# FLOWS OF LABOUR IN THE EARLY PHASE OF CAPITALIST DEVELOPMENT:

# THE TIME-GEOGRAPHY OF LONGITUDINAL MIGRATION PATHS IN NINETEENTH- CENTURY SWEDEN

By

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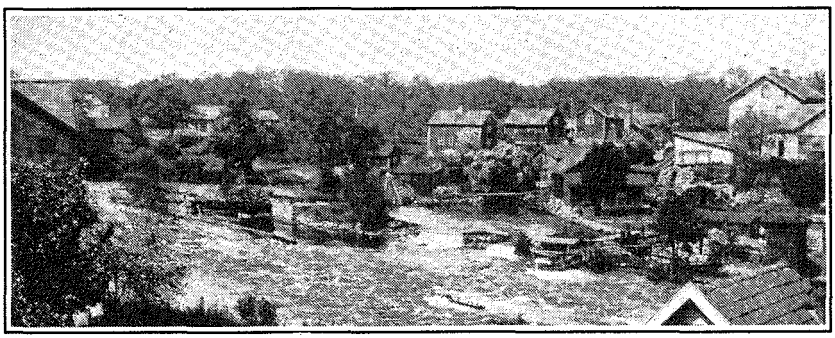

'Motala strom at Motala c.1905'

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# PREFACE

Flows of different kinds are necessary to enable economic and social changes and development. This was no less so in the past than it is in the present. Flows of people over space are perhaps the most striking flows but flows of ideas, capital, goods and information are equally necessary to bring about change. Geographers have recognized this in studies of innovation diffusion, rural to urban migration, and so on. Indeed, it is mainly in this context that flows have been studied by geographers at all. However, spatial stability, with a constant set of phenomena remaining **in situ** and unchanging in the landscape, also requires flows of people, resources and ideas to maintain it. In this paper we will discuss the study of such flows, and particularly those of people, in theoretical, methodological and empirical terms in the context of the modernization process. This focus of attention does not imply that we believe it is more important to study flows than the visible landscape forms and abstract spatial surfaces of cost, demand, and so on which are the more usual subject matter of historical geography. We simply believe that patterns of flows across these surfaces and through these forms also deserves some systematic attention.

In this paper, our overall purpose is twofold. Firstly, to demonstrate how longitudinal material can be used in an empirical analysis of the development process in the region of Western Östergötland, on the eastern shore of Lake Vättern in south-central Sweden, during the first half of the nineteenth century. This will raise questions about the process of development which are not asked when other conceptualizations are used. Secondly, it will also show how the agrarian, urban and industrial sectors were linked through the intersecting life-paths of individual people.

It is perhaps appropriate also to mention here what we are not going to do in this paper. It will be clear that other dimensions of life-paths than those we deal with, such as demographic events and much more detailed temporal and spatial behaviour patterns, could have been analysed. They have been omitted to limit the paper to manageable proportions. However, it is important to stress the full possibility of carrying out such studies with the same sources and similar methods as have been used here: one of the most important advantages of life-path reconstruction is the feasibility of linking information from other sources such as inventories, industrial and commercial records, diaries and so on in systematic databases. Neither are we concerned here with another obvious extension of work of this kind, into questions of how individuals' consciousness was changed by their life-path experiences.[1]

We are particularly grateful, when research funds are so difficult to obtain, for the financial support of the Swedish Research Council for the Social Sciences and Humanities, Carl Mannerfelt's Foundation, Hans and Lillemor Ahlmann's Fund for Geographic Research, St. John's College, Oxford, and the University of Oxford Travel Fund, without which the research for this paper would not have been possible. Archivist and historian Sven Malmberg and his colleagues helped us find our

way through the Vadstena Landsarkiv (Regional Record Office) documents and storerooms. The illustrations were drawn by Brita Hellichius-Pybus, Gillian Hardman, Jane Lewin and Angela Newman, and the more complex photographic work was done by Katarina Strömdahl-Lillteir. We thank two anonymous referees for their helpful suggestions.

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## Introduction

### Cross-sections and flows

Most theories of social change, such as those concerning modernization or the development of capitalism or feudalism, imply that flows of various kinds take place and that changes in the patterns of flows are an important part of the development process. The traditional view of the industrialisation process implied an external demand for certain goods, flows of purchased goods to these external markets, reciprocal flows of capital, intensified flows of knowledge of all kinds and, not least, flows of labour to the producers' rapidly growing establishments [2]. Furthermore, the notion of proto-industrialisation as the precursor of modern industry has focussed attention on flows of many kinds: between the scattered producers of goods in rural manufacturing regions and international markets, between the domestic manufacturers and their sources of raw materials, and between different craftsmen each concentrating on one small part of the total manufacturing process [3]. Mendels' basic model of the transition from a proto-industrial to a factory system of production relies heavily upon the idea that flows of semi-finished goods become too expensive and too intricate to control in an expanding domestic industrial system [4]. Both Freeman and Gregory have provided valuable empirical examples of the intricacy of the pattern of semi-finished goods movement in the domestic industrial system [5], although all that is normally possible is the provision of isolated examples based on the chance survival of appropriate documents. When we come to flows of people, the problem becomes more complicated. When people flow over space, they frequently change not only their spatial location but also their social and economic position: indeed, their social mobility and economic advancement usually require a change of geographical location [6].

For many reasons, the traditional empirical way of studying change in historical social sciences has been through cross-sectional analysis of the landscape of a country, a region, a town, a parish or a structure of one kind or another. This is, of course, the classic methodology of historical geography as enunciated by Darby [7]. From the comparison of different cross-sections, be they maps from two instances in time or two statistical descriptions, and the changes that have (or have not) taken place between them, certain conclusions are drawn about the way the landscape has changed and inferences drawn about the economic processes that might have led to such changes. What is rarely considered in traditional historical geography is the nexus of flows required to maintain the material structure of a landscape, let alone the ways in which such flows must alter to enable landscape changes. However, as Harvey has said "measuring the growth of cities as if there were no trade, capital flow, migration, or

cultural and political influence between them makes no sense whatever" [8].

Two cross-sectional reconstructions of a town's population might show that the number of craftsmen had doubled and the number of merchants and proletarian workmen had also increased substantially. The logical inference to be drawn from these two cross-sections, according to modernization theory, is that it had been possible for the craftsmen to produce and sell more to the surrounding region or to more remote parts of the world. In the same way, the increase in the number of the traders is "explained" by a similar change in the demand for their goods, maybe also through some kind of specialisation and a further developed putting-out system. Thus, numerous statements about flows between places are adduced in the course of explaining these important changes in a particular place. Observed changes in the pattern of activities can only be explained by implying an increase in the intensity of flows; the concrete forms of a landscape can only change if there is a change in the pattern of movement between them. However, even though this implication is always present, it is very rare that these flows are actually studied.

The traditional cross-sectional approach to changes of this kind does not consider the ways in which people actually moved, as individuals, between cross-sections. Even though the total population remained constant, the entire population might have been exchanged. Large changes can take place within a numerically stable population without ever being apparent, unless the names of each individual person are actually recorded in the cross-sections. Moreover, a process of gradual wealth development might exist which is apparent neither in the cross-sectional study of one town nor of an entire system of towns, but only along the life-paths of traders moving through the system, from smaller urban places to the cities. The stable system of activities can only exist because people and materials actually change in the course of flowing through them. But, unless the traders are traced as individuals over both space and time, such a process will never be revealed, and its importance, even its existence, not considered.

