjects fit into the stratification system.¹ The subdivision of a population into different status groups can only be performed with the aid of surrogates that enable the complex real world situation to be simplified to an extent that will allow each subject to be assigned to one of a manageable number of social classes. The range of surrogates used is extremely wide² but it would appear that in the majority of studies a single criterion, that of occupation, plays a significant role in status determination.³ Occupation

1. See Sorokin (1927).

2. To take those used in just four publications, Spier (1936), Parsons (1940), Loomis and Beagle (1950) and Barber (1957) produces the following list: political power, religious power, military power, economic power, skill, occupation, wealth, birth, lineage, personal qualities, education, achievements, age, sex, income, possessions and property. Added to these must be some of the more time/culture bound approaches such as that of Chapin (1935) who assessed status by the quality of living room furniture while Bossard and Boll (1949) used different criteria for each broad class-place on the servant hierarchy for domestics (see also Hecht (1956) who set out this hierarchy for 18th century England), schools attended for the middle classes and position on the social register for the upper classes. Warner, Meeker and Eells (1949) adopted a composite approach with their use of the index of Status Characteristics based on occupation, house type and dwelling area. Others have used a single criterion - Anderson (1947), rent; Booth (1902-1903), crowding; Henriques (1951), colour of skin (in Jamaica); Hollingshead (1950), residential area; Mack (1951), house type; Nottestein and Sallume (1932), birth rate.

3. Osgood and Stagner (1941) and Carr-Saunders and Jones (1927) also link occupation type to intelligence levels.

has this dominant position because it exerts not only a direct control upon status but also indirectly affects a number of the other attributes used for status determination. There have been numerous schemes of occupational stratification, many of which were based on the pioneer work of D'Aeth (1910) and Counts (1925).¹ Probably the most influential British scheme has been that suggested by Hall and Jones (1950).² They argued that (p.31):

"Occupational status is, of course, not the only factor which contributes to the determination of class, but being closely linked with economic status it obviously has a very important bearing on class."

Hall and Jones derived a sevenfold classification of occupations based upon status levels: 1) Professional; 2) Managerial/Executive; 3) Inspectorial; 4) Clerical; 5) Routine Clerical/Skilled Manual; 6) Semi-Skilled Manual; 7) Unskilled Manual. In order for manual/occupation to be classed as skilled in this scheme it had to require a high degree of training, rather more than that needed for a semi-skilled job. Casual employment and those manual occupations where no aptitude was needed were assigned to the unskilled category. A number of other studies have produced classifications rather similar to the above³ but Lenski (1952) and Cox (1948) find the whole stratification exercise rather pointless.

Once a researcher has chosen his classificatory scheme he has to slot the occupations of his sample population into the discrete status groups. In Britain this task is made easier if the classifications of

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1. See for example Nietz (1935), Deeg and Paterson (1947), Anderson (1927) and Davies' (1952) review.
 2. The most influential American schemes are those of the National Opinion Research Centre (1947) and Edwards (1943).
 3. For example, Duncan and Duncan (1955), Redmond and Davies (1940), Congleton (1953), Heraud (1968), Anderson (1958), Smith (1943), Rogoff (1951), Moser and Hall (1954). MacDonald (1974) thought that the Hall and Jones scheme still had great merit even after the passage of twenty years.

the Registrar General are used. These schemes, dating from 1911, are unremarkable in themselves¹ but in association with them is published a comprehensive list of occupations each of which is assigned to a social class. With the aid of these lists a population sample can be stratified without any great effort by the researcher and those studies whose aim was merely to use (rather than produce) a ranking system, for example Jones (1960) and Collinson and Mogey (1959), have found the Registrar General's classifications to be of great utility.

However, perhaps the work of the Registrar General has made things rather too easy for there has been a number of cases where the system has been misapplied by being used outside its time period. Neither the range of occupations nor their social standing is invariable over time and thus a ranking system dated 1951 is applicable only to its immediate period and to use it to classify occupations recorded in the 1851 census is to commit an academic solecism. This has been done however by Armstrong (1966, 1967) and his use of the 1951 scheme is surely untenable particularly as the century in question was evolutionary in terms of employment status with a massive growth in the range of occupations. It is perhaps significant that, while in his thesis of 1967 and in an earlier paper (1966) Armstrong used the 1951 listings with little hesitation, in 1968 he attempted to justify his approach by correlating the 1951 status groups with 19th century life style data such as the number of servants in a household and the incidence of sharing households. The fact that the correlations were significant does not excuse his original choice of a classification scheme applicable to a time so far outside his study period but in 1972 Armstrong again

1. In 1951, for example, a simple fivefold classification was presented:
1) Professional; 2) Intermediate; 3) Skilled; 4) Semi-Skilled;
5) Unskilled.

stated his case for the use of the 1951 scheme for the stratification of 19th century populations.

Armstrong has been harshly criticized by Harris (1968) who noted the excessive size of status group three in this study area (53% of all workers were assigned to this category) and wondered why the petty entrepreneurs had not been separated from the skilled workers. Harris also asked why Armstrong had used the 1951 scheme at all (described by Harris as a "lousy classification for any purpose").¹ Armstrong's reply that he could in any case have got no further back than the 1911 census is not convincing as others have managed to construct a classification based on the standards of earlier periods. Many years ago Spier had pointed out that:

"social stratification of the present can never be explained without reference to the past"² (Spier (1936) p.200)

but conversely, social stratification of the past must surely be as divorced as possible from the classifications of the present. However, despite its shortcomings Armstrong's procedure has been repeated in a number of recent studies, for example, Gurney (1970), Smith (1968) and Warnes (1969, 1973). However, Warnes did make some modifications and attempted as far as possible to look at borderline occupations through 19th century eyes. Taylor (1970) went a stage further and rejected Armstrong's use of the 1951 occupational classifications and built up his own scheme based as far as possible on contemporary 19th century life style rather than on occupations alone. The scheme, as given in his thesis is:

Class 1: Entrepreneurs employing at least twenty-five workers,
Professionals with at least two servants,
Any household with at least four servants.

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1. See also Cole (1955) who gave contemporary criticism of the 1951 scheme. Cole also argued that during the 19th century there was a great gulf between skilled and unskilled occupations. This gulf should exclude the use of a semi-skilled classification for a 19th century study period.
 2. See Thernstrom's (1964) biting criticism of Warner's Yankee City series (1941-1959) for this reason. Warner deliberately made no reference whatsoever to the past.

Class 2: Entrepreneurs employing between one and twentyfour workers,
Any household with servants.

Class 3A: Any other non-manual household.

Class 3B: Skilled workers.

Class 4: Unskilled workers.

Taylor's classification is an improvement on methods based on occupation alone since it makes as much use as possible of the information given in the census records by considering the contributions made by servants (following the examples of Rowntree (1902) and Booth (1902-1903)) and employees to the household head's life style. In other stratification systems a carpenter, for example, would be placed in the same class if he worked on his own or if he employed a squad of journeymen but in Taylor's classification this would not be the case and in moving away from the single criteria of occupation the accuracy of status assignments can only be improved.

The various methods of deriving social status have been considered in some detail in order that the scheme adopted in this study may be placed in context. It is a modification of Taylor's system of classifying households by the occupation and life style of the household head and it contains the following five groups:

Class I: Households headed by entrepreneurs employing at least fifteen workers;
Households headed by professionals and containing at least one servant for every three people;
Any household with at least one servant per person (excluding visitors).

Class II: Households headed by entrepreneurs employing between one and fourteen workers;
Other professional households;
Any household with less than four persons per servant (unless in class I).

Class III: Any other non-manual households including those of traders;
Any other household with a servant.

Class IV: Households headed by skilled manual workers.

Class V: Households headed by unskilled manual workers.

Five classes were used rather than Taylor's four as his horizontal subdivision of the non-manual/skilled category did not reduce its vertical dominance. Other slight modifications were that fifteen employees were chosen as the watershed between Class I and Class II entrepreneurs rather than twentyfive (it was felt that Taylor's figure was more suitable to his large city (Liverpool) than to the small towns of this study) and also the servant ratio was based on numbers per person rather than per household to overcome any anomolous classifications caused by differing household sizes. There is no way of overcoming the necessity of using occupation alone in the distinction between Classes IV and V but at least the anachronistic semi-skilled classification used in other studies of 19th century society has been omitted. An occupation that required a certain amount of skill or training such as a carpenter or a saddler was assigned to Class IV while those jobs requiring little aptitude were placed in Class V. Despite their appalling poverty framework knitters' households were placed in Class IV because below them was an even poorer group consisting of winders and seamers and one of the 1851 census enumerator's added a note onto his schedule emphasizing this differentiation.¹ Farmers, if their life style did not admit them to any other category, were placed in Class IV while agricultural workers were assigned to Class V. Land-owners were assumed to be professionals and annuitants to be of non-manual occupation.

For the purposes of the factor analyses Classes I and II were combined because their numbers were so small. A similar approach was

1. "The word stockinger* is the vernacular appellation of the able bodied workers or knitters in frames and 'winder, seamer, stitcher' are applied to those children or infirm persons whose occupations are subsidiary to the weaving process. *Framework knitter is a word in use here." Frederick Heathcote, enumerator of Hinckley district 2n 1851.

adopted by Warnes (1973) who combined both the two upper classes and the two lower classes of his five class system to overcome the proportional dominance of the overlarge Class III which, following Armstrong, contained both non-manual and skilled occupations.

2) Birthplace Variables - Numbers 5, 6, 7, 8.

The migration analysis of Chapter Nine deals with birthplace data in considerable detail but these four variables have been included here in order to investigate correlations between migration distances and social status with the expectation that the majority of long distance migrants will be members of the upper classes. There might also be a differentiation between the towns as Coalville and Melton would probably be more attractive to migrants than Hinckley and Lutterworth. The four variables chosen were births within the study town, births within 24 kilometres (15 miles - measured by straight line), births within the rest of Leicestershire and its contiguous counties of Northamptonshire, Warwickshire, Staffordshire, Derbyshire, Nottinghamshire and Rutland and births elsewhere.

Unlike the majority of factor analytical studies of urban populations the inclusion of birthplace variables has not been for the purpose of determining ethnic segregation but rather to determine their relationship to social and occupational classes. In these four towns in the mid-19th century there was not even an Irish population of sufficient size to justify a segregation analysis.

3) Occupational Group Variables - Numbers 9, 9*, 10, 11, 12.

Although occupation formed a major part of the social stratification scheme used in this study there is also a need for a group of variables devoted to occupation alone. These variables will show if there was any occupational segregation within the towns as well as distinguishing between their different functions and range of employment

opportunities. The occupational groups used were modified from the normal primary, secondary and tertiary divisions with the primary sector being split into separate mining and agricultural groups in order to distinguish between miners and farmers in the specialist mining town of Coalville. This mining variable was used only for Coalville and was assigned the number 9* to ensure that the rest of Coalville's variables should not bear different numbers from similar variables in the other towns. No other industrial groups were singled out and the fifth occupational variable isolated unskilled labourers, a measure inserted in order that every occupation encountered in the census could be placed in one of the categories.

4) Marital Status Variables- Numbers 13,14.

The first three variable groups are common to almost every factor analysis of an urban area but the inclusion of two marital status variables provides a point of departure. They are inserted here in order to investigate the possible spatial clustering of married women since it would be expected that higher class districts would be found to have an older age structure, later marriages and more unmarried servants than working class areas.

5) Economic Participation Variables- Numbers 15,16,17,18.

This group of variables is partly concerned with life cycle stages. According to Anderson (1972) this dimension is of considerable importance since he discovered that a family's period of maximum prosperity tends to correlate with that time when the children are old enough to be earning yet too young to leave home. Svalastoga (1959) noted that such a life cycle stage was also that of maximum status although social class would, presumably, still be constrained

by the occupation of the household head. On the basis of this evidence it might be expected that OTUs with high proportions of households with working children (variable 16) will stand out as being of relatively high status. In contrast, variable 17 was inserted to aid in the identification of poorer households since it measures the employment of very young children and only in poor households would children be taken away from their education to contribute to the family budget from a very early age. In his study of Bethnal Green in 1851, Coleman (1972) associated the percentage of children who were recorded as scholars with social class and in this investigation variable 17 might act as a converse to Coleman's measure in that those households where the children did not work would, presumably, be those with the highest incidence of education. The working women variable (15) was included in order to discover if there was any clustering of female employment while it might also enable distinctions to be drawn between the study towns, for example, in Hinckley women, both married and unmarried, found it necessary to seek employment to help support their families, while in Coalville there was less need for women to work and considerably less opportunity for them to do so. Finally, the variable recording the percentage of persons in an OTU who were economically active (18) was included as an inverse measure of dependancy and it will also serve as an important summary of the other economic participation measures.

6) Age and Fertility Variables - Numbers 19,20,21.

These variables were included in order to investigate whether age structure and fertility ratios had any bearing on urban life. For example, there will probably be interrelationships between a young age structure, high fertility and low social class.¹ In addition, these

1. See Nottestein and Sallume (1932).

variables will also emphasize an important difference between the towns in that their age structures were dissimilar, Coalville in particular standing out as it contained so few old people, especially in 1851.

7) Housing Characteristics Variables - Numbers 22, 23, 24.

Housing characteristics form another important group of variables and in modern studies are notable indices of status since a significant relationship often exists between social class and the type of house inhabited. Unfortunately, this is one group of variables where 19th century data is of less utility than its modern counterpart, for example, persons per room cannot be calculated, only an inferior persons per house ratio (variable 22) with no reference to the size of that house. This measure is still of some value however and was found to be important by Anderson (1969, 1971) who noted that household size was bimodal in 1851 Preston with the larger nuclear families of the lower class being matched by the living-in servants and employees of the upper class. The two variables relating to single family units (23) and houses with lodgers (24) were chosen to illustrate class divisions in that it would be expected that the latter would be a function of the lower classes and the former of the upper classes. However, Anderson (1969, 1971) found that this is not necessarily the case and multifamily houses were found at both ends of the social scale with living-in employees, friends and visitors in upper class houses presenting a similar statistical picture to the lodgers and resident kin of the lower classes.

The 25 variables presented above are only a few of those that could have been constructed from the census enumerator's books but, as was mentioned earlier in the chapter, operational constraints limited the number of variables that could be employed and thus a number of measures that might have been useful had to be excluded from the analysis.

Thus, no variables relating specifically to the proportions of households with servants or employees were considered since these measures formed a constituent part of the social status variables. In addition, certain variable groups had to be left out altogether, including those based on type of income despite these being found useful by Warner, Meeker and Eells (1949), Thomlinson (1969) and Svalastoga (1965). But probably the most significant omission was occasioned by the Census Enumerators' Books' silence on the subject of housing amenities, a subject to which many modern studies pay considerable attention; for example Gittus (1964) devotes 10 of her 27 variables to amenities in her study of Merseyside and Hampshire.

Having decided upon the variables to be used, only one step out of Rees' (1972) four remains- the subdivision of the study towns into their operational taxonomic units (OTUs). In most studies the urban areas under scrutiny are sufficiently large for census tracts or enumeration districts (or groups thereof) to serve as OTUs but in this study the towns are far too small for such convenient subdivisions to be utilized. Lutterworth, for instance, had just four enumeration districts in both 1851 and 1871 and, therefore, smaller areas had to be devised for use in the data matrix. These smaller areas had to be made up from individual households grouped together according to their site locations. The locations were discovered by tracing the (logical) progress of a census enumerator with the aid of a contemporary map. Using fixed points such as street junctions and public houses named on both maps and schedules, each household could be assigned to a built plot on the map in a simple deductive manner- fourth house from the King's Head or the third from the street corner, for example. While such a procedure could never be completely accurate, of course, it is fairly certain that most households could be located within their correct area if not on

the exact plot.¹ Once each household's location was known the OTUs could be built up according to street allegiances. They had to be large enough to absorb any data aberrations caused by individual households yet be of a size small enough to ensure sufficient OTUs to make the analysis viable. In practice this meant that areas of about eight households were delimited although there was occasionally some divergence from this figure particularly for outlying areas where there were few houses. Often whole streets formed OTUs but where the streets had too many houses they were subdivided by using breaks in their built up frontages as OTU boundaries. Other methods of OTU preparation were tested, particularly a grid system but the towns' morphologies were not always suited to this and only the method finally chosen, the division by hand as it were, could ensure that the OTUs would be of fairly uniform size while also enabling the street allegiance process to ensure some degree of internal homogeneity.

PROCEDURE

Having chosen the variables and the OTUs, the data matrices were prepared by calculating each variable for each OTU. The matrices which ranged in size from the 25x30 of Coalville in 1851 to the 24x65 of Hinckley in 1871 were made ready for the computer² by being recorded on standard 80 column I.B.M. cards using an I.B.M. 4130 card punch. The factor analysis program used was 'Statpak' adapted by the Computer Department of Leicester University from a package developed at the Education Department at Birmingham. The package had to be further

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1. See Holmes (1974) who finds that this identification procedure is facilitated if more than one documentary source can be used in tandem. He used both enumerators' books and rate books in his study of Ramsgate.
 2. The machine actually used was Leicester University's (then) Elliot 4130.

modified for the present study in that it was originally limited to a maximum matrix size of 50x50 and thus had to be extended to cope with the 24x65 of 1871 Hinckley. Statpak allows the three standard factor analysis solutions to be computed and each was tried in turn in order to find the one most suitable for use with the 19th century data.

Principal axis, which involves no rotation, is the simplest and has the great merit of producing components with a high degree of variance explanation but only at the cost of their structures being unclear, for in this solution many variables load heavily on each factor and there is much 'random noise' as each variable may load several different factors. As a consequence it is often difficult to decide quite what the factors represent for example, Herbert (1970) was unable to assign any label to one of his principal components which was therefore of no use to his study.

In order to overcome this weakness, the data was rotated. A varimax rotation gives a different factor structure to principal axis and although the percentage of variance explained by each factor is lower, the dominance of the prime factor in particular being reduced, there is much less random noise and each factor is weighted by only few variables and is thus easy to interpret. An oblique or best-fit rotation, promax, was also tried. This solution gives the same factors as varimax and with less random noise but was subject to a grave drawback in that its factor scores were non-standardised and thus the maps drawn from them bore little relation to reality. For example, in Coalville in 1851 an OTU containing a coal owner, the vicar and one of the leading publicans had a negative score on a factor measuring (positively) high social status. The promax solution was perhaps finding mathematical relationships outside the realm of geographical logic. Similar problems were found with both promax solutions attempted (n=4 and n=8).

After this series of practical trials, it was decided to use the varimax rotation in the analyses that follow as it suffered neither from the confusing factor structures of the principal axis nor the confusing factor scores of the promax rotations. The succeeding chapter is the first of three that use varimax factor analysis to investigate the patterning and development of social areas in the four study towns. The use of the same procedure for each analysis allows direct comparisons to be made between the towns and thus one of the major difficulties encountered with the use of the single index sources in Chapter Four, their non-comparability, is overcome.

The analyses in Chapters Six and Eight are cross-sectional in that each concentrates on the towns' structures at a single point in time (the 1851 and 1871 census days). Such cross-sections are very informative but are of limited value in a study seeking to assess change over time for, even though the two series of analyses use identical variables and have the same processing technique, they only allow spatial developments in the study towns to be estimated by a visual juxtapositioning of their two static pictures. To try and overcome this drawback and see development as more of a continuous process Chapter Seven has a longitudinal approach and presents factor analyses of variables measuring relative change between 1851 and 1871.

This chapter has set the scene for the analyses to follow. It has shown the development of factor analysis as a technique for the identification of urban sub-areas and has presented details of the particular procedures to be used in the next three chapters, the first of which deals with the 1851 cross-sections.

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CHAPTER SIX

SOCIO-SPATIAL STRUCTURES : THE 1851 CROSS-SECTIONS

In Chapter Four the social and spatial structures of the four study towns were identified by means of simple indices derived from a number of independent documentary sources. Although this approach was relatively successful in that recognizable patterns of social areas were found in each of the towns, its limitations were forcibly revealed in the methodological discussion contained in the last chapter. In that chapter the progress of urban analysis from single-index measures to more sophisticated multivariate techniques was traced and it was also demonstrated that by employing the extremely detailed Census Enumerators' Books data of sufficient quality and quantity could be obtained to enable the study towns to be analysed by these multivariate methods. Such an analysis is presented in this chapter which investigates the socio-spatial structure of the towns in 1851. It is divided into several sections and will concentrate on both the correlations between the variables used in the analysis and the structure and distribution of the revealed factors.

Correlations

Correlation Linkages

In a multivariate analysis the association between the constituent variables can be measured by means of correlation coefficients. Although these correlations are of considerable value because they bring to light a good deal of information about the variables involved, they have been generally neglected in most published studies which have used multivariate techniques.¹ In this study, however, the correlations did form a part of the analysis in the expectation that they would enable both similarities

1. Among the few exceptions are the studies of Robson (1969), Warnes (1973) and Clarke (1973).

and differences in the social structures of the functionally dissimilar study towns to be identified. Although there were, of course, correlations between each of the 24 or 25¹ variables used, only those with coefficients of at least ± 0.5 were considered since linkages of less strength were thought to be of little significance. In the four correlation analyses 75 separate variable pairings above the ± 0.5 threshold were identified but, because one of these pairs was correlated positively in Hinckley and negatively in Coalville, a total of 76 different correlations had to be considered (Table 6.1).²

Since significant positive or negative correlations between the variables could have been brought about in a number of different ways, it was necessary to distinguish these causal categories before the analysis proper could begin. From an inspection of the correlations four categories could readily be identified:

Group 1

A number of the negative correlations were found to have been caused by mutual exclusion for within some of the variable groups (such as social status and occupations) a high score on one measure precluded there being a high score on another because a maximum 100% score had to be shared between several variables.

Group 2

Some of the correlations were occasioned by the practice of assigning certain occupations to a single social class. For example, almost all miners were placed in the lowest status group which resulted in a positive correlation between variables 9* and 4.³

-
1. 24 variables played a part in the analyses of Hinckley, Lutterworth and Melton but in Coalville the presense of miners necessitated the use of an extra measure. See Chapter Five.
 2. Other studies have not provided such complex correlation structures. For example, Warnes (1973) found only correlations (of at least ± 0.5) between the 21 variables used to analyse Chorley in 1851.
 3. See the list of variable names and numbers in Table 5.2.

TABLE 6.1 : CORRELATIONS BETWEEN VARIABLES 1851 CROSS SECTION

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	9*
1	*																								
2	+H	*																							
3	-H	-H	*																						
4	-CHLM	-CLM	-	*																					
5	-HLM	-	-C+H	+C	*																				
6	-	-	+C	-C	-CHLM	*																			
7	-	-	-	-	-M	-C	*																		
8	+L	-	-	-	-LM	-	-	*																	
9	-HL	-H	+HLM	-	+H	-	-	-	*																
10	+CHLM	+CEM	-HL	-C	-H	-	-	+HM	-HLM	*															
11	-	-L	-	+LM	-	+H	-	-	-	-	*														
12	-	-	-	-	-	-	-	-	-	-	-	*													
13	-	-	-	-	-	-	-	-	-	-	-	-	*												
14	-CM	-	+M	+C	-	-	-	-	-	-CM	+M	-	-CHM	*											
15	+M	+M	-	-	-	-	-	-	-	+M	-	-	+M	-LM	*										
16	-H	-	+H	-	-	-	-	-	-	-	-	-	-	-	-	*									
17	-H	-	+H	-	+H	-	-	-	+H	-H	-	-	-	-	-	+CH	*								
18	+M	-	-	-M	-M	-	-	-	-	+M	-	-	-	-M	+HLM	-	+CH	*							
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*						
20	-	-	-	-	-	-	-	-	-	-	-	-	-	+M	-	-	-	-CL	-LX	*					
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+CHX	*				
22	-	-	-	-M	-	-	-	-	-	-	-	-	+CH	-	-	-	-	-	-LM	+HM	-	*			
23	-	-	-	+M	-	-	-	-M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*		
24	+L	-	-L	-M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-CHLM	*	
9*	-C	-	-	+C	-	-C	-	-	-	-C	-3	-	-	+C	-	-	-	-	-	-	-	-	-	-	*

Note: Variable 9* was used only for Coalville C = Coalville H = Hinckley L = Lutterworth M = Malton Mowbray + = Correlation of more than +0.5 - = Correlation of less than -0.5

Group 3

Not all of the variables used in the analyses were completely independent since some of them recorded different facets of a similar distribution. This resulted in a number of positive correlations as in the case of variables 21 and 20 because a high fertility ratio (21) would be reflected in a high proportion of children under 15 (20).

Group 4

To a certain extent the correlations in groups 1, 2 and 3 were caused by the organization of the data and the structure of the variables but there were other correlations between completely unrelated variables whose association could only have been brought about by the social structures of the towns themselves.

Each of the 76 correlations could be assigned to one of these four groups while, in addition, it was also necessary to separate those which occurred in a number of the four analyses from those which were unique to one of them. In fact, twelve of the correlations were found in at least three of the four towns and their categories were:

Group 1 : 1-14, 2-4, 5-6, 9-10, 13-14, 23-24.¹

These correlations were caused by the mutual exclusiveness of the variable groups representing social status (1-4, 2-4), birth places (5-6), occupational groups (9-10), single persons/married women (13-14) and single family dwelling units/households with lodgers (23-24).

Group 2 : 1+10, 2+10, 3+9

Most high class occupations were of a tertiary nature and this caused the correlations between variables 1 and 2 with variable 10 while the association between variables 3 and 9 came about because skilled workers were normally to be found in the manufacturing or secondary sector.

1. Variables linked by a '-' were correlated negatively and those linked by a '+' had a positive correlation.

Group 3 : 15+18, 20+21

A high proportion of working women was reflected in the rate of economic activity (15+18) while there was a similar relationship between young children and the fertility ratio (20+21).

Group 4 : 1-5

This correlation, which was the only one of group 4 to be found in more than two of the separate analyses, indicated that there was an inverse relationship between the high status and town birthplace variables.¹

When the correlation linkages were being prepared it was expected that those which occurred in a number of the analyses would highlight similarities between the study towns but, of the twelve correlations discussed above, only one could be assigned to the group 4 category and since the other eleven associations were probably caused by some aspect of the data organization, it was apparent that the correlation linkages had not brought out the anticipated similarities.

Fifteen of the correlations were found in two of the towns' analyses. Their groups were:

Group 1 : 5-8, 14-15

Variables 5 and 8 were both concerned with birthplace and were thus mutually exclusive. The negative correlation between variables 14 and 15 was caused by the distinction between working and married women.

Group 2 : 1-9, 3-10, 4+11

Few high status persons worked in the manufacturing sector (1-9) and few skilled workers were employed in the tertiary sector (3-10). Agricultural workers were usually of low status (4+11).

Group 3 : 13+22, 16+17, 17+18, 18-20, 19-20, 19-22, 20+22

A high proportion of single and young people resulted in a large family size (13+22, 20+22) whereas old people, who were negatively correlated

1. The links between class and birthplace will be explored at length in Chapter Nine.

with the young, (19-20) had the opposite effect (19-22). The two variables concerned with children working occurred together (16+17) and affected the proportion of economically active (17+18) which was itself negatively correlated with young children (18-20).

Group 4 : 1-14, 8+10, 10-14

A link between the high status (1) and tertiary industry (10) variables was found in three of the towns. It can be seen here that both these variables had a negative association with that of married women (1-14, 10-14). There were relatively few married women in high class areas since these had a high proportion of widows and also many unmarried servant girls. The correlation between the national birthplace and tertiary industry variables (8+10) was evidence of a link between high status and long distance migration.

Just as the correlations which occurred in several of the analyses were expected to highlight similarities between the study towns, it was hoped that those which were found twice would have been caused by common features in the two towns involved. However, this did not prove to be the case except for some differentiation between the industrial towns of Hinckley and Coalville and the market towns of Melton and Lutterworth. Eight of the fifteen correlations found in two towns were shared between these pairs. Lutterworth and Melton both had links between variables concerned with birthplaces (5-8), age structure (19-20, 19-22) and, significantly, agriculture (4+11) and working/married women (14-15). This last correlation could not have been found in Coalville where very few women worked, nor in Hinckley where financial circumstances required women ^{of} irrespective marital state to try to find employment. Both industrial towns had two economic participation links (16+17, 17+18) as well as an association between single persons and residential density (13+22) ^{occurred}. Other correlations which/twice were divided, between the declining towns of Hinckley and Lutterworth, which both had associations between status and occupational groups (1-9, 3-10), and the expanding towns of Coalville

and Melton where correlations emphasizing the negative links between high status households and married women were found (1-14, 10-14). The remaining correlations were shared between the large towns of Hinckley and Melton (8+10, 20+22) and the smaller Lutterworth and Coalville (18-20). In spite of the differentiation identified between the industrial and market towns it could not be said that these shared correlations have proved to be greatly significant in terms of their town pairings and the fact that only three of the fifteen correlations were in group 4 would appear to corroborate this view. In addition, as 49 of the 76 separate correlations were found in only one of the four analyses it would seem that on the whole they were emphasizing differences between the towns rather than similarities.

Thirteen of the unique correlations were confined to Coalville although six of them involved its extra variable, 9*. The groupings were:

Group 1 : 6-7, 9*-10, 9*-11.

These were mutually exclusive birthplace variables (6-7) and occupational groups (9*-10, 9*-11).

Group 2 : 1-9*, 4+9*, 4-10

Mining was associated with the lowest status group (1-9*, 4+9*) while few of this group worked in the tertiary sector (4-10).

Group 4 : 3-5, 3+6, 4+5, 4-6, 4+14, 6-9*, 9*+14.

These correlations emphasized the importance of birthplace as a social differentiator in Coalville in 1851. There were links between the lowest class and town born (3-5, 4+5) and these reflected the recent date of Coalville's foundation since in 1851 every person who had been born in the town was still a child¹ and, because the most numerous group of parents

1. Coalville achieved administrative recognition, as an Ecclesiastical Parish, only in 1842. Prior to that date any people born in what became Coalville would have had their birthplace recorded as Whitwick or Ibstock. See Chapter Two.

were class V miners, it followed that most of the town born would also be of low status. The miners themselves, who were often young married men (4+14, 9*-14), had usually originated from beyond the local area (4-6, 6-9*) in direct contrast to the less numerous skilled workers (3+6).

Hinckley had 15 unique correlations and, again, most of them were of group 4:

Group 1 : 1-3, 2-3

Class IV (variable 3) was numerically very dominant in Hinckley.

Group 2 : 2-9

Few class III people worked in the secondary sector.

Group 4 : 1+2, 1+16, 1-17, 3+5, 3+16, 3+17, 5+9, 5-10,
5+17, 6+11, 9+17, 10-17

These twelve group 4 correlations outlined a number of differences between various social groups in Hinckley in 1851. The skilled manufacturing households were characterized by a high proportion of working children (3+16, 3+17, 9+17) and also contained many town born inhabitants (3+5, 5+9, 5+17); on the other hand, these features were not characteristic of the higher status tertiary groups (1-16, 1-17, 5-10). Such class differentials were further emphasized by the positive correlation between variables 1 and 2. These both identified non-manual households and their joint occurrence here suggests that the non-manual classes in Hinckley in 1851 kept themselves separate from the mass of lower status residents of the town. The remaining correlation in group 4 was that between agricultural workers and local birthplaces (6+11).

Lutterworth had but four unique correlations:

Group 2 : 2-11

Few agricultural workers were of class III.

Group 4 : 1+18, 1+24, 3-24

The link between high class and national birthplace (1+8) was not unexpected but that between multi-family households and high class (1+24) could be explained only by the practice adopted in this study of recording

living-in apprentices as lodgers. With the town's declining population there was no shortage of accommodation and so only a few lodgers were to be found among the lower class homes (3-24).

In Melton Mowbray there were 17 unique correlations, many of which were brought about by the high incidence of domestic service in the town. Again, most of them were of group 4.

Group 1 : 5-7

Variables 5 and 7 were mutually exclusive birthplace measures.

Group 3 : 13+15, 14+20

In Melton there was a clear distinction between the rôle of women of different marital status. Those who were married with children (14+20) did not work while the single women (and men) were usually in employment (13+15).

Group 4 : 1+15, 1+18, 2+15, 3+14, 4-18, 4-22, 4+23, 4-24

5-18, 8-23, 10+15, 10+18, 11+14, 14-18

Most of the 14 group 4 correlations were concerned with the dichotomy in Melton's society between married and single, working women. Most of those working were servants living in the high class households (1+15, 2+15, 10+15) while married women were more in evidence among households of low status (3+14, 11+14). As such women did not usually work there was also a status dimension within the economically active ratio with the highest proportions found in upper class households (1+18, 10+18, 4-18, 14-18). Town birthplace which was previously seen as a mark of low status also affected the rate of economic activity (5-18). Having no servants, the lower classes lived in smaller groups (4-22) usually in single family dwelling units without lodgers (4+23, 4-24) but those people who had come to Melton from long distances were less likely to form these single family units (8-23).

It was expected that those correlations found in three or four of the analyses would emphasize common features in the towns while those found twice would be evidence of some logical pairing between them and those occurring only once would be seen as a function of that town's

individuality. However, in the outcome, few group 4 correlations were found in more than one town and the analysis as a whole tended to highlight the differences between the towns rather than their similarities.

The 76 different variable pairings which correlated to at least ± 0.5 were assigned to the four groups as follows:

Group 1 : 14 (18.4%)

Group 2 : 11 (14.5%)

Group 3 : 11 (14.5%)

Group 4 : 40 (52.6%)

The fact that more than 50% of the correlations could be assigned to group 4 seems to be a strong justification for the choice of variables used in the analysis. To some extent the correlations in groups 1, 2 and 3 were 'required' by some aspect of the data collection or organization but the 40 group 4 correlations were completely independent associations. Most of these links were found in only one of the towns (36 out of 40) and this re-emphasises that the differences between the towns were of greater note than their similarities, at least as far as this aspatial correlation analysis was concerned.

Correlation Networks

So far the analysis has concentrated on the variable linkages together with the frequency of their occurrence and the causes of their associations. Although this approach has produced a good deal of useful information it has, however, been difficult to gain an overall impression of the correlation structures of the individual towns. But this weakness can at least partially be overcome by giving consideration to each of the towns' correlation networks in turn.

in a series of network diagrams (Figures 6.1, 6.2, 6.3 and 6.4). Although there were a number of features common to each network, for example, they all had a tangled web of correlations built around nodal social status and occupational variables, there were also significant differences between them. In Coalville (Figure 6.1) there were three separate correlation systems and, in the most significant of these, it can be seen that the class V and mining variables (4, 9*) were dominant while other features of note were the negative links between upper classes (1) and married women (14), the associations between miners and town birthplaces (5) and those between skilled workers (3) and local birthplaces (6). The key variable in the longest of the two subsidiary correlation chains was the economically active ratio (18) which was positively linked to working children (17) but negatively to children as a whole (20). The dis-association of lodgers (24) and single family dwelling units (23) occurred in each of the four analyses. However, a number of variables did not find a place in Coalville's correlation networks. These were: long distance migrants (8), secondary workers (9), unskilled labourers (12), working women (15) and old people (19) and their omission confirms the picture of 1851 Coalville as a single industry town with a very young population.

Hinckley also had three discrete correlation networks (Figure 6.2). In the most important of these the variables with the greatest nodality fell into two distinct groups as the high class households (1) and the tertiary workers (9) had completely opposite links to those of the skilled working classes (3), manufacturing employees (10) and working children (17). These correlations indicated that Hinckley had a polarized social structure with few common features between the upper classes and the mass of hosiery workers. The longer of the two subsidiary chains combined a group of family status measures while lodgers and single family dwelling units were again polarized. Five variables did not feature in Hinckley's networks (6, 7, 11, 12, 19) and, of these, the elderly people

variable (19) was the most suprising omission as this town actually had a great many old people.

Lutterworth, unlike Coalville and Hinckley, had no single industry dominating its economy and, unlike Melton Mowbray, it had no single social group of sufficient power to unduly dominate its society. This intermediate position was reflected in its simple variable correlation network (Figure 6.3). This network contained only 18 variables, far fewer than those of the other towns. The high status households (variable 1) had the greatest nodality in the main network but this did not necessarily mean that these groups were dominant within the town because their distinctive lifestyle rather than their great numbers probably accounted for this variable's position. The subsidiary correlation chain was made up of economic participation and family status measures. This time, six variables played no part in the analysis (7, 12, 13, 16, 17, 21) and the most noteworthy amongst these were the two children working measures (16, 17) since, in contrast to Hinckley, relatively few of Lutterworth's children worked and, also, the fertility ratio (21) which in a town of declining population would probably have been rather low.

In Melton Mowbray (Figure 6.4) there was only one correlation network, a tangled web of 21 variables which combined family status, social, occupational and birthplace links. Melton did not have a important manufacturing sector and this was reflected in the insignificant position of the variables measuring the incidence of skilled workers and secondary industry (3 and 9). The diagram also indicates a marked polarization within Melton's society; on the one hand there was the classes I and II variable which correlated positively with tertiary industry (10), working women (15) and the economic activity ratio (18) while, on the other, the lowest class variable (4) correlated negatively with these same measures.

This analysis of the correlation networks, like that of the correlation linkages, has emphasised differences rather than similarities

between the towns and, although there were a number of common features, each of the four networks was explicable only in terms of its town's individual economic functions. Thus, the major conclusion which may be drawn from the analysis is that the 24/25 variables employed in the study¹ have proved to be sufficiently diagnostic of these small towns' social and occupational structures.

Factors

Factor Derivation

In any multivariate analysis the researcher can choose to isolate for investigation either all those factors or components above a certain explanation level threshold (measured by eigenvalues) or a given number of factors irrespective of mathematical considerations. Since this study was essentially comparative and the use of a common eigenvalue threshold would have been unlikely to have produced the same number of factors for each town, the second approach was adopted. Once this had been decided upon it was necessary to determine the number of factors to be selected. In order that a broad range of factor types should be isolated without including less significant minor factors practical trials were carried out and these suggested that the six leading factors only should be incorporated into the four analyses. In each case, these explained well over 50% of the total variance and contained representatives of at least five different types of factor (Table 6.2). The factors were classified into these types by reference to their most significant loading variables but as each factor was weighted to some extent by every variable it was necessary to impose a cut-off point above which a variable was deemed to exert a significant load and below which its influence could be disregarded. The weights

1. In fact only 23/24 variables featured in the correlations, variable 12 (unskilled labourers) being absent in each case.

TABLE 6.2 : FACTORS FROM THE 1851 ANALYSIS

Type of Factor	Town	Position	% of Variance	Loading Variables
Socio-economic status	Coalville	1	16.9689	-1,-2,+4,-6,-10,-11,+14,+9*
	Hinckley	1	20.9933	-1,-2,+3,+5,-8,+9,-10,+14,+16,+17,+18
	Lutterworth	1	12.7482	-1,+3,+9,-10,-24
	Lutterworth	4	9.7282	+2,-4,+9,-11,-14
	Melton	2	10.356	-1,+3,+9,-10,+14
Family status	Coalville	5	6.9353	-18,+20,+21
	Hinckley	4	7.3278	+13,+20,+21,+22
	Hinckley	5	7.2956	+4,+19,-20,-22
	Lutterworth	3	9.8106	-19,+20,+22
	Melton	1	11.4836	-14,+19,-20,-21,-22
Birthplace	Coalville	3	8.4677	-3,+4,+5,-6
	Coalville	6	5.8407	-3,-6,+7,+9*
	Hinckley	3	7.4176	-5,+6,+11
	Lutterworth	5	8.1817	-5,+6,-16
	Melton	6	6.3441	+5,-8
Economic Participation	Coalville	2	9.9401	-16,-17,-18,-22
	Hinckley	6	6.7984	+14,+18
	Lutterworth	2	10.1594	+1,-4,-14,+15,+18
	Melton	3	10.0648	-1,+4,-10,+14,-15,-18,+19
Housing	Hinckley	2	8.8552	+4,+23,-24
	Lutterworth	6	7.7469	-1,-22,+23,-24
	Melton	5	6.9143	-23,+24
Marital status	Coalville	4	7.5142	-13,+14,-22
	Melton	4	7.721	-13,+14,-15

ranged from +1 to -1 and, after a number of practical tests, the threshold limit was imposed at ± 0.3 . The twenty four factors isolated (six from each of the four analyses) together with their associated factor scores were used to explore both the social dimension of each town and its spatial manifestation.

Social Differentiation

From Table 6.2 it can be seen that the 24 individual factors extracted from the four analyses formed only six different types. Nevertheless, this limited range encompassed considerable variation between the study towns since none had an identical set of factors and they did not even share the same prime factor. Variations also occurred within the individual factor types, for example, in Coalville's socio-economic status factor a heavy loading was imposed by the class V variable (4) while in Hinckley a similar factor did not feature this variable at all and the class IV measure (3) was dominant instead. The factor compositions thus again reflected the individual features of towns rather than any similarities between them.

Some additional detail about the social differentiation within the four study towns can be gained from a series of social space diagrams (Figure 6.5). In these diagrams the factor scores¹ of each town's highest order socio-economic status factor have been plotted against those of its highest order family status factor. These two factors were chosen because they were the most significant, overall, in the four study towns.² Before discussing the patterns they reveal it should be pointed out that the numbers on the diagrams are those of the OTUs while the lines parallel to

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1. Each OTU has a score on each factor, the level of which indicates the importance of that factor in the OTU. The sign of the score shows whether the OTU favoured the factor's positive or negative loading variables.
 2. These factors are found to be important in most multivariate studies and this represents perhaps the most lasting achievement of the social area analysts who first established the terms and the concepts they encapsulate.

the axes mark factor scores of ± 0.5 . Since most of the scores were below this level only a few tentative conclusions may be suggested from these diagrams but generally it may be seen that Coalville and Lutterworth had a wide scatter of scores while those in Hinckley and Melton were much more clustered, in particular into the 'old', high class sectors in the ^{latter} ~~former~~ and the 'young', low class sectors in the ^{former} ~~latter~~. Thus, these comparisons, like many others, have brought out differences rather than similarities between the four towns.