It is at least partly due to the fact that so many studies of the past have used a cross-sectional empirical method that descriptions of past societies give pictures of very stable kinds: change from one generation to another is small, and when it comes it is sudden. Change is abnormal and must be "revolutionary" to be significant: long-lived stable traditional industrial and farm economies are completely and rapidly transformed in industrial and agrarian revolutions; timeless peasant societies are rapidly and inevitably destroyed by the processes set in motion by farming for the market. Before the revolution, people have one set of attitudes, ideas and patterns of behaviour; after it completely different ones. Thus, the cross-sectional empirical method affects the theoretical conceptualisation. History is seen as a succession of stable states separated by revolutionary transitions. The fact that this conceptualisation fits so badly our own personal experience of social and economic life simply implies that things must have been very different in the past - presumably before some "revolution" occurred. As E.P. Thompson [9] has put it:

"Such historical theories as arise... can not be tested, as is often supposed, by calling a halt to a process, "freezing" history and taking a static geological section ... In investigating history, we are not flicking through a series of "stills", each of which shows us a moment of social time transfixed into a single eternal pose: each of these "stills" is not only a moment of being but also a moment of becoming. Any historical moment is both a result of prior process and an index towards the direction of its future flow."

The kind of empirical work we do is connected with our theorizations. Cross-sectional studies only allow us to ask particular kinds of questions. If, on the other hand, we focus attention upon the flows which energize the landscape, rather than the material objects of the landscape, then we would see the past in a completely different way, ask a completely different set of questions about it. And it is only through laboriously tracing the flows that contribute to and form the processes of social change that it becomes possible to perceive and understand their role and to understand the processes themselves. If, in our example, we want to know **how** the craftsmen, traders and workmen grew in number in the town and **why**, that may be perfectly feasible with a detailed study of various micro-level flows. But, without an analysis of the town **in its context**, we will still not be able to recognize fully the processes of change; we will be liable to the "historical fallacy" of concentrating on the details without connecting them to a comprehensible entity [10]. Thus, we need to extend our perspective a bit further, to link the flows which the life-paths of our example form with the actual environments they connect.

Process studies and longitudinal method

Let us develop our hypothetical example: if we want to know how it came to be that the number of urban craftsmen and traders grew, the flows of traders, craftsmen and workmen would, properly described, give us a chance to state whether these groups just moved about from one town to another according to changing short-term economic conditions; if the pattern of movements reflected an urban hierarchical progression, or if it represented the sucking in of rural workers as a largely agrarian and rural economy was being transformed to an urban and industrial one. Simply by knowing the points of departure of the urban migrants, we would know a lot about their spatial background [11], but in a theoretical context, this is only one significant aspect. Adding information about their places of birth would lead us a little bit further, giving us an approximated life-path to consider, but ideally we would like to know everywhere they had been between birth and current residence if we are to be confident about what kind of larger social changes were being reflected by the observed flow of people.

A conceptualisation in terms of the rural-urban migration process does not get us very far in understanding any of these questions. What kinds of people were flowing through which particular positions; how were they and those positions being changed in the process? It is only when we know the social

background as well as the place of origin crudely classified as urban or rural that we can discover the ways in which changes of socio-economic position over time were linked to changes in spatial position for all the inhabitants of our hypothetical town. Then, it becomes possible to see which groups were really agrarian in origin, which came from rural proletarian and service positions, which from farming families and which were mainly recruited from urban activities in smaller or larger towns; that is, exactly how people were recruited to urban crafts and trade over the life-cycle and inter-generationally. In this way, we would be able to discover whether any urban crafts were simply more modern and centralized versions of traditional country crafts, if more skilled crafts and trades spread from larger to smaller towns, if larger towns recruited their labour from the workforce of smaller ones, or if rural proto-industrial connections were involved. In the same way, knowledge of the life-path patterns of all the agrarian inhabitants of the region within which the town lay would allow us not only to contrast agrarian and urban life-paths, but also to distinguish the actual nature of urban-rural migrants: what proportion of rural dwellers spent a period of their life in towns, how that period varied between individuals, and what characteristics distinguished them from their rural counterparts who moved only between rural areas.

In this context, we will only discuss longitudinal studies - that is, studies using diachronic data and keeping the same unit or units continuously under observation over time - in terms of micro-units comprising individual people [12]. Longitudinal analysis deals with a population of micro-units which is kept intact through all changes in the location of its members over time. Data collection is considerably more complicated and time-consuming than an "ordinary" empirical study of an area's development through cross-sections. This in turn means that the ideal of a complete investigation into the life-paths of everyone who lived in our hypothetical area becomes far too much to accomplish within the lifetime of the ordinary researcher. Some kind of selective strategy is inevitably required. We will return to this problem later in the discussion of our empirical results, although it should be mentioned here that the notion of sample representativeness in its normal statistical sense has very little meaning in this particular context [13]. Of course, what is also required is some conceptual scheme which can give coherence to the mass of detailed empirical information produced in longitudinal studies.

## Time-geography and longitudinal micro-studies

The area of geographical research where this perspective has been most fully developed recently is time-geography. However, to date this work does not really satisfy the requirements we have outlined above [14]. What we propose is to use a modified time-geographical model where the emphasis is not on the restrictions imposed on an individual's behaviour by the mere existence of space, time and social structure, but on the actual resources available at particular positions in the structures of society and space, and how these change through time with the passage of people through them.

The aim of time-geography as outlined by Hägerstrand is fully consistent with these requirements [15]. It is no less than to create "a contextual synthesis in the man-environment area" [16] and "to try to turn human geography into a study of the conditions of life in a regional setting" [17]. That is, to reveal the ways in which the heterogeneous phenomena which are located together in space are as they are simply because they inevitably interact with each other in consequence of their proximity. The focus of interest of time-geography is the nature of these interactions, conceived of as flows through time and space. Thus, time-geography advocates that we should, as geographers, keep together what the analytical social sciences pull apart, which in our present terms means to examine agriculture, industry, towns and different social groups as they existed together as a structured regional entity. It also provides a range of concepts appropriate to the depiction of the various flows which link these structural elements together.

The basic principle of time-geography, as it has usually been applied, is that the human population traces a web of paths as it goes about its (daily) activities within a time-space framework of "stations", where various activities occur. The individuals whose paths intersect at stations come together there to participate in "projects", which thus require the synchronisation and synchorisation of people and resources at stations, which comprise not only the spatial positions or buildings where the projects are carried out, but also the institutions necessary for their accomplishment [18]. Projects thus have productive and allocative functions in time-space, both for human activity and for material resources including capital [19]. Yet, despite continual emphasis in synoptic schematic literature that stations are the places where the projects which form the economic basis of a society are carried out, it has not, in fact, been usual to conceive of stations in this way. They have been thought of as a grid of stable spatial positions through which people flow, rather than a changing network through which resources are allocated in changing ways. This is why time-geography has seemed to concentrate on the restrictions imposed by the set of stations in society rather than its transformative capacity [20].

This is significant for the difficulties which appear when we try to apply time-geographic methodology to problems such as that exemplified here, concerning modernisation processes in society. The grid of stations is fixed: it is not possible within the model to conceptualize changes of particular stations, and the associated redirections of flows of material resources. For example, it has been customary to emphasize the changing spatial positions of farms and the land they tended after enclosure in the 19th century [21]. However, the changing nature of farms as stations at which resources were transformed and allocated, comprising the commercialization of attitudes, the privatization of property and the increased employment of wage labour - that is, changes both in the mode and the allocation of production - was historically much more important. And of course this completely transformed the pattern of flows of people and material resources through those stations and endowed them with very different economic and social significance [22].

We can only incorporate the productive, allocative and social structuring functions of stations by adding the concepts of "livelihood position" and "production structure" into the scheme [23]. A livelihood position is "that set of resources of different kinds, divisible and indivisible, that sustain the life of an individual or a household" [24]. A person might possess rights over these resources as an individual or as a member of a collective group, such as a family. A livelihood position might, thus, be conceived of as a set of components of projects, connecting a number of stations into the activity system of an individual. A livelihood position has the explicit purpose of sustaining the material livelihood of an individual. It can be viewed as a unitary component of a set of projects in terms of purposive social behaviour: i.e. each project comprises an intersection of the livelihood positions of all those engaged in it. On the other hand, a project can be seen as providing a component of a livelihood position. Thus, in highly schematic terms, an individual person's complete activity system might involve interaction with the projects carried out at many stations, such as their home, place of work, children's school, church, shops and places of leisure and recreation. Their livelihood position comprises only the component or components of this system where they work in order to produce and transform the material resources necessary to sustain the whole system. The interactions between home, school, shops and so on, which contribute to their activities as a consumer rather than as a producer of goods and services are not, therefore, a part of their livelihood position, as we define the term. (Although, of course, the projects at those stations will provide livelihood positions for the people who work there).

The activity systems of many people do not include, as in the example above, places of work where they are paid to labour, or supervise labour, upon resources owned by others, but the proportion of people occupying such positions does, of course, increase with modernization and development. On the other hand, some people possess sufficient resources, usually derived from inheritance - such as land, a fishing boat, tools and access to common forests, equipment and a workshop, and so on - to produce most, if not all, of their material livelihood on their own account and based in their own households. The proportion of such "peasant" or "petty bourgeois" livelihood positions declines as the modernization process proceeds and the proportion of proletarian positions, eventually to become overwhelmingly predominant. However, even positions of the peasant and petty bourgeois kind usually require the labour of others besides the owner of the means of production, although such additional labour is often supported as part of the owner's household rather than by wage payments.

The rights of the different people involved in particular projects over the resources being processed, whether at specialised places of work or in households, vary considerably. The social relations between them reflect and depend upon this, and they will obviously differ considerably between peasant and petty bourgeois stations, on the one hand, and at places of work owned by capitalists and employing wholly proletarianised labour, on the other.

Industrialisation means the creation of new livelihood positions: not just increased numbers of a pre-existing kind, but novel types as well. Many of the new positions may be of a kind which facilitate the circulation of resources; many may feed from that increased circulation in positions made possible by the greater specialisation that larger volumes of more rapidly circulating wealth allow. During industrialisation, many of the new livelihood positions must, of course, be concerned with the production of manufactures, either in the workers' homes or in factories. The circulation of the labour, raw materials, capital and goods these new positions need is effected through other new positions, such as merchants, financiers, carters, brokers, wholesalers, retailers and innkeepers, lodging-house keepers or places of temporary employment to facilitate the movement of labour. Increased wealth, amongst either the occupiers or controllers of the manufacturing positions and the positions which minister directly to their needs, creates further possibilities for producers and retailers of consumer goods and for the providers of services such as entertainment, medicine and education. Higher demands for food require greater numbers on the land, their better organisation and therefore a qualitative change in the nature of agrarian livelihood positions, or greater food imports and therefore the positions necessary to accomplish them. The profitable investment of surpluses of capital, the switching of capital from one activity to another and the acquisition and disposal of land consequent on the rationalisation or expansion of commercial farming need lawyers and clerks in greater abundance.So does the greater volume of more rigorous organisation and administration that greater economic productivity and complexity bring.

Clearly, then, any change in an economic system and the landscape created by it must be expressed in the production structures which represent the projects at the stations through which the system is sustained and organized. There can be no significant economic or social change without a change in these structures of production, and any such changes must be related directly and intelligibly to complementary changes in the patterns of livelihood positions, and hence to the individual life-paths of those who occupied them. Indeed, a life-path simply represents the successive occupation of different livelihood positions by a particular individual. Thus, it is possible to utilise a modified time-geographic perspective to show how flows of people were linked to a changing system of resource exploitation and allocation during the early stages of modernisation.

This conceptualisation differs quite significantly from that which is normally used in time-geography, where attention is focussed on the web of links between <u>all</u> the stations within the activity system of individuals at one particular time of their lives. It is concerned with showing how the limited resources of time and space available to an individual, and restricted rights of access to particular stations, constrain the size of their web of daily movements and the nature of the links within it. This concentration on constraints is incapable of revealing the sources of dynamism within social systems. A shift of attention to the ways in which people move through a sequence of livelihood-positions over

their life-times - that is, to people's life-paths [25] - should enable time-geography to engage more readily with the material basis of social organisation, and thus with the dynamic processes of history. Furthermore, this change of emphasis should also make it possible systematically to analyse actual changes in the material basis of ordinary people's lives during the course of economic change, rather than simply to produce schematic examplifications of all aspects of time-use for "typical" individuals before and after economic change has taken place [26].

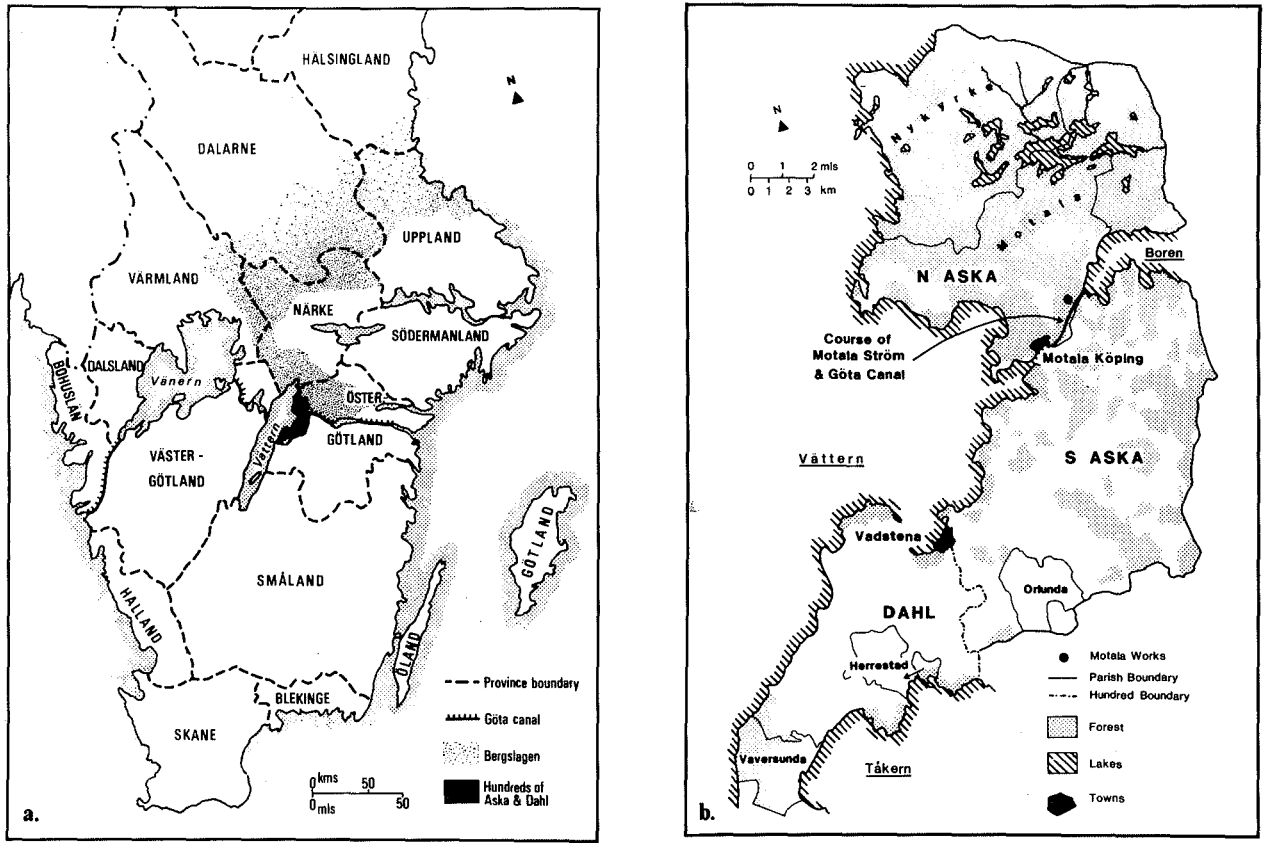
## FLOWS OF PEOPLE THROUGH STATIONS DURING THE EARLY STAGES OF MODERNIZATION IN SWEDEN: THE EXAMPLE OF ASKA AND DAHL HUNDREDS IN THE 19TH CENTURY