Spatial Patterns

Before the discussion of the towns' internal differentiation can begin, the basis upon which the factor score distributions, that provided the evidence for the discussions, was drawn up has to be established. Although the factor analyses of the four towns were carried out separately one of the prime purposes of this study was to try and make them comparable and, therefore, it was necessary to use a single standardized arithmetic interval scale in the construction of the factor score maps.¹ Since the intervals chosen would condition the appearance of the distributions and, thus, inevitably the discussion of their revealed patterns, great care had to be taken to ensure that too much importance was not given to small scores or too insignificant score differences. In addition, the number of intervals had to be limited since too many different categories would not only unduly weight small differences but might also make factor distributions difficult to interpret. To overcome these problems a series of trials was carried out and as a result five categories were chosen: greater than one; between 0.5 and 0.99; between 0.49 and -0.49; between -0.5 and -0.99; less than -1.²

-
1. It would have been possible to use relative scales based on the structure of individual factors but such a procedure would have robbed the distributions of much of their comparability.
 2. The absolute range of scores in the analyses was between 4 and -4 but, since few scores were in excess of ± 1.5 , upper and lower thresholds of ± 1 were adequate.

The discussion of the four towns' socio-spatial patterns which follows below is presented within the framework of the factor types outlined in Table 6.2.

Socio-Economic Status Factors

Factors of the socio-economic status type had the highest levels of variance explanation in Coalville, Hinckley and Lutterworth and were of secondary importance in the case of Melton Mowbray. In addition, one of Lutterworth's minor factors was also a measure of socio-economic status. Although the variables loading on these factors were mainly of a social status and occupational character (Table 6.3), their composition varied according to the functions of the town involved, for example, in Coalville the unskilled and mining variables (4 and 9*) exerted the greatest weight while in Hinckley the skilled and manufacturing measures (3,9) predominated.

The distribution of Coalville's socio-economic status factor is illustrated on Figure 6.6. Positive scores identify those OTUs with a high proportion of class V households, miners and married women and the negative scores pick out areas inhabited by the upper classes who were generally involved in tertiary occupations. It has already been shown that many of Coalville's houses had been built by the mining companies close to the pits and, therefore, it is no surprise to find many positive scores in areas adjacent to Snibston Colliery along Ashby Road (OTUs 21,25,26,27,28,29) and Mantle Lane (16). However, the houses built by the Whitwick colliery did not stand out as clearly although positive scores were recorded for OTUs 5 and 8. While Coalville's morphology was too skeletal for it to have any true 'centre' it was, perhaps, significant that four out of the five OTUs recording negative scores were located on the main street where the town's limited range of shops and services were situated. However, at this stage it is far from clear whether the distribution of social classes in Coalville in 1851 was typical

TABLE 6.3 : SOCIO-ECONOMIC STATUS FACTORS - VARIABLE WEIGHTINGS

Variable	Coalville	Hinckley	Lutterworth		Melton Mowbray
1	-0.8823	-0.8223	-0.5273	-	-0.327
2	-0.3844	-0.61	-	+0.825	-
3	-	+0.9215	+0.7802	-	+0.8774
4	+0.8011	-	-	-0.6298	-
5	-	+0.4898	-	-	-
6	-0.3239	-	-	-	-
8	-	-0.4074	-	-	-
9	-	+0.8786	+0.9566	-	+0.8857
10	-0.8087	-0.8893	-0.8722	+0.3664	-0.5233
11	-0.3406	-	-	-0.8455	-
14	+0.7961	+0.4353	-	-0.4023	+0.3642
16	-	+0.4166	-	-	-
17	-	+0.561	-	-	-
18	-	+0.333	-	-	-
24	-	-	-0.3996	-	-
9*	+0.8087	-	-	-	-
Variance	16.9689%	20.9933%	12.7482%	9.7282%	10.356%
Figure	6.6	6.7	6.8	6.9	6.10

of small towns during the 19th century or whether it simply resulted from the policy of the mining companies to erect houses for their workers close to their pits.

This problem may be partly resolved if the socio-economic structure of Hinckley is considered next. Although in 1851 this manufacturing town was not dominated by companies in the same way as Coalville, its distribution of socio-economic factor scores (Figure 6.7) was remarkably similar to that of the mining settlement. This factor had a complex structure since it was weighted by a large number of variables but, in contrast, its distribution was relatively easy to interpret. Those OTUs which had positive scores identified areas characterised by class IV households, secondary industry, married women and working children and it is plain that these were the textile working areas of the town. In contrast, the negative scores identified areas of high status with many long distance migrants and inhabitants with tertiary occupations. From Figure 6.7 it can be seen that these high status residents still clustered around the Market Place (OTUs 19,21,29,32,44,45) despite Hinckley having lost many of its middle class residents during the 1840s.¹ Clearly there were sufficient traders and petty entrepreneurs living above their businesses in the town centre to be identified on this factor. Other OTUs with negative scores were situated in Upper Bond Street (4,7) and Coventry Street (23) while only in New Buildings (57) and Wood Street (42) were such scores to be found off the main roads. On the other hand, low status families rarely resided on the main streets; the majority of those OTUs with scores in excess of one contained a large number of yards and jitties such as Blue Bell Yard (14), Brittainia Yard (46),

1. See the discussion of the 1845 Framework Knitters' Commission Report given in Chapter Two. Some substantial houses still exist in the centre of Hinckley- many were built to house the patients of a famous doctor who lived there in the early 19th century. See Nichols (1811) Vol. IV, pt. II.

Baptist Walk (50), Church Walk (34), Kemp's Yard (9), Trinity Lane (18) and Cork Hole (25). This factor score distribution has shown with great clarity that there was a definite socio-spatial differentiation within Hinckley in 1851 and, as in Coalville, the central part of the town was almost exclusively occupied by residents of high status.

Although the two socio-economic status factors identified at Lutterworth were not directly comparable their overall layouts conformed fairly closely to the patterns of those found at Coalville and Hinckley. However, Lutterworth's highest order factor had a lower variance explanation than the comparable factors in the other towns since it was loaded by only five variables. Nevertheless, its distribution (Figure 6.8) indicates quite clearly that OTUs of high status (those recording negative scores) were again clustered in the central part of the town, for example, in High Street (9, 24), Church Street (19, 25), Oxford Street (22) and The Hollow (11) while outlying areas (OTUs 5, 13, 17, 21) and the yards of Dixon's Court (3) and George Lane (27) tended to record positive scores. There were a number of exceptions to this generalised view such as the negative score of the outlying hamlet of Morebarns (32) and the positive score of London Road (10) but, on the whole, Lutterworth's socio-spatial structure was very similar to those of Coalville and Hinckley in 1851. Lutterworth's high status centre was also identified by its second socio-economic status factor (Figure 6.9). This factor isolated the residential locations of agricultural and non-manual tertiary workers and those of the latter (positive scores) were again concentrated in the central area- in Church Street (19, 25, 26), Oxford Street (22) and The Hollow (11). In contrast, the agricultural workers (negative scores) tended to be located at the periphery of the town. The hamlet of Morebarns which was agricultural in character had a negative score but London Road, the second anomalous OTU to be identified in Figure 6.8, was here recorded as being occupied by persons of high status.

In the Melton Mowbray analysis the socio-economic status factor differed from those of the other three towns in that it had lower variable loadings and a level of explained variance that made it of secondary importance to a family status factor. As a result the distribution of this factor at Melton (Figure 6.10) was not so easy to interpret. This can be seen, for example, in the patterning of negative scores which, in this case, identified the high class areas. Although these were to be found around the Market Place and the roads radiating from it they were also situated among some of the terraces in the northeast quadrant of the town. It should be recalled that this was that part of Melton which had been hastily built during the 1830s principally to accomodate such service workers as servants and grooms.¹ Obviously these OTUs were not characterised by high status residents as the factor scores indicated and, as will be demonstrated later in the analysis, they were almost exclusively occupied by class V households. Therefore, it must be postulated that the negative scores recorded for these terraces were not identifying OTUs with a high proportion of class I and II households but rather those with a low incidence of the factor's positive loading variable- the class IV households. Class IV households were to be found in some other parts of the terraces but they hardly featured in any of the OTUs that fronted onto the main roads. OTUs 7 and 28 would appear to be exceptions but, in spite of it being adjacent to the Market Place, the positive score of OTU 7 on Leicester Road was not really out of place since this street at this time was also known as Back Street and it had many of the characteristics suggested by its less salubrious name. This factor's distribution was

1. See Chapter Two.

not as clear as those of the other towns¹ but its analysis has revealed that Melton shared the same basic pattern of a high class centre and lower status outskirts.

This series of socio-economic status factors has indicated that, despite the four towns' different economic base, they shared a number of common features with regard to the location of social classes. Each of them had a high class town centre with lower status groups situated away from the main streets or towards the periphery. There is some evidence to suggest that this pattern was fairly general for small towns during the mid-19th century, for example, Warnes (1973) in a study of Chorley in 1851, found that despite the "chaotic shape of its built-up area" (p.181) the central districts were clearly of the highest status. In addition, although Clark (1969) in a study of Loughborough stated that (p.5):

"the Loughborough of 1861 was one in which, by and large, socially divided areas had not developed",

he actually went on to cite some raw data from the 1861 Census Enumerators' Books which indicated that^{the} town's core contained mainly traders and professional people while those with manual occupations lived in terraced cottages some distance from the town centre. These common status distributions have considerable affinity with those suggested by Sjoberg (1955, 1960) in his theory of the pre-industrial city since here, too, the low status groups patterned themselves around a high class centre. One reason for the occurrence of this pattern in the study towns was the link between workplace and residence. Most of the high class traders and professionals lived and worked in the same premises and since the main marketing and business areas of the towns were in their centres these,

1. To an extent this is rather surprising. Morgan (1975) has shown that, at least in the modern period, towns with a high proportion of upper class residents tend to have a greater degree of internal differentiation than working class towns.

perforce, were of high residential status. Workplace, of course, also affected the distribution of the towns' lower classes; for example, in Hinckley the poor framework knitters had no choice but to live and work in the least salubrious areas and, in Coalville, the miners had to rent the company houses close to the pits. In addition, the agricultural workers of Lutterworth presumably resided at the periphery of the town in order to be near their lands.

Family Status Factors

Family status factors were those weighted by variables recording age, fertility and population per house (Table 6.4). Each of the towns had one factor of this type and, overall, it was second in importance to that of socio-economic status.

In Coalville the factor's positive weights were exerted by the fertility and young children variables; its age structure was biased towards the young, the modal family type among all social classes being that of a couple with children. Since the majority of these children were not old enough to work this meant that the positive scores on Figure 6.11 were also indicative of a low rate of economic activity. Such scores tended to be concentrated among the miners' terraces (OTUs 10, 25, 26, 27, 30). On the other hand, the negative scores which picked out areas with a lower fertility ratio and a greater rate of economic participation were found along the main street (OTUs 4, 13, 14). However, there were a number of exceptions (OTUs 11, 23, 28) and, therefore, the town was not as easily divisible into social areas in terms of family status as it was for socio-economic status. The reason for this could probably be ascribed to Coalville's recent date of foundation, since, even by 1851, only a few of its families had completed their child bearing and, therefore, the usual distinctions between the fertility of the different social classes had not become fully established.

Table 6.4 shows that Hinckley had two family status factors in

TABLE 6.4 : FAMILY STATUS FACTORS - VARIABLE WEIGHTINGS

Variable	Coalville	Hinckley	Lutterworth	Melton Mowbray
4	-	-	+0.6834	-
13	-	+0.3173	-	-
14	-	-	-	-0.4533
18	-0.4774	-	-	-
19	-	-	+0.9105	-0.9047
20	+0.8022	+0.63	-0.3555	+0.8057
21	+0.7512	+0.936	-	-
22	-	+0.3661	-0.3443	+0.7423
Variance	6.9353%	7.3278%	7.2956%	9.8106%
Figure	6.11	6.12	6.13	6.14

6.15

1851. The more important of these was unusual in that it was loaded only by the positive variables of young children, fertility, single persons and population per house and, therefore, any negative scores on the factor indicated OTUs with a low incidence of these measures. Figure 6.12 demonstrates that many of these negative scores were located in the town centre (OTUs 9, 21, 31, 45) and this, together with the positive scores of some of the low class districts (OTUs 28, 33, 34, 38, 39, 46, 53), suggested that there was a status dimension involved in the distribution of fertility and family size. However, there were also many low class OTUs which had negative scores (13, 18, 20, 25, 42, 43, 49, 51) but these could be explained without necessarily disproving the existence of differing levels of fertility between the various social classes since the scores might have identified OTUs whose lack of fertility had been caused by the migration of their reproductive age groups. These OTUs contained some of the poorest housing conditions in Hinckley with many of them being in the cramped yards and jitties (Argyle's, Blake's and Wood's Yards (49), Dore's and Charles's Yards (48), the yards of Regent Street (20), Kemp's Yard (8), Cork Hole (25) and Wood Street (42)) and it is not improbable that their younger and more ambitious inhabitants¹ had been tempted to try and find better living conditions elsewhere. Hinckley's second family status factor (Figure 6.13) also indicated that some parts of the town had been subject to out-migration. It was weighted positively by the elderly people and class V variables, and negatively by those recording fertility and young people, and its score distribution indicated that while most low status OTUs had high fertility, some had much lower rates, thus indicating a loss of the young and reproductive age groups. The score distributions on Hinckley's two family status

1. In a normal migration stream the age groups of young adults predominate. See Chapter Nine.

factors were relatively similar in that a number of the outlying OTUs were characterised by high fertility and had few elderly people (OTUs 10, 23, 28, 39, 58 on Figure 6.12 and OTUs 2, 28, 38, 58 on Figure 6.13). These were peripheral to the yards and jitties with their transitional fertility ratios and age structures which, in turn, surrounded the older age groups of the town centre.

If the differential patterns of Hinckley's family status distribution were to be reproduced in any of the other towns they were most likely to occur in Lutterworth since this town had also declined in population since 1841. Its family status factor was loaded positively by the variables of young children and population per house, and negatively by that of elderly people. Its distribution (Figure 6.14) indicated that while the town centre had a large proportion of elderly people, a typical feature of a high status area (OTUs 9, 19, 30), the low class districts had a mixed pattern of scores, indicating that both young and old people were to be found there. Parts of Woodmarket (12, 15), Bakehouse Lane (18) and Greyhound Lane (29) were typical of low status areas in that they had a high proportion of young children whilst Ely Lane (5, 7), other parts of Woodmarket (14) and the northern end of Beast Market (1) had few children which would seem to indicate that they might have been experiencing a decline in their population. This factor has shown that the distribution of family status in Lutterworth was very similar to that in Hinckley since in both towns their central areas had an elderly age structure while in the lower class districts areas of both high and low fertility were found and this indicated that some parts of the towns were losing population at a rate in excess of the norm for the towns as a whole.

In contrast to both Hinckley and Lutterworth, Melton Mowbray was experiencing a rapid increase in its population during the mid-19th century¹

1. See Table 2.4.

and since there was no agency exerting a dominant influence on its housing structure (as there was in Coalville, for example) it could not be expected that the distribution of family status in Melton would be as clear as that found in the other towns. Figure 6.15 shows that this was the case and, although Melton's family status factor had a simple structure (the elderly persons variable exerted a positive load, while negative loads came from those recording population per house, fertility and young children) its distribution was less easily interpretable. In common with Hinckley and Lutterworth there was a mixture of both positive and negative scores in the working class areas but it seems unlikely that, in this case, the negative scores represented areas of outmigration since the town's population had grown by 15% between 1841 and 1851. Melton also differed from the other towns in that its central area had neither an elderly age structure nor small households and, in fact, the negative scores of OTUs 6, 14, 17 and 31 indicated that, if anything, it had precisely the opposite attributes. Perhaps the large households of the fox-hunters were an influence here. There was a positive score for OTU 13, however, but this was an almshouse (Hudsons Bede House) whose elderly inmates were recorded in 1851 as living in separate households. As in Hinckley, a number of outlying OTUs in Melton had a large proportion of children (negative scores) for example, Mount Pleasant (11), Thorpe Road and Southern Lane (19) and the north of Bentley Street (41). However, in spite of this similarity family status was generally less spatially differentiated at Melton than in any of the other study towns.

Apart from the case of Melton Mowbray, the distribution of family status in the study towns has exhibited considerable uniformity and has brought to light a number of interesting features. It has been seen that:

- 1) In Coalville the mining company houses stood apart from the rest of the town in terms of age and fertility as well as status;
- 2) In each of the towns, except Melton, the central core had a high

proportion of elderly inhabitants (or at least a low proportion of children);

3) In the two largest towns, Melton and Hinckley, the outskirts had many children and few elderly inhabitants;

4) At Hinckley and Lutterworth outmigration had been selective of certain districts as well as of limited age groups. The distribution of family status in these four towns can be compared with that at Chorley since Warnes (1973) also identified a factor of this type.¹ In common with Coalville, Hinckley and Lutterworth, Chorley's centre had low fertility while outside this area the distribution had an unstructured form rather similar to that of Melton Mowbray. Since both towns were rapidly expanding during the mid-19th century it might be postulated that this prevented a thorough sorting of the population by age or fertility, and this was a conclusion certainly implied by Warnes.

Birthplace Factors

Each of the four study towns had at least one factor whose loading variables recorded various birthplace distances and as a result of the nature of such factors it would be expected that they would emphasize differences both between and within the towns. Two of them, Hinckley and Lutterworth, were losing population and, therefore, would probably have had proportionately more town born and fewer migrants than the growing towns of Melton and Coalville, especially as the latter had no adult residents in 1851 who had been born in the town. In addition, within the towns it might well be expected that birthplace will be associated with social class for, as Chapter Nine will demonstrate, status differentials were reflected in migration distances and birthplace areas.

Such status differentials could be seen most clearly at Coalville where two birth place factors were identified. Both of these factors were

1. Although Warnes called it an age structure factor.

TABLE 6.5 : BIRTHPLACE FACTORS - VARIABLE WEIGHTINGS

Variables	Coalville		Hinckley	Lutterworth	Melton Mowbray
3	-0.5268	-0.3571	-	-	-
4	+0.3769	-	-	-	-
5	+0.9515	-	-0.7565	-0.8026	+0.5739
6	-0.7183	-0.4655	+0.8972	+0.9198	-
7	-	+0.8904	-	-	-0.9327
8	-	-	-	-	-
11	-	-	+0.3737	-	-
16	-	-	-	-	-
9*	-	+0.3039	-	-	-
Variance	8.4677%	5.8407%	7.4176%	8.1817%	6.3441%
Figure	6.16	6.17	6.18	6.19	6.20

loaded by social status variables as well as those recording birthplaces. The first of these factor's positive scores (Figure 6.16) identified OTUs with a high proportion of town birthplaces and these were to be found almost exclusively among the miners' terraces (OTUs 9, 22, 23, 24, 25, 26, 27, 28) while the negative scores which identified local born and skilled workers were predominant in the central part of the town (OTUs 3, 17, 18). Coalville's second factor (Figure 6.17) had the same negative loading variables and, once again, their distribution indicated that the local born and skilled workers lived mainly in the centre of the town (OTUs 5, 12, 14, 17, 18). On this factor the positive loadings were restricted to variables recording the miners' birthplaces as Table 6.5 shows the regional birthplace variable (7) was supported by that of primary industry (9*). As would be expected, most of the positive scores were located in the mining districts (OTUs 9, 11, 19, 24, 27, 28, 29, 30). Clearly, these two factors had similar and complementary distributions. Their patterns were obviously not identical since no two independent factors could be concerned with exactly the same information but they did, however, combine to build up a clear picture of the town. The town birthplaces, which, as was seen earlier, were almost exclusively restricted to miners' children, and the regional birthplaces of the miners themselves were both spatially associated with the areas of colliery housing while the local born skilled workers inhabited other parts of the town. These two factors have confirmed the importance of the mining houses in Coalville's morphology since social class, age and fertility, and now birthplace distribution have all been explicable in terms of mining and non-mining districts.

Table 6.5 would seem to indicate that there were fewer links between birthplace and status in Hinckley since no social class variables loaded on the town's birthplace factor. However, the evidence contained in Figure 6.18 does not support this contention because the distribution of birthplaces appears to be related to that of social status. For example, the negative scores, which, in this case, indicate a high proportion of town born were clustered in the yards and jitties off Castle Street (OTUs 33, 34,

40, 41), Wood Street (42), Regent Street (20) and Bond Street (9, 14, 55) and back streets such as Hunter's Row (30), Grove Street and Trinity Lane (18). These were the districts with poor housing which, as a result of their squalor and poverty, had experienced out-migration and had been unable to attract many new inhabitants and, therefore, they were dominated by people born within the town. In contrast, the positive scores, which were indicative of a high proportion of local born and, to a lesser extent, agricultural workers, tended to be found on the town's periphery (OTUs 1, 2, 10, 23), a feature which was also noted at Lutterworth. However, a number of the centrally located OTUs also had negative scores but these probably indicated that this area had few town born residents rather than a high proportion of agricultural workers. Although the scores of a number of OTUs did not conform to this general pattern it would appear that there was a clear association between low status and town birthplaces and between local births and agricultural workers in Hinckley in 1851.

A similar pattern was to be found at Lutterworth. Here the factor was loaded by just two variables and in its distribution (Figure 6.19) the positive scores represented a high proportion of town births and the negative a high proportion of local births. The former were concentrated in the low class areas (OTUs 1, 4, 12, 14, 16, 17, 24) while the latter were to be found both in the town centre (OTUs 2, 19, 20, 24, 25, 30) and on the periphery (OTUs 5, 6, 27, 32) where, as Figure 6.9 has already revealed, there were also many agricultural workers.

In the analysis so far the factor distributions for Melton Mowbray have not been as clear as those for the other three towns and, once again, this is found to be the case with regard to the birthplace factor. Its structure was perfectly straightforward in that the positive loading of the town born variable contrasted with the negative loading of that of regional births; in the other towns' birthplace factors the town born variable was opposed by that of local born and it is, perhaps, significant that at Melton the latter was replaced by regional birthplaces.

TABLE 6.6 : ECONOMIC PARTICIPATION FACTORS - VARIABLE WEIGHTINGS

Variables	Coalville	Hinckley	Lutterworth	Melton Mowbray
1	-	-	+0.4902	-0.3957
4	-	-	-0.4967	+0.3069
10	-	-	-	-0.5541
14	-	-	-0.4897	+0.3501
15	-	+0.9602	+0.8736	-0.6956
16	-0.8738	-	-	-
17	-0.9638	-	-	-
18	-0.6086	+0.7036	+0.8079	-0.85
19	-	-	-	+0.3176
22	-0.3204	-	-	-
Variance	9.9401%	6.7984%	10.1594%	10.0648%
Figure	6.21	6.22	6.23	6.24

Probably this difference identified what will be revealed in Chapter Nine in greater detail: namely that Melton Mowbray's migration field in 1851 was considerably more extensive than those of the other three towns. Melton's attractiveness to many types of migrants resulted in a complex score distribution of its birthplace factor (Figure 6.20), since too large a proportion of each of its social classes had been born outside the town for the factor to establish a clear spatial relationship between birthplaces and the various status districts and, therefore, only a tenuous connection could be established between the town centre and the variables identifying the regional born population (the negative scores of OTUs 9, 11, 12, 28) and between the terraces to the north east of the town and variables identifying town birthplaces (OTUs 21, 33, 36, 40, 41).

In general, the spatial distribution of each town's birthplace factor could be related to the distribution of its social classes. This was particularly true of Coalville where two factors combined to show that mining areas had high proportions of both town birthplaces and regional birthplaces while the local births were confined to the higher status districts. Hinckley and Lutterworth had strikingly similar patterns since in both of them there was an association between town birthplaces and low status areas while in all four of the towns there were links between non-town birthplaces and the high class central district. In addition three of the factors indicated that place or type of work could be related to birthplace variables - for example the outskirts of both Lutterworth and Hinckley were populated by local born agricultural workers and at Coalville it has already been seen that the colliery houses had high proportions of both town born and regional born residents.

Economic Participation Factor

Although each of the towns had an economic participation factor not all of them shared the same set of loading variables; at Coalville the loadings emphasized the numbers of children at work while in the other three towns they identified female employment. In each case the

economic participation of women and/or children was closely related to high rates of economic activity.

In Coalville this factor was concerned with children at work. This dimension was identified by negative loading variables only and, therefore, it can be assumed that the positive scores identified those areas with few working children and a low rate of economic activity (Figure 6.21). Actually at Coalville in 1851 hardly any children worked since there was little employment for them in the mines (in fact, the colliery companies would not employ any children under the age of ten) and only few were able to find work elsewhere. Similarly, there were limited opportunities for female employment in the town and so most families had but a single breadwinner. This was particularly true of miners' families and, thus, the colliery houses tended to record positive scores on this factor (OTUs 8, 10, 16, 21, 24, 25, 28, 29). OTUs 3 and 4 also had positive scores as this part of the town was characterised by an elderly age structure and, therefore, had a low rate of economic activity. On the other hand, the negative scores which identified areas with more working children and generally greater rates of economic participation were concentrated in the service and trading districts of the town, for example, in the houses around the Fox and Goose (1), the Railway Hotel (6), the Snibston New Inn (19- although this OTU also contained a number of miners' cottages) and OTUs 13 and 17. Thus, once again, a factor distribution has differentiated between Coalville's mining and non-mining districts.

In the other three towns, the economic participation factors were weighted by the working women variable. In Hinckley such were the general economic circumstances that the majority of women, both single and married, had to work and most of them found employment in the textile trade¹ although a number were servants or had other jobs in the

1. Ironically it was the oversupply of labour in framework knitting to which the working women contributed that depressed wage levels and, thus, made it impossible for a man to support his family without having to send his wife out to work.

tertiary sector. However, the positive scores on Figure 6.22 which pick out the OTUs with a high proportion of women at work indicate the dominance of the textile trade since most of them were found in those areas of the town in which domestic framework knitting was carried out (OTUs 3, 5, 8, 9, 11, 12, 13, 15, 16, 29, 32, 34, 35, 36, 38, 41, 51, 54). In addition, a few of the high status OTUs had sufficient female servants to also feature on this factor (OTUs 19, 29, 31). However, not all of the low class districts had high proportions of working women since a number had negative scores, particularly in the Stockwell Head (OTUs 46, 47, 48, 49, 50), Grove Street and Cork Hole areas (OTUs 18, 22, 23, 25, 26, 27, 28). But, in general, it is clear that there existed a social class dimension to the working of women in Hinckley in 1851.

The employment opportunities for women in Lutterworth at this time were similar to those at Hinckley in that they consisted of two main categories- domestic service and textile manufacture. Unlike Hinckley, though relatively few of Lutterworth's women were actually in employment and the majority of those who did work were involved in domestic service rather than textile manufacture. These differences were reflected in Lutterworth's economic participation factor. This was loaded positively by the variables recording the rate of economic activity, working women and the main servant keeping groups of classes I and II while negative weights came from the married women and class V variables. The composition of this factor indicated that, unlike the case of Hinckley, there was a distinction between married women and spinsters in terms of employment and it re-emphasised that most women who were at work were domestic servants. However, Figure 6.23 shows that not all of them were in service since positive scores were to be found not only in the high class areas of High Street (24) and Church Street (19) but also on the lower class OTUs such as Coalton's Yard (off Woodmarket, OTU 13) and Greyhound Lane (29). On the other hand, the negative scores which identified areas with few working women were confined to the poorer areas of Bakehouse Lane (OTUs 17, 18, 20, 21) and Ely Lane (5, 7, 8) although the hamlet of Morebarns (32), which was

of a high social status, also had a negative score. This factor has shown that the distribution of working women in Lutterworth was bimodal in that the upper classes with their female servants and the lowest status groups with their textile workers both had high rates of female employment.

Melton Mowbray's economic participation factor was also loaded by the working women variable which, together with those recording tertiary industry and classes I and II, exerted a negative weight in contrast to the positive loads of the married women, elderly people and class V household variables. The presence of the social class variables in the factor's composition indicated that most working women were associated with the high status households and this was reflected in the factor's score distribution (Figure 6.24) in that many of the high class areas had negative scores (OTUs 6, 10, 29, 30) while the positive scores were concentrated in the working class districts (OTUs 3, 4, 24, 32, 36, 38, 41). However, there were also a few low status OTUs that did have a high proportion of working women (OTUs 22, 23, 25) and so there were some similarities to the distribution of female employment in Lutterworth.

These economic participation factors have identified differences between the towns' societies, particularly with regard to the distribution of working women. In Coalville few women of any class were in employment in 1851; in Hinckley some women worked as servants but the majority were engaged in textile manufacture and were, thus, to be found in the lower class areas; in Lutterworth women in employment were fairly evenly divided between those who lived (as servants) in the town centre and those textile workers who were members of low status households; and, in Melton the majority of working women were resident domestic servants and were, therefore, to be found in the town's central area. Finally, in Coalville the economic participation factors showed that working children were confined mainly to the central part of the town and that few of them came from miners' households.

Housing Factors

In Chapter Five it was noted that the Census Enumerators' Books, which provided the data for this analysis, were unable to furnish many details on the housing conditions in the four towns. It is little wonder, therefore, that the only housing distinction able to be made by the factor analyses was that between houses occupied by single families and those with lodgers and/or in multiple occupation. Nevertheless, these scanty details have proved sufficient to produce a housing factor for all of the towns except Coalville. In this latter case very few lodgers were resident in the town because the number of single working class men was very small and this was the group who formed the majority of lodgers in the other towns. In addition, most families in Coalville lived in the single family housing units owned by the colliery companies and, therefore, there were too few housing differentials in the town for these to be isolated by the factor analysis. The variable recording the proportion of households with lodgers was originally chosen as an expression of low social status but the housing factor distributions of Hinckley, Lutterworth and Melton Mowbray show this to be only partially true. Take, for example, the case of Hinckley (Figure 6.25). Here both the positive scores which identified OTUs with lodgers and the negative scores which picked out OTUs occupied by single family dwelling units were scattered throughout the town. However, this did not necessarily mean that there were no status elements involved in the distribution since it would appear that the town's lodgers fell into two discrete social categories. In the upper class areas most of them were resident employees, often 'shopmen', apprentices or assistants, while among the lower class households the lodgers were typically people with no occupational connection with their landlords, but who rented a room in a household where their presence was required to help eke out the family budget.

The housing factor at Lutterworth was similarly distributed to that at Hinckley. Here, negative scores, indicative of a high proportion of lodgers were found in areas ranging in status from High Street (OTUs 9,

24,30) and Church Street (25) to Dixon's Court (3) and Ely Lane (6,7) (Figure 6.26). Similarly OTUs with a high proportion of single family dwelling units were located in the elegant spaciousness of Oxford Street (22) as well as in the cramped conditions of Greyhound Lane (29).

Melton Mowbray had a similar proportion of lodgers to Hinckley and Lutterworth but it had an extra dimension to its lodging in that on the day the 1851 census was taken there were still a number of fox-hunters boarding in the town¹ since the hunting season had not quite finished. The majority of these high status temporary residents occupied premises in Melton's centre and, in conjunction with the large number of living-in shopmen and employees needed in this part of the town, they dominated the pattern of lodging despite a few of the low class areas also having a high proportion of lodgers (the positive scores of OTUs 24, 36, 41, 43). In contrast, single family dwelling units were confined, in the main, to the northeastern terraces and to Gooseberry Square (15) and Mount Pleasant(11).

In the earlier discussion of the score distribution of the economic participation factors it was revealed that both high and low status districts in a number of the study towns had high proportions of working women. In a similar manner, the housing factors demonstrated that lodgers were to be found throughout Lutterworth, Hinckley and Melton since low status households took lodgers to increase their income while high class households often had employees and assistants who lived in as lodgers.

In the analysis of 20th century cities distinctions between lodging districts and those containing single family dwelling units have been very significant, especially in the identification of areas of inner city decay but, unfortunately, the measures used here were of less utility since the incidence of lodgers in an area² proved not to be a function of social class.

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1. Even though the best accomodation the town could offer apparantly would not have been suitable for a footman at home. See Chapter Two.
 2. There were a sma ll number of true working class lodging houses in Hinckley and Melton but as this study saught to analyse household distributions and was not concerned with these or other institutions they were not included in the samples.

TABLE 6.7 : HOUSING FACTORS - VARIABLE WEIGHTINGS

Variables	Hinckley	Lutterworth	Melton Mowbray
1	-	-0.3206	-
4	+0.3403	-	-
22	-	-0.4107	-
23	+0.9028	+0.9448	-0.6156
24	-0.8917	-0.634	+0.9108
Variance	8.8552%	7.7469%	6.9143%
Figure	6.25	6.26	6.27

Marital Status Factors

Since they were to be found only in Coalville and Melton Mowbray, marital status factors, which distinguished between the incidences of married women and spinsters, were the least important of the factor types isolated in this comparative analysis.

In Coalville the factor was loaded negatively by single persons and household size while a positive load was exerted by the married women measure. It has been seen that the greatest proportion of married women were found in the mining households and, therefore, it would be expected that the mining areas would again be picked out on this factor's distribution. However, a large household size was also typical of many miners' families since they had a high fertility ratio and this situation resulted in a very complex distribution of factor scores (Figure 6.28) and so the usual distinctions between Coalville's mining terraces and the rest of the town were not revealed by this factor's score distribution.

In Melton Mowbray the loading variables on its marital status factor were working women and single persons which exerted negative loads in contrast to the married women measure which had a positive load. It has already been demonstrated that in Melton the areas with a high proportion of working women were the central high class streets and the radial roads leading from Market Place. The negative scores of High Street (6), Market Place (10), the 'mouth' of King Street (30, 31) and Castle Street (17, 18, 26) confirm this although Queen Street (34) also had a negative score. The positive scores, which indicated a high proportion of married women, were confined almost exclusively to the northeastern terraces.

These two marital status factors were not really comparable since each illustrated a different aspect of urban life- the contrast between the distribution of single and married women in Coalville and that between working and married women in Melton- but it is noteworthy that the distribution of the factor was clearer at Melton than at Coalville, a reversal

TABLE 6.8 : MARITAL STATUS FACTORS - VARIABLE WEIGHTINGS

Variables	Coalville	Melton Mowbray
13	-0.8785	-0.9156
14	+0.3225	+0.6106
15	-	-0.5113
22	-0.8136	-
Variance	7.5142%	7.721%
Figure	6.28	6.29

of the situation with regard to most of the factor score distributions.

Conclusions

In Chapter Four it was concluded that the accurate identification of the social and spatial structures of the four study towns required that they be investigated by means of multivariate techniques. Although there were a number of problems in the preparation of the available data for the analyses, in particular, those caused by the small size of the towns which restricted the number of OTUs and variables that could be used, it has been seen that the 24 variables employed (25 in the case of Coalville) proved to be adequate to produce a series of distinct, non-repetitive factors that were relatively clearly structured and easy to interpret¹. The factor score distributions, as illustrated by the maps, indicated, further, that towns of small size could be successfully subdivided with the available mid-19th century data. In fact, there was a definite spatial differentiation in terms of almost every factor in each of the small towns and even in the smallest of them, Coalville, a clear pattern of social areas was identified.

With regard to the individual factors isolated in the analyses, it could be seen that their compositions varied in accordance with the different social and economic structures of the towns but, nevertheless, there was a relatively similar range of factor types found for each town. To a certain extent this was to be expected since the same variables were employed in each of the four analyses but it did suggest that some features were of similar importance in each town despite their different functions. Few other comparative studies of British towns using factor analysis have been performed but those of Herbert (1970) and Evans (1973) must be mentioned here. Both studied cities in South Wales and although Herbert found that

1. The clarity of the factor structures was partly the result of subjecting the data matrices to varimax rotation. See Chapter Five.

different cities did not necessarily have entirely similar sets of factors, Evans was able to identify a broadly comparable range of factors for each. While these two studies are not of direct relevance to this investigation in that they were concerned with modern cities and not 19th century towns, they do confirm that similar sets of factors can be identified successfully for a series of different cities.

In the present study not only were the range of factors broadly similar for each of the towns, but so also were the factor distributions. In each case the socio-economic status factors distinguished between the high class core of the town and the outlying or back street working class areas. The family status factors showed that the town centres had a high proportion of elderly people although in the declining towns of Hinckley and Lutterworth there were also working class areas with elderly age structures and low fertility and it seemed that these might have been districts that were losing population rapidly. The association between the social status distributions and those of birthplace were less marked but in the areas identified as having lost population a high proportion of town births was recorded while there were also links between high status areas and those with concentrations of migrant birthplaces. The economic participation and housing factors were similar in that they identified bimodal distributions in both cases, with both high and low class areas having similar proportions of working women and/or lodgers, but the remaining factor type, marital status was not as clearly distributed and the maps based on its factor scores added little to the overall analyses.

The preceding paragraph has served to emphasise that there were a number of common features in the towns' spatial layouts in spite of their different economic functions and social structures and, in general, it could be claimed that these small towns displayed a spatial structure that was still pre-industrial in form (in Sjöberg's (1955, 1960) terms) The high classes

occupied

/the central core with their social inferiors inhabiting areas of poorer

housing off the main streets or at some distance from the centre altogether.

This basic pattern was observed for each of the towns on a number of separate factors although, of course, there were some individual differences. With regard to the urban spatial continuum concept outlined in the opening chapter it cannot be said that the towns had made any progress beyond this pre-industrial stage. In Hinckley there was a certain amount of 'inner-city' decay (at least in social terms) occasioned by the infilling of the yards of the former farmhouses in the centre with knitters' cottages but this was a feature peculiar to Hinckley's development and cannot be regarded as being indicative of any progress along the general urban continuum model. But, unless their size mitigates against it, it might be seen that the towns had made progress by 1871, as the analysis of Chapter Four suggested, and the next two chapters will investigate the position after this further twenty years of development.¹

1. Certainly in social and economic terms the towns' 19th century development was far from complete by 1851. For example, by the end of the century Coalville was to change from being little more than a collection of miner's cottages into a fully fledged service town whose main industrial function just happened to be coal mining. Similarly, Hinckley was to face radical change in the second half of the century as its poverty stricken domestic textile industry gave way to prosperous factory production.

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CHAPTER SEVEN

THE CHANGING PATTERN :

LONGITUDINAL FACTOR ANALYSES 1851-1871

In the previous chapter it was seen that in 1851 the four study towns could be sub-divided into a series of social areas closely resembling those suggested by Sjoberg (1955, 1960) in his theory of the pre-industrial city. Since the succeeding decades were ones of considerable socio-economic change in both town and country it will be instructive to analyse its effects on the nature and location of the towns' social areas. By so doing it will be possible to trace the extent to which these changes follow the urban developmental continuum outlined in Chapter One. Unfortunately, data availability restricts the analysis to the twenty year period between 1851 and 1871.

The analysis of socio-spatial changes of this type could be carried out in a number of different ways and of these, perhaps, the most obvious would be a visual comparison of the study towns' structures at a series of different dates. An example of such a cross-sectional comparison was given in the study by Johnston (1969) of the changing location of Melbourne's high status population during the latter part of the 19th century. This mode of analysis was taken a stage further by Goheen (1970) when he traced Toronto's progress from a pre-industrial to a modern structure by means of a series of cross-sectional factor analyses. However, even with the use of factor analysis such a procedure lacks sharpness and objectivity since cross-sections are, by their very nature, designed to identify structural patterns at one particular moment and, therefore, any comparison of two cross-sections can only reveal changes at a very coarse level. To accurately assess development through time a technique is necessary which will present more of a 'moving picture' and, of those

available, probably longitudinal factor analysis¹ provides the greatest potential.

Longitudinal Factor Analysis : Development and Methodology

The use of longitudinal factor analysis in geography was pioneered by Sweetser (1962) and later refined by Murdie (1969) and Brown and Horton (1970) in their studies of Toronto and Chicago respectively. More recently Johnston (1973) in another of his papers on Melbourne tested and refined Brown and Horton's techniques. Although these studies were of post second world war cities there is no reason why longitudinal factor analysis cannot be used to investigate the changes in the socio-spatial structure of towns and cities of the past provided that suitable data can be obtained.

While a cross-sectional factor analysis requires a data input made up of variables recording the absolute incidence of their particular feature in each OTU, in a longitudinal analysis it is necessary to have a matrix of relative change measures. These quotients can be obtained from a comparison of factor scores from two cross-sections provided the same variables and the same OTUs are used in each case. Once the data matrix has been prepared, the longitudinal analysis proceeds in much the same way as a cross-sectional analysis with the major exception that the factors isolated relate not to the absolute incidence of the aspect under consideration but to its relative change over the period between the two cross-sections.

Longitudinal analysis was used in this study in an attempt to identify social and spatial changes in the four towns between 1851 and 1871. The same variables were used in each of the cross-sections while,

1. Of course, not every longitudinal study has used multivariate analysis but for present purposes only those that have will be considered. In this thesis generally, longitudinal analysis should be taken to mean longitudinal factor analysis.

since the OTUs were built up from the level of individual households,¹ it was possible to ensure that their boundaries remained unchanged² and, therefore, the two requirements of a longitudinal analysis were met. However, a number of the 1851 OTUs had to be excluded from the longitudinal study since three in Hinckley and one in Lutterworth had had their houses demolished without replacement by 1871. In addition, one of Melton's 1851 OTUs was an almshouse (Hudson's Bede House - OTU 13) whose inmates were recorded as living in separate households in the census of that year but in 1871 it was listed as an institution and as such could not form part of the household sample used to provide the raw data for the analyses.

Having obtained the 1851 and 1871 variable scores for the OTUs as they existed in 1851³ relative change matrices were prepared for each of the towns. The construction of the matrices was based on the following formula derived from Brown and Horton (1970):

$$CV_{ij} = \frac{V_{ij}(1871) - V_{ij}(1851)}{V_{ij}(1851)}$$

where

V_{ij} = The score of variable i for OTU j for the year stated;

CV_{ij} = relative change quotient for variable i in OTU j .

Based upon this formula a measure of the relative change in the incidence of each variable in each OTU could be identified. The change quotients could be positive, in which case the variable concerned had increased in score over the period, or negative, in which case the variable had declined.

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1. See Chapter Five.
 2. Thus side stepping one of the major problems of analyses through time instability of the administrative boundaries that usually delimit the study areas.
 3. The new OTUs in the 1871 analysis had to be excluded from the longitudinal study since by definition relative change requires two measures of each variable for each OTU. This could be seen as a drawback in that the new OTUs might well have been those where any overall developments in the towns would have been most clearly represented but they can play a part only in the 1871 cross-section in Chapter Eight.

However, it must be emphasized that these quotients recorded only relative change and thus there was a major limitation to their utility that large relative increases or decreases in any variable score would lead to a high change quotient while significant developments which did not involve large relative change might not show up as clearly. For example, if an OTU's variable score had increased from 1% in 1851 to 5% in 1871 then the relative change quotient would be $(5-1)/1 = 4$ while a more important change from, say, 30% to 60% would have scored only $(60-30)/30 = 1$. Fortunately such paradoxical results were relatively rare since scores in excess of one were seldom encountered. A further difficulty with the longitudinal analysis was caused by variables whose score was 0 in one or other of the cross-sections. It can be seen that if a variable's score was 0 in the 1871 analysis then, whatever its 1851 score, its change quotient was -1 ($(0-x)/x = -1$) but if its score in 1851 was 0 then the quotient was infinity ($(x-0)/0 = \infty$) and such a quotient could not be satisfactorily programmed. To overcome this problem scores of +1 were substituted for those of infinity on the few occasions when these occurred. This substitution had the merit of providing a practical solution to the problem while the scores of +1 matched those of -1 recorded when the incidence of a variable had fallen to zero in the second analysis.

Once the data matrices had been prepared they were subjected to a varimax solution factor analysis in a similar manner to those of 1851. However, evidence from earlier longitudinal analyses suggested that the results would not be as clear. For example, Murdie (1969, p.116) noted that:

"The percentage explanation obtained in this (longitudinal) analysis is between 15 and 20% less than that achieved by an equal number of dimensions (variables) in the two cross-sectional analyses. This differentiation suggests that the matrix measuring change is far more complex and contains considerably more 'random noise' than the matrices measuring ecological structure at one point in time."

Brown and Horton (1970) recorded an even greater decline in the level of variance explanation. In their study of Chicago the first three factors explained 60% of the total variance in 1950 and 64% in 1960 yet only 35% of that in the longitudinal analysis. Despite the reduction in variance explanation longitudinal analysis still provides a more meaningful and sophisticated indication of change than would be revealed by an inspection of two cross-sections alone. However, it could not be claimed that longitudinal analysis is sufficiently refined to serve as the sole indicator of change. Therefore in this study, as in those of Murdie, Brown and Horton and Johnston (1973), longitudinal analysis was used in a series approach in conjunction with the two cross-sections rather than as a replacement for them. In such a case, the first cross-section provides the base from which the longitudinal analysis seeks to find trends and directions of change, the confirmation of which might be seen in the later cross-section.

The presentation of the four towns' longitudinal analyses in this chapter adopts a similar format to that used in the cross-sectional factor analysis of the 1851 data and, therefore, the correlation linkages and networks will be examined first.

Correlations

Correlation Linkages

In the cross-sectional factor analyses of the four study towns in 1851 the correlation between any two variables indicated their joint association if the coefficient was positive and their mutual exclusiveness if it was negative. In a similar fashion positive correlation between relative change quotients recorded in the longitudinal analyses indicated that the variables concerned were directly related between the two dates involved and, therefore, an increase or decrease in one was matched by that of the other while negative coefficient identified variables whose incidences had diverged. As Table 7.1 shows, such convergent or divergent

TABLE 7.1 : CORRELATIONS BETWEEN RELATIVE CHANGE VARIABLES 1851-1871

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	9*
1	*																								
2		*																							
3			*																						
4				*																					
5					*																				
6						*																			
7							*																		
8								*																	
9				+CLM	+L	-	-	-	*																
10			+L	-	-	-	-	-	-L	*															
11											*														
12												*													
13													*												
14									+H	-			-L	*											
15														-CM	*										
16																*									
17																+CM	*								
18														-CM	+M	+C	-	*							
19																		+C	*						
20					+M	-	-	-						+C	-	-	-	-CL	-	*					
21																				+CHM	*				
22																				+L	+M	*			
23																-L				+CH	-	-	*		
24					+C	-	-	-															-	*	
9*				+C	-	-	-	-						+C	-C	-	-	-	-	-	-	-	-	-	*

Note: Variable 9* was used only for Coalville
L = Lutterworth
M = Melton Rowley
C = Coalville
H = Hinckley
+ = Correlation of more than +0.5
- = Correlation of less than -0.5

correlations were less frequent than were the simple associations of the cross-sectional analysis of 1851. In the four longitudinal analyses there were only 26 pairs of variables whose correlation coefficients exceeded the ± 0.5 thresholds. However, they could once again be assigned to the same four causal categories as identified in the 1851 analysis and those of the correlations which occurred in at least three of the four separate analyses were:

Group 2: 3+9.

Group 3: 20+21.

These correlations indicated that the secondary workers and class IV household variables (3+9) continued to be related during the period 1851-1871, as were children under 15 and the fertility ratio (20+21).

The groupings of those correlations which were to be found in two of the analyses were:

Group 1: 14-15.

Group 3: 14-18, 16+17, 18-20.

Group 4: 20+23.

These linkages identified the continuing mutual exclusiveness of married and working women (14-15) and this was further emphasized by the married women variable's negative correlation with the rate of economic activity (14-18). Young children had a similar linkage (18-20) but the two variables which recorded working children continued to be associated between 1851 and 1871 (16+17). Finally, the one group 4 correlation to be found in two separate analyses indicated that, in the industrial towns of Coalville and Hinckley, families with young children tended to live in single family dwelling units (20+23).

Only 7 of the 26 correlations were found in more than one of the four separate longitudinal analyses and of the remaining 19 which were unique to a single town, 8 were found in the Coalville analysis only. Their groups were:

Group 2: 4+9*

Group 3: 14+20, 16+18.

Group 4: 2+15, 5+24, 14+9*, 15+9*, 18+19.

The three correlations in groups 2 and 3 indicated that there were links between the variables recording class V households and miners (4+9*); married women and young children (14+20) and children under 15 working and the proportion of economically active (16+18)¹.

In addition the five group 4 correlations presented some evidence of Coalville's growing maturity as an urban place since they were particularly concerned with the growing incidence of working women. The proportion of females in employment in Coalville had increased between 1851 and 1871 to such an extent that the working women variable featured quite strongly in this analysis. Its correlations showed that, as in Melton and, to a lesser extent, Lutterworth, they were associated with non-manual rather than working class households (2+15, 15+9*). This was in direct contrast to married women, the greatest proportions of whom were still to be found in the miners' households (14+9*). Unfortunately, Coalville's other two group 4 correlations were not as easy to interpret. The correlation between variables 18 and 19 identified a link between elderly persons and the rate of economic activity and this relationship was not revealed by any of the other analyses. However, it might be conjectured that OTUs with a high proportion of elderly people would have fewer children and, therefore, a higher ratio of economic activity. In contrast, the last of Coalville's correlations, that between the variables of town born, and lodgers (5+24) is almost impossible to explain.

The correlations unique to the other three towns were fewer in number. In the case of Lutterworth, only 6 of the 19 were to be found:

1. The development of Coalville's brick yards between 1851 and 1871 meant that there were far more openings for child employment. See Tables 2.2 and 2.3.

Group 1: 9-10, 13-14.

Group 2: 2+10, 4+9.

Group 4: 20+22, 16-23.

certain

To a / extent four of these six correlations were to be expected since they fell into groups 1 and 2. These indicated that the positive relationships between class III and tertiary industry (2+10); class V and secondary industry (4+9); and the mutual exclusiveness of industrial groups (9-10), and single persons and married women (13-14) remained fairly constant over the twenty year period. Of the two group 4 correlations, that between young children and population per house (20-22) was not exceptional since the number of children in a family obviously affected the household size, but the negative link between households with working children and single family dwelling units (16+23) had not been anticipated.

Hinckley had only two unique correlations, both of which were to be found in group 4:

Group 4: 9+14, 10+24.

These two correlations were both concerned with industrial groupings and indicated that while secondary industry was associated with married women throughout the study period (9+14), tertiary industry had links with lodgers (10+24). The former correlation was the result of the continued employment of large numbers of married women (and their husbands) in the textile industry while the latter could have been caused by the practise of recording the shopkeepers' resident assistants and apprentices as lodgers.

Like Hinckley, Melton Mowbray had very few unique correlations:

Group 3: 15+18, 21+22.

Group 4: 5+20.

These correlations indicated that: a high fertility ratio continued to be associated with a large population per household (21+22); the number of working women was reflected in the rate of economic activity (15+18); and

a growing link between town births and children (5+20).

Like the correlations in the 1851 cross-sectional analysis, the correlation linkages in this longitudinal study were more effective in the identification of the individuality of each town rather than a set of features common to all of them. This aspect of the analysis was further emphasized when each of the four town's correlation networks were isolated.

Correlation Networks

Since the correlation linkages identified in this analysis were few in number the correlation networks had a rather skeletal appearance (Figure 7.1). In fact, only for Coalville was there a network worthy of the term, thus indicating that of all the four towns it had experienced the greatest amount of change over the twenty year period. This, indeed, was the case since it had begun to mature into a fully fledged town rather than continuing as a mere collection of miners' terraces. Coalville's correlation network was made up of socio-economic status, family status and economic participation measures with variables 14, 15, 18 and 20 occupying nodal positions, thus, indicating that family status developments were of greatest significance. Of the nodes in the 1851 cross-section network - class V, miners and married women - only the family status measure retained its importance. The whole network served to demonstrate that at least in terms of correlations much of Coalville's development could be subsumed within the context of changes in family status.

In contrast to Coalville, the remaining towns could hardly be said to have a network at all. This was especially so in the case of Hinckley which had only five variables involved in three chains, the longest of which associated children and family size. Despite the introduction of steam power in the hosiery industry and the beginning of a factory system proper, there had, in fact, been little alteration in the life style of the majority of Hinckley's population between 1851 and 1871. This was reflected in the sparse appearance of its longitudinal

correlation network in which the social class, birthplace and economic participation variables were completely absent.

Lutterworth had a more complex network with twelve variables included in four separate reticules. The most important of these identified changes in socio-economic status, particularly the increased association between secondary industry and the lower classes. Another significant chain connected economic activity, young children and population per house measures while the two other links were of little importance. As in Hinckley the birthplace variables were completely absent.

Melton also had four separate correlation chains and here the most significant emphasized that as the fertility ratio varied so did the number of children, the proportion of town born and the population per house. The significance of the fertility ratio was perhaps symptomatic of Melton's growth between 1851 and 1871. Other chains indicated that there was a growing divergence between married and working women while there was also a single socio-economic correlation and a link between the two children working variables. The fact that Melton was second only to Coalville in the number of its change correlations suggests that its development was more marked than that of either Lutterworth or Hinckley.

These longitudinal correlations have indicated not only the varying degree of social development within the four towns between 1851 and 1871 but also a number of features common to all of them. One such feature was the decline in the rôle of birthplace since in 1851 various birthplace distances were firmly linked to different social class but in these longitudinal analyses birthplace variables hardly featured at all. This unexpected trend is difficult to interpret although it may be tentatively suggested that the increasing mobility of the twenty years since 1851 had eroded these links.¹

1. Chapter Nine pursues this theme in greater depth.

Finally, the fewer correlations between the relative change quotients as compared with those among the variables of the 1851 cross-sectional analysis confirms Murdie's (1969) strictures but, as succeeding paragraphs will demonstrate, the structure of the derived factors were sufficiently clear and interpretable to make the longitudinal analysis a worthwhile exercise.

Factors

Factor Derivation

The factors derived for detailed study in this longitudinal analysis can be seen in Table 7.2.¹ Once again the six statistically most significant factors were selected from each analysis even though their eigenvalues and variance explanations did not match those of the cross-sectional analyses. These differences in explanatory power can be seen most clearly if the factors from each of the analyses are compared in tabular form (Table 7.3).² The 24 factors derived from the four longitudinal analyses explained 16.3% less of the total variance than the comparable factors isolated in the 1851 analyses and 15.3% less than those in 1871. These ratios were clearly in line with Murdie's (1969) suggestion that longitudinal analyses would have variance explanations between 15% and 20% less than those of the cross-sectional analyses.

In line with the factor analyses of the four towns in 1851, the factors identified in this longitudinal study could be grouped into a limited number of categories although these categories were not as clear cut as those of the 1851 case in particular among some of the lower order factors. However, the factor groups (Table 7.4) were similar to those

1. This table was prepared to the same specification as the equivalent table in Chapter Six.

2. The figures from the 1871 cross-sectional analysis were taken from Chapter Eight.

TABLE 7.2 : FACTORS FROM THE 1851-1871 CHANGE ANALYSIS

Type of Factor	Town	Position	% of Variance	Loading Variables
Socio-economic status	Coalville	1	13.9982	-2,+4,+14,-15,+22,+9*
	Coalville	4	7.6009	-3,-9
	Hinckley	2	8.297	-9,-14,-16,-23
	Hinckley	3	7.2594	-10,-24
	Hinckley	4	6.322	+3,-12,+16,+23
	Hinckley	6	6.0409	+3,+5,-13,-22
	Lutterworth	2	9.4241	+1,+2,-3,-9,+10
	Lutterworth	3	8.4283	-1,+4,+9,+14,-22
	Melton	1	8.994	+3,+9,-10,+14,+21
	Melton	6	6.4787	+2,+10,+15
Family status	Coalville	2	7.9942	-11,-13,-20,-21,-22
	Coalville	5	7.3318	-14,+18,+19,-20,-21
	Hinckley	1	9.2375	+5,+13,+20,+21,+23
	Lutterworth	1	10.2828	-3,+18,-20,-21,-22
	Lutterworth	4	6.9185	+13,-14,+21
	Melton	4	7.4572	-5,-20,-21
	Melton	5	6.9531	+21,+22
Economic Participation	Coalville	3	7.8435	-11,+16,+17,+18,-20
	Melton	2	8.3679	-13,+14,-15,-18
	Melton	3	7.587	+10,+16,+17
Birthplace	Hinckley	5	6.1772	+5,-6,-13
	Lutterworth	5	6.6167	-8,-21
	Lutterworth	6	6.3415	+5,-7
Housing	Coalville	6	6.9445	+3,+20,+23

TABLE 7.3 : VARIANCE FROM THE 1851, 1871 CROSS SECTIONS AND THE 1851-71
LONGITUDINAL ANALYSIS (%)

Town	1851	1871	1851-1871
Coalville	55.6669	56.6055	51.7191
Hinckley	58.7179	51.6678	43.3340
Lutterworth	58.3750	54.1849	48.0119
Melton Mowbray	52.8838	60.5789	45.8379
Average	56.4109	55.7593	47.2254

identified in 1851 and it can be clearly seen that they were still dominated by measures of socio-economic status and family status. On the other hand, these factors measuring birthplace and housing, so significant in the 1851 cross-sectional analysis were relatively unimportant in this longitudinal study. Finally, marital status factors played no part in this analysis.

Social Differentiation

In this section the structures of the factors identified by the longitudinal analyses have been used to identify the nature of the changes experienced by the four towns between 1851 and 1871. The wide ranging developments that took place in Coalville over this period could be identified by the fact that its three leading factors were of different types - socio-economic status, family status and economic participation. On the other hand, the more attenuated developments in the three other towns meant that their leading factors were more restricted. In the case of Melton Mowbray these involved one socio-economic status and two economic participation factors and, one family status and two socio-economic status factors in Hinckley and Lutterworth.

A number of the individual factors identified for each of the towns were complementary but even when this was the case they were often distinctive because their loading variables differed. Once again this emphasized the unique functions of each of the towns. The social space diagrams illustrate some of these distinctions (Figure 7.2). These diagrams were drawn to the same specifications as those in Chapter Six with the scores of each town's most important socio-economic status factor being matched against those of their most important family status factor. The visual impression given by these distributions was that those of Coalville and Lutterworth had a scattered form while at Hinckley and Melton a much greater clustering appeared particularly among the lowest scores. This distribution suggests greater changes had occurred at

Coalville and Lutterworth between 1851 and 1871 as compared to Hinckley and Melton Mowbray. In addition, the diagrams allow a distinction to be made even between Hinckley and Melton; the 'young, high class' sector being pre-eminent in the latter and the 'old, low class' sector in the former.

So far this analysis has concentrated on the towns' social development between 1851 and 1871. The correlations and the factor structures have indicated a number of differences in the way^{that} the towns were changing but it remains to be seen if these differences had any effect on the towns' spatial structures. This can be investigated by means of the factor score distributions.

Spatial Patterns¹

Socio-Economic Status Factors

As in the 1851 cross-section the most important factors identified by the longitudinal analysis were those measuring socio-economic status since each of the towns had at least two factors of this type. Although their loading variables were wide ranging they were generally dominated by those recording social status and/or occupational groups. Even though neither the structures nor the distributions of the individual factors were always easy to interpret it will be seen that there was a good deal of information that could be extracted from them, particularly, about Coalville, the town which had experienced the greatest change between 1851 and 1871.

Coalville's two socio-economic status factors (Table 7.4) were not truly complementary except that each identified a facet of the town's growing economic diversification. The prime status factor contrasted the mining variables with those of working women and class III households while the second factor was loaded by secondary industry and class IV

1. The score maps which present the towns' spatial patterns were drawn up to the same specifications as those in the previous chapter.

household variables. The presence of measures concerned with non-mining households, secondary industry and working women was a clear indication of the social and economic changes taking place within Coalville between 1851 and 1871. None of these variables played an important role in deriving the status factors identified in the 1851 cross-section and this reflected the restricted opportunities then available in the town for anyone except class V miners. The distribution of the leading socio-economic status factor (Figure 7.3) showed that the mining households, identified by positive scores, were still concentrated in the company houses (OTUs 5, 7, 10, 15, 16, 19, 20) while the negative scores, which indicated areas which had experienced developments in tertiary industry and an increase in the proportion of working women, were confined to the old Long Lane, from the Fox and Goose (1) to Ashby Road. Despite a number of exceptions this factor emphasized the continuation of the mining areas' distinctiveness within Coalville's socio-spatial structure. The town's second socio-economic status factor (Figure 7.4) partly confirmed this conclusion in that positive scores which identified OTUs which had not increased their proportion of secondary workers, were clustered in the mining areas along Ashby Road and Mantle Lane (15, 16, 19, 25, 26, 27, 28, 29). On the other hand, such positive scores were not found in the OTUs containing houses owned by the Whitwick Colliery, and in fact, some of these had negative scores which indicated a growing presence of workers in secondary industry (OTUs 9, 10, 11). This was probably a result of developments in the Whitwick Colliery's brick and tile works just to the east of the Whitwick Road (Figure 2.6) for, as comparisons between Tables 2.2 and 2.3 demonstrate Coalville's brick-yards expanded considerably between 1851 and 1871 and, presumably, the company used some of its houses to accommodate a number of its new brick-yard workers. In addition, Figure 7.4 indicates ^{that} those parts of Coalville which were not owned by the mining companies were characterised by both positive scores (OTUs 2, 3, 17) and negative scores (OTUs 6, 13, 18) and

so there was no general increase in the incidence of secondary employment in these districts. Clearly, Coalville's two socio-economic status factors have combined to indicate that the main development in the town between 1851 and 1871 was its change in function from a purely mining settlement to one with a more balanced economy and, while the Snibston pit houses continued to be occupied almost exclusively by miners, those of the Whitwick Colliery seemingly accommodated an increasing number of brickyard workers.

In the discussion of the variable correlations it was noted that Hinckley had far fewer than any of the other towns and this was evinced as proof that it had experienced rather less development over the twenty year period. This generalization is given further weight by Hinckley's plethora of socio-economic status factors. The lack of change in the towns between 1851 and 1871 has meant that socio-economic status was the only significant measure of differentiation to be identified by the longitudinal analysis. Three of the four socio-economic status factors feature secondary industry or class IV status variables despite the fact that the numbers of workers in this sector fell between 1851 and 1871 (Tables 2.2 and 2.3). The first of the socio-economic status factors (Figure 7.5) associated secondary industry with a number of related variables - married women, working children and single family dwelling units - all of which exerted a negative loading. Since there were no counter-balancing positive variables, positive scores in Figure 7.5, identified those areas where secondary industry and its related variables had declined. Although these characteristics were dispersed throughout the town, there was some concentration in the areas with poorer housing thus indicating a certain trend away from secondary industry in a number of the working class households. On the other hand, the negative scores, which indicated an increasing number of workers in manufacturing industry, were to be found in both the low class yards and the high status central areas (OTUs 13, 44 and OTUs 19, 30, 45). However, it must be recalled

that this longitudinal analysis is concerned with relative change only and so a negative score on Figure 7.5 did not necessarily indicate a high absolute incidence of secondary workers but rather that their proportion had grown. Therefore, the negative scores identified among the centrally located OTUs need not have indicated any major changes in their social status between 1851 and 1871. The second of Hinckley's socio-economic status factors related the tertiary industry and lodging variables. Although the proportion of all gainfully employed persons between 1851 and 1871 had increased from 14% to 19%, this increase was not reflected in any spatial concentration and the few OTUs whose scores exceeded the ± 0.5 thresholds were scattered throughout the town (Figure 7.6). If the high status tertiary workers had been moving out of the town centre between 1851 and 1871 it would have been expected that some negative scores would have been recorded on the outskirts. However, since the factor dealt only with those areas built-up before 1851, any new high class developments were, of course, excluded from the analysis. Hinckley's other two socio-economic status factors were both weighted by the class IV variable and a number of associated measures. Figure 7.7 contrasts working children, single family units and class IV household variables with that of unskilled labourers. In this case the incidence of unskilled labourers appeared for the first time within a factor structure. Obviously this reflects the increase in their numbers from 1.6% of those gainfully employed in 1851 to 2.6% in 1871. The distribution of the factor's negative scores suggests that this slight increase in the numbers of unskilled labourers was localized to the lower class districts of the south west and Stockwell Head.

Finally, Figure 7.8 records the distribution of Hinckley's fourth socio-economic status factor. This was the most difficult to interpret because it cut across the normal class divisions. It contrasted the changes in the distribution of class IV and town born variables (positive scores) with those of single persons and a high

population per house (negative scores). Such a factor structure was rather surprising since it would have been expected that these variables would have occurred together rather than in opposition because up to this point they have been indicative of low social status. Therefore, it was not surprising to find that the high class centre of Hinckley did not feature in the distribution. In the other parts of Hinckley there was a clear differentiation between the class IV households¹ and town born population concentrated in the yards of the Castle Street and Stockwell Head areas (the positive scores of OTUs 31, 32, 38, 46, 47) and the periphery of the town which was characterised by scores indicative of large households and a high proportion of single people (the negative scores of OTUs 3, 8, 21, 23, 35, 37).

Despite the limited changes which had taken place in the life style of the majority of Hinckley's residents between 1851 and 1871, these four factors have highlighted a number of developments, in particular, that some of the lower class districts had become less dominated by textile manufacture since both tertiary workers and unskilled labourers had grown in numbers. In addition, some of the low status yards were becoming distinct from the periphery in terms of family and household size. If data availability had allowed this study to be carried forward to 1881 it would have been possible to record more changes since it was not until the late 1870s that factory industry began to fully replace Hinckley's domestic framework knitting with its consequent effect on the life and prosperity of the town's residents.

In the longitudinal analysis of Lutterworth between 1851 and 1871, the two socio-economic status factors were complementary since the first (Figure 7.9) identified a divergence between class IV/secondary

1. See Chapter Two.

industry variables from those of class III and tertiary industry while the second (Figure 7.10) contrasted variables measuring classes I and II and population per house with those of class V and secondary industry. Unfortunately, their distribution was not as distinctive as their structure. In the case of the first socio-economic factor, positive scores, which identified an increasing proportion of tertiary employment, were found throughout the town from the elegant houses of Wycliffe Terrace (OTU 10) to the cramped conditions of Dixon's Court (OTU 3) (Figure 7.9). On the other hand, negative scores, which were indicative of growing secondary employment were more clustered in their distribution, in particular, among the high status districts of the town centre. Fortunately, as Figure 7.10 reveals, the second socio-economic status factor was more explicable, probably because it dealt with the divergence between the highest and the lowest classes. In this instance the negative scores represented areas where the upper status classes had become more prominent and were concentrated at the edge of the central high class districts (OTUs 2, 10, 33, 29). On the other hand, a part of Church Street, represented by the positive score of OTU 18, had declined in status and was beginning to display features similar to those of low status areas, for example Ely and Bakehouse Lanes (OTUs 3, 4, 5 and 20). However, despite the fact that it was much easier to interpret these two factors structurally rather than spatially some pattern of change could be gleaned from Figure 7.10, in particular, the increase in status of a number of outlying OTUs along the main street.

In the case of Melton Mowbray the two socio-economic status factors identified by this longitudinal analysis measured developments in tertiary employment between 1851 and 1871. The first recorded a divergence between variables measuring secondary industrial employment and related characteristics from those measuring tertiary employment while the second picked out variables which indicated a growth in tertiary employment itself. Although the structure of these factors was straight-

forward, their distribution was contradictory. In the distribution of the first factor (Figure 7.11) positive scores, which measured the continuing or increasing significance of secondary employment, were predominant among the working class terraces to the northeast of the town while negative scores, which picked out areas characterized by a growing proportion of tertiary employment, were concentrated in the southern parts of the town. In contrast, the second factor's distribution (Figure 7.12) was considerably more complex and, therefore, more difficult to interpret. At first glance it appeared to be perfectly straightforward in that many of the main streets around the market place had negative scores while the terraces to the northeast recorded positive scores. However, since the negative scores of this factor indicated a decline in the incidence of tertiary workers, their occurrence among the high status central districts was rather unexpected especially when it is recalled that the proportion of those gainfully employed in Melton within the tertiary sector had increased from 52.6% to 56.5% between 1851 and 1871. Obviously the central districts must have shared in this increase but its rate was not sufficient to have been identified by the longitudinal analysis.

As in the 1851 cross-sectional factor analyses, those factors weighted by the socio-economic group of variables were the most significant in the longitudinal analyses of the succeeding two decades. Although change was recorded in all four of the towns by the longitudinal analysis its intensity varied considerably among them. In a number of instances the spatial manifestation of this change was rather unclear since it either affected all parts of a town equally or the relative change expressed by the analysis was so unimportant absolutely that its spatial distribution was not explicable in terms of the social areas identified in 1851. This was particularly noticeable with regard to the second socio-economic status factor at Melton Mowbray and at least two of Hinckley's status factors. Of all the four towns it was Coalville which recorded the clearest components of change, thus indicating once again that there had been more development

there than elsewhere. In Chapter Two it was shown that between 1851 and 1871 Coalville's occupational structure had experienced a decline in mining activity as other sectors of its economy expanded. These changes found expression in the structure of the socio-economic status factors, particularly the growth in employment in the secondary and, to a lesser extent, tertiary industries. The increased number of secondary workers were accommodated mainly in the houses belonging to the Whitwick Colliery while Long Lane had more tertiary workers in 1871 than in 1851. However, these changes did not mean that mining had declined but rather that the town was developing a more diverse economy and society. Similarly, the socio-economic status factors identified at Hinckley indicated industrial diversification, in particular, the growth in the number of non-textile workers in many of the hosiery manufacturing districts. Of all Hinckley's socio-economic status factors, its lowest order one was the most interesting since it identified a tendency for its periphery to become differentiated from the yards and jitties in terms of population per house and class IV variables. Similarly, at Lutterworth there was a stronger tendency towards a socio-spatial differentiation since a number of the OTUs along the main street had experienced an increase in high status residents. In Melton Mowbray the prime socio-economic status factor once again differentiated between the outlying terraces and the central core while its second status factor had a completely unintelligible distribution. Finally, it is interesting to note that Murdie (1969) and Johnston (1973) also found that lower order factors were difficult to interpret logically.

Family Status Factors

Although the economic basis of Hinckley, Lutterworth, Melton Mowbray and, to a lesser extent, Coalville remained essentially unchanged between 1851 and 1871, the socio-economic status factors identified by the longitudinal analyses indicated that the four towns had experienced a

TABLE 7.5 : FAMILY STATUS FACTORS, 1851-1871 ANALYSIS : VARIABLE WEIGHTINGS

Variable	Coalville		Hinckley	Lutterworth		Melton Mowbray	
3	-	-	-	-0.4621	-	-	-
5	-	-	+0.3359	-	-	-0.7545	-
11	-0.5445	-	-	-	-	-	-
13	-0.9066	-	+0.4059	-	+0.9237	-	-
14	-	-0.431	-	-	-0.6306	-	-
15	-	-	-	-	-	-	-
18	-	+0.4419	-	+0.6825	-	-	-
19	-	+0.9172	-	-	-	-	-
20	-0.34	-0.4429	+0.8001	-0.9422	-	-0.8888	-
21	-0.5918	-0.4698	+0.8987	-0.3077	+0.3718	-0.3967	+0.627
22	-0.461	-	-	-0.7209	-	-	+0.9323
23	-	-	+0.4689	-	-	-	-
Variance	7.9942%	7.3318%	9.2375%	10.2828%	6.9185%	7.4572%	6.9531%
Figure	7.13	7.14	7.15	7.16	7.17	7.18	7.19

number of social and spatial changes. These changes were also reflected in a series of family status factors (Table 7.5).

Of the two family status factors to be found in Coalville the most important was concerned with changes in the towns' fertility patterns. It was loaded, only negatively, by the fertility ratio itself (variable 21), children under 15 (20), single persons (13), population per house (22), and agricultural workers (11). The last named had little significance in absolute terms because their incidence did not exceed 2% of the gainfully employed population in either 1851 or 1871. Figure 7.13 reveals that the distribution of this factor owed little to the mining/non-mining dichotomy which was identified in the distribution of the socio-economic factors. Negative and positive scores were found in both mining and non-mining areas, and the only exception to this pattern was a clustering of OTUs whose fertility had increased between 1851 and 1871 in the area around the Red House cross-roads (OTUs 13, 14, 15, 17). This tendency for the distribution of family status changes in Coalville not to be confined to any particular part of the town was reinforced by the second of its family status factors (Figure 7.14). This measured the growing maturity of the town's age structure since the elderly persons variable (19),¹ in association with a high rate of economic activity (18), exerted a positive load in contrast to the negative weighting of the married women (15), single persons (14) and fertility ratio variables (21). Once again the distribution of this factor was not spatially differentiated within the town.

Hinckley's single family status factor had a similar structure to one of its correlation chains in that a change in the town's fertility pattern over the twenty year period was indicated. The factor was loaded positively only, and the variables included the usual linkage between fertility,

1. In the 1851 analysis this variable had not been featured at all since Coalville had so few elderly residents.

children and single persons as well as single family dwelling units and town born. Figure 7.15 shows that its distribution was analogous to that of the factor identified in the 1851 cross-sectional analysis which isolated those parts of the town experiencing out-migration (Figure 6.12). While positive scores, which identified an increase in fertility, were to be found in the lower class areas only, the negative scores were distributed in both high class areas such as Borough (17), Market Place (27) and Castle Street (41) and poorer districts such as OTUs 14, 15, 23, 29, 32, 35, 54 and 55. In the case of the latter OTUs the decline in fertility could be attributed to a selective out-migration of many individuals in the reproductive age-groups.¹ Once again, the relationship between out-migration and family status, which characterized Hinckley in 1851, was a continuing agent of change in the period up to 1871.

Between 1841 and 1851 Hinckley and Lutterworth had both experienced a decline in their populations but, whereas in the next two decades this trend was reversed in Hinckley, Lutterworth's population decline continued, and according to the family status factors identified in this longitudinal analysis it involved, unlike 1851, both high and low class households. The factor's distribution (Figure 7.16) illustrates the point. The negative scores, which identified a continuing high level of economic activity, were clustered in some of the poorer districts of the town as well as along Church Street, while positive scores, which recorded a decline in fertility, were found not only in the low status district of Bakehouse Lane but also along the wealthier Oxford Street. In addition, both these areas had experienced not only a decline in their population between 1851 and 1871 but also a fall in the number of households.

1. Although Hinckley's population had increased from 6177 to 6779 between 1851 and 1871 thanks to an improvement in the stocking trade after the end of the U.S. Civil War, its rate of increase (9.75%) was far below that of Coalville (43.9%) or Melton Mowbray (13.51%) and since there had been many new houses built in this period under the auspices of a local building society, it would be expected that most of the increased population would have been accommodated in the new houses and therefore it is quite possible that the yards may have continued to lose population.

Thus, while the 3.47% decline in population between 1841 and 1851¹ appeared to have been selective of the lower classes, the accelerating decline of the next twenty years (6.79% between 1851 and 1861 and 9.13% between 1861 and 1871)² seems to have affected different classes equally irrespective of their status and housing conditions. The second family status factor isolated in the longitudinal analysis of Lutterworth (Figure 7.17) dealt with a divergence between the incidences of married and single women. Those OTUs where married women had declined in number were confined mainly to the higher status streets (the positive scores of OTUs 9, 21, 25, 29) while, in line with the findings of other parts of this analysis, negative scores equated a high proportion of married women with low social status, and, as would be expected, these were clustered in the poor households of the Bakehouse Lane/Woodmarket district (Figure 7.17).

Like Lutterworth, Melton Mowbray had two factors measuring different facets of family status. These were complementary in that taken together they reproduced one of the correlation chains identified earlier in this chapter. The more important of the two factors was loaded by a group of variables including town born, children under 15 and the fertility ratio while the second was weighted not only by fertility but also a population per house measure. However, despite the links between these factors in terms of structure, their distributions were dissimilar. Although only 11 of the town's 42 OTUs scored above the threshold of $+0.5$ on the first family status factor its pattern did exhibit a certain concentration of positive scores along the main streets (Figure 7.18). On the other hand, despite a greater number of OTUs scoring above the threshold level on the second factor, its distribution (Figure 7.19) bore little relationship to the established social areas of Melton Mowbray. This

1. From 2531 to 2446.

2. 2446 to 2289 by 1861 and 2080 by 1871.

distribution probably reflected the loading of the population per house variable which, according to the 1851 cross-sectional analysis, was equally distributed throughout the town.

The family status factors in this longitudinal analysis were clearer in their structure than in their spatial distribution. Even though the four towns had experienced differing demographic developments between 1851 and 1871, each of the four longitudinal analyses produced a number of relatively similar family status factors. However, the lack of clarity in many of their score distributions were not always to the detriment of the analysis. In Coalville, for example, it could be seen that high fertility, which had been confined to the mining areas in 1851, appeared to have spread throughout the rest of the town by 1871. At Hinckley this factor revealed that areas of out-migration were still extant despite the fact that the earlier population loss had been reversed by 1871 while at Lutterworth, whose population had continued to decline, no longer displayed a pattern of differential loss. Clearly these two towns were beginning to display different patterns of family status distribution compared to those exhibited in 1851. Unlike the other study towns, Melton Mowbray had two family status factors whose distribution were not confined to any specific part of the town. Four of these six family status factors recorded in the study towns were direct measures of changes in fertility in some form or other and of the remaining two, the most interesting was Coalville's second factor which indicated that many of its districts had experienced an increase in the number of elderly persons.

In conclusion, as in the case of the socio-economic status factors, the score distributions of the family status factors, were less clear cut than in the cross-sectional analyses of 1851. Nevertheless, in most of the towns there was some explicable spatial patterning to the majority of the family status factors and their impact will be further analysed in the cross-sectional factor analyses of the towns in 1871.

Economic Participation Factors

The economic participation factors were weighted by variables recording changes in the proportion of children or women at work but, since they were to be found only in Coalville and Melton Mowbray, they were considerably less important in the longitudinal analysis than in the cross-sectional analysis of 1851. It was perhaps surprising to find Hinckley unrepresented in this factor group since it had the greatest proportion of both working women and working children among all of the towns. Similarly, there was no economic participation factor in Lutterworth's longitudinal analysis. Obviously the proportion of women and children at work in these two towns had changed very little between 1851 and 1871.

In the case of Coalville its economic participation factor was loaded particularly by the working children variables (Table 7.6), a feature which was not unexpected since between 1851 and 1871 a large proportion of the children of the early migrants had reached working age. The factor's distribution (Figure 7.20) indicated that these children were to be found in all parts of the town and, therefore, as with a number of Coalville's other longitudinal factors, the mining/non-mining division was not brought out.

Melton Mowbray had two economic participation factors; the first was concerned with working women and the other with working children. The former (Figure 7.21) revealed the continuing divergence of married women from single and working women in the town. In the 1851 analysis it was seen that the study towns had different proportions of their women at work although in each of them the two main areas of female employment were textile manufacture and domestic service. In both 1851 and 1871 Melton's female labour force consisted mainly of domestic servants and so, naturally, negative scores, which indicated a growing proportion of working women, were to be found in the high class districts (OTUs 6, 9, 13 and 27 on Figure 7.21). However, some of the terraces to the northeast of the

TABLE 7.6 : ECONOMIC PARTICIPATION FACTORS, 1851-1871 ANALYSIS - VARIABLE WEIGHTINGS

Variable	Coalville	Melton Mowbray	
10	-	-	+0.3005
11	-0.32	-	-
13	-	-0.9128	-
14	-	+0.4586	-
15	-	-0.6462	-
16	+0.9172	-	+0.8795
17	+0.4038	-	+0.844
18	+0.717	-0.6142	-
20	-0.3026	-	-
23	-	-	-
Variance	7.8435%	8.3679%	7.587%
Figure	7.20	7.21	7.22

town also recorded negative scores, possibly identifying an increase in the numbers of females employed in both the textile and service industries.¹

In contrast, positive scores were confined to the poorer areas of the town, a pattern already seen in the 1851 cross-section when a high proportion of married women was also found to be characteristic of low status districts. Therefore, the distribution of this factor owed rather more to the social area structure of 1851 than did many of the other longitudinal components in the Melton analysis. The same could not be said of Melton's second economic participation factor which, as at Coalville, was weighted by variables measuring the contribution of children to the labour force. Although there was no clear social division in the score distribution, those OTUs which had experienced an increase in numbers of children at work (positive scores), while not wholly confined to the poorer terraces, did occur in that district in greater numbers than elsewhere.

Like a number of other factors identified by this longitudinal analysis the distributions of the economic participation factors owed little to the four towns' established social areas. This was particularly evident in the case of Coalville's factor since it failed to distinguish the mining/non-mining division of the town.

Birthplace Factors

With the increase in personal mobility during the second half of the 19th century the significance of birthplace as a status indicator declined between 1851 and 1871. However, that is not to say that there were no links between the distance migrated and social class during this period,² but rather that the association had become less clear cut (Table 7.67).

The single birthplace factor identified at Hinckley indicated a

1. Charwomen, launderesses and the like.

2. See Chapter Nine.

TABLE 7.7 : BIRTHPLACE FACTORS 1851-1871 CHANGE ANALYSIS : VARIABLE WEIGHTINGS

Variables	Hinckley	Lutterworth	
5	+0.5127	-	+0.8806
6	-0.92	-	-
7	-	-	-0.6727
8	-	-0.8369	-
13	-0.4521	-	-
21	-	-0.7508	-
Variance	6.1772%	6.6167%	6.3415%
Figure	7.23	7.24	7.25

divergence between town and local birthplaces. Although a few changes had taken place in the high status central area there had been an increase in the incidence of town birthplaces among the inner yards (the positive scores of OTUs 32, 46, 47, 48, 50) and local birthplace among peripheral areas (OTUs 39, 55, 56). Thus, once again, the differences between the cramped yards and jitties and the more substantial peripheral terraces were reflected in a factor score distribution.

The first of Lutterworth's two birthplace factors was loaded by national birthplace and fertility ratio variables and since these two measures have little in common this factor was of little analytical utility, especially as its distribution (Figure 7.24) lacked any recognisable spatial pattern. On the other hand, Lutterworth's second birthplace factor had a far more logical weighting system since it was loaded by variables which identified a divergence between town and regional births. Although the proportion of town born to migrants resident in the town in 1871 did not vary a great deal from that of 1851 the distribution of the factor scores indicated some spatial changes (Figure 7.25). A number of OTUs on the outskirts had experienced an increased proportion of regional birthplaces (the negative scores of OTUs 1, 6, 27, 30 and 31) and more central areas, town births (the positive scores of OTUs 2, 3, 9, 15, 16, 17, 18, 20, 26, 29). Clearly the distribution of these factors, like a number of others, has revealed a tendency towards a concentric pattern within Hinckley. Given the decline in the importance of birthplace as a status indicator in the latter part of the 19th century these birthplace factors have been more valuable than might have been expected. Although one of Lutterworth's two factors was of little utility, the other, as well as the one revealed at Hinckley, was reasonably clear in both structure and distribution. Generally, the factors identified the emergence of a distinction between the inner and outer parts of the towns in terms of birthplaces.

Housing Factor

Of the four study towns only Coalville had experienced sufficient development in terms of housing between 1851 and 1871 to record a housing status factor in the longitudinal analysis. Even this factor was only labelled as such because its loading by variable 23 (single family dwelling units) had the highest level of variance explanation (Table 7.8). Although the factor's distribution, like others in the Coalville longitudinal analysis, owed little to the town's social areas, it did indicate a certain concentration of lodgers in those parts beyond the mining terraces (Figure 7.26).

Conclusions

This chapter has attempted to identify the main socio-spatial changes within the four study towns between 1851 and 1871 by means of the little used technique of longitudinal factor analysis. Therefore, this conclusion must be concerned not only with the main trends within the towns but also with the value of longitudinal factor analysis to a study such as this.

The two great advantages of longitudinal analysis in a study of change over time are that it presents more of a 'moving picture' than cross-sectional methods and is completely objective since it deals with relative change on a purely statistical basis. However, because the technique deals only with relative change it may not always isolate geographically significant developments, and, therefore, it cannot be used in isolation in any study seeking to assess socio-spatial developments over time. Rather it has to be utilized in conjunction with cross-sectional factor analyses, for example, if two dates are involved the first cross-section can be visualised as the initial pattern from which the longitudinal analysis seeks to provide trends and directions of change and the second cross-section illustrates the social and spatial results of these changes. Such an approach was adopted in this study and, therefore,

TABLE 7.8 : HOUSING FACTOR 1851-1871 CHANGE ANALYSIS - VARIABLE WEIGHTINGS

Variable	Coalville
3	+0.3275
20	+0.5533
23	+0.926
Variance	6.9445
Figure	7.26

the full value of longitudinal analysis cannot yet be stated categorically. Only after the second cross-sectional analysis is completed may its advantages be fully assessed.

Despite the low level of explanation of the longitudinal analyses discussed in this chapter they still provided a considerable amount of information about the social and spatial changes that were taking place in the study towns between 1851 and 1871. For example, birthplace was seen to become less significant as an indicator of social status and there was a decline in fertility and family size. At Hinckley and Coalville a diversification of occupational structure was identified; in the former more employment opportunities for women and children had become available and in the latter a slight decline in ^{the dominance of} textile working seemed to have taken place since there was an increase in the numbers of tertiary workers and labourers. In addition, at Hinckley there was clear evidence of an increase in the social status of parts of its outskirts while at Lutterworth an elongation of the central high status districts had occurred.

The clarity of some of the developments revealed by the longitudinal analyses emphasises that this technique is a worthwhile means of investigating change. However, since it can measure only relative change it is not suitable for use in isolation and, as was suggested earlier, has to be employed in conjunction with a series of cross-sectional analyses.