We will now present a reconstruction of the life-paths of individuals and of the livelihood positions provided by the stations through which they flowed in the two central Swedish hundreds of Aska and Dahl on the eastern shore of lake Vättern in Östergötland province (see Figure 1). In the 19th century this region contained the ancient town of Vadstena, fertile plains farmed by peasant freeholders in Dahl and southern Aska, and forested shieldland with abundant waterpower, ironworks and other formal as well as domestic industry in northern Aska. Vadstena was also well-known for domestic lacemaking [27]. The fertile plain which covers the south of the region was known for little but agriculture, especially grain production and at least from the 18th century for grain export [28]. Thus, we have all the prerequisites necessary to discuss the relationships between early industrialisation, pre-industrial town life, proto-industrialisation, traditional "peasant society" and its dissolution. For example, we can see whether accumulated agrarian capital was invested in secondary production, whether the wood and iron crafts in the north or traditional urban crafts provided the foundation for large-scale formal industry, and whether the town functioned as a link between different economic sectors and regions, either locally or through trade with distant markets.

Of course changes in the region's population composition occurred, and they were certainly related to changes in economy and society, especially changes in the production structures of the stations of the region. The differences in population growth and change between the subregions could have been the consequence of either different inherent growth rates, or of flows of people within the region or between it and the outside. Only through tracing these flows will we be able to understand how the population changed; only by connecting the flows with changes in the production structures will it be possible to explain the demographic changes, and only by analysing detailed information about the livelihood positions occupied in the respective subregions will it be possible to understand these changes.

Thus, we have two overall purposes. Firstly to demonstrate how longitudinal material can be used in an empirical analysis of the development process in a rapidly changing region. This will raise questions about the process of development which are not asked when other conceptualisations are used. Secondly, and not unconnected with the last point, this will also show how the agrarian, the urban and the industrial sectors were actually linked by flows of people forming their individual life-paths, and how the ways in which they changed were related to the changing nature of these links.

We will now describe briefly how we reconstructed the changing structure of livelihood positions in the region and the flows of people through them.




1. The area of study: a. The location of Aska and Dahl hundreds in southern Sweden; b. Aska and Dahl hundreds, showing parishes and other locations for which sample lifepaths were reconstructed.

## Some methodological considerations

It is necessary to work with disaggregated information about a number of dimensions of the problem outlined above. The major part of our empirical information must obviously concern the actual spatial flows of people and each person's movements through their individual life-paths. This is the fundamental concern of the paper. But as we have pointed out, flows do not occur independently of a structure for allocating productive resources, which interacts with the system of livelihood positions through which people move. Each available position at each station, whether farm, urban workshop or mill has been reconstructed at ten year intervals between 1810 and 1860 [29]. We have described fully elsewhere how the complicated process of reconstituting functional farms from the lists of plots given, by owner or tenant, in the tax registers was accomplished [30].

Obviously, it is impossible to handle complete sets of longitudinal information on the lifetimes of every individual who passed through these livelihood positions during the whole fifty year period. More than 20,000 people lived in the region as a whole in 1860 and the population turnover in Vadstena was about 1.5% per year during the 1850's. Therefore, we have to work with a number of samples. We have selected two rural parishes on the arable plain, a large parish in the northern shieldland and the town, for which we will present two sets of information on population flows. The first of these we have called abbreviated life paths. They comprise information on the places of birth, last residence, current residence and next residence of each person living in the town and in the selected rural parishes between 1855 and 1860. The second set of life-path information comprises the complete life-lines of three cohorts of people, sampled systematically from the population of abbreviated life-paths [31]. The rural\industrial cohort comprises 57 individuals, the urban cohort 47 and the rural cohort 40. These population trajectories will be used to explain how flows of people linked rural to urban and agrarian to industrial livelihood positions at the micro-level, and therefore how the connections between peasantry, rural agrarian capitalism and urban bourgeois capitalism functioned at the structural level.

## Changing structures of livelihood in Aska and Dahl

The total population of the selected region grew from 11,900 in 1810 to 21,600 in 1860. The growth rate, 80% over 50 years, is quite high both for the province of Östergötland (average growth c.45%) and for Sweden as a whole (average growth 62%) during these years of general rapid population growth. Lying behind this population growth were significant changes in systems of economic production and the livelihood positions they supported. A summary impression of these changes is given on Table I [32]. The great preponderance of the rural agrarian sector is clear, although industry grew strongly in Motala in the last decade of the period, and Vadstena consistently contained about a tenth of the region's population. However, even though these aggregate proportions seem quite stable, there was, in fact, a wholesale change in the ways in which livelihoods were derived in each of the sectors over the period. Obviously, this would have profound

implications for the pattern of flows linking the stations in the different sectors through space. We will now go on to outline the kinds of changes in the livelihood positions provided by the three sectors of Table I.

Table I: Proportions of the population of Aska and Dahl by economic sector, 1810-1860.

| | 1810 | 1820 | 1830 | 1840 | 1850 | 1860 |
|---|---|---|---|---|---|---|
| Total | 11,976 | 13,775 | 16,633 | 17,846 | 18,965 | 21,669 |
| % Rural | 86.9 | 87.3 | 85.0 | 84.2 | 80.7 | 74.3 |
| % Motala | 2.0 | 3.0 | 5.8 | 5.3 | 7.7 | 14.7 |
| % Vadstena | 11.1 | 10.5 | 10.6 | 9.8 | 10.3 | 9.5 |

Source: mantalslängder for the tabulated years.

The production structure of a mainly agricultural economy is quite naturally determined by the organization of the farms. As has been shown elsewhere [33], the "farm" concept is not an easy one to use except on a purely hypothetical level of analysis of "peasantry" which disregards the actual complexities of ownership and tenancy patterns. Frequently, at least in Sweden, individual peasant holdings consisted of a number of plots, located in different hamlets, even in different parishes, whilst single farmsteads listed in the taxation registers were usually heavily subdivided, with the constituent parts owned and tended by a number of different people. The results of our reconstitution of the farms of two such regions are shown on Table II [34], together with the number of crofts [35]. The table shows a strong contrast between the

Table II: Numbers of farms and crofts on the Dahl plains and on the shieldland of northern Aska in 1810 and 1860.

| | Dahl | | N.Aska | |
|---|---|---|---|---|
| | 1810 | 1860 | 1810 | 1860 |
| Large farms | 47 | 48 | 9 | 22 |
| Middle-sized farms | 91 | 54 | 14 | 31 |
| Small farms | 83 | 61 | 140 | 122 |
| Crofts | 256 | 156 | 307 | 313 |

Source: mantalslängder and taxeringslängder for the tabulated years.

southern plains of Dahl and the shieldland of Aska in the north. In the former, small farms and crofts declined in numbers as large peasant holdings developed into capitalist enterprises which by 1860 controlled a large proportion of the subregion's farmland [36]. This process was accompanied by enclosure of the traditional open-fields. In northern Aska, large farms were few (although their number increased over the period) and small farms and crofts dominated the agrarian economy. On Table III, the livelihood positions supported by the resources controlled by these farms and crofts, and those of the remaining sub-region of southern Aska, are presented together with the wage-earning livelihood positions dependent upon them.

The trend of farm numbers in southern Aska lay between those of the other two subregions. This reflects the fact that its environment was a mixture of arable plainland and forested glacial deposits (see Figure 1a). The number of crofts fell steeply in Dahl, whereas in both parts of Aska it was almost stable. Thus, the numbers of positions which controlled the allocation of agricultural resources remained roughly stable in both parts of Aska whereas in Dahl it declined quite sharply. This was due to the considerable expansion of large farms on the fertile arable plain, as was the massive growth in the number of proletarian farmhand positions. The spectacular expansion in the number of married hands is especially noteworthy: it shows that the livelihood position of farmhand was no longer simply a short lifecycle stage, as in a peasant society, but had become one in which young men married because they expected this to be their long-term source of livelihood. This growth in the number of married hands on the arable plain illustrates, therefore, the extent to which the farm labour force was becoming proletarianized as the peasant farming system was being transformed into a more capitalist one.