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CHAPTER EIGHT

SOCIO-SPATIAL STRUCTURE : THE 1871 CROSS-SECTIONS

In the previous chapter a longitudinal factor analysis was employed to identify the main dimensions of change within the four study towns during the period 1851 to 1871. As was emphasized in the conclusion to that chapter, longitudinal analyses can only be concerned with relative change and, therefore, in order to present a complete picture of the developments in the towns over the study period it is necessary to carry out cross-sectional analyses of each in 1871. For the purposes of comparability these analyses were performed in exactly the same manner as those for 1851. However, it should be pointed out that the dates at which the towns have been analysed are only frozen moments on the continuum of time, moments of little note in themselves, but selected for the researcher by data availability.

Unlike the longitudinal factor analyses, the 1871 cross-sections were able to include in their data matrices not only the OTUs existing in the towns in 1851 but also those created by their physical expansion in the succeeding twenty years. As might have been expected Coalville had the greatest number of new OTUs, 17, which brought its total up to 47. Although Hinckley lost three of its OTUs between 1851 and 1871 by demolition, its total number rose from 59 to 65 as a result of urban expansion. Similarly, despite the exclusion of Bede House (1851, OTU 13) from the 1871 analysis on the grounds that it was enumerated in the census of that year as an institution, the total number of OTUs in Melton rose by 5 to 47. On the other hand, Lutterworth had experienced some property demolition and only a small amount of new building between 1851 and 1871 and, consequently, its number of OTUs fell from 32 to 31. In contrast, the variables employed in the 1871 data matrices were identical

to those used in the 1851 cross-sections except for the exclusion of variable 12 from the Coalville analysis. The reason for this omission was the absence of unskilled workers in the town in 1871. In order to facilitate comparisons between the four analyses the numbering of the rest of Coalville's variables remained unchanged. The four data matrices were subjected to the same varimax rotation factor analysis procedure as before and, therefore, since the analyses were strictly comparable the results presented in this chapter can be discussed in a similar fashion to those of Chapters Six and Seven.

However, there was one major addition to this analysis in the form of a series of illustrations which will be discussed in the light of the four towns' socio-spatial structures. The illustrations comprise photographs of pre-1871 houses that are still extant or were recently demolished¹ as well as archival photographs, drawings and paintings.² This material has been presented as part of the analysis in order to give visual expression to the revealed social area patterns. From the plates it will be seen that house types, as much as social status, were areally differentiated in the small towns of this study during the second half of the 19th century.

Correlations

The variable correlations identified in the 1871 cross-sectional analyses have been considered not only in isolation but also in comparison with those of the 1851 and 1851-1871 analyses. By adopting this approach it is hoped that some additional clues as to the nature of the developments experienced by the four towns between 1851 and 1871 might be elicited.

1. Taken by the author.

2. Due permission having been granted for their reproduction by their custodians.

Correlation Linkages

Table 8.1 indicates that in the 1871 cross-sectional analyses there were 75 pairs of variables with correlation coefficients in excess of the ± 0.5 thresholds¹ which, therefore, have to be considered. Of the 75 correlations, 17 were found in at least three of the four separate analyses and could be assigned to the four causal categories in the following manner.²

Group 1 : 1-3, 1-4, 5-6, 5-7, 5-8, 9-10, 14-15, 23-24

Group 2 : 1+10, 3+9, 3-10, 4-10

Group 3 : 20+21

Group 4 : 1-14, 1+15, 4+14, 10-14

Most of the correlations in groups 1, 2 and 3 were similar to those identified in the 1851 analyses and, therefore, need not be discussed in any detail here. However, the associations in group 4 could not be explained by any aspect of the data collection or organization, and, thus, warrant some detailed discussion. While in 1851 there was only one group four correlation to be found in at least three of the four analyses there were four in 1871. They indicate that working and married women tended to be associated with households of different status. The former were found in large numbers in upper class households, mainly as unmarried domestics (1+15, 1-14, 10-14) while high proportions of the latter were more characteristic of working class areas (4+14).

Twelve of the correlations were found in two of the four analyses. In 1851 such joint correlations indicated a distinction between the industrial and market towns but this was not the case in 1871 since the twelve correlations were spread throughout the various pairs of towns: Hinckley and Melton Mowbray shared four correlations (1-5, 1-9, 5-10, 15+18);

1. See Chapter Six for the reasons behind the choice of these thresholds.

2. The identification of these categories was also discussed in Chapter Six.

TABLE 8.1 , CORRELATIONS BETWEEN VARIABLES 1871 CROSS SECTION

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	9*
1	*																								
2	-	*																							
3	-HLM	-H	*																						
4	-CLM	-C	-	*																					
5	-HM	-	+H	+M	*																				
6	-	-	-	-	-CHL	*																			
7	-	-	-	-	-HLM	-C	*																		
8	+M	-	-	-	-M	-HLM	-	+H	*																
9	-HM	-H	+CHLM	-	+H	-	-H	-	*																
10	+CHLM	+C	-HLM	-CLM	-HM	-	+H	+M	-HLM	*															
11	-	-	-	-	-	-	-	-	-	-	*														
12	-	-	-	+M	-	-	-	-	-	-M	-	*													
13	+LM	-	-	-L	-	-	-	-	-	-	-	-	*												
14	-CLM	-	-	+CLM	-	-	-	-M	-	-CLM	-	-	-LM	*											
15	+CLM	+C	-	-C	-	-	-	-	-	+CM	-	-	+LM	-CLM	*										
16	-	-	-	-	-	-	-	-	-	-C	-	-	-	-	-	*									
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+CM	*								
18	-	-	-	-	-	-	-	+L	-	-	-	-	-	-M	+HM	-	+H	*							
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*						
20	-C	-	-	-	-	-	-	-	-	-	+L	-	-	-	-	-	-	-CL	-CM	*					
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-L	-M	+CLM	*				
22	+L	-	-	-L	-	-	-	-	-	-	-	-	+H	-	-	+H	-	-	-H	+CH	-	*			
23	-M	-	-	+M	-	-	-	-	-	-	-	-	-	+M	-	+C	+M	-	-	-	-	-	*		
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-CHLM	*	
9*	-C	-C	-	+C	-	-	-	-	-C	-C	-	-	-	+C	-C	-	-	-C	-	-	-	-	-	-	*

Note: Variable 9* was used only for Coalville
L = Lutterworth
M = Melton Mowray
C = Coalville
H = Hinckley
+ = Correlation of more than 0.5
- = Correlation of less than -0.5

Coalville and Melton, three (10+15, 16+17, 19-20); Lutterworth and Melton, three (1+13, 13-14, 13+15); Coalville and Hinckley, one (20+22) and Coalville and Lutterworth, one (18-20). With regard to the four causal categories, the correlations were assigned thus:

Group 1 : 13-14

Group 2 : 1-9

Group 3 : 13+15, 15+18, 16+17, 18-20, 19-20, 20+22

Group 4 : 1-5, 1+13, 5-10, 10+15

Two of the correlations in group 4 were once again concerned with the relationship between high status households and servants; classes I and II were positively related to single persons (many of whom were servants) (1+13) and the tertiary industry variable was associated with working women (10+15). The remaining group 4 correlations indicate that in Melton and Hinckley, at least, social status was still a function of birthplace since the town birth variable was negatively related to that of high status households (1-5, 5-10). This was contrary to the findings of the longitudinal analysis which showed that birthplace was declining in significance as a status indicator.

As in the other analyses the commonest group of correlations identified in 1871 were those unique to one of the towns. Coalville had 16 of these although 8 of them included the mining variable, 9*, which was used only for this town. The correlation groups were:

Group 1 : 2-4, 6-7, 9-9*, 10-9*

Group 2 : 1-9*, 2+10, 2-9*, 4+9*

Group 3 : 13+22

Group 4 : 1-20, 2+15, 4-15, 10-16, 14+9*, 15-9*, 18-9*

These correlations indicate that Coalville's miners in 1871 had similar characteristics to other low status residents since many of them were married (14+9*) and only a few of their wives worked (15-9*). The correlation between variables 4 and 15 also showed that low status house-

holds had many married women and, therefore, it was to be expected that miners' households would have had a low rate of economic activity (18-9*). It can also be seen that working women in the town tended to be associated with non-manual classes (2+15); that few children were engaged in tertiary occupations (10-16) but they were linked with a high population per house (16+22). Finally, it was recorded that Coalville's upper classes had very little association with children at all (1-20). These correlations suggested that the division in Coalville's society, in particular, the contrast between the lifestyles of the upper and lower classes in terms of their different proportions of women in employment and children, although seemingly blurred in the longitudinal study, were still noticeable in 1871.

Hinckley had 11 unique correlations:

Group 1 : 2-3

Group 2 : 2-9

Group 3 : 13+22, 17 18, 19-22

Group 4 : 3+5, 5+9, 7+8, 7-9, 7+10, 16+22

Many of Hinckley's group 4 correlations emphasised links between migration distances and socio-occupational status; variables associated with textile manufacture were correlated with town born (3+5, 5+9) and regional birthplaces were characteristic of the higher status tertiary workers (7-9, 7+10). In fact, the status differentials with regard to birthplace were such that the two high status long distance birthplace variables were found to have a positive correlation (7+8) thus suggesting that people born at long distances from the town kept themselves apart from the generally lower status short distance migrants and town born. The only group 4 correlation not concerned with the birthplace variables was that linking households with working children and/population per house (16+22), both of which were associated with life at the lower end of Hinckley's social spectrum.

In the 1871 cross-sectional analysis Lutterworth had just six unique correlations:

Group 3 : 18-21

Group 4 : 1+22, 4-13, 4-22, 8+18, 11-20

These correlations indicated that few unmarried adults were to be found in Lutterworth's lower classes (4-13), perhaps because a number of them were resident domestics in the large households of the upper classes (1+22, 4-22). The link between national birthplaces and the rate of economic activity (8+18) might have been caused by the joint occurrence of these variables in upper class households while the negative correlation between agricultural workers and children under 15 (11-20), was symptomatic of Lutterworth's position as a declining agricultural settlement.

Melton Mowbray had a complex set of unique correlations, as many as 13 links being found in this town:

Group 1 : 10-12

Group 2 : 4+12

Group 3 : 14-18, 14-21

Group 4 : 1+18, 1-23, 4+5, 4-8, 4+23, 8+10, 8-14, 14+23, 17+23

In common with Lutterworth, many of Melton's group 4 correlations were concerned with associations between birthplace and status. The next chapter will demonstrate that Melton Mowbray had a large number of long distance migrants among its high status households, hence the correlations between variables 1+8 and 8+10. These associations contrast with the low status of the town born population (4+5, 4-8) while the life style of the working classes was neatly summarized by three other correlations: they lived in densely packed single units (4+23 and, hence, 1-23) where most of the women were married (14+23) and many of the children went out to work (17+23). Finally, the group 4 correlations show that long distance migration was associated negatively with married women as a number of such migrants were unmarried servants (8-14).

Correlation Networks

The correlation networks derived from the 1871 cross-sectional analyses were far more complex than those of the longitudinal study, thus emphasising that there were clearer links between variables measuring absolute incidences of particular features than between those measuring relative change.

In the case of Coalville its correlation networks in 1871 (Figure 8.1) were divided into three discrete parts with a mass of socio-economic, family status and economic participation variables forming the most significant unit. This large network was very similar to that identified in the 1851 analysis except for variables measuring women working and secondary industry having replaced the birthplace variables. In fact the birthplace variables formed a chain of their own, thus indicating that a divorce between birthplace and social status had taken place since 1851. The third chain comprised a negative correlation between single family dwelling units and lodgers. The overall impression gained from this correlation network confirms that Coalville, while remaining dominated by mining, was, nevertheless, developing^a more diverse social and economic structure.

Like Coalville, Hinckley's correlation networks (Figure 8.2) identified a number of changes since 1851. The main network lost a little of its significance as the economic participation variables were no longer connected to the mass of socio-economic and birthplace correlations and, therefore, were only found in a separate subsidiary chain. This decline in the importance of economic participation measures seems to have affected variable 17 (households with working children) in particular since it was correlated with only one variable in 1871 compared to seven in 1851. The other two correlation chains involved, on the one hand, family status and population per house variables and, on the other, single family dwelling units and lodgers. Unlike the correlation networks of 1851 the variables

measuring married women (15) and fertility (22) did not form a part of the chains in 1871, a development which was not picked out in the longitudinal analysis.

Lutterworth's correlation network in 1871 (Figure 8.3) was as simple as that of 1851. Once again its prime lattice was made up of socio-economic and family status variables but, in contrast to 1851, it did not involve either birthplace or housing measures, these forming two separate chains. Apart from the decline in birthplace as a status indicator, the correlations also identified an increase in the significance of the interrelationships between single, married and working women with their different status linkages.

Figure 8.4 indicates that Melton Mowbray's correlations in the 1871 analysis fell into two discrete groups. The main network was a complex mass of socio-economic, birthplace, family status, economic participation and housing measures but unlike the situation in 1851, the three variables dealing with age were found in a separate group. Within the main network those variables dealing with the incidence of servant keeping were much more dominant than in 1851 and this indicates an increasing polarization of Melton's society.

Finally, unlike some of the other towns, Melton's birthplace variables continued to be associated with social status.

Correlation Comparisons

Although in the discussion so far frequent reference has been made to the correlations of both the 1851 cross-section and the longitudinal analyses, it is perhaps necessary at this juncture to compare the changes more directly. In Table 8.2 the number of correlations unique to one town or shared by several in 1851 and 1871 are listed. The distribution in both years was broadly similar although, generally, a greater proportion of them were to be found in three or four towns in 1871 than in 1851. In both cases Coalville and Hinckley, the two towns

TABLE 8.2 : COMPARISON OF TOWN CORRELATIONS 1851 and 1871

Town	1851						1871					
	Unique		2 Towns		3 Towns		Unique		2 Towns		3 Towns	
	N	%	N	%	N	%	N	%	N	%	N	%
Coalville	13	48.1	6	22.2	8	29.6	27	100	16	48.5	5	15.2
											12	36.4
												33
												100
Hinckley	15	45.5	6	18.2	12	36.4	33	100	11	44	5	20
											9	36
												25
												100
Lutterworth	4	19	8	38.1	9	42.9	21	100	6	22.2	4	14.8
											17	63
												27
												100
Melton	18	47.4	8	21.1	12	31.6	38	100	13	33.3	10	25.6
											16	41
												39
												100
Total	50	42.2	28	23.5	41	34.5	119	100	46	37.1	24	19.4
											54	43.5
												124
												100

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whose economies were dominated by a single industry, had a large number of unique correlations, a pattern shared by Melton Mowbray in 1851 but not in 1871. In contrast, Lutterworth had only a few significant correlations in either cross-section, probably reflecting the absence of any dominant influence on its economy or society.

In Table 8.3 a slightly different approach to the comparisons of the 1851 and 1871 correlations is adopted and their distribution amongst the four causal categories is examined. Although there were no variations in the overall proportions of correlations in each group in the two analyses, there were a number of changes discerned within each individual town. Coalville had experienced an increase in its number of group 4 correlations and, in view of its growing maturity, this was surprising since it might have been expected that this town would have lost many of the unique features identified by these correlations. Lutterworth's group 4 links had also increased, a development which, presumably, reflected its continued demographic and economic decline from 1851 to 1871. On the other hand, Hinckley and Melton had fewer group 4 correlations in 1871 than 1851.

The comparison of the sets of correlations identified by the two cross-sections is taken a stage further in Table 8.4 by enumerating those correlations which were found in only one of the two analyses. A number of interesting changes are recorded, particularly in the two industrial towns. In Hinckley, for example, it can be seen that there was a sharp decline in the incidence of correlations involving the children working variables (16 and 17) and a rise in those measuring birthplaces (despite these latter variables becoming of less significance in the other analyses) while, at Coalville, it is apparent that family status variables were increasing in importance. Most of the changes recorded in the table involve group 4 correlations and to some extent this was expected since those in groups 1, 2 and 3 were really a function of the method of data

TABLE 8.3 : COMPARISON OF CORRELATION GROUPS 1851 AND 1971

1851										
Town	Group 1		Group 2		Group 3		Group 4		Total	
	N	%	N	%	N	%	N	%	N	%
Coalville	8	29.6	5	18.5	5	18.5	9	33.3	27	100
Hinckley	7	21.2	6	18.2	6	18.2	14	42.4	33	100
Lutterworth	7	33.3	6	28.6	4	19	4	19	21	100
Melton	9	23.7	4	10.5	6	15.8	19	50	38	100
Total	31	26.1	21	17.6	21	17.6	46	38.7	119	100
1871										
Town	Group 1		Group 2		Group 3		Group 4		Total	
	N	%	N	%	N	%	N	%	N	%
Coalville	8	24.2	7	21.2	5	15.2	13	39.4	33	100
Hinckley	7	28	5	20	5	20	8	32	25	100
Lutterworth	9	33.3	4	14.8	4	14.8	10	37	27	100
Melton	9	23.1	6	15.4	7	17.9	17	43.6	39	100
Total	33	26.6	22	17.7	21	16.9	48	38.7	124	100

TABLE 8.4 : CHANGES IN VARIABLE CORRELATIONS BETWEEN 1851 and 1871

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	9*
1	*																								
2	(+H)	*																							
3	-LM	-	*																						
4	(-H) (-LM)	-		*																					
5	(-L)	-	(-C)	(+C)+M	*																				
6	-	-	-	(-C)	(-M)	*																			
7	-	-	-	-	-HL	-C	*																		
8	(+L)+M	-	-	-M	-H	-	+H	*																	
9	(-L)-M	-	+C	-	-	-	-H	-	*																
10	-	(+HM)	-M	-LM	-M	-	+H	(+H)	-	*															
11	-	(-L)	-	(+LM)	-	(+H)	-	-	-	-	*														
12	-	-	-	+M	-	-	-	-	-M	-	*														
13	+LM	-	-	-L	-	-	-	-	-	-	-	*													
14	-L	-	(+M)	+LM	-	-	-	-	-CL	(+M)	-	(-C-H)-L	*												
15	+CL	(+M)+C	-	-C	-	-	-	-	-	(-C)+C	(+M)	-	+L	-C	*										
16	(-H)	-	(+H)	-	-	-	-	-	-C	-	-	-	-	-	-	*									
17	(-H)	-	(+H)	-	(+H)	-	-	(+H)	(-H)	-	-	-	-	-	(+H)+M	*									
18	(+M)	-	-	(-M)	(-M)	-	-	-	(+M)	-	-	-	-	(+L)	-	+C	*								
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*							
20	-C	-	-	-	-	-	-	-	-	-	-L	-	(+M)	-	-	-	(-L)-C	*							
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-L	-M	(+H)+L	*					
22	+L	-	-	(-M)-L	-	-	-	-	-	-	-	(+C)	-	-	+H	-	-	(-LX)-H	(+M)+C	-	*				
23	-M	-	-	-	-	-	-	-	-	-	-	-	-	+M	-	-	-	-	-	-	-	*			
24	(+L)	-	(-L)	(-M)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	
9*	-C	-C	-	-	-	(-C)	-	-	-C	-	-C	-	-	+C	-C	-	-	-C	-	-	-	-	-	-	*

Note: Variable 9* was used only for Coalville

C = Coalville
H = Hircley

L = Lutterworth
M = Malton Morbray

(+H) Correlation of sign shown present in 1851 but not in 1871
+H Correlation of sign shown present in 1871 but not in 1851

collection and organization and, therefore, would tend to occur in any analysis using similar variables and methods.

In the previous chapter it was stated that the correlations identified by the longitudinal analysis might be of value in interpreting changes in the correlation networks of the two cross-sections. In fact, there were certain instances where this was the case. For example, the longitudinal analysis indicated that there was a growing relationship between the class IV households (variable 3) and the incidence of secondary employment (variable 10) in Coalville between 1851 and 1871. Table 8.4 confirms this since it shows that while there was no correlation between variables 3 and 10 in Coalville in 1851, as predicted, such a link existed in 1871. However, it must be recorded that the longitudinal analysis's ability to identify change in this manner was relatively low since of its 34 correlations (see Table 7.1) only seven found expression in Table 8.4 and no fewer than 109 differences in the correlation networks of the 1851 and 1871 analyses were enumerated there.

Factors

The factors to be discussed in detail in the 1871 cross-section were isolated on the same basis as those of the 1851 cross-sectional and the longitudinal analyses in that the six which explained the greatest proportion of the total variance were selected for each town. As in the previous analyses, the factors will be used initially to distinguish between the towns and, then as a basis for identifying socio-spatial patterns within them.

Social Differentiation

As can be seen from Table 8.5 the factors isolated by the cross-sectional analyses of 1871 have a number of features common to those of 1851, in particular the dominance of the socio-economic status and family status factors. On the other hand, as predicted by the

TABLE 8.5 : FACTORS FROM THE 1871 ANALYSIS

Type of Factor	Town	Position	% of Variance	Loading Variables
Socio-economic status	Coalville	1	16.002	+1,-4,+10,+13,-14,+15,-16,+18,-9*
	Coalville	2	9.9435	-3,+4,-9,+9*
	Coalville	3	9.1917	-2,+4,-10,+9*
	Hinckley	1	16.4595	+1,-3,-5,+7,+8,-9,+10,-14,+16
	Lutterworth	2	9.9763	-1,+4,+9,-10
	Lutterworth	5	7.1485	-2,+5,-8,+9,-10
	Melton	1	17.3979	-1,+4,-8,-10,-13,+14,-15,-18,+23
	Melton	3	10.1693	+1,-3,-9,+10
	Melton	5	6.7001	+4,-10,+12
Family status	Hinckley	2	7.832	-19,+20,+21
	Hinckley	4	7.0934	-13,-20,-21,-22
	Lutterworth	3	9.5801	-8,-18,+20,+21
	Melton	2	11.128	+5,+13,-18,-19,+20,+21
Birthplace	Coalville	6	6.6901	-5,+6
	Hinckley	5	7.042	+5,-6
	Lutterworth	6	6.2501	+5,-6
	Melton	6	6.6839	+5,-7
Economic Participation	Coalville	5	6.94	-16,-22
	Hinckley	6	5.7797	+15,+18
	Lutterworth	1	13.2782	-1,+4,-8,-10,-13,+14,-15
	Melton	4	8.4997	-16,-17
Housing	Coalville	4	7.8382	-23,+24
	Hinckley	3	7.4612	-23,+24
	Lutterworth	4	7.9517	-1,-22,+23,-24

longitudinal analysis, birthplace factors were of less importance than in 1851 and marital status factors were not even found at all. However, it should be noted that the married woman variable (15) did play a supporting role in the structure of some of the other factor types.

In Table 7.3 it is shown that in the two expanding towns of Coalville and Melton there was a greater proportion of total variance explained by their six factors in 1871 than in 1851 while in the cases of Hinckley and Lutterworth the opposite was true. This differentiation can be corroborated from the 1871 correlation networks which showed that Coalville and Melton Mowbray had more complex systems particularly with regard to social status and occupational associations. However, not all of the developments noted in the longitudinal analyses could be confirmed in this manner, and it is especially noteworthy that Hinckley had only one socio-economic status factor in 1871 in spite of having had four in its longitudinal profile.

Once again a series of social space diagrams, contrasting the scores of the towns' leading socio-economic status and family status factors were constructed (Figure 8.5). However, since no family status factors were identified in Coalville in 1871 this town does not feature in the diagrams. In general, the score distributions of the remaining towns were relatively scattered, particularly in the cases of Lutterworth and Melton, but at Hinckley, there was a heavy concentration within the low status/young age group sector. All three towns had more 'young' than 'old' OTUs while on the status axes Hinckley and, surprisingly, Melton Mowbray, had more low class scores than high.

Once again these comparisons have indicated that these four study towns could be clearly differentiated on the basis of their factor structures and, according to Table 8.5, the three most significant factors in each were of different types. It remains to be seen if these distinctions were reflected in their internal spatial structures.

Socio-Economic Status Factors

Although the factors which identify socio-economic status have consistently been of greatest significance in both the cross-sectional and longitudinal analyses their structures have not remained constant over time. In the 1851 cross-sections the loading variables on these factors were generally restricted to the social status and occupational groups with only few variables from other groups being involved, but in the 1871 analyses there was a greater incidence of family status and economic participation variable loading (Table 8.6). This was particularly evident in Coalville and Melton which, of course, were the two towns which had experienced the greatest rates of development during the study period.

The three separate socio-economic status factors identified at Coalville in 1871 were essentially complementary in that the first highlighted a differentiation between classes I and II and class V together with their associated occupational and economic participation measures; the second, a dichotomy between class IV with its related secondary industry and class V miners; and the third, a distinction between class III and tertiary industry and the class V miners. By their very existence these three factors have confirmed the trend noted in the longitudinal analysis, of greater economic and social diversification within Coalville since they, unlike those of 1851, identify the incidence of people involved in each of the occupational groups rather than just mining. The distributions of the three factors are shown in Figures 8.6, 8.7 and 8.8. In the first of these the positive scores pick out areas with a high proportion of class I and II residents, tertiary occupations and servant keeping (measured by the variables identifying working women, single persons and a high rate of economic activity). On the other hand, negative scores show those OTUs with a high proportion of miners, class V households, working children and married women. In 1851 there was no evidence of any significant servant keeping in Coalville and, thus, the

TABLE 8.6 : SOCIO-ECONOMIC STATUS FACTORS - VARIABLE WEIGHTINGS

Variables	Coalville	Hinckley	Lutterworth	Melton Mowbray
1	+0.7206	-	-	-0.7192
2	-	-0.9185	-0.9314	-
3	-	-0.8406	+0.9412	-0.7547
4	-0.438	+0.4764	+0.4578	+0.6876
5	-	-	-	-
7	-	+0.4514	-	-
8	-	+0.3204	-0.3356	-0.3464
9	-0.8993	-0.87	+0.4159	-0.944
10	+0.5874	+0.8782	-0.683	-0.3751
12	-	-	-	-
13	+0.6837	-	-	-0.7718
14	-0.9114	-0.389	-	+0.8831
15	+0.8572	-	-	-0.84
16	-0.3123	-0.3503	-	-
18	+0.3444	-	-	-0.5753
23	-	-	-	-
9*	-0.4691	+0.489	-	-
Variance	16.002%	9.9435%	9.9763%	7.1485%
		16.4595%	17.3979%	10.1693%
Figure	8.6	8.7	8.8	8.10
			8.12	8.13
				8.15
				8.16
				8.17
				6.7001%

presence of variables measuring this feature within the structure of this factor indicates a significant development in the town's social structure. This trend had been noted for the first time in the longitudinal analysis which identified an association between working women and high class households. However, despite these social changes, the town's internal spatial structure had altered little since 1851 (Figure 8.6); OTUs identified as being of high social status were located along the old Long Lane up to its junction with Ashby Road while the scores indicative of low class miners were, in general, confined to those areas of the town where the houses were owned by the colliery companies. This was particularly noticeable with regard to the Snibston Colliery houses. Although the status pattern of the new houses in Coalville in 1871 did not essentially disturb the established social areas it is interesting to record that they did not always fit in with their surrounds particularly in the cases of the low status terraces built near to the church in OTU 40 and those which abutted onto Hotel Street in OTU 43.

Once again, Coalville's second socio-economic status factor featured the mining areas but this time the mining variables were contrasted against those recording high proportions of secondary industry workers and class IV households. The most interesting aspect of this factor's distribution (Figure 8.7) was the (negative) scores recorded by the Whitwick Colliery houses (OTUs 7, 9, 10, 38) for, as predicted by the longitudinal profile, these had become the homes of the company's brickyard workers rather than just miners as was the case in 1851. This feature probably explains why these houses did not stand out as much as those of the Snibston Colliery on Figure 8.6. Strangely, other negative scores on this factor picked out high status OTUs in the central part of the town and, as Figure 8.8 indicates, this was the main trading and service area of the town but it must also have contained a number of manufacturing workers. Finally, the positive scores on Figure 8.7, which identified the miners were again concentrated in the terraced cottages belonging to the Snibston Colliery; these terraces were now on both sides

of the Ashby Road (OTUs 19, 20, 25, 26, 27, 28, 29, 31, 32, 45).

Figure 8.8 presents the distribution of Coalville's third socio-economic status factor which was again weighted, positively, by miners and this time, negatively by the variables recording class III tertiary workers. As with the other two factors, this factor's distribution was relatively straightforward since the positive scores picked out mainly the mining company houses while the negative scores showed the trading areas of the town which were situated on the main street. Although there were, of course, one or two anomalous score distributions, the body of evidence from these three factors demonstrates that despite the socio-economic changes experienced by the town between 1851 and 1871, its internal spatial structure had not been affected to any great extent except for the altered rôle of the Whitwick Colliery houses.¹

In contrast to Coalville, Hinckley had only one socio-economic status factor in its 1871 cross-sectional analysis. The structure of this factor (Figure 8.10) was fairly simple since positive scores indicated high status with its association with tertiary industry and long distance migrants while negative scores were indicative of high proportions of class IV secondary industry workers with their town birth-places, married women and working children. The contiguous zone of positive scores around Market Place and the negative scores of the yards and outlying areas (including some newly-built districts in OTUs 57, 59 and 60) indicates that there had not been any substantial alteration since 1851 to Hinckley's structure of a high class core surrounded by low status yards. However, in line with evidence from the longitudinal analysis, some social area changes appear to have taken place in the outlying areas (OTUs 2, 62). OTU 2 contained a number of new houses

1. The spatial differentiation within Coalville will be further discussed in terms of the distribution of housing types as illustrated by a series of plates, the location of which are recorded on Figure 8.9.

built since 1851 whilst OTU 62 was a completely new built-up area and their positive scores suggest that they had attracted high status residents. This meant that the southern and eastern peripheries of the town were changing in character with the agricultural workers once characteristic of ^{these} outlying parts being replaced by people involved in trade and professional activity.¹ Clearly, although the status of residents in the inner parts of Hinckley had remained unchanged over the 1851 to 1871 period, parts of the periphery were beginning to be occupied for the first time by people of higher status.²

In the longitudinal analysis of Lutterworth it was revealed that the town had experienced a number of spatial changes between 1851 and 1871, in particular the elongation of the high status area based on the town centre and the decline in status of Church Street. The first of Lutterworth's socio-economic status factors identified by the 1871 cross-sectional analysis provides the clearest possible confirmation of these trends (Figure 8.12). The factor's negative scores isolated the high status areas with their class I and II inhabitants and the high proportion of tertiary workers and they were to be found along the whole length of the main street as well as on Oxford Street and to the north of Bakehouse Lane. In addition, Morebarns (OTU 31) retained its high status. Church Street's decline was confirmed by its positive score, similar to that of areas at some distance from the high class main street. The second of Lutterworth's socio-economic status factors (Figure 8.13) contrasted the distributions of class III households (together with national

-
1. In fact these OTUs contained people of such occupations as 'gentlemen', clerks, a professor of music and an inland revenue officer - occupations hitherto only to be found in the centre of the town.
 2. The series of photographs of Hinckley is not able to illustrate clearly this change of status but it does indicate that there was as great a distinction within the town with regard to housing types as with social status. See the location of the plates on Figure 8.11.

birthplaces and tertiary industry) against those of class V households and secondary workers. On a number of occasions where the four social status groups were split into two separate factors it has been noted that those cases involving the highest status group had the clearest spatial distributions. This was certainly true of Lutterworth since the score distribution of Figure 8.13 lacks the clarity of the first socio-economic status factor (Figure 8.12).¹

In line with Hinckley and Lutterworth, the distribution of Melton Mowbray's three socio-economic status factors in 1871 show a number of spatial developments over those of 1851. The leading factor was weighted negatively by a whole series of variables reflecting high social status (class I and II households; national birthplaces; tertiary industry; single persons; working women (servants) and a high rate of economic activity) while the positive variables (class V and married women) were indicative of low social status. The score distribution (Figure 8.15) indicates that the high status areas were to be found around the Market Place (OTUs 6, 9, 10, 28) as well as the streets leading from it, right to the edge of the town (OTUs 2, 5, 8, 11, 13, 17, 25, 43). On the other hand, the positive scores picked out the low status north-eastern terraces (OTUs 20, 21, 22, 24, 35, 36, 37, 38, 44 and 45), the back streets to the south (OTUs 14 and 15), the north side of Leicester Street (OTU 7) and the new OTU close to the centre of the town (47). This factor was very significant in that it had a high level of explained variance (17.4% of the total compared to just over 10% for the equivalent factor in Melton's 1851 analysis) and it sub-divided the town into a series of clearly defined social areas whose distribution showed considerable changes from that of 1851 in particular, the emergence of a new radial form to Melton's main high

1. Lutterworth's series of plates indicate that the town's housing types in the 19th century were fairly well differentiated, however. See Figure 8.14.

status area. The second socio-economic status factor identified for Melton (Figure 8.16) contrasted class IV and secondary industry variables (positive scores) from those variables recording tertiary industry and classes I and II (negative scores). Although the distribution of this factor was not as clear as that of the first, it did, however, reveal a number of distinguishable features. Negative scores were found mainly in the north-eastern terraces and even where these terraces did have positive scores they were not heavily populated by high class households¹ - for example, OTUs 35 and 37 were, in fact, dominated by class V residents. Most of the positive scores did identify high status areas, however, in particular those near the town centre (OTUs 2,11,12,25, 28, 43). Finally, the distribution of Melton's third socio-economic status factor is depicted on Figure 8.17. Its loading variables again included class V and tertiary industry measures although the dominant variable in its structure was that depicting the incidence of unskilled labourers. In fact, the percentage of workers in this category at Melton had increased from 2.7% in 1851 to 7.1% in 1871, a relatively high rate of increase which had not been picked out by the longitudinal analysis. The distribution of the factor's scores indicates that while most of the labourers (represented by the positive scores) resided in the lower status districts of the town by no means all such districts had a high proportion of such workers.

In this analysis, as in those discussed in earlier chapters, factors identifying aspects of socio-economic status have been of greatest significance. Although this may have been partly caused by the number of variables of social and occupation groups included in the data matrices, the main reason undoubtedly lies in the inherent primacy of such measures within the social structures of the four towns. Later it will be seen

1. The series of photographs of Melton Mowbray discussed below show that these houses were not suited to occupation by people of high status. The location of the photographs is depicted on Figure 8.18.

that, as in the other analyses, many of the distributions of other factors will mirror those of the socio-economic status dimension. When these socio-economic status factors were compared to similar measures from the 1851 cross-sections, with regard, especially, to the directions of change suggested by the longitudinal analyses, a number of developments could be recorded. These ranged from the growing diversity of Coalville's economy to the changing social status of certain outlying parts of Hinckley, Lutterworth and Melton Mowbray. Finally, although many of the changes had been predicted by the longitudinal analyses, it must be emphasised that by no means all the developments isolated had been accurately forecasted.

Family Status Factors

In the 1871 cross-sectional analyses family status factors were isolated for each of the study towns except Coalville (Table 8.7). The failure of the mining town to record a factor of this sort was surprising in view of the fact that its longitudinal analysis had identified two family status factors. However, in this case the relative change of the longitudinal study was unimportant in absolute terms; for example, despite a 368% increase in the proportion of the town's population aged over 60 between 1851 and 1871 there were still insufficient elderly people to differentiate Coalville's society on a family status dimension in 1871.

In contrast to Coalville, two family status factors were identified at Hinckley. The first distinguished between the incidences of old people and children while the second was weighted by the fertility, single persons and children under 15 variables. Clearly these two factors had complementary structures but, in fact, only 14 of the 23 OTUs which scored above the thresholds on each of them (Figures 8.19 and 8.20) displayed similar characteristics in both cases. This indicates that the factors' distributions were not identical despite their superficially similar structures. In the cross-sectional analysis of 1851 Hinckley's family status factor showed that the town's periphery tended to have a high proportion of young people, but as

TABLE 8.7 : FAMILY STATUS FACTORS 1871 - VARIABLE WEIGHTINGS

Variables	Hinckley		Lutterworth	Melton Mowbray
5	-	-	-	+0.3445
8	-	-	-0.4355	-
13	-	-0.3068	-	+0.3233
18	-	-	-0.8395	-0.3111
19	-0.9247	-	-	-0.7653
20	+0.5354	-0.6817	+0.8587	+0.8622
21	-	-0.8945	+0.4632	+0.8947
22	+0.645	-0.3702	-	-
Variance	7.832%	7.0934%	9.5801%	11.128%
Figure	8.19	8.20	8.21	8.22

Figure 8.19 shows, this relationship was not repeated in 1871 except in a few areas of new housing (OTUs 57, 58, 59, 60, 61). This factor also indicates that elderly people in Hinckley tended to be residents of low status areas including a number that had experienced out-migration prior to 1851, and this indicates that the passage of twenty years had not made these areas any more attractive to young people. Although a few of these areas are also identified on Figure 8.20, in general, the score distribution of this factor lacked the clarity of the town's first family status factor.

In the cross-sectional analyses of the four towns in 1851 it was observed that not only Hinckley but also Lutterworth contained certain districts characterised by out-migration. Although such areas could still be identified in Hinckley in 1871 this was no longer the case at Lutterworth. Here the family status factor (Figure 8.21) simply indicates that the upper class areas had a high rate of economic activity and many inhabitants with national birthplaces (OTUs 11, 22, 23, 30, 31) while the less salubrious districts had many young children. The absence of any recognisable out-migration component in this factor shows that, as predicted in the longitudinal analysis, Lutterworth's continued decline in population between 1851 and 1871 now affected the town as a whole and was no longer more pronounced in certain working class areas.

Both the 1851 cross-sectional and the longitudinal analyses indicated that within Melton Mowbray there was little differentiation in terms of fertility or the incidence of young children. Melton's family status factor (Figure 8.22) confirms that this was still true in 1871 and, therefore, both old and young age groups were found in close juxtaposition throughout the town.

In general, these family status factors have identified less differentiation within the towns than the socio-economic status factors but they did bring to light a number of interesting results, in particular the tendency for Hinckley's new housing to be occupied by young families

and the ending of areally selective out-migration from Lutterworth.

Birthplace Factors

the existence of

The 1871 cross-sectional analyses isolated birthplace factors for three of the four study towns and, in each case, the factors were loaded by the same two variables - town and local birthplaces (Table 8.8). In the longitudinal analyses it was noted that the importance of birthplace as a status indicator seemed to be declining in each of the towns except Hinckley and this trend was continued in the 1871 analyses. For example, Figure 8.23 shows that the distribution of birthplaces at Coalville could not be related to the distribution of miners' housing as in 1851. In fact, the town's birthplaces were differentiated only in that many of the outlying areas tended to have high proportion of local births (OTUs 26, 31, 33, 35, 46 and 47) while town births were more characteristic of the centre (OTUs 3, 5, 12, 17, 36 and 40). This link between local birthplaces and peripheral locations might be attributed to the tendency for many short distance migrants to reside close to their former homes, since the majority of them had come from the surrounding villages.

Figure 8.24 indicates that the birthplace distributions within Hinckley were similar to those at Coalville in as far as many peripheral areas were, again, characterised by high proportions of local born residents (OTUs 2, 8, 55, 56 and 61). In addition, the majority of Hinckley's back streets and yards contained large numbers of town born (OTUs 6, 9, 10, 16, 18, 23, 24, 26, 28, 32, 37, 38, 40, 47 and 48) but it would appear that there was little concentration of any particular birthplace type in the town's central area. As these three different zones of birthplace could broadly be related to the distribution of social classes within Hinckley, there were obviously still links between status and birthplace in the town as its longitudinal analysis had predicted. Any such associations in Lutterworth were not as clear, and Figure 8.25 indicates only rather tenuous links between the low class areas and town

TABLE 8.8 : BIRTHPLACE FACTORS 1871 - VARIABLE WEIGHTINGS

Variables	Coalville	Hinckley	Lutterworth
5	-0.8752	+0.7053	+0.6354
6	+0.8113	-0.927	-0.9614
7	-	-	-
Variance	6.6901%	7.042%	6.2501%
Figure	8.23	8.24	8.25

births, and the main streets and local births.

Economic Participation Factors

The four economic participation factors identified in the 1871 cross-sectional analyses (Table 8.9) fell into two groups: those for Coalville and Melton Mowbray which were weighted by the variables recording working children and those for Hinckley and Lutterworth on which the working women variables extended the heaviest loading. However, in the case of Lutterworth a number of other variables were also involved.

In Coalville's longitudinal analysis its economic participation factor had also been concerned with the incidence of working children, and had revealed that such children were found in both high and low status households. This trend was confirmed by its economic participation factor in this 1871 analysis (Figure 8.26). This is in marked contrast to the situation in 1851 when the majority of working children had come from non-mining households. This broadening of the type of children at work probably results from many of Coalville's very young mining families in 1851 having by 1871 children old enough to seek employment either in the pits or elsewhere.

Although Melton Mowbray's economic participation factor in 1851 had identified working women, that of 1871, in common with Coalville, was concerned with working children. Also like Coalville, its distribution indicated that there was little social differentiation with regard to the incidence of these children and they came from areas of every class. One of Melton's economic participation factors in the longitudinal analysis recorded an increase of child employment in its northeastern terraces but this area did not stand out on the 1871 cross-section.

In contrast to Melton and Coalville, Hinckley's economic participation factor in 1871 identified the occurrence of women at work. Its distribution (Figure 8.28) indicates that few changes had taken place since 1851 and, at both dates, households at the centre and on the periphery of the town had lower incidence of such women than those in the

TABLE 8.9 : ECONOMIC PARTICIPATION FACTORS 1871 - VARIABLE WEIGHTINGS

Variable	Coalville	Hinckley	Lutterworth	Melton Mowbray
1	-	-	-0.487	-
4	-	-	+0.4777	-
8	-	-	-0.3166	-
10	-	-	-0.3905	-
13	-	-	-0.956	-
14	-	-	+0.8084	-
15	-	+0.8456	-0.7494	-
16	-0.7468	-	-	-0.9304
17	-	-	-	-0.8609
18	-	+0.6195	-	-
22	-0.8501	-	-	-
Variance	6.94%	5.7797%	13.2782%	8.4797%
Figure	8.26	8.27	8.28	8.29

predominantly working class yards.

Lutterworth's economic participation factor also identified working women, but unlike at Hinckley, they were found in both high and low class areas (Figure 8.29), a pattern similar to that of 1851. However, as economic participation was Lutterworth's prime factor in 1871 its distribution identified more than just female employment and, in fact, a whole gamut of high class variables- classes I and II, national birthplaces and tertiary industry- joined that of working women in exerting a positive load while negative weighting came from the married women and class V variables. Although the composition of this factor gave no indication that working women would be found equally in both high and low class areas its distribution, however, shows this to be the case (Figure 8.29).

These economic participation factors have identified a number of changes in the towns between 1851 and 1871 especially with regard to the distribution of working children in Melton and Coalville where in the latter year they were seen to come from both high and low status areas. This had not been the case twenty years earlier, particularly in Coalville, where there had been a clear distinction between the non-mining areas, which had a relatively high proportion of such children, and the mining terraces in which they were less common. Hinckley and Lutterworth's economic participation factors showed that in the former working women were confined to the lower class areas and in the latter they were characteristic of both upper and lower status groups, thus, indicating little change from the pattern in 1851. A similar static pattern was true of Melton Mowbray's working women whose distribution was identified in its socio-economic status factor (Figure 8.12). The only major change in the incidence of female employment by 1871 was to be found in Coalville where its socio-economic status factor showed that working women were associated with high status households, a feature which did

not exist in 1851. Of course, at that date, Coalville offered very few opportunities for female employment.

Housing Factors

In many of the correlation networks in the 1871 cross-sectional analyses the variables recording single family units and lodgers stood alone and there was little indication that these measures could be related to any of the social or occupational classes. Therefore, it is not surprising that the housing factors of this analysis were weighted significantly by only these two variables. The one exception to this was Lutterworth's factor on which there was an additional load from the high class households variable (Table 8.10). This measure indicated that such households had the greatest proportion of lodgers.

In the longitudinal analysis only Coalville had a housing factor and this demonstrated that single family dwelling units were becoming more common within the 1851 housing stock although, of course, there had been relatively few shared households in that year. Coalville's housing factor confirms the trend, however, since its distribution (Figure 8.30) indicates that while lodgers were to be found in each part of the town, they were less numerous in the pre-1851 houses, especially the miners' terraces.

Hinckley's pattern of lodgers (Figure 8.31) was more complex. Although they were, again, to be found in both rich and poor areas, their distribution identified a zonal pattern: the central area which had relatively large numbers of lodgers and, conversely, few single family dwelling units, the yards which contained both lodgers and single family units and the periphery with its dearth of lodgers.

Even though the structure of Lutterworth's housing factors implies that lodgers were more prevalent in the higher class households its

TABLE 8.10 : HOUSING FACTORS 1871 - VARIABLE WEIGHTINGS

Variables	Coalville	Hinckley	Lutterworth	Melton Mowbray
1	-	-	-0.3344	-
22	-	-	-0.3141	-
23	-0.8169	-0.7591	+0.8607	-0.6677
24	+0.9457	+0.9161	-0.8848	+0.9538
Variance	7.8382%	7.4162%	7.9517%	6.6839%
Figure	8.30	8.31	8.32	8.33

distribution (Figure 8.32) did not reflect this since lodgers were found in all parts of the town. In contrast, at Melton Mowbray there was a clear spatial coincidence between those areas with a high proportion of lodgers and those containing mainly upper status households with single family units proving to be more characteristic of the poorer terraces (Figure 8.33). Finally, it can be noted that the only major change since 1851 recorded by the four 1871 housing factors was at Coalville where the development of private sector lodging in some newer parts of the town was identified.

Photographic Evidence

The three sets of multivariate analyses of the study towns between 1851 and 1871 have identified their social and spatial structures in considerable detail. These structures can be translated into visual terms by a series of photographs (Plates 8.1 - 8.73) and the evidence they present provides support for the established patterns of socio-spatial differentiation. Further, the photographs bring a new dimension to the study and thus add depth to the overall analysis. The major problem with evidence of this sort is that it can, at best, be partial since there are only limited numbers of archival illustrations or of surviving buildings that can be photographed. This is seen very clearly at Coalville (Plates 8.1 - 8.8). Hardly any archival material exists for this town and, as most of its early housing was demolished without being photographed, little visual evidence could be obtained. In fact, a number of the plates (8.1 and 8.4 - see also Plate 2.10) of its high status areas illustrate public houses and while these buildings were permanent residences during the 19th century, they cannot be regarded as typical of the housing conditions to be found in their parts of the town. In addition, Plate 8.2 is of a group of buildings which date

from Coalville's pre-mining days and Plate 8.3 shows the vicarage which was again hardly a typical residential structure. Only Plate 8.5 seems to be truly representative of the houses inhabited by most of the non-manual section of Coalville's population in the mid-19th century. When this plate is compared with the three photographs of Coalville's mining terraces (Plates 8.6, 8.7, 8.8) it can be seen to have had few architectural advantages over them. Plate 8.6 shows terraces along Mantle Lane which were specifically erected for skilled men employed by the Snibston Colliery while Plates 8.7 and 8.8 illustrate those cottages built by the colliery along Ashby Road for less skilled men.¹ Striking differences in house types were not to be expected within Coalville at this time since, even by 1871, its middle classes were few in number and did not have a great deal of economic power. However, despite the rather uniform appearance of the town's residential buildings, the series of photographs has served to confirm the validity of the town's socio-spatial structure as revealed by the factor analyses insofar as the residents of highest status although not always having substantially superior houses to the miners nevertheless occupied most of the larger structures on the main streets.

The photographs available for Hinckley (Plates 8.9-8.28) indicate that it had much greater variations in housing types than Coalville. Plates 8.9 - 8.17 illustrate parts of the higher class districts, for example, plate 8.9 shows the substantial timber framed houses on the Borough which were demolished in 1860 to free the site for the erection of a Congregational Chapel and Plate 8.10 is an illustration of the west side of Regent Street with its predominantly

1. Even these houses were far superior to most miners' cottages in Britain as the owners of this colliery were determined that their men would not have to endure the jerry built slums found in many mining settlements at this period. See Chapter Two.

three storey houses. There are three illustrations of the Market Place (Plates 8.11, 8.12 and 8.13) and from these it can be seen that little change took place in this area over the study period since the drawing of 1840 (8.12) and the photograph of 1870 (8.13) show exactly the same buildings. Plate 8.16 illustrates the large three storey houses to be found along Castle Street. In contrast to these large houses of Hinckley's high status areas, working class residences were very small. Even those terraces built directly onto a main street (such as on Coventry Road (Plate 8.13) or New Buildings (Plate 8.26)) were usually of only single fronted two storey construction while the houses on the back streets were very cramped (as on Church Walk (Plate 8.19) and Stockwell Head (Plates 8.23 and 8.24)) and in the yards and jitties tiny dwellings were squeezed together in a most squalid manner (Plates 8.21, 8.24, 8.25 and 8.27¹).² The last of the Hinckley plates (8.28) is of a row of thatched dwellings on Bond Street, now known as 'Framework Knitters Cottages'. Although undoubtedly these would have been occupied by framework knitters in the 19th century, research suggests that the majority of knitters could not have aspired to such relative luxury. These photographs of Hinckley's housing confirm the factor analyses clear socio-spatial differentials: the high status Market Place area had larger and better built houses than those streets away from the centre while the few photographs of the jitties and yards go some way to bring to life the appalling conditions endured by many of the town's working class inhabitants during the study period.

A similar relationship between status and house type seems to have existed in Lutterworth (Plates 8.29 to 8.43). It can clearly be

1. This line drawing also shows a woman seaming stockings.

2. Further, it must be remembered that only the more solid and substantial of these dwellings can have remained standing long enough to be photographed.

seen that the high status main street and Oxford Street had the largest and most elegant houses (Plates 8.29, 8.30, 8.31, 8.33, 8.35, 8.36 and 8.37) while two of the illustrations also show that High Street had changed little in built form during the 19th century (Plates 8.30 and 8.31).¹ In contrast to the large houses depicted there, those in the working class districts were usually terraced, frequently of single fronted pattern (Plates 8.39, 8.42 and 8.43), (although occasionally being doubled fronted as in Plates 8.32, 8.34 and 8.40). Despite this general status/housing accord, there were a number of houses whose architecture seemed out of place given the social standing of their district, for example, the north side of Woodmarket had large houses despite its low social status (Plate 8.38) while the social decline of Church Street was not reflected in the buildings depicted on Plate 8.41 which could be related more to the street's high status of 1851 than to its less exalted 1871 position. However, despite these exceptions, the distribution of house types in Lutterworth was basically in line with the social divisions identified by the factor analyses.

Architecturally, Melton Mowbray was by far the most attractive of the four study towns and its seasonal population of rich hunting enthusiasts would certainly have occupied better premises than many country towns of similar ranks could have afforded.² A number of these visitors took hunting lodges and, although many of these were situated outside the parish, others were on Mount Pleasant while Egerton Lodge³ was very close to the centre of the town. On the other hand, many wealthy visitors stayed in the large houses along the main streets which were also the

1. Plate 8.30 is a copy of a drawing made in the 1840s from the south end of High Street; Plate 8.31 is a view looking to the south photographed in about 1905.

2. Although the hunters, apparently, were very scornful of the town's accommodation facilities. See Chapter Two.

3. This belonged to the Earls of Wilton. See Plate 2.8.

location of the homes of the town's leading retailers and professional people. Plates 8.44 - 8.56 demonstrate the type of housing to be found in this part of Melton.¹ While Plate 8.57, of Nottingham Road, illustrates the type of villa development being erected for the middle classes on the periphery of the town at the end of the study period. In contrast, Plates 8.58 - 8.70 represent some of the houses in Melton's working class areas. Two are of terraces built between 1851 and 1871 in newly developed districts (Plate 8.58 (Provident Place) and Plate 8.70 (Wilton Terrace)), but, apart from Plate 8.59 of Thorpe End, the remainder are of streets to the northeast originally built up before 1851. Most of the houses depicted conform to a single fronted two-up, two-down terrace pattern which differs markedly from the type of structures found in Melton's centre or along its main radial streets. However, in Melton, as in the other towns, there were a number of houses that could not be so readily identified as being of a size or style commensurate with the status of their districts, ^{illustrated in} for example, the terraces / Plate 8.71 are similar in to be found in part of the town, many respects to those / the northeast/ but, in fact, are located in a small yard off Leicester Street quite close to the market place; Plate 8.74 shows that some of the houses on Scalford Road were smaller than the status of their inhabitants would seem to warrant; while the Church Yard houses in Plate 8.75 look very attractive given that the area was of low social status in 1871. However, despite these anomalies, Melton's pattern of social areas could largely be related to its distribution of housing types.

The series of photographs discussed above has indicated that in a very general fashion the differences in social status within the towns could be associated with differences in housing quality, particularly in the

1. For example, Plates 8.44 and 8.45 illustrate the large houses of Nottingham Street; Plates 8.46 - 8.51 show the three storey blocks of the areas in or around the Market Place; Plate 8.55 looks over the canal basin along Burton End and shows that most of the houses on this street were of substantial size including the Old Club (Plate 8.53).

two larger towns of Hinckley and Melton Mowbray. This relationship was hardly unexpected but it was nonetheless worthwhile to examine it in some detail in order to demonstrate that the social areas constructed objectively and inductively by the multivariate analyses could be duplicated in the actual physical structures of the study towns involved.

Conclusions

These concluding paragraphs must serve to review not only the 1871 cross-sectional analyses but also the whole series of factor analyses used in this study. It is necessary that they should concentrate on a number of different themes with regard to both the value and applicability of the analytical procedures themselves and the social and spatial patterns and developments identified within the four study towns. The empirical material will be reviewed first in order that this evidence may then be brought to bear in the evaluation of the analytical techniques. In the review each factor type will be examined in turn.

Socio-Economic Status Factors

Socio-economic status factors were by far the most important in each of the three sets of analyses. Those for 1851 indicated that there were reasonably clear social area patterns within the towns at that date and it was significant that, despite their different functions, each town displayed a similar pattern. In all of them the highest status households tended to occupy central locations while the working classes were found on the back streets, in the yards or towards the periphery.

The longitudinal analyses indicated that between 1851 and 1871 these patterns were not static since a number of social and spatial

developments were identified. At Coalville and Hinckley, for example, a decline in the pre-eminence of their major industries was recorded, while, in the case of the latter town, changes in the distribution of social areas were also identified. Although the high status core and its encircling low status yards still persisted, the town's periphery appeared to have experienced some gains in status. Similarly, at Lutterworth social area changes were apparent with an elongation of its high status core with each end of the main street gaining in status while the Church Street area declined.

The structure and distribution of the socio-economic status factors identified by the 1871 cross-sectional analyses confirmed many of the trends picked out by the longitudinal analyses of the twenty years up to 1871. These included the diversification of Coalville's economic structure; the development of a zonation in the distribution of socio-economic status in Hinckley and the elongation of the high status area in Lutterworth which by 1871 was found to stretch almost the whole length of the town. The only major development in the towns' socio-economic status which the longitudinal analyses failed to identify was the increase in social status on the periphery of Melton Mowbray between 1851 and 1871. However, since these peripheral increases in status were identified at Lutterworth and Hinckley by the longitudinal analyses and confirmed by the 1871 cross-sections, it does indicate that the change at Melton was part of a much more widespread general trend.

Family Status Factors

The pattern of family status distributions within the towns in 1851 mirrored those of socio-economic status. For example, at Coalville the miners' households had a greater than average number of children while in each town the high status central areas were

characterised by a relatively elderly age structure. In addition, the family status factors identified those parts of the two declining towns of Lutterworth and Hinckley/^{that}were losing population at greater than average rates. Initially it was primarily low status areas which seemed to be most affected by out-migration but by 1871 in Lutterworth many parts of the town seemed to be experiencing a decline although at Hinckley some low status districts were still losing young people even though the towns population as a whole had increased since 1851.

Birthplace Factors

The birthplace factors identified by the 1851 cross-sectional analyses could also be related to those of socio-economic status in terms of both their structure and distribution. It was clearly demonstrated that birthplace was a fairly reliable status index in that town births tended to characterize those areas of the town identified as being of low status while migrant birthplaces were more in evidence in districts of higher status. Only at Coalville was this not the case for here regional as well as town birthplaces were associated with the low status miners' households. However, according to the correlation networks which formed part of the longitudinal analysis birthplace declined as a status index between 1851 and 1871. This was backed up by the fact that it was only at Hinckley and Lutterworth was the distribution of birthplaces sufficiently differentiated for a birthplace factor to be identified and only in the former case was the birthplace-status relationship maintained. This was confirmed in Hinckley's 1871 cross-sectional analysis; in the remaining town there was no significant relationship between status and birthplaces.

Economic Participation Factors

In each of the three sets of factor analyses two types of economic

participation factors were identified; those concerned with the employment of women and those with the employment of children. In 1851 only Coalville had a factor of the latter type and its distribution could, again, be interpreted in terms of socio-economic status with most of the working children being found in the non-mining districts because, at that time, few of the miners had children of sufficient age to seek employment. Coalville also had very few women in employment in 1851 but in the other three towns they were more numerous although their actual incidence and distribution varied greatly. In Hinckley most working women were engaged in some aspect of domestic textile manufacture; at Lutterworth they were employed as textile workers or as domestic servants and, finally, at Melton Mowbray, the majority of women at work were domestic servants resident in the high class households.

In the longitudinal analyses the economic participation factors showed that at Melton the distribution of working women had changed little between 1851 and 1871 but an increase in their number was experienced by Coalville especially in the households located in the centre of the town. A second economic participation factor was identified at Melton and this indicated that working children came from every part of the town. Melton and Coalville's economic participation factors from the 1871 analysis in general confirmed the trends identified in the longitudinal study. In contrast to these two towns, no economic participation factors were found by the longitudinal analyses of Hinckley and Lutterworth. This implies that these two towns had experienced little relative change between 1851 and 1871 and a comparison of the structures and distributions of the 1871 cross-sectional factors with those of 1851 confirmed this.

Housing Factors

In a similar fashion to the economic participation factors, the series of housing factors identified both dynamic and static distributions. The dynamic situation occurred in Coalville. Here in 1851 the housing market was so dominated by the miners' terraces that

there was insufficient differentiation for a housing factor to feature in the analysis. However, in the longitudinal analysis Coalville was the only town to have a housing factor and this indicated that there had been a decline in the number of lodgers (and/or an increase in the number of single family dwelling units) at least within the 1851 built-up area. This was suprising since, in view of the town's growing maturity between 1851 and 1871, it might have been expected that a larger private rental market would have developed and that, therefore, the number of lodgers would have risen rather than fallen. This can be explained, however, by reference to Coalville's 1871 housing factor which demonstrated that there was a higher proportion of lodgers in the town in 1871 but that they were mainly confined to the newly built areas which, of course, could play no part in the longitudinal profile. In contrast to the developing situation in Coalville, the housing factors of the other three towns indicated that they experienced few changes in either the incidence or distribution of lodgers between 1851 and 1871.

Marital Status Factors

Two marital status factors were identified in the 1851 cross-sectional analyses but factors of this type were not found in either of the other two analyses although the marriedwomen variable did play an important rôle in the structures of many other factor types.

This section of the conclusions has shown that the use of the cross-sectional and longitudinal factor analyses in series has not only revealed the socio-spatial structure of the four study towns at single points in time but also indicated the nature of the changes they experienced over a twenty year period. This facility to identify change is one of the chief advantages to be gained from this type of investigation and clearly the exclusion of any one of its three components would have weakened its effectiveness.

Combinations of cross-sectional and longitudinal multivariate analyses were also used by Murdie (1969), Brown and Horton (1970) and Johnston (1973) in their examinations of the post war developments of Toronto, Chicago and Melbourne respectively. Differences in both scale and time period preclude the empirical results of their studies being related to the present investigation but there were a number of operational similarities worthy of record. For example, it was shown earlier (Table 7.3) that in this study, like those of Murdie and Brown and Horton, the percentage of variance explained by a similar number of factors was less in the longitudinal analysis than in either of the cross-sections although the range of factor types did not vary greatly. Some factor stability was also evident in Goheen's (1970) series of cross-sectional analyses of Toronto in the late 19th century even though he did not rigidly restrict himself to the same variables in each case. Finally Murdie (1969, p.151) noted that:

"Not unexpectedly, the kinds of change which were isolated in the (longitudinal) analysis mirror the structural components of the cross-sectional analysis and were related spatially to changes in the actual patterns of change as measured from the two sets of (cross-sectional) scores."

and such a comment could equally be applied to the findings of this analysis. In operational terms, therefore, it is evident that the results of this study could be related to those few others which have used a similar method of analysis.

The final task of these conclusions is to relate the study towns' morphological patterns (and any changes therein) to the continuum model of urban development outlined in the opening chapter. It has already been noted that Goheen (1970) and Johnston (1969b) were able to trace the progress of the cities of Toronto and Melbourne, respectively, along this urban continuum and although the scale is, of course, very different there are indications of the beginnings of similar movements within at least three of the small towns of this study. In 1851 each

of them displayed what could be described as a pre-industrial socio-spatial pattern¹ with the upper classes residing on the main streets of the centre and the lower classes living away from these streets and in more peripheral localities.² In 1871 the central areas of the four towns were still of high residential status but in Hinckley, Lutterworth and Melton there had been some change in that social areas on or towards the periphery had attracted a number of middle class residents and, thus, these towns were showing some signs of development^{away} from the pre-industrial pattern. Unlike similar developments in major cities, the social area changes in these Leicestershire towns were not stimulated by the auspication of heavy industry or the establishment of intra-urban transportation networks³ but was rather associated with the provision of new housing units.

The mid-19th century was a period of great social change in Great Britain, one aspect of which was the increase in numbers of the middle classes. Table 8.11⁴ indicates that each of the four study towns participated to some degree in this general trend between 1851 and 1871 with regard to the proportion or absolute numbers of persons with non-manual occupations and/or households headed by non-manual workers. These new middle class inhabitants had to be housed and, as Figures 2.2, 2.3 and 2.5 demonstrate, there was little building land available in the centres of Hinckley, Lutterworth and Melton in the mid-19th century and, therefore,

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1. The use of the term 'pre-industrial' relates to the towns' morphologies and does not necessarily indicate that they contained no industry. Hinckley, for example, had been heavily involved in the manufacture of stockings since the 17th century although it is, perhaps, significant that true factory industry did not exist in strength until the latter part of the 19th century when the town began to lose its 'pre-industrial' form.
 2. In absolute terms the upper and lower class areas were still in close juxtaposition though. Best, in his survey of Mid-Victorian Great Britain, could, thus, have been describing Hinckley:
"The better class people who shopped and strolled in the main streets sometimes did not know how close they stood to the slum courts and yards that huddled behind the street fronts, their existence perhaps suggested merely by the low arches and narrow passages that gave access to them." (Best (1971) p.60)
 3. See Chapter One.
 4. This table is based on data gathered in the process of providing the aggregated occupational totals recorded in Tables 2.2 and 2.3.

TABLE 8.11 : NUMBERS OF NON-MANUAL OCCUPATIONS AND HOUSEHOLDS 1851, 1871

	Non-Manual Occupations				Non-Manual Households*		
	1851	1871		1851	1871		
	% of total workforce	% of total workforce	% increase in numbers since 1851	% of total households	% total households	% increase in numbers since 1851	
Coalville	8.0	10.8	107.7	13.4	20.3	130.1	
Hinckley	9.1	11.7	26.1	22.0	16.4	-5.9	
Lutterworth	22.6	22.8	-13.5	33.5	36.2	-13.2	
Melton Mowbray	26.1	25.8	26.7	35.8	36.7	31.8	

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* i.e. households headed by person of non-manual occupation.

most new high status housing developments were forced onto or towards the periphery.¹ Only at Coalville did such changes fail to take place; probably this reflects the fact that of the four study towns it was the only one with large amounts of centrally located vacant land which could be used to accommodate its rising numbers of middle class residents between 1851 and 1871.²

Finally, it can be tentatively postulated that by 1871 three of the study towns- Lutterworth, Hinckley and Melton Mowbray- were entering a phase of spatial transition since high status residents were to be found in both the centre and other parts of the towns. Presumably when the town centres began to lose their residential character in face of commercial developments the movement towards the 'industrial' stage of the urban spatial continuum model would be accelerated.

1. Figure 2.2 indicates that there were few new areas of housing built in Lutterworth between 1851 and 1871 but this did not mean that no rebuilding had taken place in those parts of the main street where residential status had risen. Plate 8.57 demonstrates the standard of high status peripheral housing being built in Melton Mowbray during this period.

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SECTION C

POPULATION MOBILITY

CHAPTER NINE

THE MOVEMENT OF PEOPLE

The industrialization of Britain during the 18th and 19th centuries could not have taken place without a massive redistribution of its population¹ because large numbers of people were required at limited locations to facilitate the extraction of raw materials and the development of a factory based manufacturing system. Although the main migration flows were in the direction of the major mining and manufacturing towns and cities it should not be overlooked that small towns also experienced, to a greater or lesser extent, an influx of long and short distance migrants (Saville 1957). Although prior to industrialization each small town had its own local migration field² it must be emphasised that these migrants did not usually contribute to any significant social segregation within the towns because they often had similar social characteristics to those of the established residents. However, with the coming of industrialization greater segregation began to take place because migrants from a greater variety of backgrounds and from more distant places of origin were attracted to the expanding towns and cities. Obviously, these migrants were drawn by amount and variety of economic opportunities available in the towns but it must be emphasised that not all towns experienced the same form of economic development. In Leicestershire, for example, a number of the agricultural service towns developed new industrial functions, others expanded as service centres and a few simply stagnated or even declined. Given these different forms of development it would be expected that the towns' migration patterns would vary accordingly. In cases where their economies were prospering an increase in both migration rates and distances would be expected since greater opportunities would attract people of a wide range of social and

1. For an assessment of the importance of demographic changes in British industrialization see Deane (1967) pp.20-35.

2. See, for example, Patten (1973).

cultural backgrounds; a feature which has been concisely exemplified by Lawton (1958) in his study of migration in the West Midlands between 1841 and 1861. On the other hand, those towns which did not prosper during the industrializing period often stagnated to such an extent that their migration field contracted and they experienced depopulation. Saville (1957), in his study of rural depopulation between 1841 and 1851 identified a number of rural market towns which underwent such changes. It is within such a context that the social changes experienced by the four case-study towns during the 19th century might be explained. This present chapter specifically concentrates on their migration patterns; social changes themselves are examined more closely in Chapter Ten. Before commencing on the empirical analysis, however, it is necessary to briefly review the migration experiences of Leicestershire as a whole during the 19th century and also to identify some of the problems associated with the sources of data to be used in the study.

The movement of people in Leicestershire during the 19th century

Any review of migration in 19th century Leicestershire must concentrate on C.T.Smith's detailed account published in 1955. In this Smith noted that (p.150):

"The currents of population movements are always complex but certain trends appear to have been consistent in Leicestershire in the mid-19th century: a small but significant net movement from Rutland and Northamptonshire; a much greater shift to the neighbouring counties of the north and west and a substantial net movement to the West Riding and Lancashire. In 1861 there were as many Leicestershire born persons in London as there were in the neighbouring counties of Northamptonshire and Lincolnshire and more in Yorkshire than Lincolnshire."²

In addition to his overall view of migration into and out of Leicestershire, Smith analysed in some detail the migration patterns of a number of the county's towns. These included two of the present study towns; in the case of Hinckley he revealed that (p.150):

"The figures for the hosiery villages and Hinckley express the effects of the long continued depression in the (framework knitting) industry. Hinckley (in 1851) had scarcely grown at all since 1811... Low wages and chronic underemployment seem to have deterred migrants".

-
1. In the light of Smith's findings, Ravenstein's (1885) classification of Leicestershire as a (borderline) county of dispersion seems to be correct.

In fact, Hinckley's migration pattern corresponded to that regarded by Redford (1926, p.182) as typical of decaying industrial settlements during the 19th century:

"The workers in a decayed branch of industry do not decide in a body that their occupation is gone and that they must seek a livelihood elsewhere. They feel an ever increasing difficulty in maintaining their customary standard of living and a few of the more enterprising men might migrate to some rising centre of their own industry. The great majority, however, cling to their old homes, in slack season they seek the nearest work available, returning to their original occupations at every revival of trade."

The second of the study towns singled out by Smith was Coalville:

"The population of the coalmining villages was drawn mainly from outside their own boundaries especially in the case of Coalville. The total population of these villages had doubled since 1801. Much of the Derbyshire element derived from the coalfield around Swadlincote and on the south flank of the Ashby anticline".
(Smith, op.cit. p.150)

Clearly this indicates the existence of a good deal of short distance migration, a pattern similar to that described by Thomas (1930) in a study of migration into the South Wales coalfield where, for example, in 1861 70% of the migrants to Glamorgan were from the adjacent counties. Long distance migration to coalfields was not unknown, but it was only significant during periods when the mines were prosperous because, as Redford has implied, a high financial reward was necessary to attract any new miners from beyond the local area.

"It is probable ... that the attraction of labour to coal mining from manufacturing areas was not very important. The work was too arduous and dangerous, the social status of the miners was too low for the occupation to prove very attractive. It was said that respectable people never apprenticed their children to mining except as a last resort." (Redford, op.cit. p.182)

Although Smith did not single out either Melton Mowbray or Lutterworth for special mention in his text, he did include them in a table of statistics showing migration into certain settlements in Leicestershire (Table 9.1).¹ Despite this, Smith's overall study of the county's migration does not

1. The table does contain one error, however: the Census Enumerators' Books record that the total population of the Ecclesiastical District of Coalville in 1851 was 1380 not 620.

MIGRATION TO SELECTED PLACES IN LEICESTERSHIRE, 1851

Column *A* of each section represents the number of persons born in the area concerned, column *B* the same number as a percentage of the total population, and column *C* the number as a percentage of the non-native population

Place	Total population	Non-native population		Birthplaces of non-native population																											
		Number	Percentage of total population	Surrounding villages			West Leics.			East Leics.			Leicester			Nearest neighbouring county			Other neighbouring counties			The rest of England and Wales			Ireland						
				A	B	C	A	B	C	A	B	C	County	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C			
AGRICULTURAL VILLAGES																															
Market Bosworth . . .	996	426	43	78	7	18	160	16	38	25	2	6	10	1	2	Warws. .	45	4	11	39	4	10	54	5	11	..	..	..	..	..
Husbands Bosworth . . .	1,002	464	46	85	8	19	22	2	5	134	13	30	15	1	3	Northants. .	93	9	20	49	5	10	58	6	13	..	..	..	..	..
Bottesford . . .	1,374	564	41	63	5	11	7	1	1	78	6	12	4	..	..	Lincs. .	177	13	31	18	1	3	39	3	6	2	..	..	..	..
Somerby . . .	503	278	56	52	10	19	4	1	1	74	15	27	9	2	3	Rut. . .	73	15	26	224	4	8	31	6	10	..	..	..	..	..
HOSIERY VILLAGES																															
Barwell . . .	1,362	306	23	106	8	35	78	6	26	24	2	8	12	1	4	Warws. .	40	3	13	20	2	7	15	1	5	5	..	..	2	2
Earl Shilton . . .	2,364	666	27	119	5	15	213	9	28	74	3	10	58	2	8	"	53	2	7	61	3	8	36	2	4	6	..	..	..	..
Wigston Magna . . .	2,430	703	29	136	6	19	129	6	18	178	7	25	59	2	8	Northants. .	57	2	8	59	2	8	49	2	7	9	..	..	1	1
Anstey . . .	826	302	37	58	7	19	120	15	40	38	5	13	40	5	13	Notts. .	19	2	6	11	1	4	11	1	4	5	..	1	1	1	
Narborough . . .	782	353	45	89	12	25	72	9	21	77	10	22	39	5	11	Northants. .	16	2	4	21	3	6	36	4	10	2	..	..	..	..
COAL-MINING VILLAGES																															
Whitwick. . .	2,145	1,078	54	273	13	25	316	15	29	33	1	3	27	1	2	Derbys. .	108	5	10	69	3	6	60	3	5	89	4	8	8	8	
Swannington . . .	822	501	61	225	27	45	110	14	22	11	1	2	5	1	1	Notts. .	71	3	6	56	7	11	17	2	3	10	1	2	2	2	
Thringstone . . .	1,298	674	52	330	25	48	141	12	21	13	1	2	3	..	..	Derbys. .	68	5	10	71	5	10	23	2	3	9	1	1	1	1
Hugglescote and Donington	1,014	521	51	171	17	34	187	19	37	21	2	4	15	1	3	"	55	5	10	51	5	10	17	2	3	..	..	..	..	..
Coalville . . .	620	507	83	147	24	29	103	16	20	10	2	2	6	1	1	"	128	20	25	69	11	13	12	2	2	1	..	..	..	..
TOWNS																															
Hinckley . . .	5,974	1,753	29	343	6	20	399	7	23	93	2	5	122	2	7	Warws. .	342	6	20	193	3	11	157	3	8	57	1	3	3	3	
Loughborough . . .	10,977	4,317	46	667	6	13	1,520	13	30	439	4	9	256	2	5	Derbys. .	301	3	6	303	3	6	454	4	9	166	1	3	1	1	
																Notts. .	489	4	10	303	3	6	454	4	9	166	1	3	1	3	
																Nottingham (town) .	280	3	6												

Table 9.1
Source: Smith (1955)

give sufficient detail to thoroughly test the hypotheses proposed both at the beginning of this chapter and in Chapter One and, therefore, a more searching investigation has to take place at this juncture. However, before this is undertaken, it is necessary to examine the problems and possibilities of the data sources utilized - the 1851 and 1871 Census Enumerators' Books.

Census Enumerators' Books : Problems and Possibilities in Migration Studies

In any small scale study of migration during the 19th century the adoption of Census Enumerators' Books as data sources is almost obligatory since no other records present information that can be used to give some indication of the mobility of every person enumerated in the study area. However, the use of these schedules is not free from difficulty. The greatest problem is that the only information available to assess an individual's mobility is his place of birth and, therefore, the researcher is forced to make the assumption that movement between birthplace and enumerated address is a true representation of actual migration. In addition, little can be said about the age at which a person migrated, the number of stages involved in his journey, or his length of residence at his present address. A further drawback is that studies of small areas such as this one can only investigate in-migration.¹ But, even with^a full knowledge of these limitations, 19th century migration studies have to make use of the Census Enumerators' Books in the absence of any better source of data.

In the present case, social class, relationship to head of household and migration distance made up the basic data to be used in the study of migration. This information was obtained for each

1. Published data does not descend to the level of small towns and although, in theory, it would be possible to trace the destinations of emigrants from the towns by searching through the full set of Census Enumerators' Books, obviously, in practice, this is not possible.

person within those households that formed part of the samples used in the multivariate analyses.¹ Position within the household was copied directly from the census sheets while each person was allocated to the social class of his household head.² This class allocation procedure cannot be challenged in the case of wives and children, but it requires some justification if it is to be extended to more peripheral members of the household, especially as it resulted in a number of paradoxical situations, for example, that of a Hungarian count resident in Melton Mowbray in 1871 who was placed in class V because he lodged with a labourer. However, in spite of such oddities, this method of ranking had the great merit of being both objective and consistent while, surely, the class of the head would tend to be the arbiter of the lifestyle of all members of his household - the Hungarian count can hardly have lived the life of an aristocrat in the home of a Melton labourer. The only exception to this ranking system was in the case of servants who were placed in Class V because, more often than not, they did not enjoy the lifestyle of their masters but merely contributed towards it.

The last item of information required about each person in the samples - the distance of their migration - was not so easily obtained for it could only be calculated by laboriously measuring the distance between the individual birthplaces and the study towns³, and even with this straightforward but very time consuming procedure there were a number of problems that had to be overcome. Most of these related to deficiencies in the Enumerators' Books themselves.⁴ For instance, many of the non-English

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1. That is a 100% cover of the households in Coalville in 1851 and 1871 and a systematic 50% sample of those in Hinckley, Lutterworth and Melton Mowbray.
 2. The method for obtaining this was outlined in Chapter Five.
 3. Distances were measured by straight lines to the nearest half mile between the centre of the study town and that of the birthplace settlement. Those born in the study towns were allocated the nominal migration distance of one half mile.
 4. See Chapter Three for a fuller discussion of the difficulties of using Census Enumerators' Books as data sources.

birthplaces were recorded by country alone and occasionally an enumerator would give only the county in the case of English births. This was particularly characteristic of one of Hinckley's enumerators in 1871 since his sheets were peppered with entires such as 'Worcestershire' or 'Nottinghamshire' without reference to towns within the counties. Other problems included the perennial difficulties of deciphering some of the appalling scripts; the impossibility of tracing some of the recorded birthplaces even with the use of contemporary directories; and, finally, a few of the migrants did not know where they were born. In order to overcome some of these difficulties when calculating the migration distances, a number of simple rules were drawn up:

1. Where only the country of birth was given the migrant was allocated the average distance of migrants from his country to the study town. This applied only to Scotland, Ireland and Wales as migrants from outside the British Isles were not included in the samples.¹

2. Where only the county of birth was known or where the given birthplace town could not be deciphered or traced - the migrant was assumed to have come from the chief town of this county.²

1. This was in case their lengthy migration distances would have unduly weighted any averages drawn from the samples. For example the inclusion of the length of an Italian's journey to Coalville sometime before 1871 in the computation of the mean migration distance for his class (III) would have increased it from 28 to 58 miles. Irish birthplaces were not excluded in the same way as they indicated migration between integral parts of the British Isles. The foreigners thus excluded from the samples were not of great numerical significance; Lutterworth's 50% household sample contained no foreigners either in 1851 or 1871; Coalville had one American in 1851 and one Italian in 1871; Melton Mowbray had just one Hungarian in 1851 but showing, perhaps, an increased international position, in 1871 10 foreigners were included in the sample - seven French, one German, one American and one Indian. Hinckley had a German, a Bermudan and two Indians in 1851 but no non-British births were noted in 1871 except, perhaps, that of a child born at sea but as both his parents were Irish it was thought that the sea in question would be Irish also and so the child was included in the sample.

2. In fact these migrants would probably have been less likely to have come from the chief town since most of these would have been centres of immigration rather than sources of emmigration at this time but the rule did have the merit of being consistent and the actual error in distance was probably of little importance.

3. Any obvious mistakes were corrected. 'Windsor, Bucks' was one example.

4. Where the birthplace was not known the migrant was assigned the mean migration district of his class.

With the aid of these 'rules' migration distances were calculated for each person in the samples and that, together with social class and status within the household, formed the basic data for the analyses to follow.

Migration Analyses

In both Chapter One and the Introduction to this chapter, a number of hypotheses were established with regard to the expected patterns of migration into the study towns. In order to place the following empirical analyses into context it is necessary that these hypotheses should be repeated here in summary form. This can best be done by means of a number of simple statements: most migrants would have moved only short distances from the local area and, therefore, it is likely that there would have been a decline in migrant numbers with distance from the towns; many migrants, especially those from long distances, would have moved in a series of stages; migration would have been selective by sex, status and age; migration distances would have increased over time as the national economy prospered and the railway network expanded; and, there would have been some common occupational characteristics between migrant source areas and destinations. It is to be expected that the constraints on movement implied by these hypotheses would have had differential effects on the migration patterns of various population sub-groups within the towns, particularly those of social status, for example, distance would have been a less effective constraint on the movement of the upper than the lower classes. Finally, when these hypotheses are tested, it is likely that the results will vary between the four study towns in line with their relative prosperity and the level of opportunities they offered to

migrants.

Differentials between the towns can be established, even before the analyses proper commence, by simply examining the varying contributions made by migrants to their population totals (Table 9.2). The proportions of migrants in the towns ranged from the 26.22% in Hinckley in 1871 to the 80.22% of Coalville in 1851 and this indicates that the level of migration to a settlement cannot be solely related to its function since both Coalville and Hinckley were industrial towns. However, it must be noted that the figure for Coalville is very misleading since the town was only recognised as an administrative unit in 1842¹ and, hence, any people born in the town prior to that date could not have had their birthplaces recorded as 'Coalville' and would, thus, appear to be migrants. Despite this unavoidable exaggeration, however, it cannot be doubted that Coalville's growing economy had attracted a considerably higher proportion of migrants than Hinckley which was experiencing grave economic difficulties throughout the mid-19th century. Distinctions were also found with reference to the migrant proportions of the less-industrialized towns of Lutterworth and Melton since the declining economy of the former was reflected in it having fewer migrants than the more prosperous Melton Mowbray where more than half the population had been born outside the town in both 1851 and 1871.

Over the twenty year study period there were few changes in the proportion of migrants in the towns of Hinckley, Lutterworth and Melton but in Coalville, which in 1871 had been an administrative unit for a generation, there were, of course, relatively fewer non-Coalville births. The slump in the coal trade in the 1860s was, also, perhaps a factor here. The effect of the towns' differential prosperity on their migration patterns can also be seen in the next section which considers migration distances.

1. When it was made an Ecclesiastical Parish.

TABLE 9.2 : MEAN MIGRATION DISTANCES AND PROPORTION OF MIGRANTS 1851, 1871

Town	1851				1871				1851-1871	
	Mean* Distance	Migration ⁺ Distance	% of Migrants	Mean* Distance	Migration ⁺ Distance	% of Migrants	Mean distance Change (%)			
Coalville	16.14	20.45	80.22	9.74	14.75	64.89	-39.63			
Hinckley	8.27	26.55	29.79	7.14	25.82	26.22	-13.73			
Lutterworth	10.29	23.88	41.01	10.64	24.54	42.16	+3.32			
Melton	15.17	29.27	50.97	21.89	40.07	54.25	+44.31			
Average	11.89	24.98		12.09	26.51					

* Including those born in the study town

+ Migrants only

Migration Distances

A number of the hypotheses summarised earlier were related to migration distances and, indeed, distance is one of the most important variables in an understanding of migration. In this study, its investigation was composed of three/^{main}parts: firstly, simple mean migration distances were calculated to identify each of the towns' migration fields, secondly, a series of regression analyses were carried out to assess the frictional constraint of distance on migration and, finally, the effect of class differentials upon migration distances were considered.

Migration Fields

Table 9.2 not only shows the proportion of migrants in the study towns in both 1851 and 1871 but also the average distance over which each had travelled. Two measures of distance were presented: the overall mean migration distances- a computation that includes all the towns' inhabitants, both migrant and non-migrant;¹ and, secondly, the mean distances of the migrants alone. With regard to the overall mean distances it can be seen that in 1851 these were longest in Coalville and shortest in Hinckley. However, these distances were more of a reflection of the towns' proportions of non-migrants than a true representation of their migration fields since when the mean distances travelled by migrants alone were calculated it was discovered that those in Coalville had, in fact, travelled the shortest distances with an average of only 20.45 miles compared to the 29.27 miles of Melton Mowbray's migrants. By 1871 the mean migration distances of the residents of the two industrial towns of Hinckley and Coalville had decreased, a feature which was particularly interesting when it is borne in mind that Coalville had increased in numbers quite considerably since 1851. Perhaps the slump

1. Persons born in the study towns were assigned a nominal migration distance of a half mile.

in the coal trade in the 1860s had made the town less attractive to migrants from long distances as Thomas' (1930) study of migration into the South Wales mining areas in the 19th century would suggest. In contrast, Melton Mowbray's residents experienced a significant lengthening in migration distances between 1851 and 1871. However, it must be reiterated that this trend was not common to all of the four towns despite a general increase in mobility made possible by improvements in transportation in the mid-19th century.

Table 9.3 enables the towns' migration fields to be examined in more detail since it indicates the distances over which certain proportions of their populations had moved. Figure 9.1 presents the same information in diagramatic form. The high proportion of non-migrants in Hinckley stands out clearly and it can be seen that its migration field contracted quite sharply by the end of the study period in 1871. This was in contrast to the situation in Melton Mowbray where the town's influence had extended over a much wider area by 1871. Coalville's migration fields were very limited throughout the mid-19th century while those of Lutterworth can be seen to have been intermediate in size between those of the two industrial towns and Melton Mowbray.

This rather descriptive analysis has indicated that the towns' migration fields, as well as their proportion of migrants, varied greatly. Thus, the prosperous town of Melton Mowbray had both a high proportion of migrants and a wide ranging field of influence, but Coalville, the only other study town to be undergoing active expansion in the mid-19th century had a large proportion of migrants but a very restricted migration field. Clearly, despite its relative prosperity, Coalville was not a great magnet to long distance migrants because it could only offer them employment of low socio-occupational status. This emphasises that in any assessment of migration both the functions and prosperity of the study area must be taken into account.