Table III: The structure of productive livelihood positions in the rural subregions of Aska and Dahl in 1810 and 1860.

| | Dahl | | S. Aska | | N. Aska | |
|---|---|---|---|---|---|---|
| | 1810 | 1860 | 1810 | 1860 | 1810 | 1860 |
| Farmer | 221 | 163 | 426 | 407 | 163 | 175 |
| Crofter | 256 | 156 | 307 | 313 | 311 | 306 |
| Cottager | 109 | 288 | 193 | 399 | 117 | 220 |
| Single hand | 242 | 268 | 349 | 463 | 173 | 400 |
| Maid | 271 | 281 | 616 | 472 | 253 | 280 |
| Married hand and labourer | 10 | 168 | 92 | 241 | 58 | 186 |
| Total population in 1860 | 4,157 | | 6,439 | | 5,355 | |

Source: mantalslängder for the tabulated years.

The great increase in the number of cottages is also noteworthy in this regard. In traditional peasant society, the cottager population had mainly comprised old, infirm and destitute people. By 1860, it also contained the labour required only seasonally within farming, forestry and water-powered industry, a demand which increased considerably as new techniques were innovated to squeeze the maximum possible returns from resources dependent on the seasonal cycles of nature [37].

Table III shows that the farming system of northern Aska was changing in a way that was quite different from that of Dahl. The slight growth in the number of farms and crofts and the large prevalence of small farms in northern Aska might well have been related to the growth of industry (which we will discuss below). The pastoral based farming of the forested shieldland allowed part-time work off the farm in industry. Moreover, there was ample scope in the forests for cott-

agers employed in industry and part-time farmwork to supplement their proletarian livelihood by keeping a few animals and using forest resources like timber, berries, fungi and fish. However, the growth of industry and the nature of the agrarian resource base was not entirely responsible for the very different character of the livelihood positions provided by farming in northern Aska. The existence of a number of large noble estates on the shield also affected this situation. The increase in the small number of large farms in the region was due to some of the areas of better farmland being sold off by these estates as they switched investment into the development of their water power and forest resources. The large numbers of proletarianized married hands in northern Aska at the beginning of the period was also due to the importance of estates in the economy of that subregion: it was common already in the 18th century for estate owners to employ labour of this kind [38].

The situation in southern Aska, as depicted on Table III, displays a mixture of the characteristics we have described for Dahl and northern Aska. As well as its environment of plainland interspersed with fairly large tracts of forests, estates were also relatively common. However, a further element which distinguished some of the parishes of this subregion was the strong survival of a peasant ethos and the massive subdivision of peasant landholdings. This is apparent in the large number of very small farms employing no non-family labour and obviously supplying little of their agricultural output to the market. Whilst Allhelgona parish, for example, followed the pattern of Dahl with an increase in the amount of land controlled by large farms, neighbouring Orlunda witnessed an explosion in the number of small farms and a shrinkage in the number of large ones [39].

It would be quite wrong to give the impression that the farms, crofts and rural cottages of the region were entirely concerned with primary agricultural production. The expanding large farms were heavily involved in distilling [40], much of the produce finding its way to large urban markets outside the region after the Göta Canal was opened in 1832. Moreover, the economic system retained strongly the peasant characteristic of full household self-provisioning. This "hidden economy" was particularly prevalent in Sweden [41]. Inventories show that almost all households possessed the equipment and materials necessary for the production of a very wide range of goods made from textiles, leather and wood. This characteristic was instrumental in allowing the multiplication of small farms: what had been produced for home consumption was obviously being produced for sale by many of the small farm, croft and cottage households of the region by the end of the period, and most particularly in heavily subdivided parishes of small farms such as Orlunda [42]. The small farmers of Orlunda eked out their livelihoods in other ways, too, by converting every scrap of available resources into a consumable form. Many households in the parish with little or no land of their own had geese, chickens, goats and hives of bees, presumably to feed on whatever common resources remained available.

These subregional differences in the structures of livelihood positions, and the ways they were changing, obviously had profound implications for the types of flows of people

that would occur in the region. Did the Dahl crofters evicted during enclosure in the 1840's and 50's go into industry in Motala instead? How frequently did the farmhands stay with the same masters, and how far did expanding industry or work in the traditional town entice them? How did the farmers act in order to increase their prosperity and what happened to those who failed and were put out of business? Where did the small farmers of Orlunda come from, and were the cottagers of northern Aska, with its long tradition of formal and informal industry, more prone to move into expanding formal industry than other rural dwellers? We will return to these questions in Chapter 3. First, however, we must describe the livelihood positions in the traditional town of Vadstena and in the industrial developments in Motala parish.

In traditional industrialisation theory, the towns play a most important role [43]. They were the places where new things actually happened, where traders generated capital through more and more interregional trade, where craftsmen specialised and where, finally, large-scale industry was established. Even if more recent research has moderated this growth-pole perspective on towns [44], it is quite obvious that urban areas were important also in a proto-industrial economy. We have already seen (Table I) that the traditional town of the region, Vadstena, almost maintained its proportion of the population, and therefore grew at nearly the same rate as the rapidly developing rural parishes.

Table IV: The structure of livelihood positions in Vadstena in 1810 and 1860.

| | 1810 | 1860 |
|---|---|---|
| Administrative and professional | 38 | 30 |
| Trader | 26 | 30 |
| Craftsman | 49 | 58 |
| Independent craftsman | 0 | 69 |
| Labourer and farmer | 89 | 60 |
| "Unproductive" | 154 | 230 |
| Shop assistant | 10 | 16 |
| Journeyman | 15 | 42 |
| Apprentice | 6 | 42 |
| Hand | 55 | 67 |
| Maid | 143 | 190 |
| Other living-in (excluding institutions) | 44 | 78 |

Source: mantalslängder for the tabulated years.

One of the reasons for its expansion was an increase in the number of people dependent upon institutional support in the poorhouse, which contained 31 inmates by 1860, and the hospitals, with 290 inmates in the same year. By that time too, a large heavily capitalized brewery employed a dozen or so people. However, throughout the whole period the vast majority of Vadstena's productive livelihood positions were provided by the workshops of its craftsmen and the shops and warehouses attached to the homes of its merchants.

The heads of productive households in Vadstena have been subdivided into four groups: one of officials, one connected

with trade, one with craft production and one that was assigned no productive activity in the taxation registers (see Table IV). The last consisted of pensioners, people on poor relief and, mainly, widows and spinsters. Generally, more than half of Vadstena's households were headed by widows and spinsters, few of whom had occupations ascribed to them in the registers. Large groups of such apparently unproductive women seem to have dwelled in Swedish towns from the 18th century onwards so Vadstena is no exception from a rule even if it was a bit more extreme than most [45]. (We will look at where all these single women came from in Chapter 3.) To assume that all of these widows and spinsters were actually unproductive would be quite wrong, however: there are numerous indications of their substantial involvement in trade or craft, mainly textiles. 54% of a sample of inventories of single women in Vadstena contained textile making equipment and 20% tools for making lace. This is why we have put unproductive in quotation marks in the text and tables.

The growth taking place in Vadstena did improve the wealth of the craft and trade businesses there. Even if their number did not grow much (see Table IV), the taxes they paid on incomes almost doubled, and the total value of their properties more than doubled (see Table V), in both trade and craft and sectors. Even though quite a few small businesses continued to exist and new ones were started throughout the period, some grew much bigger and employed many more shop assistants, journeymen, apprentices, hands and labourers. Thus, it seems as if trade and craft activities attracted more resources during the period (the growth of real capital was far greater than any possible rate of inflation) but that much of the expansion was canalized to a small number of larger and more successful businesses employing more people.

Table V: The average value of real estate owned and taxes paid by the occupants of various livelihood positions in Vadstena in 1820 and 1860, expressed in Riksdaler. For 1860, the values have been multiplied by 2/3rds in order to allow for the 1855 currency devaluation.

| | Average real estate owned | | Average tax payment | |
|---|---|---|---|---|
| | 1820 | 1860 | 1820 | 1860 |
| Admin. & prof. | 1116 | 9757 | 17 | 267 |
| Trader | 1995 | 6790 | 16 | 325 |
| Craftsman | 757 | 3147 | 6 | 269 |
| Indep.craftsm. | 160 | 509 | 6 | 96 |
| Labourer &c. | 153 | 365 | 6 | 115 |
| "Unproductive" | 753 | 2,777 | - | - |

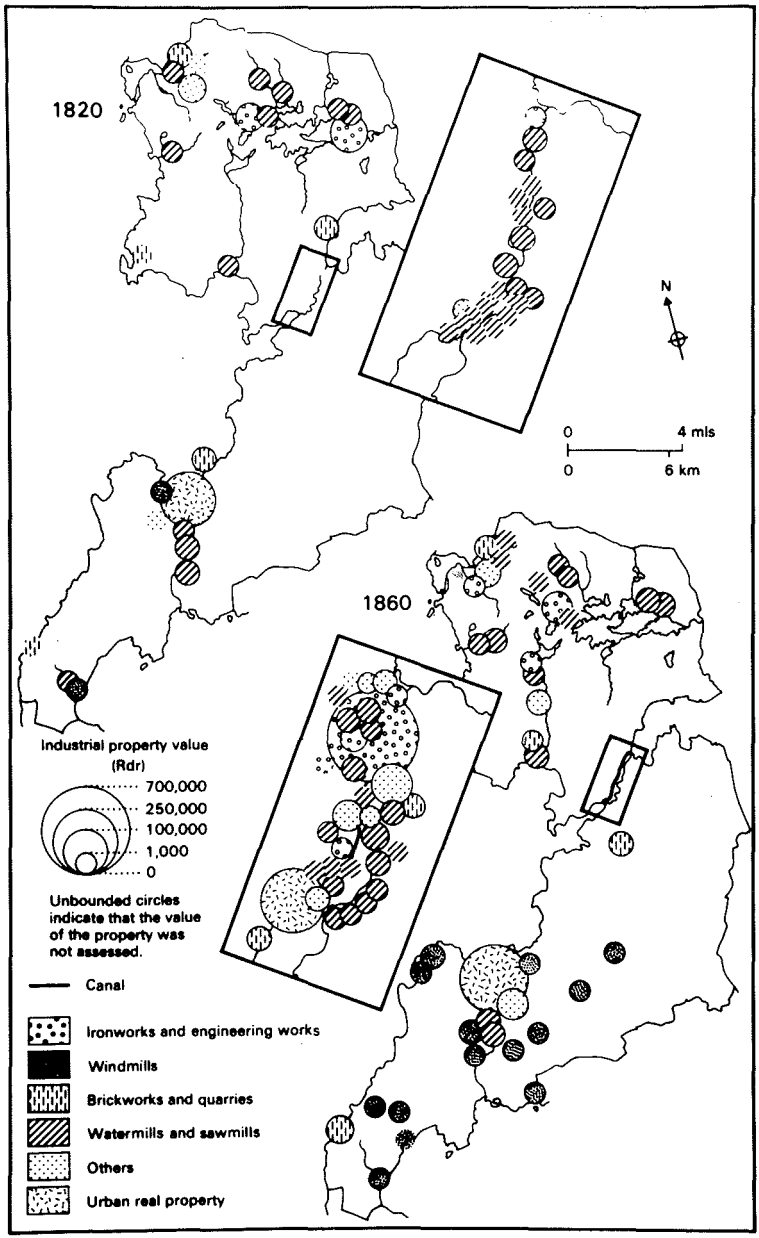
Source: mantalslängder and taxeringslängder for the tabulated years.

As Table IV shows, there were two master craftsmen and traders for each apprentice, journeyman or shop assistant in 1810; by 1860 there were equal numbers in each of these groups. The former maintained their share of the total number of productive livelihood positions in the town at 12% whilst the latter increased theirs from 5% to 12%. Thus, the urban situation towards the end of our study period was similar to that

in the more capitalistic agricultural parishes with a few prosperous producers, increasing property values and a growing numbers of employees. As the town economy was not restricted to dependence upon limited productive resources in the form of agricultural land, the number of livelihood positions connected with craft production and trade projects could increase in line with market demand and available inputs. What is obvious is that to some extent, the urban development reflects the rural in that more agricultural (grain, liquor, butter, hides) and proto-industrial products flowed in with production intensification and increase in the countryside. It is reasonable to assume that this in turn led to a wider external market involvement, not least with the completion of the Göta Canal in 1832 and an inflow of capital: certainly the traders increased the margin by which they were the wealthiest group between 1820 and 1860 (see Table V).

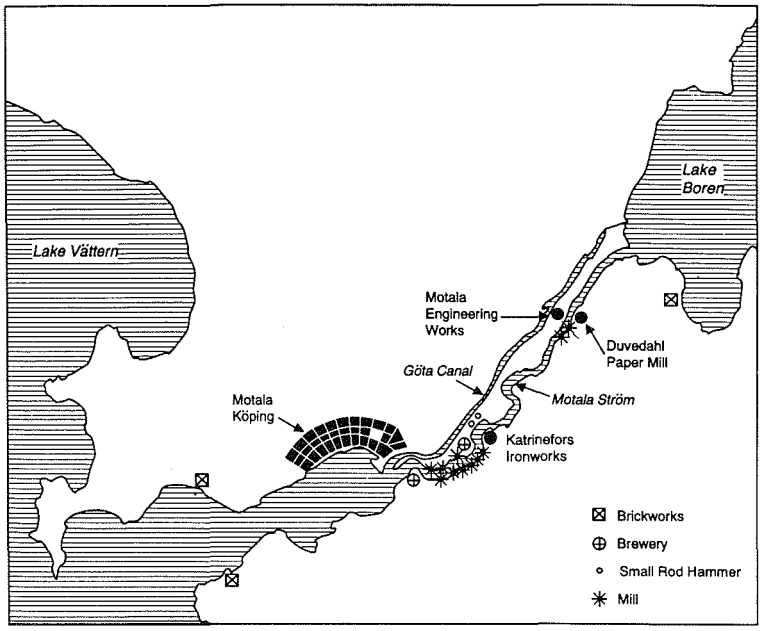
The traditional urban craft producers were organized in three categories according to their respective skill level and seniority (masters, journeymen and apprentices). However, with the gradual dissolution of the guild system in Sweden, "independent" craftsmen, not qualified through the guilds, became more and more common during the first decades of the 19th century [46]. With the first formal restriction of guild power in 1848, their position became more recognized, but the independent craftsmen still ought to be considered a different subgroup from the formally trained. Even though they were registered not as labourers (as they had been before 1848, when it was obviously not even possible to mention their existence) but by their occupational title, they seem nonetheless to have been considerably poorer than the master craftsmen and no better off than labourers in 1860 (Table V). Both the informal and the traditional guild based craftsmen employed hands and labourers in the period studied here for the more menial and, with the shift towards more standardized production, repetitive tasks. These changes in the production structures of the urban workshops must have affected the nature of population flows into and out of the town.