TABLE 9.3 : MIGRATION DISTANCES AND POPULATION PROPORTIONS

Non-migrants	Coalville		Hinckley		Lutterworth		Melton Mowbray	
	1851	1871	1851	1871	1851	1871	1851	1871
	19.8%	35.1%	70.2%	73.8%	59%	57.8%	49%	45.8%
Distances (miles) closer than which percentages were born								
% of Population	Coalville		Hinckley		Lutterworth		Melton Mowbray	
	1851	1871	1851	1871	1851	1871	1851	1871
25	1.5	-	-	-	-	-	-	-
30	1.5	-	-	-	-	-	-	-
35	1.5	-	-	-	-	-	-	-
40	3	1.5	-	-	-	-	-	-
45	3.5	1.5	-	-	-	-	-	-
50	4.5	1.5	-	-	-	-	-	-
55	7	2.5	-	-	-	-	2	3
60	8.5	3.5	-	-	1	1.5	4.5	6
65	9.5	4.5	-	-	3	3.5	5.5	9
70	11.5	7	-	-	4	5	8	13.5
75	14.5	9.5	3	1.5	6	7	11	17.5
80	19.5	12	4	3.5	9.5	13	15.5	30
85	20.5	17	8	5	12.5	14	23	57
90	26.5	21	12.5	12	20	23.5	46.5	92
95	75.5	41	31.5	31	71	67.5	89	105
100	U.S.A.	Italy	India	Scotland	Scotland	Scotland	Hungary	India

Regression Analyses

The analysis so far has shown that, as hypothesised, the greater number of migrants had travelled only short distances but that mean migration distances varied with the prosperity and function of the towns. However, in order to test the significance of these conclusions more rigourously a series of statistical tests were carried out. These consisted of product moment correlation analyses and straight line regression analyses. First the numbers of migrant births were plotted against distance (at half mile interval groups) and then the relationship between these two variables was examined by means of the product moment correlation coefficient, r , which was calculated according to the formula:

$$r = \frac{1/n \sum (a - \bar{a})(b - \bar{b})}{\delta a \delta b}$$

where:

n = number of observations (i.e. distance groups)

a = number of births

b = distance from the study town

δ = standard deviation ($\sqrt{x^2/n - \bar{x}^2}$)

In each analysis the significance of r was tested against a table of significance based on Student's t test where:

$$t = \frac{r \sqrt{n-2}}{\sqrt{1-r^2}}$$

Once r had been obtained the regression lines were calculated thus:

$$\frac{a - \bar{a}}{\delta a} = r \frac{b - \bar{b}}{\delta b}$$

For data relating to each study town for both 1851 and 1871 this procedure was carried out twice, firstly including the nominal migration

distances of the town born, and, secondly, excluding them lest their presence had unduly distorted the true relationship between migration and distance. Thus, in total 16 separate analyses were performed. Their results are presented on Table 9.4 and, graphically, in Figures 9.2 and 9.3.¹

In each analysis the correlation coefficients were found to be negative which indicated that an inverse relationship between migrant numbers and distance existed. Although the coefficients were not high, particularly in those analyses which included the town born, the levels of significance were sufficient for it to be possible to conclude that this relationship was not due to chance. Its strength in the different towns can be gauged from the regression line gradients; the flatter gradients indicating where distance had exerted less of a frictional effect and, therefore, where the migrants had come from further afield. In the series of analyses which included the town born it can be seen that the shallowest gradient in 1851 was that of Coalville, while that of Hinckley was the steepest. By 1871 the gradients of both these industrial towns had become steeper showing that their attraction had lessened but those of Lutterworth and Melton Mowbray had become shallower as their areas of influence must have extended. These results confirm the impressions gained from the rather crude investigations presented on Tables 9.2 and 9.3 although it must be pointed out that in the case of Melton Mowbray, the correlation and regression analysis indicated that the town's migration field was rather less extensive than might have been expected, particularly in 1871. When the town births were excluded from the regression analyses both the correlation coefficients and the levels of significance rose in every case

1. The graphs omit the non-migrants (town-born).

TABLE 9.4 : REGRESSION ANALYSIS : TOTAL BIRTHS : DISTANCE 1851, 1871

<u>Including non-migrants</u>						
Town	1851			1871		
	Regression	r	Signif.	Regression	r	Signif.
Coalville	a = -0.117b + 19.549	-0.24	2%	a = -0.12b + 12.415	-0.121	10%
Hinckley	a = -0.344b + 42.405	-0.107	-	a = -0.378b + 48.459	-0.11	20%
Lutterworth	a = -0.18b + 22.024	-0.14	20%	a = -0.119b + 15.383	-0.129	20%
Melton	a = -0.202b + 24.19	-0.147	10%	a = -0.174b + 23.905	-0.138	5%
<u>Excluding non-migrants</u>						
Town	1851			1871		
	Regression	r	Signif.	Regression	r	Signif.
Coalville	a = -0.084b + 15.166	-0.272	1%	a = -0.067b + 7.714	-0.161	2%
Hinckley	a = -0.064b + 10.529	-0.171	10%	a = -0.068b + 10.784	-0.291	0.1%
Lutterworth	a = -0.52b + 7.942	-0.329	0.1%	a = -0.034b + 5.657	-0.357	0.1%
Melton	a = -0.075b + 10.568	-0.407	0.1%	a = -0.062b + 10.573	-0.324	0.1%

which demonstrated that the non-migrants had, indeed, tended to mask the strength of the true relationships between numbers of migrants and distance. However, with the removal of the non-migrants both the relationships between the towns and those between the same town at different dates became less clear. For example, as was expected, Lutterworth and Melton's regression gradients became shallower over the twenty year study period, that of Hinckley became steeper, but at Coalville the gradient became shallower, quite the reverse of the anticipated change.

The results of this series of regression analyses have not been entirely satisfactory but they enabled two of the migration distance hypotheses to be proven in that (a) in each town there was a significant distance decay with regard to migration numbers; and (b) the strength of this distance decay seemed to vary between the towns and within each over time in accordance with their relative attractiveness, as established in the migration field study.

Class Differentials

This chapter has so far concentrated on the migration distances of the towns' populations as a whole, but since the data sources used in the study - the Census Enumerators' Books - allow information to be gathered at an individual level it is equally possible to analyse the migration of different social groups. In this case the patterns of the towns' constituent social classes will be investigated.

In the opening chapter it was hypothesised that class differentials were reflected in migration behaviour insofar as people of higher status were, on the whole, less constrained by distance. The multivariate analyses indicated that this certainly seemed to be the case within the study towns since, particularly in 1851, there were strong links between town births and low social classes and, conversely, more distant birthplaces and high

status. This relationship can now be examined in greater detail and, in similar fashion to the investigation of the town's overall migration patterns, a descriptive analysis is followed by a regression study.

Table 9.5 presents the mean migration distances of the different social classes to be found in each town in both 1851 and 1871. These averages, which include the nominal migration distances of the town born members of each class, confirm that the upper classes tended to have travelled the furthest distances. Indeed, with reference to the overall class averages, it can be seen that there was a steady decrease in migration distance down the social scale with the only exception being that the mean distance for the class V migrants exceeded that of class IV, primarily because the latter were numerically dominated by the mass of town born hosiery workers resident in Hinckley. During the twenty year study period the mean distances virtually doubled for class I, rose significantly in the case of class II, remained steady for class III but decreased sharply for the two manual classes. This indicates that although the aggregated mean migration distance might have risen between 1851 and 1871 (Table 9.2), a rise in distances was not found for each class and only for the upper classes were significantly longer distances recorded in 1871 than 1851.

The relationships between the classes at the aggregate level were not always duplicated in the cases of the individual towns, although in each of them differentials in the mean distances of classes of high and low status were found. This was particularly clear in Coalville and Hinckley since, in both these towns, the non-manual classes means rose between 1851 and 1871 while those of the manual classes fell. Similar developments were not recorded in Lutterworth where only the mean for class I increased over the study period, while in Melton Mowbray, the means of each of the different classes rose sharply. However, in both these towns certain interclass differences did exist since the non-manual groups had moved, on average, considerably further than those of lower status.

TABLE 9.5 : AVERAGE DISTANCE (MILES) MIGRATED BY SOCIAL CLASSES 1851, 1871

Town	1851						1871					
	Class I	Class II	Class III	Class IV	Class V-	Class V+	Class I	Class II	Class III	Class IV	Class V-	Class V+
Coalville	26.55	10.64	20.7	20.7	16.04	15.91	49.1	23.37	30.09	9.46	7.93	7.84
Hinckley	19.45	14.3	5.9	6.25	9.5	9.7	41.47	19.21	14.17	4.29	5.06	5.6
Lutterworth	8.4	17.45	21.23	6.9	6.34	6.71	16.48	15.75	11.27	5.26	6.35	6.82
Melton	45.85	21.47	22.27	14.32	8.22	9.47	55.49	24.54	23.87	15.79	17.31	20.35
Average	22.87	17.26	16.88	8.47	11.36	11.22	44.11	20.0	16.45	6.38	9.5	10.71

Class V- excludes servants

Class V+ includes servants

In Table 9.5 the means for class V were divided into 'with' and 'without' servants in order to investigate whether this occupational group acted as typical members of their class. This seems to have been the case since, in both comparisons, the two mean migration distances were very similar. The only major disparity was to be found in Melton Mowbray where the 'with servants' mean distance considerably exceeded that of the 'without servants' group. The main cause of this distinction was the large number of rich hunting enthusiasts who had come to Melton in that season with large retinues of servants from outside the local area. The majority of foreigners who had been excluded from the analysis of migration distances in the four study towns were actually servants to the nobility in Melton Mowbray in 1871.

Class Regression Analyses

In a similar fashion to the examination of the towns' overall migration patterns, those of their constituent social classes can be studied in much greater depth by subjecting them to a correlation and regression analysis. However, before proceeding with this, a simple regression test was performed to ascertain the general relationship between status and migration distance within the towns on the hypothesis that the mean social class of migrants from each distance unit would increase with distance from the study towns. This was investigated by subjecting data based on the 'average' social class of migrants from successive five mile distance zones¹ to the regression analysis procedure described above. In many of the individual calculations (Table 9.6 and Figures 9.4 and 9.5) the correlations were weak and the levels of significance low but this was, perhaps, to be expected since there could only be a very limited variation in mean status because the extremes of the social indices were unlikely

1. These mean social class indices' were calculated by awarding five points for each class I migrant in a distance zone, four for each class II, three for each class III, two for each class IV and one for each class V, summing the total score of each distance zone and then dividing this by the number of migrants.

TABLE 9.6 : SOCIAL CLASS - DISTANCE OF BIRTHPLACE

Town	1851				1871			
	Regression	.	r	Signif.	Regression	.	r	Signif.
Coalville	a = -0.001b +	1.587	-0.149	-	a = +0.001b +	1.92	+0.113	-
Hinckley	a = +0.001b +	2.525	+0.048	-	a = +0.006b +	2.136	+0.44	1%
Lutterworth	a = +0.004b +	2.363	+0.276	20%	a = +0.003b +	2.412	+0.281	20%
Melton	a = +0.003b +	2.411	+0.343	5%	a = -0.002b +	2.452	-0.254	10%

to be reached. Despite this, it is noteworthy that in six of the eight separate analyses there was at least some indication that the hypothesis was upheld since the positive gradient of their regression lines showed that mean status did increase with distance. On the other hand, there were two analyses in which the status of migrants seemed to decrease with distance: those of Coalville in 1851 and Melton Mowbray in 1871. In the former case this was, presumably, a result of the towns' function since this ensured that most of its migrants from whatever distance would be of low status as there were few opportunities for employment in any activity except coalmining at this time. In 1871 when a more balanced occupational structure had been established in Coalville the mean status of its migrants rose with distance in accordance with the hypothesis, although this relationship was not mathematically significant. In contrast to Coalville, no simple explanation can be forwarded for the unexpected status/distance relationship found in Melton Mowbray in 1871. It was originally thought that the large body of long distance migrant servants resident in the town in that year might have been responsible but when this postulation was tested by excluding servants from the calculations (and, for good measure, the generally low status long distance Irish migrants) the regression line still indicated that status tended to decrease over distance although the relationship did lose some of its strength. These results indicate that, although the hypothesised relationship was not universally found, in most cases the status of migrants did tend to increase over distance.

Having examined status differentials in migration at this very general level and having also seen that there were clear distinctions between the classes in terms of their mean migration distances (Table 9.5), it is necessary to try and assess these differences in more detail by means of a further series of regression analyses applied to the migration patterns

of the individual social classes¹ (Tables 9.7, 9.8, 9.9, 9.10 and Figures 9.6 - 9.17²). If the hypotheses put forward about social status and migration distances are to be proved at this detailed level it will be expected that: (a) migration numbers will be seen to have declined over distance for each of the social classes; but (b) the decline will have been less marked for the higher classes whose regression lines should have the shallower gradients indicative of a greater proportion of long distance movement; and, finally, (c) that the analyses excluding the non-migrants will have the most significant relationships between numbers and distance just as with the overall migration/ distance analyses presented in Table 9.4.

In order to simplify the examination of the class regressions they will be discussed within the context of the individual towns but to avoid undue repetition a number of common features can be noted first. For example, in almost every one of the analyses the expected decline in migrant numbers over distance was recorded. However, in a number of cases this relationship was not mathematically significant and on four occasions the results of the analyses implied that migrant numbers tended to increase over distance. The second general point relates to the comparisons between those analyses including the non-migrants and those excluding them. It was postulated that the latter group would be of more significance and, indeed, this was true in almost every case and it is quite clear that the inclusion of the town born in the regression analyses of migrant numbers over distance did exert a distorting influence. Therefore, the remainder of this discussion will concentrate on the results of the migrant only analyses.

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1. As with the towns' overall migration patterns examined earlier these analyses were carried out on data sets both including and excluding the town born non-migrants
 2. The graphs again exclude the non-migrants.

TABLE 9.7 : COALVILLE BIRTHS : DISTANCE FOR FIVE SOCIAL CLASSES

Including non-migrants						
Class	1851			1871		
	Regression	r	Signif.	Regression	r	Signif.
I	a = -0.008b + 1.752	-0.344	-	a = -0.001b + 1.166	-0.198	-
II	a = -0.043b + 3.029	-0.334	20%	a = -0.032b + 4.633	-0.255	20%
III	a = -0.013b + 3.356	-0.13	-	a = -0.051b + 6.397	-0.263	10%
IV	a = -0.022b + 4.612	-0.306	10%	a = -0.097b + 7.18	-0.226	10%
V	a = -0.093b + 16.496	-0.217	5%	a = -0.181b + 21.83	-0.168	10%
Excluding non-migrants						
Class	1851			1871		
	Regression	r	Signif.	Regression	r	Signif.
I	-	-	-	-	-	-
II	a = -0.028b + 2.569	-0.273	-	a = -0.016b + 3.074	-0.225	20%
III	a = -0.011b + 3.14	-0.113	-	a = -0.051b + 4.511	-0.358	2%
IV	a = -0.015b + 3.791	-0.316	10%	a = -0.054b + 4.87	-0.294	2%
V	a = -0.066 + 12.618	-0.268	1%	a = -0.099b + 12.989	-0.229	5%

TABLE 9.8 : HINCKLEY BIRTHS : DISTANCE FOR FIVE SOCIAL CLASSES

<u>Including non-migrants</u>						
Class	1851			1871		
	Regression	r	Signif.	Regression	r	Signif.
I	a = -0.57b + 4.476	-0.514	1%	a = -0.006b + 2.322	-0.126	-
II	a = -0.049b + 6.914	-0.123	-	a = -0.037b + 6.172	-0.143	-
III	a = -0.074b + 9.808	-0.131	-	a = -0.044b + 7.5	-0.116	-
IV	a = -0.265b + 34.588	-0.104	-	a = -0.353b + 36.489	-0.111	-
V	a = -0.114b + 14.933	-0.111	-	a = -0.207b + 20.282	-0.146	-
<u>Excluding non-migrants</u>						
Class	1851			1871		
	Regression	r	Signif.	Regression	r	Signif.
I	a = -0.001b + 1.52	-0.047	-	a = +0.002b + 1.263	+0.243	-
II	a = -0.01b + 2.576	-0.258	2%	a = -0.009b + 2.549	-0.302	2%
III	a = -0.013b + 2.805	-0.264	20%	a = -0.007b + 2.368	-0.159	-
IV	a = -0.031b + 6.465	-0.241	5%	a = -0.038b + 5.368	-0.234	5%
V	a = -0.02b + 4.875	-0.183	20%	a = -0.059b + 6.486	-0.312	1%

TABLE 9.2 : LUTTERWORTH BIRTHS : DISTANCE FOR FIVE SOCIAL CLASSES

Including non-migrants						
Class	1851			1871		
	Regression	r	Signif.	Regression	r	Signif.
I	a = -0.64b + 4.444	-0.239	-	a = -0.48b + 4.215	-0.409	20%
II	a = -0.067b + 6.853	-0.219	20%	a = -0.034b + 5.254	-0.162	-
III	a = -0.018b + 5.977	-0.077	-	a = -0.03b + 4.897	-0.15	-
IV	a = -0.147b + 11.487	-0.155	-	a = -0.279b + 10.896	-0.213	-
V	a = -0.121b + 13.205	-0.144	-	a = -0.088b + 4.53	-0.131	-
Excluding non-migrants						
Class	1851			1871		
	Regression	r	Signif.	Regression	r	Signif.
I	a = -0.011b + 1.951	-0.234	-	a = -0.01b + 1.825	-0.349	-
II	a = -0.15b + 2.605	-0.35	5%	a = -0.006b + 1.95	-0.305	10%
III	-	+0.004	-	a = -0.005b + 1.8	-0.25	10%
IV	a = -0.024b + 3.266	-0.308	5%	a = -0.045b + 3.717	-0.281	20%
V	a = -0.033b + 4.833	-0.353	2%	a = -0.023b + 2.167	-0.376	1%

TABLE 9.10 : MELTON MOWBRAY BIRTHS : DISTANCE FOR FIVE SOCIAL CLASSES

<u>Including non-migrants</u>						
Class	1851		1871			
	Regression	r	Signif.	Regression	r	Signif.
I	a = -0.002b + 1.906	-0.042	-	a = -0.008b + 3.365	-0.08	-
II	a = -0.045b + 6.301	-0.166	20%	a = -0.048b + 6.896	-0.138	20%
III	a = -0.04b + 6.036	-0.123	-	a = -0.042b + 6.275	-0.151	20%
IV	a = -0.08b + 9.496	-0.137	-	a = -0.07b + 9.231	-0.147	20%
V	a = -0.126b + 14.357	-0.152	20%	a = -0.088b + 12.416	-0.137	10%
<u>Excluding non-migrants</u>						
Class	1851		1871			
	Regression	r	Signif.	Regression	r	Signif.
I	a = +0.005b + 1.15	+0.477	5%	a = +0.007b + 1.687	+0.089	-
II	a = -0.013b + 3.005	-0.311	1%	a = -0.011b + 3.065	-0.157	20%
III	a = -0.006b + 2.58	-0.116	-	a = -0.013b + 2.91	-0.385	0.1%
IV	a = -0.018b + 3.415	-0.381	0.1%	a = -0.02b + 3.858	-0.268	2%
V	a = -0.047b + 6.492	-0.385	0.1%	a = -0.028b + 5.367	-0.297	0.1%

analyses

With reference to the / of the classes in Coalville

(Table 9.7 and Figures 9.6, 9.7 and 9.8) the most noteworthy feature was the marked difference between the correlation coefficients of the lower status groups and the much weaker coefficients of the upper classes. This distinction is a reflection of Coalville's social structure since, in both absolute and relative terms, there were very few non-manual migrants in the town and, of course, a correlation and regression analysis with a limited number of observations is not likely to have a high level of significance. In fact there were so few class I migrants in both 1851 and 1871 that no migrant-only regressions could be calculated. Coalville's results were also unusual in that the regression line gradients of the other classes in 1851 did not differentiate between the manual and non-manual groups as hypothesised since that of class II was steeper than those of both classes III and IV. However, the gradient of the class V regression did indicate that it had a much more restricted migration field than any of the other classes. In 1871 Coalville's class relationships conformed more to the expected pattern not only because class II had the shallowest gradient followed by classes III, IV and V in perfect order but also because the manual classes' regression gradients were very much steeper than those of the high status groups. Similar relationships were found at Hinckley (Table 9.8 and Figures 9.9, 9.10 and 9.11) where, in 1851, the class order was I, II, III, V, IV and in 1871 III, II, IV and V with class I not being represented as its migrants seemed to be so little affected by distance that its regression line had a positive gradient (although the doubtful likelihood of such a relationship having occurred in real life is, perhaps, indicated by the analysis's lack of statistical significance). Three other regression lines had similar positive gradients: those of class III in Lutterworth in 1851 and class I in Melton Mowbray in both 1851 and 1871. In Melton this would again seem to be an indication that the upper classes' migrations

were not constrained at all by distance but in the Lutterworth case the result was caused by a number of Irish 'visitors' being resident in the town, the length of whose journeys was sufficient to distort the analysis (in fact no meaningful regression line could be computed). These results apart, Lutterworth and Melton both show the same distinction between the migration fields of their upper and lower classes as at Hinckley. In Lutterworth (Table 9.9 and Figures 9.12, 9.13 and 9.14) the precise ordering of the regression line gradients was, from the shallowest, in 1851 classes I, II, IV, V and in 1871: III, II, I, IV, V. At Melton the ordering in 1851 (Table 9.10, and Figures 9.15, 9.16 and 9.17) was classes :: III, II, IV, V and, in 1871: II, III, IV and V. The final part of this analysis relates to the changes in regression gradients over the twenty year period between 1851 and 1871 and, although a number of those of upper class groups became shallower and those of low status groups became steeper as expected, there were a considerable number of exceptions to these general trends.

This series of regression analyses has indicated that while almost every social group within the towns was subject to a distance decay in terms of its migrant numbers, the constraint of distance was not equal on each class and there was a clear distinction in the slopes of their regression lines in that those of the non-manual status groups tended to be much shallower than those of the working classes. Only in the unusual circumstances of Coalville in 1851 was this not the case. These class differentials can be related to those / ^{shown in} Table 9.5 in which similar relationships were recorded in terms of mean migration distances. Thus, overall, it has been clearly demonstrated that social class had a very important bearing upon likely migration behaviour.

Household Position and Migration

In view of the amount of information provided about the towns by the investigation of the migration behaviour of their social classes,

it was considered worthwhile to extend the examination to further population sub-divisions - those of the different groups within the households such as wives, children, lodgers, servants and the like. Table 9.11 indicates that, in a similar fashion to the various social classes, there was considerable differentiation between the migration patterns of these different household groups. Those without the constraints of family ties - the lodgers and the visitors - were by far the most mobile both within and beyond the towns. On the other hand, children and servants had very restricted migration fields, since the majority of the former were born in the towns and most of the latter (with the exception of those to be found in Melton Mowbray in 1871) were either non-migrants or originally from the local area. Each of the towns tended to have similar relationships between these various categories, but it is interesting to record that such similarities did not mask the differences between the towns themselves. Although in each of them the household heads had moved on average two or three times as far as the children, the actual distances involved varied greatly between the towns in accordance with the relative strength of their overall migration fields. In 1851 Coalville and Melton had the highest proportion of migrants and every group within their households (except servants and lodgers in Coalville) had moved longer distances than the average for their category, but, in Hinckley and Lutterworth, distances tended to be below average. By 1871 a number of changes had taken place. In Coalville the development of a more balanced age structure with a higher proportion of less mobile elderly people together with the increased number of town born residents, had reduced the mean distances of most of the groups to approximately average levels. Similarly, in Hinckley, the distances tended to fall, although this was not true of relatives and visitors. Lutterworth's means showed few changes over the twenty year period, and the surprisingly high distances travelled by its visitors were

TABLE 9.11 : POSITION WITHIN HOUSEHOLD AND MEAN MIGRATION DISTANCE (Miles)

Position	1851					1871				
	Coalville	Hinckley	Lutterworth	Melton	Average	Coalville	Hinckley	Lutterworth	Melton	Average
Heads	22.54	10.38	10.91	16.09	12.45	15.8	9.38	11.2	21.56	14.2
Wives	22.0	11.85	10.74	15.58	14.54	13.47	9.71	13.48	22.14	14.16
Children	9.76	4.41	4.45	6.63	6.1	5.3	3.0	2.43	11.21	5.48
Lodgers	45.89	19.81	22.76	49.85	33.35	20.74	17.01	40.32	49.31	31.85
Relatives	12.06	5.56	9.05	15.97	9.76	15.28	12.05	8.98	29.0	16.85
Visitors	10.08	2.64	75.02	45.62	42.56	12.32	20.7	60.08	54.94	48.1
Servants	6.07	11.31	9.1	9.8	9.82	3.68	11.51	9.46	35.48	22.74

maintained; in contrast, the extension of Molton's field of influence resulted in increased mean distances for each group except lodgers. Table 9.11 also provides information on the propensity of each sex to migrate: in 1851 the household heads, who can be taken to represent the adult males, had shorter mean migration distances than the wives but in 1871 there was little discernible distinction and so the evidence did not strongly support Ravenstein's (1885, 1889) contention that females were more migratory than males.

This simple analysis has indicated that position within the household, like social class, was an important influence on migration behaviour but its chief significance lies in its demonstration that differences between the towns were as marked as differences between various groups within one town.

This concludes the section of the analysis dealing with migration distances. A number of important findings have been brought to light, especially those relating to the influence of social class on migration patterns and those highlighting the differences in attractiveness of the four study towns. These themes having been established with regard to migration distances alone, it will be instructive to subject them to further examination by reference to the type of migration journeys undertaken, in particular, the number of stages involved.

Migration Stages

In the opening chapter mention was made of Ravenstein's (1885, 1889) hypothesis that migration flows in the 19th century were the end product of a series of short distance movements, with even those migrants who did travel long distances often making the journey in several discrete stages. This theory is very difficult to test but, nonetheless, it is important that an attempt is made in this study since the results will provide a further basis for the differentiation of the migration

characteristics of the various social classes as well as the four study towns themselves.

It has already been demonstrated that major distinctions existed between the towns in terms of the proportion of migrants in their respective populations. Given this, it seems probable that Coalville and Melton Mowbray, the most attractive of the towns, would be more likely to have been chosen as destinations by those people and families with a high propensity to migrate and, therefore, would be expected to contain relatively larger numbers of multi-stage migrants than Lutterworth or Hinckley, where the migrants would tend to be single step movers from the local areas. Having thus boldly stated this hypothesis it must be explained that there are very few surviving records of individuals' places of residence in the 19th century which can be used to test it. In fact, the only generally available body of information is the birthplaces of children, as recorded in the Census Enumerators' Books. These allow at least some of the wanderings of their parents to be plotted. This data is, of course, of doubtful reliability not only because it applies to one section of the population alone - parents with children still living at home - but also because it is an underestimation of the actual number of stages involved in the parents' migration journeys. Obviously, a child need not have been born in each of the parents' stopping places and, further, no records of the birthplaces of children who had left home or had died are available. Other inaccuracies result from the analysis' inescapable assumption that all the children in each family were a product of the same marriage and that each of their birthplaces represents genuine residences of the parents and were not simply places through which the family were passing when the children were born. Despite such grave handicaps, however, childrens' birthplaces remain the best available source of information for the investigation.

The data for this analysis of migration stages was prepared

by recording from the household samples taken from the Census Enumerators' Books for the place of birth of each member of every nuclear family¹ with children at home² and then counting the number of places in which the parents had lived, from their own birthplace, through those of their children, to the study town itself. This information represents the minimum number of migration stages involved in the parents' journey to the study towns. A practical example will, perhaps, make the data collection scheme clearer: if in a Hinckley Enumeration District a couple were recorded with the husband having been born in Earl Shilton, the wife in Anstey and their children in Anstey, Barwell and Burbage then it appears that the husband had migrated to Hinckley in four stages: from Earl Shilton to Anstey; to Barwell; to Burbage and finally to Hinckley. For the wife three movements can be traced: from Anstey to Barwell; to Burbage and to Hinckley. Having collected the data it was first processed for each social class within the towns and then aggregated, both vertically, to identify the four towns' overall pattern of migration stages, and horizontally, to differentiate at a general level between the social classes as a whole. In each of the analyses a distinction was also drawn between the movements of males and females (Tables 9.12 - 9.16).

Table 9.12 presents the aggregated results for each of the separate social class as well as for the four towns overall. It shows that in both years there was no evidence of movement for just over one third of the parents in the sample, while a similar proportion seemed to have migrated only once. This indicates that moves of two or more stages were by no means uncommon and, in fact, some couples had lived in five or

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1. The family's social class was also noted.
 2. Obviously couples without children at home could play no part in this analysis.

TABLE 9.12 : MIGRATION BY STAGES - OVERALL MEANS 1851, 1871 : ADULT PARINTS ONLY

	Number of Stages Moved - Percentages of Class Totals											
	0		1		2		3		4		5	
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1851												
I	31.8	25	28.6	36.4	50	42.9	31.8	25	23.6	-	-	-
II	27.4	31	29.2	42.7	42.2	42.5	21.4	19	20.2	3.4	3.4	3
III	39.5	25	31.6	32.1	48.3	40.4	22	19	20.4	6.4	6	1.3
IV	52.2	55	53.6	30.6	28.1	29.5	12.2	11.3	11.7	3.3	3.5	3.4
V	25	24.5	24.7	34.5	39.8	37.3	23.7	23.4	23.5	12.9	9.4	11
Mean	37.3	36.4	36.8	33.8	37	35.5	19	18.1	18.6	7.2	6.1	6.6
1871												
I	25	14.3	20	43.8	64.3	56.7	6.2	7.1	6.7	12.5	7.1	10
II	30.8	24.8	27.7	43.6	49.6	46.7	20.5	19.2	19.8	5.1	4.8	5
III	35.2	24.4	29.6	38.5	54.2	44	16.4	16.3	16.3	6.6	7.4	6.6
IV	56.8	53.3	55	26.9	31.8	29.3	11.6	10.5	11	2.1	3	2.6
V	26.6	25.4	26	38.4	41.6	40	20.6	20.4	20.5	10.6	9.4	10
Mean	29.7	34.7	36.7	35	40	37.5	16.8	16.3	16.5	6.6	6.4	6.5

TABLE 9.13 : MIGRATION BY STAGES : COLAVILLE 1851, 1871 - ADULT PARENTS ONLY

1951 Class	Number of Stages Moved - Percentages of Class Totals														
	0		1		2		3		4		5		6		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
I	-	-	-	-	-	100	100	-	-	-	-	-	-	-	-
II	-	-	-	14.3	16.7	15.4	57.1	50	53.8	-	-	14.3	16.7	15.4	-
III	-	-	-	28.6	46.7	37.4	57.1	26.7	41.4	14.3	13.3	13.8	-	-	-
IV	-	-	-	25	33.3	29.7	35	23.8	29.7	30	28.6	29.3	10	14.3	12.2
V	-	-	-	32.1	37.2	35.1	34.7	36	35.6	24.2	19.8	22	6.7	5.8	6.2
Mean	-	-	-	30.4	37.1	33.8	37.7	35.2	36.4	23.2	19.7	21.4	6.8	6.6	6.7
1971															
I	-	-	-	100	100	100	-	-	-	-	-	-	-	-	-
II	-	-	-	60	67.7	63.4	30	19	24.4	5	9.5	7.3	5	4.7	4.9
III	-	6.5	3.5	51.9	51.6	51.7	37	32.3	34.5	7.4	6.5	6.9	3.7	3.2	3.4
IV	4.3	4.2	4.3	34.8	53.2	44.1	37	27.7	32.3	8.7	10.6	9.7	10.9	4.2	7.5
V	8.4	8.9	8.7	42.5	46.9	44.7	25.2	23.2	24.2	17.3	15.2	16.2	4.7	3.1	3.9
Mean	6.5	7.4	6.7	43.7	49.7	46.8	28.3	24.4	26.3	14.3	13.3	13.8	5.5	3.4	4.4

TABLE 9.14
MIGRATION BY STAGES : HINCKLEY 1851, 1871 - ADULT PARENTS ONLY

1851 Class	Number of Stages Moved - Percentage of Class Totals												
	0		1		2		3		4		5		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	
I	22.2	30	26.3	55.6	50	52.6	22	21	-	-	-	-	-
II	39.5	35.6	37.5	34.9	44.4	39.8	13.9	13.3	13.6	4.7	2.2	3.4	2.3
III	55.9	35.7	44.7	26.5	50	39.5	11.8	9.5	10.5	5.9	4.8	5.2	-
IV	64.4	68.6	66.5	23.9	20	21.9	9.7	8.6	9.2	1.2	1.6	1.4	-
V	48.6	54	51.2	27	27.6	27.3	18.9	14.3	16.3	5.4	4	4.7	-
Mean	57.2	58.2	57.8	26.5	27.6	27.1	12.3	10.7	11.4	2.7	2.4	2.6	0.2
1871													
I	12.5	16.7	14.3	50	50	50	12.5	16.7	14.3	25	16.7	21.4	-
II	33.3	46.3	40.3	36.1	29.3	32.5	22.2	17	19.15	8.3	7.3	7.8	-
III	67.4	37.8	51.5	16.1	40.5	29.4	6.5	8.1	7.14	9.7	10.8	10.3	-
IV	73.2	71.3	72.3	19.6	20.7	20.2	5.7	6.2	5.7	1.1	1.5	1.3	0.4
V	54.4	56.2	55.3	24.6	24.6	24.6	18.4	16.3	17.15	1.8	1.5	1.6	0.8
Mean	64.2	61.9	63	22.3	24.3	23.4	10.2	10.2	10.12	2.8	2.9	2.8	0.5

TABLE 9.15 : MIGRATION BY STAGES : LUTTERWORTH 1851, 1871 - ADULT PARENTS ONLY

1851	Number of Stages Moved - Percentages of Class Totals									
	0		1		2		3		4	
	Male	Female Total	Male	Female Total	Male	Female Total	Male	Female Total	Male	Female Total
I	62.5	12.5 37.5	12.5	62.5 37.5	25	25	-	-	-	-
II	27.3	47.6 37.2	50	33.3 41.8	18.2	9.5 14	-	4.8 2.3	4.6 4.7	4.6
III	36.4	27.3 31.8	45.5	50 47.7	13.6	18.2 15.9	4.5	4.5 4.5	-	-
IV	36.4	51 43.3	52.7	38.8 46.2	10.9	10.2 30.6	-	-	-	-
V	53.7	43.8 48.3	38.9	43.8 41.5	5.6	9.4 7.6	1.9	3.1 2.5	-	-
Mean	42.2	42.6 42.5	44.7	42.7 43.7	11.2	11.6 11.4	1.2	2.4 1.8	0.6 0.6	0.6
<hr/>										
1871										
	25		75		75		75		75	
I	25	25	75	75	-	-	-	-	-	-
II	55.6	16.7 36.1	33.3	66.7 50	11.1	16.7 13.9	-	-	-	-
III	55.6	33.9 47.2	38.9	55.6 47.2	5.6	5.6 5.6	-	-	-	-
IV	53.3	21.9 37.1	26.7	56.3 41.9	16.7	15.6 16.1	-	3.1 1.6	3.3 3.1	3.2
V	50	31 40.2	35.2	48.3 42	14.8	19 17	-	1.7 0.9	-	-
Mean	51.6	27.7 39.4	34.7	54.6 44.9	12.4	15.3 14.2	-	1.5 0.8	0.8 0.8	0.8

TABLE 9.16 : MIGRATION BY STAGES : MELTON POWRAY 1951, 1971 - ADULT PARENTS ONLY

1951 Class	Number of Stages Moved - Percentages of Class Totals																					
	0		1		2		3		4		5		6									
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total							
I	-	100	20	50	-	40	-	-	-	-	-	-	-	-	-							
II	20	22.7	21.3	51.1	47.7	49.3	24.4	25	24.7	4.4	4.5	4.4	-	-	-							
III	33.5	20.5	29.5	30.8	43.6	37.2	23	25.6	24.4	5.1	5.1	5.1	2.6	2.6	2.6							
IV	33	26	32	39.4	49.4	44.4	15.5	17.8	16.6	5.6	5.5	5.6	1.4	1.4	1.4							
V	33.7	25.2	29.1	42.1	52.3	47.6	17.9	19.8	18.9	5.3	1.8	3.4	1.1	0.9	1							
Mean	32.7	24.6	28.6	41.3	49.3	45.4	19.7	20.9	20.3	5.1	3.7	4.4	1.1	0.9	1							
1871	I	66.7	-	33.3	-	66.7	33.3	-	-	-	-	33.3	-	16.7	-	-	-					
	II	27.9	20.9	23.9	46.5	53.3	50	18.6	22.2	20.5	4.7	2.2	3.4	-	-	2.3	2.2	2.3				
	III	26.1	21.7	23.2	45.7	51	48.4	15.2	16.3	15.8	6.5	6.1	6.3	4.3	4	4.2	-	-	2.2	2	2.1	
	IV	26.1	31	28.7	50.7	48.7	49.7	15.9	13.5	14.7	3	4	3.5	3	2.7	2.8	-	-	-	-	-	
	V	22.2	20.6	21.4	46.2	46.6	46.4	17.1	19.8	18.5	12	10.7	11.3	2.6	2.3	2.4	-	-	-	-	-	
	Mean	25.4	22.8	24	47.1	49	48	16.7	17.9	17.3	7.6	7	7.3	2.9	2.3	2.6	0.4	0.7	0.5	0.4	0.3	0.3

six different towns within the lifetime of their eldest surviving child, but the incidence^{of}/movements of such frequency was very low and the evidence indicates that less than 10% of parents had moved more than twice. With regard to the movements of the various social groups it might have been expected that, owing to their greater mobility, the upper classes would display most evidence of migration stages. Table 9.12 indicates that this, indeed, was the case, since in both 1851 and 1871 between 23% and 29% of the parents in the non-manual classes had moved at least twice compared to only 15% to 16% of those in class IV. However, this distinction did not seem to apply to parents in class V since well over a third of them had moved at least twice. To some extent this result reflects Gurney's (1970) findings of a high rate of mobility amongst the labouring classes in 19th century Derbyshire but it was also greatly influenced by the large numbers of class V migrants in Coalville who, particularly in 1851, cannot be considered to have had migration patterns typical of their class because, at that time, no adults could be recorded as having been born in the town and, therefore, the number of their migration stages might well have been exaggerated.

The study of class differentials was taken a step farther in Table 9.17, which records the percentage of families in each class where both the parents and all the children had been born in the study town. In each of the towns these totally immobile families were more numerous in the lowest classes while comparisons between the towns indicate that there was a higher proportion in Hinckley and Lutterworth than in Melton and Coalville. This latter result can, perhaps, be associated with the hypothesis put forward earlier that the two developing towns of Coalville and Melton would display the most evidence of migration stages. This can be tested in greater detail by reference to the statistics of the movements to the individual towns presented in Tables 9.13 - 9.16 and from this information it is quite clear that the expected distinctions did

TABLE 9.17 : IMMOBILE FAMILIES 1851, 1871

Town	Percentage of Families Immobile					Mean
	Class I	Class II	Class III	Class IV	Class V	
<u>1851</u>						
Coalville	-	-	-	-	-	-
Hinckley	5.26	15.95	16.98	48.82	31.69	37.95
Lutterworth	6.67	7.5	12.12	25.93	24	19.7
Melton	-	7.23	11.67	14.29	12.81	11.51
<u>1871</u>						
Coalville	-	-	-	-	3.13	2.2
Hinckley	4.76	20.69	34.83	53.24	45.19	45.8
Lutterworth	18.18	13.33	16.21	16.67	21.28	21.69
Melton	3.57	10.25	8.64	11.11	9.95	9.7

exist. In Hinckley and Lutterworth, in both 1851 and 1871 only between 13% and 16% of the total number of families with children at home showed evidence of two or more migration stages and these percentages are considerably less than those of Melton Mowbray (25.7% of all families in 1851, 30% in 1871) or Coalville (66.2% in 1851, 46.5% in 1871). These tables also allow a number of comparisons to be made between the migration patterns of the towns' social classes and sexes. In Coalville and Melton, for instance, there were few distinctions in the number of migration stages involved in the journeys of each class but in the other towns, on the whole, the non-manual groups were the most mobile. Finally, with regard to the sexes, it can be seen that there were relatively few differences in the numbers of their migration stages except in Coalville in 1851 when the men seemed to have been more mobile than the women, and in Lutterworth in 1871 and Melton Mowbray in 1851, where far fewer women than men had been born in the town. In both these cases most of the women had only moved one stage, however, and would seem likely that many of them would have been girls from the local area who originally moved into the towns to seek employment and/or matrimony.

Unfortunately, the evidence used in this analysis was not of sufficient quality for one to come to any firm conclusions about the validity of Ravenstein's migration stage hypothesis as applied to the four study towns. Certainly there were a considerable number of families for whom one of the study towns was, at least, their third place of residence but there were many more who had moved only once or not at all. However, this does not mean that the analysis was not worthwhile since its main aim was to further examine the differential migration levels of the social classes and the study towns. On this score it was demonstrated that, on the whole, the upper classes tended to have been more mobile in that they had moved a greater number of stages while the towns with the highest proportions of migrants, Coalville and Melton

Nowbray, had received more of those truly mobile families who had moved two or more stages.

Occupational Links and Migration

Much of the complexity inherent within migration flows is a result of the differential reaction of various sub-groups within a population to migration pressures. For example, young adults move much more readily than people of their parents' generation while, with regard to the actual journeys undertaken, it has been clearly demonstrated that their length and frequency can be constrained by variables such as social class and position within a household. Despite these distinctions, each migration journey has two features in common: firstly, that a decision to move has been reached by the individual or social group concerned and, secondly, that a destination, however broadly defined, has been chosen. Unfortunately in studies of historical periods very little can be said about the decision making element beyond putting forward vague untestable generalizations about migration causes or 'push' and 'pull' factors. However, some generalizations can be made about the selection of destinations. Many migrants in 19th century Britain followed well worn paths from their home areas to the nearest of the burgeoning manufacturing cities but while the existence of similar well trodden routes perhaps explains the migration flows from the local rural areas into the four insignificant towns of this study, they can hardly have been a factor in their selection as destinations by long distance migrants. Small Leicestershire towns do not have widespread appeal and it is, therefore, difficult to visualise how long distance migrants were drawn past intervening centres of growth unless the small town chosen as a destination had some special attraction for the individual person or group concerned. For example in his study of migration into the West Midlands in the mid-19th century, Lawton (1958) found that a number

were employed and it was of Cornish china-clay workers/in the Potteries/ suggested that occupational links may have been one of the causes of such long distance movements.

If this hypothesis is to be proven then the present study towns, with their dissimilar functional specialisms, should have attracted migrants with equally specialized occupational skills. To test this rigorously it would be necessary to trace the career of individual migrants to see, for example, whether a migrant framework knitter in Hinckley had held a similar position before moving and might, therefore, have migrated to Hinckley because it offered him better opportunities in his career or whether he had been in some other occupation and had just entered the textile trade upon reaching Hinckley because it was the best job he could find. Unfortunately, data of a quality sufficient to perform such a detailed analysis is not available and so other methods of investigation have to be employed. One possible alternative lies in the comparison of the occupational specialisms of the migrants' source areas and their destinations - in similar fashion to the assertion cited from Smith (1955) earlier in this chapter that most of the Derbyshire element in Coalville's population in 1851 derived from the coalfields around Swadlincote and the southern flank of the Ashby anticline. Even at this level, however, one major difficulty is encountered - the problem of discovering the functional specialisms of the hundreds of different migrant source areas. The most accurate way of classifying them would be with reference to the detailed information available in the Census Enumerators' Books but this would hardly be feasible and even to use aggregated occupational data such as that given for Poor Law Unions (PLUs) in the census volumes would be excessively time consuming. Practical necessity thus forces the researcher to turn to publications that have already made a classification of the socio-occupational structure of small areas in the 19th century. One such classification is found in a volume entitled "District Statistics 1875 - 1905 England

and Wales" produced in 1906 by an author identified only as 'C.B.' on behalf of the "LGB General Inspectors".¹ In it, each PLU is placed into one of six categories of 'social and occupation character': mining; manufacturing; residential; agriculture; agriculture + town; and sea and these simple classifications were found to be reasonably adequate for the task in hand.

With the use of "C.B.'s" categories, Table 9.18 has been drawn up to compare the occupational character of the migrant household heads' birthplaces with those of their current place of residence. Only the household heads were considered since it was thought that if occupational links were a feature of migration journeys then the occupation of the household head would have been the controlling factor. This assumes that the migration has taken place during the career of the current head and although this cannot have been true in every case and some of them would undoubtedly have been brought to the towns as children there is no way of discovering quite when individual people moved into the study towns. The statistics of Table 9.18 differentiate movement within Leicestershire from migration from outside the county. This distinction was necessary in order to isolate the journeys of the local rural population into the nearest town from longer distance migration in which occupational links may have been a more significant factor. In fact, the county figures give a false impression of the strength of local occupational links since most of Leicestershire migrants in the towns came from PLUs of the same occupational category, simply because most of them were short distance movers from within the same PLU. Only in Hinckley in 1851 were more than 50% of the county migrants from PLUs of a different category to that of the town itself and this could be

1. A copy of which is held by Leicester University Library.

TABLE 9.18 : OCCUPATIONAL LINKS IN MIGRATION 1851, 1871

Town	% of Migrants from P.L.U.s Classified as:									
	Leicestershire					Outside Leicestershire				
	Mining	Manufacture	Residential	Agricultural	Agricultural + Town	Mining	Manufacture	Residential	Agricultural + Town	Sea N/A
1851										
Coalville (Mining)	86.2	11	0.9	0.9	0.9	50.3	32.9	0.7	9.4	1.3 3.4
Hinckley (Manufacture)	35.9	48.9	3.8	9.9	1.5	20.7	39.3	2.9	15	- 14.3
Lutterworth (Agricultural)	1.2	12.8	10.5	67.4	8.1	4.5	18.2	3	27.3	1.5 6
Melton (Residential)	6	13.2	68.2	9.9	2.6	6.7	33.6	3.7	42	2.5 10.9
1871										
Coalville (Mining)	78.5	8.8	6.6	2.2	3.9	35.2	36.6	2.1	18.3	2.1 2.8
Hinckley (Manufacture)	14.5	72.3	4.4	8.8	-	11.4	45.7	8.6	12.4	2.9 10.5
Lutterworth (Agricultural)	4.9	21.3	8.2	57.4	8.2	-	31	8.6	32.8	1.7 5.2
Melton (Residential)	8.3	11	71.8	4.9	3.9	4	29.3	4	39.1	3.5 9.2

explained by the Hinckley districts' isolation as a manufacturing union and its proximity to a number of mining unions to the north. In 1871 when this town's migration field had contracted, more of its short distance movers came from within the local PLU.

With regard to migrants from outside the county, Table 9.18 shows that in 1851 Coalville, Hinckley and Lutterworth all had their highest proportion of migrants from unions of the same occupational category as themselves. 50.3% of migrants from outside Leicestershire in Coalville were from mining unions, with the next highest proportion from this category being only 20.7% in Hinckley. Similarly, Hinckley's 39.3% of migrants from manufacturing unions was the highest proportion from this group although in both Coalville and Melton more than 30% migrants also came from manufacturing PLUs. Lutterworth's union was classified as agricultural and this was clearly reflected in the 39.4% of its migrants who had come from other agricultural unions (the next highest being Hinckley's 7.9%) and, in addition, a further 27.3% came from the closely related 'agriculture + town' category and, thus, 64.7% of Lutterworth's migrants from outside Leicestershire were born in areas with some agricultural associations. Occupational links were not as clear in Melton Mowbray. "C.B." has assigned this town to the 'residential' group, a category normally reserved for suburban PLUs but presumably applied to Melton in acknowledgement of its position as a social and recreational centre. However, this ignores Melton's marketing functions and its position within a rich agricultural area and, therefore, perhaps the town would have been better suited to his more general 'agriculture + town category'. In fact, only 3.7% of Melton's migrants came from 'residential' PLUs but 42% came from those classified as agriculture + town, the highest proportion from this group to be found in any of the towns. In 1871 Melton still had the highest proportion of such migrants while Lutterworth retained the greatest percentage from the agricultural

PLUs, Hinckley from manufacturing and Coalville from mining but, despite this, occupational links seemed to be less strong at this time.

Coalville's mining migrants were exceeded by those from manufacturing areas which perhaps reflects its economic diversification and in Lutterworth migrants from agricultural areas were now less numerous than those from both manufacturing and agriculture + town unions although well over half of the total were still from one of the two agricultural categories.

To sum up the evidence, particularly that from 1851, would suggest that, at this broad level of analysis, there did seem to be similarities between the occupational specialisms of the source areas and destination of migratory movements. These links were particularly marked for the two single industry towns of Coalville and Hinckley while many of Melton's migrants came from the non-specialized background of the agriculture + town PLUs and this, perhaps, reflects its wide appeal to people of many occupational categories. In Lawton's (1958) study of the West Midlands he concluded that occupational links were not a dominant feature in major 19th century migration flows but it would seem that with regard to the scantier flows towards small towns, particularly those of specialized function, they cannot be disregarded. Indeed, in the case of Coalville the dominant occupational specialisms of its migrant source areas varied over the study period in line with its growing economic diversification.

Conclusions

The purpose of this chapter has been to examine the study towns' migration patterns with a view to (a) evaluating the contribution of migration to the towns' growth and development, and (b) further investigating the differences between them on the assumption that their dissimilar levels of prosperity and economic opportunity would be reflected in their migration fields. These themes have been analysed

from a number of different standpoints and various more general hypotheses relating to 19th century migration were also tested. The hypotheses were concerned with the effect of distance on migration; the dissimilarity of the migration patterns of various social groups within the towns; the existence of migration stages and, the existence of occupational links between migrant source areas and destinations. The fact that so many different themes could be examined using data almost exclusively derived from the Census Enumerators' Books is a tribute to the great value of these documents in geographical studies of the last century although, of course, any researcher using them must constantly bear in mind their many shortcomings.

The analysis began by noting the varying proportion of migrants in the towns' populations. These ranged from over 80% in the rather unusual circumstances of Coalville in 1851 (when all of the adults were migrants) to less than 30% in Hinckley in both 1851 and 1871. Differentiations of equal strength were discovered in relation to migration fields but in this case Coalville and Hinckley were similar in that they had both attracted the majority of their migrants from a very limited area. This was to be expected for Hinckley since its economy was in a parlous state throughout the study period but in Coalville the weakness of its migration field could be explained only by the low social status attached to mining, its main area of economic activity, which ensured that only the local rural population or displaced miners from nearby pits in Derbyshire and Leicestershire could be drawn to the town in large numbers. This was in contrast to Lutterworth and, especially, to Melton Mowbray whose prosperity not only ensured that migrants should be attracted to the town in some numbers but also that they should have come from long distances. Despite Melton's wide ranging field of attraction its migration, like that of the other towns, was

subject to distance decay¹ and a similar situation was found also for most of the towns' various social classes. The breakdown of the analysis to the level of social groupings within the towns was valuable in that it confirmed that migration behaviour was affected by social status and also by position within the household while it provided further bases for differentiation between the towns. For example, in Coalville, Hinckley and Lutterworth only the migration fields of the non-manual classes increased in extent between 1851 and 1871 but in Melton Mowbray migrants of every social class were drawn from longer distances. Other distinctions were seen with regard to migration stages since the two most rapidly expanding towns - Melton Mowbray and Coalville - attracted the highest proportion of multi-stage migrants. In contrast, in the final analysis - that of the strength of occupational links, which was the only way in which even the periphery of the whole process of decision making and choice of destination in migration could be investigated - Melton and Coalville were seen to be very different in that the former's migrants came from districts not dominated by any particular occupational category while Coalville, like Hinckley, tended to draw people from specialist areas, of mining and manufacturing respectively.

This synopsis of the findings of a lengthy series of migration analyses has demonstrated that the differences between the study towns were clearly reflected in their migration patterns: Hinckley, the declining industrial town had relatively few migrants most of whom were from short distances and had industrial backgrounds; Coalville had a

1. Thus confirming the hypotheses of authors from the time of Ravenstein (1885, 1889) onwards. See also Redford (1926), Lawton (1958), Dyos (1961), Armstrong (1967) and Anderson (1969, 1971). Unfortunately the constraint of distance on migration could not be investigated at the intra-urban level and, therefore, comparisons could not be made with the findings of Lee (1969), Knights (1969) or Holmes (1973).

very large proportion of migrants but thanks to the low status of mining many of them had been attracted from only the local area or the coal-fields a few miles to the west; Lutterworth's migration fields were stronger than those of Hinckley but were of far smaller extent than those of Melton and this latter town was seen not only to have a large number of migrants but also to have drawn them from over long distances and from varied occupational backgrounds. Thus, although it must be concluded that 19th century migration, even the insignificant flows to small towns, was a very complex phenomenon, the study has shown not only that certain general trends could be isolated but also that differing functions and levels of prosperity, even in settlements of similar sizes, were reflected in their migration patterns.

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CHAPTER TEN

SOCIAL MOBILITY AND INTERACTION

The coming of the Industrial Revolution not only transformed Britain's economy but also the nature and structure of its society. This social change manifested itself in a radically altered population distribution as people from the countryside migrated in search of work in the expanding economies of the 'new' industrial towns and cities as well as in the development of a new form of social stratification. The 'old' rural social order could not survive the transition from an agricultural to an industrial-based society and an individual's status became dependant not on his land holdings or on his family background but rather upon his wealth and occupation. With an increasing range of employment opportunities made available by industrialization, prospects for individual social mobility became much greater than ever before.¹ The resultant socio-economic stratification, in conjunction with marked increases in geographical mobility over both long and short distances meant that social interaction among individuals not only increased in intensity but also occurred over greater distances. In turn, the congregation of people from different backgrounds in the growing industrial towns provided new patterns of social interaction and segregation. Any study seeking to examine the human geography of settlements during a part of the industrializing period must give some consideration to these processes but in the present investigation they are of particular significance since they provide further insight into the spatial and social structure of the four study towns.

1. See Smelser and Lipset (1966) for a fuller discussion of the relationships between economic development and social structure.

Since it has been claimed that social mobility and interaction increased with the passage of industrialization, two hypotheses pertaining to the study towns may be proposed: first, that levels of mobility and interaction would have increased over the study period; and, second, that the two industrial towns would have experienced greater levels of mobility and interaction than the two market towns.

Social Interaction

In any investigation of social interaction during past periods great difficulties in obtaining suitable data are encountered since it is not possible to reconstruct fully the nature of the social relationships among members of a long dead population. However, some useful and relevant information can be gleaned from marriage licences and, although they might be considered an inadequate data source since a person marries only once or twice while he may have hundreds of social contacts, they do have the great merit of providing information on the same level of contact for each individual.¹ By use of marriage licence data from the period 1837-1870, levels of interaction between various population groupings may be examined, for example, those between literates and illiterates, members of different social classes, townspeople and outsiders, while the effects of such constraints as physical distance and age differences on social interaction may also be considered.

Some general indication of the interaction levels of the four towns' populations may be achieved by examining the proportions of resident and migrant marriages, the former being defined as those unions between two residents of the same town and the latter as marriages which involved a partner from outside. From Table 10.1, major differences

1. See Chapter Three for a fuller discussion of the problems and potentialities of this data source in investigations into historical time periods.

between the four towns' populations in terms of their levels of social interaction are clearly apparent with many more resident marriages occurring in Coalville and Hinckley than in Lutterworth and Melton Mowbray.¹ At first sight, the results for Coalville may seem surprising in view of the town's high proportion of migrants (Chapter Nine), but, since the majority of these came as family groups, this feature is more readily understood. In fact, most of the weddings celebrated in Coalville between 1837 and 1870 occurred towards the end of the period and involved the children of the early migrant families. However, what is of more interest with regard to the study as a whole is that the residents of the market towns took mates from outside more frequently than those in either of the industrial towns. This refutation of the hypothesis that the industrial towns' populations would have had the greatest levels of interaction may, perhaps, be explained in two ways. First, that given the overwhelmingly working class social structure of the two industrial towns it was relatively easy for most of their residents to find a mate of a suitable standing from within the local population and, second, the working class people of these towns had little leisure time or spare capital to enable them to travel outside their immediate surrounds and, perforce, had to find their mates from within their own town. Unfortunately, the nature of the available data precludes the testing of these explanations. Finally, Table 10.1 indicates that in those marriages where one partner had come from outside the town, in the majority of cases it was the bridegroom who was the non-resident. Although this identifies the tradition that a wedding generally takes place in the bride's parish even if the future family home

1. The proportions of resident and migrant marriages can be contrasted with those of a similar period in the Central Massif (Ogden 1973) where 60% of all marriages were within a single community compared to 68% of all marriages in the Leicestershire towns. Ogden also found considerable variation from the overall mean within individual communes, just as with the separate towns of this study.

TABLE 10.1 : PROPORTION OF RESIDENT AND MIGRANT MARRIAGES 1837-1870

Town	Resident marriages		Marriages with migrant partner		Migrant Groom		Migrant Bride	
	n	%	n	%	n	%	n	%
Coalville	324	80.86	62	19.14	35	56.45	27	43.55
Hinckley	752	77.69	216	22.31	179	82.87	37	17.13
Lutterworth	202	55.19	164	44.81	148	90.24	16	9.76
Melton	281	48.87	294	51.13	256	87.07	38	12.93

is to be situated elsewhere, it may also indicate some differences in the mobility of the sexes.

Table 10.2 takes the comparison of the incidence of resident and migrant marriages in the towns a stage further by distinguishing between the interaction patterns of manual and non-manual partners.¹ As would be expected, the table demonstrates that in each of the towns, more non-manual partners were non-resident than partners of manual status, while the distinctions between the towns were replicated for both status groups in that Coalville and Hinckley had the highest proportions of both manual and non-manual resident partners.

Having identified differences in the interaction levels between residents and outsiders within the four towns, it is now appropriate to assess the effects on interaction of a set of potential constraints, in particular, physical distance, age, literacy, and social distance.

Marriage Distances

Within the context of this study, the term 'marriage distance' refers to the space between the habitations of any two partners. It can readily be calculated from the addresses recorded on each marriage licence.² In this particular case, the distances were measured to the nearest half-mile for every marriage contracted in the four towns between 1837 and 1870, except for a few cases where neither of the partners lived in the towns. Marriages involving two inhabitants of the same town were assigned a nominal distance of one half-mile. Table 10.3 shows the mean distances for all marriages in each of the towns and also for partners

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1. The basis on which the partners were divided into these social categories was that the groom's occupation was used to decide his status, while that of the bride was taken from the occupational standing of her father. The justification for the use of these particular occupations is discussed fully below.
 2. Presumably because the licences had to be checked and signed by both the bride and groom and their witnesses, problems prevalent in the migration study such as illegible and untraceable place names did not arise and the residence of every partner was known.

TABLE 10.2 : PROPORTION OF RESIDENT AND MIGRANT PARTNERS 1837-1870

	Resident Partners				Migrant Partners				Total	
	Male n	%	n	%	Male n	%	n	%	n	%
A) MANUAL PARTNERS										
Coalville	278	89.68	278	91.45	556	90.55	32	10.32	26	8.55
Hinckley	732	85.31	856	95.96	1588	90.74	126	14.69	36	4.04
Lutterworth	192	61.54	298	95.21	490	78.4	120	38.46	15	4.79
Melton	271	60.49	452	92.43	723	77.16	177	39.51	37	7.57
B) NON-MANUAL PARTNERS										
Coalville	11	78.57	19	95	30	88.24	3	21.43	1	5
Hinckley	57	51.82	75	98.68	132	70.97	53	48.18	1	1.32
Lutterworth	27	49.09	51	98.08	78	72.9	28	50.91	1	1.92
Melton	48	37.8	85	98.84	133	62.44	79	62.2	1	1.16

TABLE 10.3 : MARRIAGE DISTANCES 1837-1870 (miles)

Town	With Residents*	Excluding Residents+
<u>OVERALL</u>		
Coalville	1.58	11.82
Hinckley	2.62	19.51
Lutterworth	4.36	17.84
Melton	7.66	28.49
<u>NON-MANUAL</u>		
Coalville	0.84	3.36
Hinckley	11.91	39.82
Lutterworth	12.29	43.98
Melton	18.16	47.85
<u>MANUAL</u>		
Coalville	1.62	12.37
Hinckley	1.63	12.75
Lutterworth	2.97	11.94
Melton	5.27	21.37

* Including those marriages where both partners lived in the town

+ Excluding those marriages where both partners lived in the town

of manual and non-manual social status. For each of these separate categories an overall mean distance was computed, together with the mean distance for migrant marriages alone. The mean distances indicate, once again, considerable differences between the four towns. Given the high proportion of resident marriages in both Hinckley and Coalville, low mean marriage distances were naturally to be found among the residents of these two towns (2.62 miles and 1.58 miles respectively). In contrast, the mean marriage distance for the Melton Mowbray residents was as high as 7.66 miles or 28.49 miles if migrant marriages only are considered. In addition, Table 10.3 shows that the mean marriage distances of the non-manual partners were greater than those of their manual counterparts in each of the towns except Coalville where, perhaps, such a comparison was not really valid since there were so few non-manual partners to marriages during the study period (34 in 324 weddings).

In Chapter One it was hypothesized that marriage distances would increase with the advent of economic and social progress. To a certain extent this has been supported since the residents of the most prosperous of the towns, Melton Mowbray, had the longest mean marriage distance. But, on the other hand, if economic and social progress is associated with industrialization then the hypothesis is not proven since the populations of the two industrial towns revealed the shortest marriage distances. However, before this hypothesis is rejected completely it is necessary to examine it in a time dimension to see if any changes experienced by the towns during the study period resulted in a lengthening of marriage distances. In both Constant's (1948) study of 19th century Northamptonshire and Huntingdonshire and Perry's (1969a, 1969b) study of Dorset marriage distances were found to have increased over time, but, in contrast, Kuchemann et al (1974) did not record similar lengthening in distances during the 19th century

in Oxford. To investigate the situation in the Leicestershire towns, the study period was divided into two equal parts, 1837-1853 and 1854-1870 and mean distances computed for all those population categories featured in Table 10.3. The results (Tables 10.4a and 10.4b) indicate that the marriage distances of the residents of each town did lengthen during the study period but since the increases for Lutterworth and Coalville were of such a small order the overall trend towards lengthening distances is rather questionable. Similarly, although certain of the subdivided categories recorded spectacular increases in distances, for example, the migrant non-manual partners of Hinckley and the migrant manual partners of Melton Mowbray, again no clear-cut trend could be identified for the different population groups.

Since no universal increase in distances had taken place during the study period, it might have been expected that any distinctions between the towns in terms of the rate of change in distances would have simply reproduced the differentiations identified in the preceding paragraphs between the industrial and market towns. However, this was not the case since Melton and Hinckley, two towns with seemingly little in common, were the ones where the greatest lengthening of marriage distances had occurred. Certainly, Hinckley had not experienced any great economic or social changes that might have accounted for these increases and the examination of its migration patterns found no comparable rise in migration distances during the study period. However, one explanation that can be put forward relates to the improvement in the town's accessibility with the building of a railway through to Hinckley in 1862. It would seem likely that the railway's arrival facilitated access to the town from outside and also enabled its residents to travel more freely than ever before so increasing social interaction between townspeople and outsiders, including more migrant marriages and longer mean marriage distances. In fact, the proportion

TABLE 10.4a : MARRIAGE DISTANCES 1837-1853 (miles)

Town	With Residents	Excluding Residents
<u>OVERALL</u>		
Coalville	1.24	12.29
Hinckley	1.94	17.09
Lutterworth	4.08	17.74
Melton	5.61	22.65
<u>NON-MANUAL</u>		
Coalville	1.23	4.5
Hinckley	14.09	13.78
Lutterworth	11.04	40.57
Melton	15.2	50.36
<u>MANUAL</u>		
Coalville	1.24	13.85
Hinckley	1.21	10.55
Lutterworth	3.16	13.76
Melton	3.8	15.59

TABLE 10.4b : MARRIAGE DISTANCES 1854-1870 (miles)

Town	With Residents	Excluding Residents
<u>OVERALL</u>		
Coalville	1.73	11.71
Hinckley	3.5	21.42
Lutterworth	5.19	18.0
Melton	9.87	33.65
<u>NON-MANUAL</u>		
Coalville	0.65	2.25
Hinckley	10.83	40.52
Lutterworth	13.7	47.64
Melton	17.95	40.12
<u>MANUAL</u>		
Coalville	1.78	12.06
Hinckley	2.24	14.55
Lutterworth	2.56	8.75
Melton	6.97	27.49

of marriages involving a migrant partner increased by 56.6% after the railway's arrival (from 20.3% of all marriages between 1837 and 1861 to 31.8% between 1862 and 1870). Similar increases in Hinckley's migration distances or proportion of migrants were not to be expected since its continuing economic difficulties would not have made Hinckley very attractive to migrants even when access to the town was improved. Melton Mowbray's marriage distances also increased during the mid-19th century and, as in Hinckley, this could be linked to an improvement in communications, the railway having arrived in 1846. In contrast, Coalville and Lutterworth experienced no sudden changes in accessibility during the study period (the former had had a railway since 1833 and the latter got one only in 1899) and in both these towns marriage distances remained static. Although it cannot be claimed that this was a very rigorous analysis since there was no way in which the effect of improved accessibility on marriage distance could be successfully isolated, it is noteworthy that the only towns where distances did increase markedly were those connected to the railway for the first time during the study period.

In Chapter Nine, the effects of distance on migration numbers was analysed by means of regression techniques and a similar approach can usefully be adopted to marriage contacts by examining the numbers of marriage partners from successive half-mile distance zones. Separate calculations were performed for the total number of partners from each town and for their manual and non-manual groups. Only migrant partners were considered since the inclusion of those from within the towns would unduly distort the distributions. The results, shown in Table 10.5 and Figures 10.1, 10.2, and 10.3 indicate that in each of the towns there was a negative relationship between the number of partners and distance, although, as with the analyses of migration numbers and distance, the correlation coefficients identified in some of the analyses were fairly low. The gradients of the regression

TABLE 10.5 : REGRESSION ANALYSES : MARRIAGE PARTNERS : DISTANCE FROM STUDY TOWN 1837-1870 (excluding resident partners)

Overall

Town	Regression	r	Signif.
Coalville	$a = -0.072b + 4.138$	-0.386	10%
Hinckley	$a = -0.031b + 4.473$	-0.289	2%
Lutterworth	$a = -0.026b + 4.275$	-0.282	5%
Melton Mowbray	$a = -0.038b + 5.134$	-0.358	0.1%

Non-manual Partners

Town	Regression	r	Signif.
Coalville*	-	-	-
Hinckley	$a = -0.006b + 1.719$	-0.378	2%
Lutterworth	$a = -0.003b + 1.55$	-0.298	-
Melton Mowbray	$a = -0.004b + 2.034$	-0.076	-

Manual Partners

Town	Regression	r	Signif.
Coalville*	-	-	-
Hinckley	$a = -0.85b + 5.882$	-0.373	2%
Lutterworth	$a = -0.025b + 4.377$	-0.25	20%
Melton Mowbray	$a = -0.044b + 4.817$	-0.426	0.1%

* There were insufficient non-manual partners travelling to Coalville to make the subdivided analysis worthwhile.

lines indicate that distance exerted the greatest constraint on contacts at Coalville, but little differentiation was found for the other three towns. By sub-dividing the data into separate sets for manual and non-manual partners, the effects of status on marriage patterns was tested. Unfortunately, however, there were so few non-manual partners to marriages at Coalville during the study period that individual analysis of its separate status groups did not prove to be possible, whilst in Lutterworth and Melton Mowbray no statistically significant relationship between the numbers of non-manual partners and distance was found. However, the analyses provide at least an indication of the effect status had on marriage distances since in the three towns for which comparisons are possible, the regression line gradients show that distance was less of a frictional constraint with regard to non-manual partners.

In his study of working class marriages in rural Dorset during the 19th and early 20th centuries, Perry (1969a, 1969b) noted that the number of marriage contacts fell sharply when the distances between the partners exceeded four to five miles.¹ To see if a similar feature was found with regard to the marriage contacts of the Leicestershire towns, the data from the four settlements was aggregated and the total number of marriages plotted against distance (Figure 10.4a). To aid in the investigation, a regression line indicating the general relationship between marriage partners and distance was computed and added to the graph.² This regression analysis, however, was unable to take into account the nominal distances involved in the marriages between two residents of the same town as the inclusion of this data would have

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1. In Ramsøy's (1966) study of Oslo marriages in the 1950s, she noted that contacts declined sharply after only two miles.
 2. This relationship was found to be significant to 0.1% and it had a correlation coefficient of 0.4.

distorted the relationship between migrant partners and distance. In fact, this indicates that the most significant decline in the numbers of partners occurred, not at any particular physical distance but at the town limits, so to speak, since by far the majority of partners took spouses from within their own towns. With regard to those marriages involving migrant partners, Figure 10.4a indicates that there was a sharp drop in the number of contacts beyond about seven miles but that contacts increased again at the 10-12 mile range. This rise illustrates the way in which distance decay functions can be affected by population densities since 10-12 miles represents the straight line distance between the study towns and the city of Leicester with its large number of potential partners. Further, after 12 miles the only distances at which the actual number of contacts exceeded the regression line value (with the exception of a few isolated very long range marriage contacts) occurred between 83 and 93 miles, the distance between the study towns and London. This peaking in the number of contacts for the Leicester and London distances was very marked for the non-manual partners (Figure 10.4b) but their numbers did not show a sharp fall after any particular distance. This contrasted to the more numerous manual partners (Figure 10.4c) where there was a marked decline after seven miles with only the number of Leicester partners standing out among the longer distances. In Perry's study the number of partners began to fall off after four to five miles rather than the seven of this Leicestershire case, but it should be borne in mind that Perry concentrated on working class marriages which, therefore, excluded the generally longer distances of the non-manual partners. In addition, this study was of urban rather than rural areas where the population was probably more geographically mobile and, thus had greater opportunities to build up long distance contacts.

So far this study of the effect of distance upon marriage partner selection has been mainly concerned with those cases where one

partner originated from beyond the study towns. However, it could be argued that even among the intra-urban marriages distance might still have played a role in mate selection and for two of the towns enough information as to the propinquity of partners to these marriages is available to allow this contention to be examined. Unfortunately, the investigation has to be restricted to Hinckley and Lutterworth since it was only on their marriage licences that a sufficient number of detailed addresses were recorded to make the analysis worthwhile.¹ But, even for those two towns, actual marriage distances could not be calculated since the addresses given on the licences were only for the streets on which the partners resided. Thus, it has to be assumed that those partners who came from the same street had contracted the most propinquitous marriages, even though a number of the streets were of great length, for example, Castle Street in Hinckley and Woodmarket in Lutterworth. Further exaggeration of the incidence of marriages involving only short distances may have been due to the legalization of previously established common law marriages, the partners of which would, of course, have been recorded as living in the same street and to the tendency when one partner originated from a long distance for him to stay in the town for a day or two before the actual ceremony.² Certainly, in the case of Lutterworth, a small number of bridegrooms' addresses were given as Hind Hotel, High Street which may well have indicated that they were only temporary residents. However, despite these problems, the results of the analysis (Tables 10.6 and 10.7 and Figures 10.5 and 10.6) reveal not only the high proportion of

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1. Between 1837 and 1870 there were 202 marriages between Lutterworth couples and in 126 of these cases the streets in which the partners lived were recorded. Of the 752 marriages within Hinckley, street addresses were given in 101 cases. These were all of partners to non-conformist weddings in the early part of the period. No licences later than 1854 had such information recorded and no street addresses at all were given for Anglican weddings.
 2. See Abrams (1943) for a fuller discussion of these problems.

TABLE 10.6 : INTRA-URBAN PROPINQUITY - HINCKLEY 1837-1870

Residence	Partner's Residence					
	Within Same Street n	Street %	Adjacent Streets n	Streets %	Other Streets n	Streets %
Overall	49	48.04	14	13.73	39	38.24
Back Lane (Factory Road)	0		0		1	100
Bond Street	16	44.44	5	13.89	15	41.67
Borough	1	20	2	40	2	40
Brick Kiln Street	0		0		3	100
Castle Street	12	48	3	12	10	40
Chapel Street	1	33.33	1	33.33	1	33.33
Church Street	1	25	0		3	75
Cork Hole	0		1	50	1	50
Coventry Street (Litchfield Street)	4	50	2	25	2	25
Duck Puddle	2	33.33	1	16.67	3	50
Grimms Lane	0		1	100	0	
Grove Street	0		3	100	0	
Hinckley Wharf	1	100	0		0	
Hunters Row	0		0		1	100
The Lawns	0		0		1	100
Leicester Road	1	50	1	50	0	
Mansion Street	0		2	40	3	60
Market Place	1	33.33	1	33.33	1	33.33
Mill Street	1	16.67	0		5	83.33
New Buildings	2	40	1	20	2	40
Priory Row	1	16.67	1	16.67	4	66.67
Regent Street	1	20	1	20	3	60
Stockwell Head	3	21.43	2	14.29	9	64.29
Trinity Lane	0		1	50	1	50
Wood Street	0		0		2	100
Workhouse	1	50	0		1	

TABLE 10.7 : INTRA-URBAN PROPINQUITY - LUTTERWORTH 1837-1870

Residence	Partner's Residence					
	Within Same Street n	Street %	Adjacent Streets n	Streets %	Other Streets n	Streets %
Overall	69	54.76	24	19.05	33	26.19
Bakehouse Lane	14	45.16	9	29.03	8	25.81
Beast Market	2	14.29	3	21.43	9	64.29
Bitteswell Road	0		0		1	100
Church Street	4	19.05	9	28.57	8	38.1
Dixon's Court	4	50	1	12.5	3	37.5
Ely Lane	13	68.42	3	15.79	3	15.79
George Square	1	25	0		3	75
George Street	1	25	1	25	2	50
Greyhound Lane	1	25	0		3	75
High Street	3	17.65	9	52.94	5	29.41
Leicester Road	0		0		1	100
Morebarns	3	100	0		0	
The Narrow	0		1	100	0	
Stoney Hollow	1	50	0		1	50
Woodmarket	23	48.94	10	21.28	14	29.79
Wyclif Terrace	0		1	100	0	

propinquitous marriages in these towns but also give some indication of the frequency of marriage contacts between partners from different categories of social areas. Overall, 61.77% of Hinckley marriages and 73.81 of those between Lutterworth residents involved partners from the same or adjacent streets and it is clear that the inhabitants of these towns usually, not only took spouses from their own town, but in most cases from their own part of the town. With regard to the amount of contact between partners from streets of different social status it would be unwise, perhaps, to make too specific a claim from the evidence since the factor analyses indicated that status was not always constant along the length of any particular street. Nevertheless, it would seem from Figures 10.5 and 10.6 that contacts between people from streets whose residents tended to be of different status were by no means common. For example, in Lutterworth, only five of the 45 people marrying from the low status Bakehouse Lane chose mates from streets whose residents tended to be of higher status (2 from Beast Market and 3 from High Street). Similarly, only 1 of the 12 persons from Dixon's Court married someone from a high class street (Beast Market). In Hinckley, partners from the high status Castle Street married people from working class areas on only 6 occasions out of 37 (Grimm's Lane 1; Stockwell Head 2; Trinity Lane 1; Coventry Street 1 and Duck Puddle 1). Further analysis of the incidence of marriages across status boundaries will be presented later in the chapter, but it is clear from this preliminary survey that they were not very common.

In conclusion to the study of marriage distances, it must be noted that far from the two industrial towns having the longer marriage distances and greater proportion of migrant marriages as hypothesized quite the reverse was true and factors other than the degree of industrialization such as the level of local economic opportunities seemed to have affected the level of interaction. Similarly, when mean marriage distances of the two halves of the study period were

examined it was found that distance did not increase generally, as expected, but rather in response to purely local factors such as the opening of railways. Thus, it seems clear that generalized hypotheses about marriage distances as a surrogate of social interaction, although operative at a national scale, are of less utility when tested at the small town level.

Marriage Ages

From the data available on the marriage licences the effect of age differences upon the selection of marriage partners may also be assessed. In general, it would be expected that marriage was more likely between individuals of similar ages and that as age differences increase so the likelihood of marriage declines. In addition, the age of marriage according to Glass (1938) can serve as a significant indicator of a society's economic well-being since in periods of depression in the 19th century marriages tended to be late while, conversely, periods of prosperity were associated with early marriages. Further, it has been suggested by Booth (1902-1903) that a relationship existed between age at marriage and social status in that late marriages were a feature of the middle classes while early marriages were more typical of the working classes.

Although in theory it should be possible to base an investigation of ages at marriage on information recorded on the marriage licences alone, there was a tendency for many of the licences to state only whether the partners were over or under 21. However, this problem could be partly overcome by tracing couples from their licence to the Census Enumerators' Books and extrapolating back from the ages recorded there. Accordingly, Table 10.8 indicates the mean ages of marriage partners in each of the study towns between 1837 and 1870 for whom ages were given or could be found. It divides the results into male and female, manual and non-manual partners and also distinguishes between ages on first and

TABLE 10.8 : AGES AT MARRIAGE 1837-1870

Town	Widowers	Bachelors	All Males	Widows	Spinsters	All Females
<u>OVERALL</u>						
Coalville	39.5	22.55	23.94	37.19	21.49	23.8
Hinckley	43.93	25.26	27.78	42.93	24.09	25.64
Lutterworth	42.82	25.78	27.62	37.61	25.84	26.66
Melton Mowbray	39.85	26.64	28.33	37.47	25.1	25.88
<u>NON-MANUAL</u>						
Coalville	50	22.75	28.2	-	20.67	20.67
Hinckley	40.91	26.05	29.07	29	24.91	25.03
Lutterworth	43.5	26.22	28.45	29	25.88	25.96
Melton Mowbray	49	28	30.57	-	27.32	27.32
<u>MANUAL</u>						
Coalville	38.63	22.54	23.79	37.19	21.52	22.6
Hinckley	44.64	25.19	27.66	44.47	23.02	25.68
Lutterworth	42.71	25.73	27.51	38.12	25.88	26.73
Melton Mowbray	38.18	26.03	27.84	37.47	24.92	25.77

subsequent marriages.¹ The table shows that mean ages were by no means uniform for these various groupings. The mean marriage ages of males was greater than that of females, irrespective of whether they were of manual or non-manual occupation,² whilst grooms engaged in non-manual occupations were, on average, a year or two older than their manual counterparts. This pattern was to be expected since the mid-19th century was a period in which the husband was required to keep his wife in the 'style to which she had become accustomed' and many grooms of non-manual occupation would not have been in a financial position to support a wife until they had either completed a period of professional training or had gathered together sufficient capital to establish themselves in a trade. A similar type of distinction helps to explain the differentials between the four case study towns' average male marriage age. In Coalville, the majority of the grooms were miners and, as such, were able to achieve an income sufficient to be financially independent and support a wife from their early twenties which was reflected in a very low mean age at marriage. At Hinckley, the grooms' ages were only slightly older on average, this reflecting the fact that members of the town's predominant working classes, of whatever age, were never financially secure during the mid-19th century and, therefore, young men probably felt there was little to be gained from postponing marriage for financial reasons. This trend of young marriages at

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1. Marital condition also being recorded on the licences. See Figure 3.3. Marital condition could also be studied as an interaction constraint. For example, widowhood seemed to be a barrier on further contact in that fewer widows remarried than widowers although the actual number of widows would have been greater. In addition, when they did remarry between 46.15% and 65.63% of them in the various towns took widowers as their second partners while only between 17% and 43.75% of widowers took widows (Table 10.9). This differentiation presumably reflects the social conventions of the 19th century under which widowers would have had the freedom to court both widows and spinsters while most widows would have had to adopt a more passive role.
 2. The actual proportions of grooms taking younger brides can be seen on Table 10.10, but as hypothesized, most marriages were between partners of similar ages.

TABLE 10.9 : SECOND MARRIAGES : TYPES OF PARTNER

Town	Widowers marry: (%)		Widows marry: (%)	
	Widows	Spinsters	Widowers	Bachelors
Coalville	43.75	56.25	58.33	41.67
Hinckley	39.38	60.62	65.63	34.37
Lutterworth	27.27	72.73	46.15	53.85
Melton Mowbray	17	83	47.22	52.78

TABLE 10.10 : PROPORTION OF MARRIAGES AT DIFFERENT AGES (%)

Town	Husband marry wives:			
	Same Age	Younger	More than 5 years younger	Older
Coalville	11.36	70.03	14.2	18.61
Hinckley	18.48	60.09	18.63	21.43
Lutterworth	24.62	43.46	16.53	31.92
Melton Mowbray	12.92	64.21	24.35	22.88

Hinckley was accentuated by the organization of its textile manufacturing industry which was still run on a domestic basis and required a team of people to produce a finished garment. Therefore, once an individual wished to become fully independent from his childhood home and set up in manufacture himself it was of positive economic benefit to him to take a bride and helpmate at the earliest opportunity. In both Lutterworth and Melton, employment opportunities were more varied and there was a slight but significant delay in the grooms' average age at marriage. The ages of brides seemed not to be affected to the same extent by these social and occupational considerations although those in Coalville and Hinckley were, on average, younger than the brides of Melton and Lutterworth.

Literacy Differentials

In Chapter Four, ^{the} rates of adult literacy ^{as} calculated from the proportion of marriage partners able to sign their wedding licence were used as an indication of the varying levels of educational standards amongst the four study towns' populations. Data from the same source can be used here to test the hypothesis that literacy differentials imposed a constraint on marriage selection. However, it should be pointed out that such a hypothesis might well be taking a media-dominated 20th century viewpoint which was of little relevance in 19th century small town societies and, of course, a further problem in testing the hypothesis is the impossibility of divorcing literacy from social status since the most literate social groups were the upper classes. The slight probability of a marriage taking place between, say, a solicitor and the illiterate daughter of a labourer would, undoubtedly, have owed more to the gulf in their status than to that in their educational standards. In the light of these problems, the results of the present investigation must be treated with caution (Table 10.11). Most of the marriages contracted in the four Leicestershire towns during the study period were between two literate partners although this

TABLE 10.11 : ILLITERACY AS A BARRIER TO SOCIAL CONTACT 1837-1870

Town	% partners illiterate	% men illiterate	% women illiterate	% of marriages:				
				Both literate	Both illiterate	Man literate Wife illiterate	Man illiterate Wife literate	
OVERALL	36.92	31.15	42.48	48.8	23.33	19.95	7.92	
Coalville	43.67	37.96	49.38	38.58	27.16	22.22	12.04	
Hinckley	48.41	40.15	56.57	26.45	33.7	24.09	15.76	
Lutterworth	22.48	18.35	26.61	66.05	11.01	15.6	7.34	
Melton	18.78	16.52	21.03	70.59	8.16	13.09	8.16	

statement conceals the fact that there were great differences between the individual towns. At Hinckley and, to a lesser extent, Coalville, there were relatively few all literate marriages, this reflecting their lower educational standards. In fact, at Hinckley the most frequent marriage type was that between two illiterate partners. However, in each town a sizeable proportion of marriages did bridge the literacy gulf and in the majority of these, a literate man had taken an illiterate wife, thus emphasizing the tendency during the 19th century for the skill of writing to be taught less frequently to women than to men. The proportion of such literate-non-literate marriages ranged from 21.25% in Melton Mowbray to 39.85% in Hinckley and these figures indicate that literacy differentials alone seem not to have been a great barrier to marriage contact in the mid-19th century. It must be pointed out, though, that by far the greatest proportion of literate-non-literate marriages involved members of the working classes only and this clearly suggests that, as postulated earlier, social status differentials might well have been a more effective constraint upon marriage selection. It is to the consideration of social status as a constraint upon social interaction that the analysis now turns.

Social Distance and Interaction

Earlier in this chapter it was demonstrated that people were more likely to select marriage partners from their immediate neighbourhood than from places at some distance removed. However, as the studies by Ramsay (1966) and Ellesworth (1948) have made clear, marriage contacts are also affected by the social distance separating partners; that is the degree of difference in their individual social standing. Social distance must, therefore be considered in any analysis of constraints upon interaction and in the present case they are of especial importance since they form a link between social interaction and social mobility, a feature that will be investigated later in this chapter.

Before an analysis of the effects of social status on the choice

of partners can be made, it is necessary to decide how best to determine the partners' social classes for on each marriage licence, four occupations are recorded - those of the partners and their fathers. The occupations of the partners might be used as arbiters of their own status on the grounds that on marriage they were making their own way in the world and must, therefore, be responsible for their own status; on the other hand, since the majority of the partners were leaving home for the first time, it could be argued that their status was still dependent on that of their fathers. In fact, neither of these two approaches has been universally adopted by studies concerned with the social distances of marriage partners. For example, Ramsøy (1966) and Sundal and McCormick (1954) used the occupations of the bride and groom; Berent (1954) used those of the two fathers; whilst Poppenhoe (1937) based the groom's status on his own occupation and that of the bride on her father's. In this study Poppenhoe's approach has been adopted on the basis that the groom as ^{the} potential family breadwinner must be responsible for his own status but since a large proportion of brides in the Leicestershire towns were not at work at the time of their marriage their status must still have been dependant upon that of their fathers and to ensure constancy throughout the data processing, the father's occupation was used for every bride in the samples.