However much the traditional craft structure of Vadstena changed in the period, the obvious growth pole of the region was along the southern edge of Motala parish and the northern edge of Vinnerstad parish, where both big iron-works and an engineering industry as well as other factories expanded at great speed (see Figure 2) using the waterpower of Motala Ström [47]. At least some part of the rapidly growing population of the northern forested area seems to have worked part-time or seasonally in the large works along the river. It made up a fringe labour force which supplemented the fully employed workmen who lived in housing provided by the rapidly growing industries, which were mainly located on the long narrow island created between the Göta Canal and the river. A market settlement, or köping, was laid out at the point where the Canal enters Lake Vättern (see Figure 3). Although it was not designated as a town for administrative and statistical purposes until the 20th century, the köping plus the clusters of houses among the works along the river contained nearly 4,500 people (more than Vadstena) by 1860. This settlement will be referred to as Motala Town, to distinguish it from the large rural remainder of Motala parish.




2. Industrial plant in the study area in 1810 and 1860, as given in Mantalslängder and Taxeringslängder records.

The köping developed quite slowly until towards the end of our period, then expanded rapidly so that in 1860 there were about as many craftsmen and dealers there as in Vadstena, whereas in 1830 there had been only 16. However, there were only half as many shop assistants, apprentices and journeymen, so that many more of those businesses were of the "one-man-band" variety than those of Vadstena had become by this time. The growth here was predominantly industrial, first and foremost at the Motala Engineering Works, which soon became Sweden's leading heavy engineering industry. The number of employees grew from 22 in 1822 to 700 in 1860. Two lager breweries, a paper mill, industrial brickworks, a nail factory, cloth industries, ironworks and grain mills were also established during the 1840's, 50's and 60's along Motala Ström (see Figure 3), funded mainly with local capital from the wealthier landowners and merchants. The big engineering works, originally a Göta Canal property, was sold off to a small group of capitalists when production was increased and redirected from the immediate needs of the canal builders (cast iron bridges, lock gates etc.) into a wider, world, market. Some of the new owners had strong local connections in their respective capacities as owners of estates and ironworks. Obviously, local resources were exploited in Motala Town even if they were neither purely urban nor agrarian. In terms of livelihood positions, the resource exploitation in Motala Town created numerous low-level labourer positions, fewer positions for skilled workers, and many fewer again for white-collar workers. The control of resources, though, was in the hands of




3. Industries along Motala Ström in the 1860's as given in sources of figures 2 and Ekonomisk karta för Aska härad, 1868-69.

shareholders outside the immediate surroundings of the industrial area - a similar situation to that within manorial estate agriculture, where the owners frequently lived elsewhere. The market for Motala Town products differed a lot between the various factories. Apart from the Works, the other industries were based more on local raw materials and local sales, even if at least some of their produce was aimed at regional demand.

Thus, rather than being a reinforcement of the traditional urban structure, Motala Town's industries must have injected a completely new component into labour demands in the region which, apart from the traders and craftsmen of the köping, did not require the same kind of workers as the traditional workshop craft and trade economy of Vadstena. Did the growing iron-works and mechanical industry recruit from the surrounding area and from the agrarian sector or did it get its labour mainly from other, already established formal industries and the craft workshops of Vadstena and other traditional towns?

To sum up the discussion of the development of the structure of livelihood positions in the region, we can say that there was a certain degree of growth and change in the traditional urban sector and that control over resources attached to livelihood positions became more and more concentrated in fewer hands. The labour force was clearly becoming more proletarian in the traditional town, and there was a vast expansion of fully proletarian positions in the new industrial area. Development in the countryside was more variegated. There is no doubt that certain farms on the plain, especially in Dahl in the south, grew and that profits were being sought, made and concentrated in fewer and fewer hands. There is reason to believe that gross agricultural production did not grow by much at all, but rather that much more of it was turned into commodities for sale. Both the traditional grain crops of the region and the potatoes which were more commonly grown were extensively used in distilling. The number of proletarian livelihood positions, supplemented by domestic craft production, grew markedly at the expense of crofts and small holdings with their own agricultural resources as well as by-employments. As the number of livelihood positions on the plains grew, so did the degree of social differentiation amongst their occupants. Although, especially in southern Aska, small peasant farms continued to operate largely outside the market economy, petty bourgeois farm enterprises and a large class of hired labourers developed rapidly on the plains. Population increase was much more rapid in the forest than that on the plains. There are signs of complementarity between the multiplication of small farms and rural cottages and the availability of wage employment in the rapidly-growing industries of Motala. Over all, the number of farm livelihood positions grew substantially, and although the amount of resources attached to most of them decreased, the rate of agrarian proletarianisation was less than on the plains. Newcomers, the children of crofters, hands and smallholders must have had poorer and poorer prospects and it is unlikely that this "worker-peasant" system was able to keep a rapidly growing population at an undiminished standard of living.

3

## POPULATION FLOWS THROUGH LIVELIHOOD POSITIONS

We will now describe the flows of people through the structures of livelihood positions just described, dealing with the rural parishes, Vadstena and Motala in turn. In each case we will deal first with the abbreviated life-paths of everyone living in the selected parishes between 1855 and 1860, and then go on to describe the samples of fully reconstructed life-lines. It is as well to point out here that the numbers of abbreviated life-paths cannot be equated with the total population living in any of the areas at a particular time. Persons might have moved in and out from the area several times and thus be registered as more than one in the documents we used. Secondly, people moved internally and were registered more than once due to that. This does not at all make the study of flows less interesting; it simply means that this data set reflects flows only and that statistics derived from it cannot be equated with cross-sectional figures. Moreover, if certain groups were more mobile than others, they will consequently be over-represented in the flow totals.

### Flows of people through the countryside: evidence from the abbreviated lifepaths

We have seen, so far, that there was a considerable expansion of the non-agrarian production of our region, both in the traditional town of Vadstena and in the rapidly growing industrial area of Motala Town. This would require a strong inflow of labour. As Table I shows, the vast majority of the population of our region lived in the countryside, so that we would expect this to be the major source of recruits into the rapidly expanding new types of both urban and rural livelihood positions. We will now explore whether the proletarianized sector of rural society did, indeed, provide these recruits. Furthermore, we need to look at how far the traditional kinds of flows in peasant society - such as the movement of young males and females to be hands and maids off their home farms before marriage and inheritance - continued and were meshed in with the newer patterns of flows associated with the penetration of capital into both agriculture and secondary production. How was this traditional flow of peasant society transformed into one which produced a permanently wage-earning farm labour force as the scale of farm production expanded? If agrarian labour moved on to secondary production who, then, did the necessary work on the growing farms of the region? What happened to the superfluous farmers who failed to hold onto their land in the rapid capitalistic transformation of the plains? And what became of the crofters who had to leave their crofts in the dramatic reorganizations of farming villages and estates on enclosure in the 1840's and 50's?

We have previously discussed the agrarian parts of our region in terms of sub-regions, the agrarian plains in the south and the forested shieldland in the north. The cohort for whom we have produced information on abbreviated life-paths comprises all the people who lived in the plainland parish of

Herrestad in Dahl and in Nykyrke parish on the shield in northern Aska (Figure 1a) between 1855 and 1860.