Having decided upon which of the occupations were to be used for stratification, each of the marriage partners was placed into one of four occupational categories: unskilled manual, skilled manual, routine non-manual and professional; and their marriages divided into three types: those in which both partners came from the same social group, those where the groom was of the higher social status, and those where the bride's status was higher.¹ The incidence of these different

1. These three marriage categories have been identified as homogamous (or endogamous) hypergamous and hypogamous marriages respectively.

marriage types is recorded on Table 10.12 and from this it is apparent that the commonest marriage type in each of the towns was that between people of the same status level. Only in Melton Mowbray was the proportion of these marriages less than half the total and this was in great contrast to the situation at Coalville and Hinckley where 61% and 67% of marriages involved partners of a similar social class, a function, presumably, of their homogenous working class populations. In fact, their residents would have had relatively few opportunities of making contact with people of a different status. For example, at Coalville, almost 50% of the marriages involved partners from the same occupational backgrounds, most of them being miners marrying miners' daughters.

In each of the towns, a similar proportion of marriages had the bride as the highest status partner but only at Coalville and Hinckley did the incidence of this hypogamous marriage type exceed that of marriages where the highest status partner was the groom. Further, in these two industrial towns the vast majority of these marriages involved interaction between the unskilled and skilled manual classes whilst in Lutterworth and Melton almost 10% of all marriages were hypogamous across broader class divisions, mainly working class grooms taking brides with non-manual fathers. Finally, with reference to those marriages in which the groom was of highest status, these occurred twice as frequently in Melton as in Coalville whilst the less restricted structure of the former's society was further emphasized by the fact that 12% of its marriages were between non-manual grooms and manual brides (or professional grooms and non-manual brides). At Coalville less than 2% of all marriages crossed similar status boundaries.

These simple comparisons have identified considerable differentials between the towns' societies, but, in each case, the commonest marriage type involved no interaction between different

TABLE 10.12 : OCCUPATIONAL STATUS AS A BARRIER TO SOCIAL CONTACT 1837-1870
(%)

<u>HOMOGAMY</u>			
Town	Same Occupation	Same Status Level	Total on Same Level
Coalville	47.22	19.45	66.67
Hinckley	30.41	30.8	61.21
Lutterworth	24.31	31.65	55.96
Melton	18.05	31	49.05

HYPERGAMY (Groom marries 'beneath' himself)

Town	Within 1 class	Between 2 classes	Professional to working	Total
Coalville	12.66	1.85	-	14.51
Hinckley	13.02	4.99	0.37	18.38
Lutterworth	17.89	5.05	-	22.94
Melton	15.29	12.74	0.64	28.67

HYPOGAMY (Groom marries 'above' himself)

Town	Within 1 class	Between 2 classes	Professional to working	Total
Coalville	16.05	2.78	-	18.83
Hinckley	16.06	4.26	0.12	20.44
Lutterworth	11.93	9.18	-	21.11
Melton	11.68	9.98	0.64	22.3

social groups. This suggests that social distance was a constraint on marriage but a more analytical investigation is needed if this statement is to be fully substantiated. Such an investigation can be carried out by means of an intermarriage index, which indicates how far observed marriage contacts differed from what would be an expected number given that the choice of partners was not subject to the constraint of social distance. The index used here was adopted from Tilley's (1964) study of the Vendée and was constructed according to the formula:

$$IM_{xy} = \frac{100K_{xy} T}{P_x P_y}$$

where IM_{xy} = intermarriage index between groups x and y
 K_{xy} = numbers of marriages between groups x and y
 T = total number of marriages
 P_x = total number of persons in group x
 P_y = total number of persons in group y

A score of 50 on this index shows that exactly the expected number of contacts between the two groups occurred.

Table 10.13 presents the intermarriage indices for four major categories of marriage type - those involving only manual or non-manual partners; those between a non-manual groom and a bride with a manual father; and those between a manual groom and a bride whose father had a non-manual occupation. By far the highest indices in each of the towns were for those marriages where both partners had non-manual backgrounds and this indicates that class endogamy was a potent force at this level (particularly in the two industrial towns). The indices for the marriage between manual partners were lower but were still more than double the 'expected' score of 50, but for those marriages involving contact between the different status groups several of the indices fell below this score. Thus, while the statistics of

TABLE 10.13 : INTERMARRIAGE INDICES 1837-1870

Town	Homogamy		Hypergamy		Hypogamy	
	Manual groom, Manual father-in-law	Non-manual groom, Non-manual father-in-law	Non-manual groom, Manual father-in-law	Manual groom, Non-manual father-in-law	Manual groom, Non-manual father-in-law	Manual groom, Non-manual father-in-law
Coalville	102.77	833.14	38.7	66.89		
Hinckley	104.85	544.21	62.15	43.05		
Lutterworth	111.54	463.22	40.62	36.29		
Melton	107.35	247.44	74.07	58.2		

Table 10.12 indicated that social equality between partners was not an absolute requirement for marriage, nonetheless, the intermarriage indices have shown that homogenous marriages occurred more frequently than would have been expected from a random choice of partners while the numbers of marriages across status barriers were either close to the expected level or below it.¹

In Chapter One, brief mention was made of the work of Kerchkoff (1963-1964) into the links between resident and migrant marriages and social endogamy. It was noted that he put forward two contradictory hypotheses: first that marriages between partners from the same district (or town in this case) would be more likely to be socially homogenous because the local area was likely to contain mates of a similar social standing and, second, that marriages that included a migrant partner would be more homogenous because the greater marriage distances involved ensured that partners were selecting from a wider field of potential mates and, therefore, would have had more opportunity to find a suitable spouse from a similar background to their own. The marriages that took place in the four towns of this study were tested against Kerchkoff's hypotheses by comparing the social distance overcome per marriage for resident and migrant unions.² The mean class movements for all marriages in the towns were also computed and the results are presented in Table 10.14. As expected, it can be seen that there was a distinction among the towns since the partners were closer in status at Hinckley and Coalville than at Lutterworth and Melton Mowbray while with regard to the comparisons between the two marriage types it seems that Kerchkoff's first hypothesis must be

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1. These findings are in line with those of Ramsøy (1966), Davis (1941) and Ellesworth (1948).
 2. Thus a marriage between a skilled manual worker and a spouse of non-manual status would involve a social distance of one class; that between two unskilled persons overcomes no social distance and, therefore, would have had a score of nought in the calculations.

TABLE 10.14 : MEAN SOCIAL MOVEMENTS (FOUR CLASS SCALE) 1837-1870

Town	Town Marriages	Migrant Marriages	Mean Movement
Coalville	0.273 classes	0.467 classes	0.308 classes
Hinckley	0.413	0.482	0.423
Lutterworth	0.453	0.616	0.518
Melton	0.646	0.657	0.65

accepted in that class endogamy was more marked in those marriages between people from the same town.¹

Having thus established that social distance was a constraint on marriage contacts, and, therefore, presumably, on social interaction generally, an examination of the related topic of social mobility can now be introduced.

Social Mobility

In parallel to the increasing levels of social interaction, the population of 19th century Britain experienced also a good deal of the related phenomenon of social mobility. In the context of this study, it would be expected that social mobility increased rapidly as industrialization accelerated in the second half of the 19th century and, therefore, the increases would be most apparent among the populations of the industrial towns. In addition, it might also be possible to relate the social mobility patterns of each town back to their socio-spatial structures identified in Chapters Six, Seven and Eight in the hope that a greater insight into their changing nature may be achieved.

Unfortunately, the availability of suitable data restricts this investigation to a study of individual rather than collective or class mobility² and even at this simple level it is necessary to use two complementary sets of data. The most straightforward of these was that taken directly from the marriage records; the occupational details recorded for both the bridegrooms and their fathers allow the proportion

1. This conclusion is at odds with that from Kerchkoff's own analysis but as he was studying American students in the second half of the 20th century, the differences in time and society between the two investigations are such that their results are hardly comparable.

2. See Smelser and Lipset (1966).

of sons who had been socially mobile to be identified.¹ The great advantage of this data is that each person in the sample was at the same stage in his life cycle, at his marriage, and, thus simple and direct comparisons can be made between the different populations involved in the study. However, the data is also subject to a grave drawback in that the majority of the grooms were at an early stage of their career whilst their fathers were more often than not at the peak of their occupational attainment. This, of course, could result in an under-estimation of the levels of social mobility if these two occupations are compared directly.² In order to overcome this problem, a second set of data relating to social mobility was employed. In this case the occupations of the sons were not recorded from the marriage licences but from subsequent Census Enumerators' Books, it proving possible to trace a number of the grooms to these schedules where occupational details of later stages in their careers were provided. In this process of tracing individuals, a number of rules had to be established in order to ensure that the entries on the different records referred to the same person. Obviously a man's name had to tally but as added security it was decided that his wife's name should also have to match up, that ages should correspond and that birthplaces recorded at separate censuses should be the same. According to Table 10.15 between 26.25% and 35.83% of men marrying within the study towns could be traced to one or more censuses in this way. However, since it was only for Coalville that a full cover of the 1851, 1861 and 1871 Census Enumerators' Books was searched,³ its figure was the only one to give an accurate

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1. This analysis of social mobility concentrates entirely on men's careers as in the 19th century few married women were the chief breadwinners for their family.
 2. Duncan (1966) and Wilensky (1966) also point out problems encountered with this type of approach to social mobility studies. See Chapter One.
 3. For the other towns the systematic 50% samples of households used in the factor analyses were searched.

TABLE 10.15 : COUPLES TRACED FROM MARRIAGE LICENCES TO CENSUS RECORDS

Town	Number of Marriages	Couples Traced to Census	% Traced
Coalville	324	116	35.8
Hinckley	968	347	35.85
Lutterworth	266	75	28.2
Melton	575	151	26.26

indication of the number of men who had stayed in the town for some time after their marriage.

In the analysis of both sets of collected data, the occupations of both father and son were ranked on a simple fourfold structure: unskilled manual, skilled manual, routine non-manual and professional with a further distinction being made by isolating those sons who had directly inherited their father's occupation and those who had chosen a career of similar status but in a different field.

If the data abstracted from the marriage records alone are considered first (Table 10.16), then it can be seen that in each of the towns over 65% of sons had the same occupational status as their fathers while in the industrial towns of Coalville and Hinckley more than half of them had directly inherited their father's occupation. Obviously, this reflects the difficulties of finding employment outside the basic industries of these two towns. There were some men whose status had increased of course, only 7.22% of those in Coalville but as many as 16.77% of those in Melton. These differences in the incidence of upwards social mobility in Melton and Coalville, taken in conjunction with the distinctions in the patterns of social interaction of their residents, indicate that the towns had very dissimilar social structures. Generally there was greater interaction and mobility amongst the classes in Melton, thus indicating a more broadly based social system. In contrast, despite the hypotheses that the populations of the industrial towns would display the greatest levels of interaction and mobility, the overwhelming dominance of mining in the economy of Coalville resulted in limited opportunities in other spheres and, hence, the creation of a more rigid working class community. Finally, Table 10.16 revealed that there were also a considerable number of grooms in each town whose occupational status was lower than that of their fathers, mainly sons of skilled manual workers who had taken up unskilled jobs. In fact, in all of the towns the proportion of men

TABLE 10.16 : OCCUPATIONAL INHERITANCE (MARRIAGE RECORDS) 1837-1870 (%)

SAME STATUS LEVEL

Town	Same Occupation	Same Level	Total
Coalville	50.93	25.31	76.24
Hinckley	52.31	21.89	74.2
Lutterworth	48.62	23.4	72.02
Melton	39.07	26.54	65.61

SON LOSES STATUS

Town	Within class	Between classes	Professional to working	Total
Coalville	12.35	3.4	0.31	16.01
Hinckley	9.02	4.14	-	13.16
Lutterworth	13.3	3.21	-	16.51
Melton	12.74	4.88	-	17.62

SON GAINS STATUS

Town	Within class	Between classes	Working to Professional	Total
Coalville	4.32	3.09	0.31	7.72
Hinckley	8.03	4.5	0.12	12.65
Lutterworth	5.51	5.96	-	11.47
Melton	6.79	9.77	0.21	16.77

whose status had declined was greater than the proportion whose status had increased. At first sight this may seem surprising in the light of the considerable changes that British society was experiencing in the latter half of the 19th century, the most notable aspect, of course, being the growth of the middle classes. However, it must be pointed out that the incidence of status decline experienced by a number of the residents of the four study towns might be due to the nature of the data used in this particular analysis which was based on information from the marriage records alone and, therefore, was subject to the 'generation gap' distortion mentioned earlier. In order to remove this weakness, data from the census records was used as a supplement to the marriage licence data and the results based on this new information are given on Table 10.17. When these are compared with Table 10.16 it is immediately apparent that the incidence of upwards mobility recorded on the latter table was, indeed, rather low. There is little difference between the tables in terms of the proportions of men taking up their fathers' occupation or his status, but it is very significant that over their careers far fewer men had declined from their father's position than at marriage and far more had increased in status (except in Coalville).

Even though the combined marriage licence and census data overcomes the generation gap problem there is still a possibility that the rate of upwards mobility has been underestimated since only the careers of those men who had stayed in the study towns after marriage were examined and, of those who had left, many might have done so to take up better occupational opportunities elsewhere. There is no way in which information can be obtained to investigate the future careers of those men who had migrated from the towns, but it is possible to identify those who had moved into the towns from outside and, therefore, their occupational histories may be used to represent the career patterns of migrants in general. Accordingly, in Table 10.18, the

TABLE 10.17 : OCCUPATIONAL INHERITANCE - END POSITION OF SON : FATHER ON SON'S MARRIAGE (%)

<u>SAME STATUS LEVEL</u>				
Town	Same Occupation		Same Level	Total
Coalville	56.03		26.72	82.76
Hinckley	53.31		18.16	71.47
Lutterworth	50.67		20	70.67
Melton	35.1		25.17	60.27
<u>SON LOSES STATUS</u>				
Town	Within class	Between classes	Professional to working	Total
Coalville	8.62	2.59	-	11.21
Hinckley	7.49	4.32	-	11.82
Lutterworth	8	1.33	-	9.33
Melton	10.6	0.66	0.66	11.92
<u>SON GAINS STATUS</u>				
Town	Within class	Between classes	Working to Professional	Total
Coalville	1.72	4.31	-	6.03
Hinckley	7.78	8.93	0.29	17.03
Lutterworth	6.67	13.33	-	20
Melton	9.27	16.56	1.99	27.82

TABLE 10.18 : STATUS TRANSMISSION AND MIGRATION

Town	Those Born in Study Town			Those Born Outside Study Town		
	Maintain Status	Lose Status	Gain Status	Maintain Status	Lose Status	Gain Status
Coalville	72.73	9.09	18.18	79.25	16.98	3.77
Hinckley	81.35	11.51	7.14	65.1	15.65	19.25
Lutterworth	69.44	19.44	11.11	67.57	21.62	10.81
Melton Mowbray	77.78	6.67	15.55	61.13	21.38	17.49

data presented in Table 10.17 is disaggregated and a comparison is made between the social mobility levels of those men who had been born in the study towns and those who had been born elsewhere. Contrary to expectations, perhaps, the table indicates that the migrants did not seem to have enjoyed a significantly higher level of upwards mobility than the established residents. In Lutterworth and Coalville, in particular, the migrants had been notably less successful in their careers than those born in these two towns. Only in Hinckley was the incidence of upwards social mobility much higher among the migrants although this was balanced out by the proportion of migrants whose status had declined in comparison to that of their fathers. In fact, in all of the towns a decline in social status was more frequent than an increase among the migrant population. Clearly, these results indicate that the rates of upwards mobility recorded in Table 10.17 were probably not underestimated as had been feared.

Having established that certain changes were taking place in the four towns' social structures during the period of this study, as indeed was to be expected from the indications given in Chapter Eight, it will be instructive to examine these in a time dimension in order to discover if the rate of change was constant over time or whether it had intensified towards the end of the 19th century as hypothesized. Such an investigation can be carried out by examining the incidence of social mobility in two periods; between 1837 and 1853, and 1854 to 1870. Unfortunately, only marriage licence data can be used here and, therefore, there exists the possibility of some underestimation in the rate of upwards mobility (Table 10.19). Broadly, the analysis reveals that contrary to expectations, the proportion of men attaining a status similar to that of their fathers increased over time. Except in Melton Mowbray fewer had directly adopted their father's occupation but most of them had made movements that were horizontal in status terms. Probably the most interesting results were those recorded by the functionally

TABLE 10.19a : OCCUPATIONAL INHERITANCE (MARRIAGE RECORDS) 1837-1853 (%)

Town	Same Occupation	Same Status Level Same Level	Total	Son Loses Status	Son Gains Status
Coalville	52.27	13.64	65.91	20.46	13.64
Hinckley	54.68	19.39	74.07	14.38	11.55
Lutterworth	51.73	20.69	72.42	17.93	11.03
Melton	35.02	29.11	64.13	16.46	19.4

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TABLE 10.19b : OCCUPATIONAL INHERITANCE (MARRIAGE RECORDS) 1854-1870 (%)

Town	Same Occupation	Same Status Level Same Level	Total	Son Loses Status	Son Gains Status
Coalville	50.42	29.66	80.08	14.41	5.51
Hinckley	50.85	25.85	76.70	11.93	11.36
Lutterworth	43.66	29.58	73.24	14.09	12.68
Melton	43.16	23.93	67.09	18.8	14.1

dissimilar towns of Melton and Coalville. Between 1837 and 1853 the number of men who had retained their fathers' status in both towns was as low as two-thirds of the sample; there are very different reasons for this similarity, however. At Melton the wide range of employment opportunities meant that 20% of the grooms had increased their status over their fathers; on the other hand, at Coalville most of those men whose status had changed had declined. This was probably because many of Coalville's numerous early migrants would have taken up better paid but lower status occupations than those available to their fathers in their former home areas. By the second half of the study period, far fewer of Coalville's population were migrants and the rate of status transmission was much higher.¹ In contrast, at Melton, it had not greatly changed from its earlier proportion.

In an earlier part of this chapter it was noted that rates of social interaction varied not only between the towns as a whole but also among their various social groups. Having established similar differences in the social mobility levels of the four towns an assessment of class differentials will now be made. A simple division of the samples into sons of manual and non-manual fathers was made and the mobility patterns of these groups was compared. According to Table 10.20, which is based on the marriage record data alone, most of the sons of non-manual fathers experienced a decline in their status whilst the vast majority of those with manual fathers had held their father's position or improved upon it. Naturally, it would be expected that only a small proportion of those grooms whose fathers had occupations of manual status would have suffered a decline from this position since more often than not

1. In this second half of the study period, there were far more marriages in Coalville and this is why the aggregated statistics of mobility in Table 10.16 showed it to have a high rate of status transmission overall.

TABLE 10.20a : OCCUPATIONAL INHERITANCE (MARRIAGE RECORDS) NON-MANUAL FATHERS

Town	Same Status Level		Total	Son Loses Status	Son Gains Status
	Same Occupation	Same Level			
Coalville	-	20.83	20.83	75	4.17
Hinckley	23.08	18.46	41.54	55.39	3.08
Lutterworth	19.23	26.92	46.15	50	3.85
Melton	24.19	25.81	50	43.55	6.45

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TABLE 10.20b : OCCUPATIONAL INHERITANCE (MARRIAGE RECORDS) MANUAL FATHERS

Town	Same Status Level		Total	Son Loses Status	Son Gains Status
	Same Occupation	Same Level			
Coalville	55	25.67	80.67	11.33	8.0
Hinckley	54.82	22.19	77.01	9.51	13.47
Lutterworth	52.6	22.92	75.52	11.98	12.5
Melton	41.32	26.65	67.97	13.69	18.34

their fathers occupied the lowest status positions themselves. On the other hand, there was more potential for downwards movement among the sons of non-manual fathers but yet the actual numbers of those whose status had declined was surprisingly high, especially as studies such as those of Sorokin (1927) have claimed that the children of non-manual families are usually encouraged and guided into occupations of similar standing. However, the distortion caused by the 'generation gap' problem was probably at its greatest here since entry into many non-manual occupations might well have required the accumulation of capital and expertise beyond the reach of the newly married men even though an earlier analysis showed that they tended to delay their marriages beyond the usual age for men of manual status. In fact, Table 10.21, which is based on the combined marriage record and enumeration book data shows that this was the case since the patterns of occupational inheritance from manual fathers was similar to that recorded on Table 10.20 but far fewer of the sons of non-manual fathers had declined in status than appeared to be the case at marriage. However, this differentiation was not common to all of the towns' populations; in Coalville and Hinckley there was still a very high rate of status decline among grooms with non-manual fathers. It is noticeable that in these two towns very few of these men entered their fathers' occupations, many of them being the sons of small traders and businessmen who for one reason or another took up work in the pits or as framework knitters. Thus, it would appear that while there were a number of differences between the mobility patterns of the two social groups isolated in each town, these could by no means mask the much greater differentiations between the patterns of the towns as a whole.

Up to this point the investigation of social mobility has concentrated on comparisons between the occupational status of fathers and sons and little has been said about the sons careers per se. These must be examined, however, in order to see if the differences in the

TABLE 10.21a : OCCUPATIONAL INHERITANCE - END POSITION OF SON : FATHER ON SON'S MARRIAGE . NON-MANUAL FATHERS (%)

Town	Same Status Level			Son Loses Status			Son Gains Status
	Same Occupation	Same Level	Total	Within Class	Between Classes	Professional to Working	
Coalville	-	33.33	33.33	-	50.0	-	50.0 16.67
Hinckley	14.29	19.05	33.33	-	61.9	4.76	66.67 -
Lutterworth	14.29	57.14	71.43	-	-	-	28.57
Melton	37.5	31.25	68.75	6.25	12.5	-	18.75 12.5

TABLE 10.21b : OCCUPATIONAL INHERITANCE - END POSITION OF SON : FATHER ON SON'S MARRIAGE . MANUAL FATHERS (%)

Town	Same Status Level			Son Gains Status			Total	
	Same Occupation	Same Level	Total	Son Loses Status	Within Class	Between Classes		Working to Professional
Coalville	60.58	24.04	84.62	9.62	1.92	3.85	-	5.77
Hinckley	59.55	16.18	75.73	6.15	8.09	8.74	1.29	18.12
Lutterworth	50.82	18.03	68.85	11.48	6.56	11.48	1.64	19.67
Melton	37.88	24.24	62.12	9.85	10.61	16.67	0.76	28.03

towns' societies was reflected in their intra-generational mobility as well as at the inter-generational level. Further, the scrutiny of individuals' career patterns without reference to the status of their upbringing will provide a truer reflection on the relative opportunities for advancement available in each town since the analysis concentrates on those men who had been resident in the towns since their marriage and, therefore, any social progress they had been able to make was wholly within the society of the town in which they were resident. The details of the groom's careers are given in Table 10.22 and this broadly confirms the already established patterns of social mobility. Almost 90% of the men in Coalville and 80% of those in Lutterworth and Hinckley had not changed their occupation since their marriages; at Melton this was true of only 68%. Of those men who had changed their jobs, about a third of those in Lutterworth, Hinckley and Melton and 16% of those in Coalville had made movements that were horizontal in status terms, for example, a grocer becoming a hardware dealer or a carpenter moving into shoemaking. There were fewer such movements in Coalville because here most of the men began their careers as miners and there were relatively few other jobs of similar status to which they could have turned. With regard to vertical changes, Table 10.21 shows that in each town more men increased their status than declined, the highest proportional gains being at Melton and Coalville. In addition, Coalville's population had experienced the greatest rate of intra-generational decline, in particular, there were a number of marginal traders and skilled workers who had become miners. Finally in Table 10.21 a distinction was made between those men whose vertical mobility had been within one career structure from those men who had completely changed their occupation. Fewer men fell into the former category but, in each town, there had been a number of promotions within a single occupation, usually across the

TABLE 10.22 : CAREER CHANGES AND SOCIAL STATUS

Town	No Change in Career (% of total)		Horizontal Movement (% of career changes)		Vertical Movement (Totals)	
	Gain Status	Lose Status	Within Class	Between Classes	% Gain Status	% Lose Status
Coalville	89.66	16.67	58.33	25.0		
Hinckley	80.12	34.28	50.22	15.5		
Lutterworth	80.0	33.33	46.67	20.0		
Melton	68.21	30.5	58.67	10.83		

Town	Vertical Movements Within One Career				Change of Career	
	Gain Status	Within Class	Between Classes	Lose Status	Gain Status	Lose Status
Coalville	-	8.33	-	-	25.0	16.67
Hinckley	-	7.25	2.89	-	31.38	9.72
Lutterworth	-	13.33	-	-	33.34	20.0
Melton	8.33	10.42	-	-	35.75	6.45

broad class divisions between manual/non-manual/professional occupations, for example, grocers' porters becoming grocers or attorneys' clerks, solicitors. Only at Hinckley was there any decline within a single occupational category, a few aged or infirm framework knitters who had been reduced to seaming or trimming. The majority of the vertical movements involved a complete change of occupation, usually members of the working classes moving onto the fringe of the middle class or, with regard to status decline, skilled workers taking up unskilled jobs, for example, carpenters becoming labourers. On the whole the findings of this analysis replicated those of the intra-generational mobility study insofar as certain differences in the four towns mobility patterns were identified but although varying proportions of the towns' populations were vertically mobile, in each case most of this mobility was in an upwards direction.

It has already been stated that social mobility and social interaction are two forms of behaviour which are closely related. At this juncture it is apposite to assess the nature of this relationship within the context of the four case-study towns by tracing the subsequent mobility patterns of the grooms with reference to the type of social interaction displayed at their marriage. Accordingly, each of the grooms' marriages was assigned to one of three interaction categories depending on whether the bride was of similar social standing to his own (i.e. he had married homogenously), whether the wife was of higher social status (hypogamous marriages) or whether the husband's class was the higher (hypergamous marriages). For each of these three groups two mean social ranks were calculated, first based on the men's occupations at marriage, and the second on those recorded at the censuses¹ and then

1. One point was awarded for each man who had a professional occupation, two for a non-manual occupation, three for a skilled manual and four for an unskilled manual worker and these scores were simply summed and divided by the total number of men in the category to give a mean social rank.

the percentage change between these ranks was computed for men in the three categories of marriage and for each town as a whole. The results are shown in Table 10.23¹ and it can be seen that the mobility patterns of the grooms did seem to bear some relationship to their level of interaction at marriage. Thus, the greatest rates of upwards mobility were displayed by those grooms who had taken a bride of higher status (except in Coalville) even though few of them were actually to be found entering the profession of their father-in-law and, perhaps, their hypogamous marriages were simply an indication of their desire to progress up the social ladder. In similar vein, those men who had taken a bride of a lower class to themselves had suffered an overall fall in mean social standing (except in Lutterworth) while those who had contracted homogenous marriages recorded a slight increase in mean status.

Conclusions

This chapter set out to examine the structure of the four towns' societies with three aims in mind: (a) to discover if any change took place within them as a result of the economic and industrial developments that were occurring nationally throughout the period of study; (b) to identify any meaningful differences between the societies of the individual towns; and, (c) to see if any of the social changes that were identified could lead to a better understanding of the development of the towns' social areas. Having already considered the towns' socio-occupational structures in previous chapters, in the present one societies were examined with reference to the related processes of social interaction and social mobility, although data availability restricted the analysis of the former to a study of marriage contacts and the latter to occupational change. In spite of these restrictions, however, a wide range of analyses proved to be possible.

1. In passing, it may be noted that the usual distinctions between the industrial and market towns were found with the mean status of men in the former being lower both at marriage and at the censuses.

TABLE 10.23 - MEAN STATUS* ON MARRIAGE AND AT CENSUS

Town	Overall			Homogenous			Hypogamous			Hypergamous		
	Marriage	Census	% Change	Marriage	Census	% Change	Marriage	Census	% Change	Marriage	Census	% Change
Coalville	3.87	3.79	2.07	3.95	3.83	3.04	3.95	3.86	2.28	2.75	3.25	-18.18
Hinckley	3.83	3.68	3.92	3.04	2.99	1.64	3.77	3.26	13.53	2.87	2.93	- 2.09
Lutterworth	3.19	3.01	5.98	3.29	3.22	2.13	3.53	3.2	9.35	2.65	2.35	11.32
Melton	3.21	3.03	5.61	3.68	3.45	6.25	3.53	2.97	15.86	2.4	2.52	- 5.0

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*Based on a four class structure. See text.

With regard to the original aims of the chapter, it was clearly demonstrated that certain social changes had, indeed, taken place over the study period although, when investigated in detail, it was discovered that these changes were not always quite what had been anticipated. For instance, marriage distances were expected to rise generally over time in line with the general increase in mobility of British society but only in Melton Mowbray and Hinckley were increases of any scale recorded and these seemed to be related to purely local developments in transport facilities. Similarly, with reference to the changes in the structures of the towns' societies, it was discovered that while there was a general increase in the incidence of upwards social mobility over time, this was most pronounced in Melton Mowbray and Lutterworth and not, as anticipated, in the industrial towns of Hinckley and Coalville. In fact, one of the main conclusions to emerge from the chapter as a whole must be that industrialization was by no means the only factor that affected social change in small towns in the mid-19th century and at this level of analysis, other factors such as the amount of local economic opportunities must be taken into account. Among the four study towns it so happened that the non-industrial town of Melton Mowbray had the most buoyant economy and, therefore, enjoyed the greatest rates of social change. From this it can be appreciated that the hypothesis that differences would be discovered between the four towns' societies was fully proven and, in the vast majority of the separate analyses the four towns split into two separate groups- the industrial towns of Coalville and Hinckley where the societies proved to be rather rigid with relatively few social movements and with social contacts being severely constrained by factors such as physical and social distances; and the market towns of Lutterworth and Melton Mowbray where, especially in the latter case, far more social mobility and interaction were recorded.

Finally, with regard to that part of the chapter which sought

to identify the existence of any relationships between the development of the towns' societies and that of their socio-spatial structures as identified in Chapters Four, Six, Seven and Eight, it has to be recorded that because of the limitations of the available data, few links were found. The problem was that the majority of the marriage licences did not record partners' addresses in sufficient detail to allow them to be placed within any particular social area. However, in Tables 10.6 and 10.7 and Figures 10.5 and 10.6 some attempt was made to examine interaction between those few people who could be placed within different categories of social area and it was discovered that there were few marriage contacts between partners from high and low class areas of the towns. This find was confirmed when it was seen that social distances proved to have a considerable effect on marriage contacts generally. In addition, at the whole town level, some relationship between social and spatial development was found to exist in that Lutterworth and Melton Mowbray which displayed the clearest evidence of social area changes over the study period also enjoyed the greatest rates of change within their societies. In contrast, the economic diversification of Coalville identified in earlier chapters did not seem to be reflected in any major developments in its patterns of social mobility and interaction and, in fact, Table 10.22 showed that less than 10% of its resident population had taken advantage of the new opportunities and had changed their careers- a figure which seems to indicate that Coalville's economic diversification must have been associated with migrants rather than within any socio-economic developments within the structure of its established population.

In spite of this failure to firmly link changes in social areas with changes in society generally, this chapter has served a useful purpose. It has demonstrated that in terms of the towns' social structures, as with most of the other aspects of their social geography considered in this thesis, there were differences both within each of the towns over

time and between the towns as a whole. Although these differences could not be associated with the degree of industrialization present in the towns as was anticipated, in terms of the study as a whole they were perfectly logical as the concluding chapter will demonstrate.

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CHAPTER ELEVEN

CONCLUSION

Empirical studies in geography may be carried out for many different purposes but the majority of them would, probably, try to fulfil at least one of the following six aims:

- i) to provide information about the area or topic under consideration, either for its own sake or for comparison with other studies;
- ii) to act as a proving ground for particular theories or hypotheses;
- iii) to illustrate the potentialities of one or more data sources;
- iv) to be a showcase for a method of investigation;
- v) to examine the consequences of changing political, physical or human environments;
- vi) to serve as an example of wider ranging problems or processes.

Originally this particular study was conceived within the context of the second of these aims, i.e. it was to be an examination of two broad hypotheses: firstly, that small towns in the 19th century had a coherent, explicable socio-spatial structure that evolved over time in line with the developmental patterns and processes known to operate at the scale of large cities, and secondly, that the structure and development of individual towns would prove to have been affected by their particular economic functions. During the course of the investigation, however, a number of the other aims became relevant. In order to discover how each town's economic specialism had evolved it became necessary to detail their historical backgrounds; most of the empirical data used in the various sections of the study were taken from just two sources and, therefore, their potentialities were explored to the full; and finally, since one of the study's most important statistical tools, factor analysis, was largely untried in terms of its application to an examination of small towns or to the processing of data from historical records those

chapters that made use of the technique, therefore, assumed a methodological significance. Since fairly full conclusions were drawn at the end of each of the individual chapters, these final paragraphs need only be brief; simply drawing the threads of the analysis together in order to present a holistic picture of what has been attempted.

DATA

It is appropriate that this concluding chapter should first consider the data sources used since this study, like any other investigation of an historical time period, was restricted in its aims and achievements by the quality and quantity of the data available. As Chapter Three was devoted entirely to a discussion of the three categories of documents which served as sources of information for the study there is little need for further comment, except to draw some broad conclusions in the light of the experience of the completed analysis. The first of the categories of documents was the series of disparate minor sources, some of which were available nationally, others being specific to two or more of the study towns. These were used in Chapter Four for a simple introductory analysis of the towns' social and spatial structures. Unfortunately, each of the sources presented only a limited range of information and, although in certain cases this was of sufficient quality for an attempt to be made to identify some aspects of the towns' structures, comparison between findings based on separate sources proved to be a rather difficult task. In addition, not all of the sources existed for each of the towns and for only two of them was it possible to trace their development at even the simplest level throughout the whole of the study period.

Fortunately, data sources of better quality were found in the Census Enumerators' Books and although any research based on these records must be carried out in full cogniscence of their probable errors and

inaccuracies, they are of inestimable value in the study of urban places in the mid-19th century. It is interesting to note, however, that with reference to the delineation and evolution of the present case study towns' spatial structures, the analysis of the wide range of data from the Census Enumerators' Books, with all its sophisticated computer techniques, basically reproduced some of the patterns obtained from the much more limited information abstracted from the minor sources. However, it must be emphasized that the census data allowed much more rigorous analyses and, in no way could it be substituted by the minor sources considered in Chapter Four.

Census Enumerators' Book data was also used in the examination of the towns' migration patterns, for despite their information being limited to details of place of birth and enumerated address, no better source of migration data for these 19th century towns could be discovered. The third category of source, the marriage licences, was used in an examination of the towns' social structures in Chapter Ten. Data from these records enabled the interaction between various social groups to be considered but the data was found to be wanting when applied to the related topic of social mobility and so supplementary information from the Census Enumerators' Books had to be introduced.

It cannot be claimed that these three categories of source documents were consistently of the highest quality; certainly in no equivalent examination carried out for a contemporary period would such data inadequacies and inaccuracies be tolerated. But, bearing in mind that this study was confined to small country towns during a period more than a century ago, the sources used did provide a considerable body of data that lent itself to very detailed examination by a number of different analytical techniques.

Analytical Techniques

The methods of analysis employed in this study were, to a certain extent, limited by the kinds of data available. The simple information provided by the series of minor sources could only be examined by statistical tools of little greater complexity than averages and percentages but in the case of data from the Census Enumerators' Books and marriage licences rather more ambitious methods could be attempted. For instance, the effect of distance on migration patterns and marriage contacts was analysed by means of correlation and regression techniques (Chapters Nine and Ten), whilst the towns' socio-spatial structures and development were delineated by means of cross-sectional and longitudinal multivariate analyses (Chapters Five, Six, Seven and Eight). The application of factor analytical techniques in this study was breaking relatively untrodden ground in at least four ways: i) by investigating the structure of small towns rather than large cities; ii) by using the same analytical procedures for a number of separate case studies, thus allowing direct comparisons between them; iii) by applying the techniques to data derived from 19th century sources; and, iv) by using longitudinal analysis in conjunction with cross-sectional techniques. The success or failure of these innovations must now be assessed.

In the initial stages of the analyses the towns' small size proved to be something of a disadvantage since they contained too few administrative subdivisions (wards, enumeration districts) for these to be used as operational taxonomic units (OTUs) and, therefore, units had to be built up individually by a painstaking process of grouping together the separate households (as recorded in the Census Enumerators' Books) on the basis of their location or street allegiances. In the construction of these OTUs it had to be borne in mind that the computer programme used required there to be more OTUs than variables. A further restriction

was imposed by the limited range of variables able to be drawn up from the information given on the census schedules. However, despite having to adapt the construction of both the OTU and variable to a small scale study the resultant analysis revealed a set of clear and reasonably coherent factors. The application of the same analytical procedure to all four towns was perfectly straight-forward since all the variables were based on the universally available census material and, indeed, the direct comparisons that could be made as a result were of great value in the identification of differences in the towns' social and spatial structures. In contrast, the elucidation of the development of these structures over time by the use of a series of cross-sectional and longitudinal analyses was subject to a number of problems. These procedural difficulties have been discussed at some length elsewhere, especially in Chapter Seven, but it must be reiterated that the most serious weakness of the approach was that the longitudinal analysis could identify relative change only within the built-up area of the earlier cross-section. This was a particular weakness in this study because three of the towns were undergoing considerable spatial expansion during the third quarter of the 19th century. As a result of this drawback it was concluded that longitudinal analysis was not a suitable technique to be employed as the sole means of identifying change within an urban area, but could be of considerable value if used in conjunction with two cross-sections. In the present study the longitudinal analyses identified a number of social and spatial developments within the towns which greatly facilitated the comparisons between the cross-sections.

Findings

The suitability of the methods of analysis used in any study must, in the last resort, be judged by their success in enabling its objectives to be achieved, given that, in the context of an historical

study period in particular, these had originally been established with due regard to the potentialities of the available data. The objectives of this study were set out in the first chapter. One of the main areas of interest defined there was the need to examine whether the dynamic model of urban development, established for large cities during an industrializing period, could equally be applied to settlements of a much smaller size. The hypothesis was tested by a series of analyses based on the minor sources in Chapter Four and by factor analysis of census data in Chapters Six, Seven and Eight. The results indicated that certain aspects of the model could, indeed, be applied to the small towns under scrutiny. During the 1850s the spatial structures of each town exhibited considerable affinity with the model's first or 'pre-industrial' phase. The town centres were still residential in character containing almost all of the towns' high status inhabitants. By 1871, however, there were some indications that three of the towns were in the process of entering the model's 'industrial' phase since their middle and upper class inhabitants were beginning to reside on parts of the periphery of the towns' as well as in the central areas. However, the underlying cause for these developments were different to those suggested in the case of large cities in Chapters One and Eight. The development of heavy industry close to the city centre and improvements in intra-urban transportation were not factors of importance here. Rather the shift of the wealthier groups towards the edge of these small towns may be attributed to the rapid expansion of their middle classes during the twenty year period up to 1871 and the enforcement of these groups to the open spaces on the urban periphery as a result of a dearth of suitable open space for more high status residential development in the towns' central areas. Of the four case-study towns, it was only Coalville which did not conform to this pattern of change; there was still plenty of space for development in the centre of this still infant

small town in the mid-19th century.

Another aspect of this study was concerned with the social processes involved in the towns' development and the patterns of social interaction among their residents. The relationship between the social character and development of each town and their migration patterns was also examined in some detail. A number of the results of these analyses were fairly predictable particularly with regard to the patterns of physical and social mobility experienced by the various populations sub groups. Similarly, at the whole town level it was no surprise to record that the greatest influx of migrants had taken place in the rapidly expanding towns of Melton Mowbray and Coalville; nor that the two industrial towns had attracted migrants from specialised industrial areas. On the other hand, some of the analyses produced results which were rather contrary to expectations. It had been anticipated, for example, that because industrialization progressed generally throughout the study period, there would have been an increase in the towns' migration fields over time but this proved to be the case only for Melton Mowbray. A similar feature was evident in the analysis of the towns-peoples' patterns of social interaction as evinced by the surrogate of marriage distances. In this instance marriage distances only increased to any extent during the study period in the cases of Melton Mowbray and Hinckley. Finally with reference to the social mobility study it might have been expected that the two industrial towns' populations would have had the greatest opportunity for advancement in light of the links established between mobility and industrialization, but since other analyses had already identified a very rigid working class society for these particular industrial towns it was no surprise to record that the incidence of mobility was greater in the two market towns.

This type of comparison between the towns, of course, formed a very important part of the study for it was hoped to show the effects

of their functional differences on the towns' social and spatial structures. Certainly many major differences were identified but instead of the degree of industrialization present in each of the towns being the most significant factor in the determination of their structures, as expected judging from national trends, local factors such as the level of prosperity enjoyed by the towns' societies seemed to have the greatest effects.

Future Research Projects

The research carried out during the course of this thesis was designed to provide a fairly comprehensive coverage of the social and spatial developments of the four study towns during the second and third quarters of the 19th century. But, of course, like the majority of studies it has brought to light almost as many problems as it has attempted to solve. Chief amongst these, perhaps, relates to the general applicability of its findings. Although the towns selected for study were of different economic specialisms and these proved to have great effects on their social and spatial structures, there were, nevertheless, many features shared by them all. Because of this the applicability of the findings to other towns still remains unresolved: would small towns 15 miles from larger cities such as Birmingham or Manchester be subject to patterns of social and spatial change similar to those experienced by the four Leicestershire towns? Would seaports, garrison towns or booming industrial centres? Only further detailed research could answer these questions.

Other research prospects suggested by this study might include an investigation of the size threshold below which 19th century towns did not have a clearly segregated socio-spatial structure, given that such structures existed for settlements of the size of Lutterworth and Coalville. Or, perhaps, in a modern context contemporary small towns

could be examined in the same way as the present case study towns, using factor analysis or other means: British towns to enable comparisons to be made between settlements of the present and those of the past century or even towns in areas of the world at present undergoing industrialization to discover if changes similar to those found for the small British towns of the 19th century are taking place. However, perhaps the most pertinent line of future research would be to scrutinize the Census Enumerators' Books of 1881 and later when these become available in order to establish whether social and spatial trends which were in operation in these small towns in 1871 did indeed, represent the initial stages of the changes from a pre-industrial to industrial phase of urban development as hypothesized.

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