Table VI shows the relationship between the number of livelihood positions of different kinds, as registered in 1860, and the numbers of people who flowed through them between 1855 and 1860. Slight differences in the way people were classified in the two sources, especially in the allocation of individuals between cottager, unproductive, and other, are responsible for the number of cottager positions apparently exceeding the number of their occupants in Nykyrke. In both

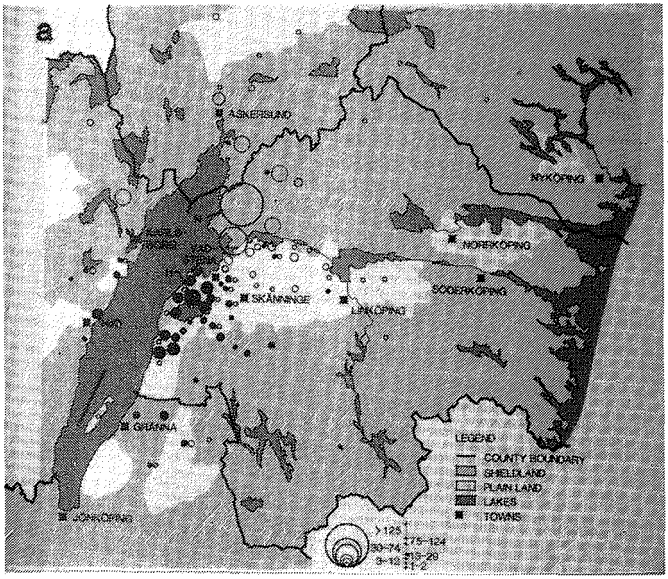
Table VI. Numbers of agrarian livelihood positions as recorded in the **mantalslängder** tax records of 1860 and numbers of people occupying them between 1855 and 1860 as recorded in the abbreviated life-paths taken from the **husförhörslängder**.

| | Herrestad | | | Nykyrke | | |
|---|---|---|---|---|---|---|
| | Abbr. path | Liv. pos | Ratio A/L | Abbr. path | Liv. pos | Ratio A/L |
| Farmer | 49 | 27 | 1.8 | 120 | 79 | 1.5 |
| Crofter | 24 | 12 | 2.0 | 187 | 114 | 1.6 |
| Cottager | 34 | 18 | 1.9 | 66 | 83 | 0.8 |
| Hand | 320 | 55 | 5.8 | 632 | 164 | 3.9 |
| Labourer | 8 | 5 | 1.6 | 24 | 16 | 1.5 |
| Maid | 278 | 54 | 5.1 | 757 | 118 | 6.4 |
| "Unproductive" | 36 | 42 | 0.9 | 151 | 166 | 0.9 |
| Other | 10 | 2 | 5.0 | 93 | 28 | 3.3 |
| Total | 759 | 215 | 3.5 | 2030 | 768 | 2.6 |

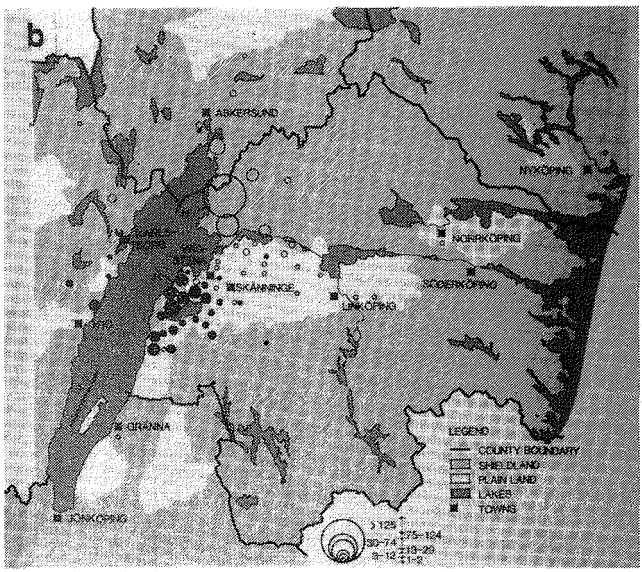
these rural parishes the rate of throughflow of people occupying the positions which traditionally came in the life-cycle stage between childhood and household formation - male hands and female maids - considerably exceeded any other. However, differences between the two parishes across almost all the positions imply that mobility was considerably greater in the capitalist farming system of the plain than in the mixed small pastoral farm/estate/industrializing economy of the shield. At first sight, it is surprising that the parish where the economy was developing more rapidly and where total population was increasing faster had the lower rate of population throughflow. One of the reasons for this must certainly be that Herrestad was considerably smaller in area than Nykyrke, so that moves of an identical short distance would cross the boundary of the former but not of the latter parish. However, it is nonetheless probably the case that capitalist farming on the plains generated considerably more turnover amongst wholly proletarian labouring positions than did the combination of part-time industrial employment linked with small-scale agriculture and forest cottage-holding in the north. The fact that a higher proportion of the farmhands of Nykyrke were married than those of Herrestad (29% compared with 23%) would certainly mean that this group at least was more residentially stable on the shield than on the plains. The labourers were almost certainly hands who had progressed into middle age and usually lived in houses of their own rather than with their employers. As we would expect, there was a considerably smaller flow through the labourers' than the hands' positions.

Maids were, of course, the female equivalent of hands, living in the households of those who employed them. Like hands, they tended to be young and the areas over which they were recruited were, in fact, even more constricted than the catchment of hands (compare figures 4a and 4b with 5a and 5b). The flow of maids through their livelihood positions was the most rapid of any group, amounting to a complete turnover each year (see Table V) [48]. Figure 5b shows that they were cascading through Nykyrke into the rapidly expanding industrial and urban area along Motala Ström, while more distant Herrestad on the southern plains was serving the same role for nearby Vadstena. It is unfortunate for our purposes that, although mainly in the towns rather than the rural areas, the category of maid included a small number of adult women who headed their own households and had therefore moved their positions relative to juvenile maids in the same way as labourers had relative to hands. However, it is impossible to distinguish these older and independent maids in the sources we have used in the analysis of migration patterns.

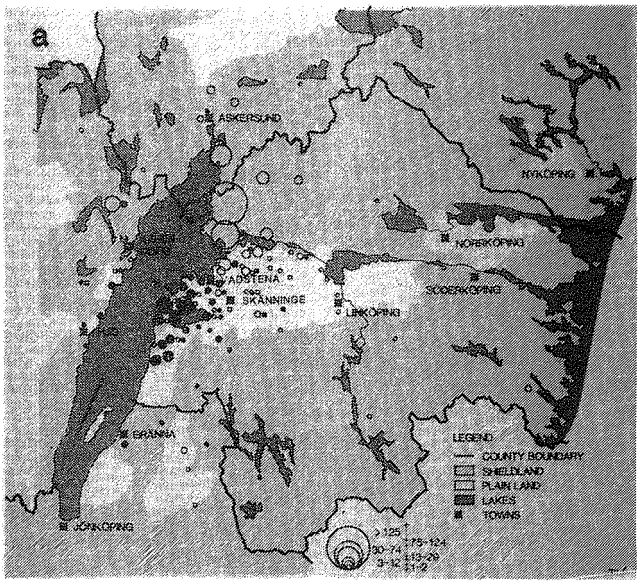
On Figures 7-9 the places of birth, last residence and next residence of the people occupying rural livelihood positions as heads of households with land resources between 1855 and 1860 are mapped. These maps show that all the agrarian groups were overwhelmingly locally recruited. Also, the more productive resources that were attached to a livelihood position, the more spatially restricted the area from which the occupants came. It is quite obvious that the freeholders and tenants of farms to a large extent inherited their resources or, at least, capital to be invested in productive land or in equipping and stocking a tenant farm. This implies that the degree of upward social mobility was low, which is not surprising considering that in the southern part of the region, exemplified by Herrestad, a rapid concentration of land holding and tenure was taking place. We would expect that quite a number of the small farmers would be forced to leave their positions in consequence of farm amalgamations, reinforced by the tenurial turmoil that usually accompanied enclosure [49]. The great similarity between the parishes of birth of hands and crofters shown on Figures 4a and 8a implies a certain upward mobility between these two positions as erstwhile hands progressed through the life-cycle; obviously, the further a hand came from, the less likely he would be to come across a croft to work. It seems that the system was not violently unstable in terms of landholding, although a number of farmers dropped out, more substantial farm holdings were retained inside particular families. Hence, the extremely localized places of birth and last residence of the farmers themselves shown on Figures 7a and 7b, even if before taking over their farms they would probably have temporarily worked as hands. This reminiscence of a peasant society was especially marked in Herrestad, in spite of the rapid capitalistic transformation of agriculture there. Thus, the cohort of hands who were embarking on a proletarian career were supplemented by this traditional flow which simply marked a short stage in the life-path of a peasant farmer. Of course, as the number of farmers declined and the number of wage labourers increased, so this component would make up a smaller and smaller part of the total flow of hands. In general, for Nykyrke, where economic



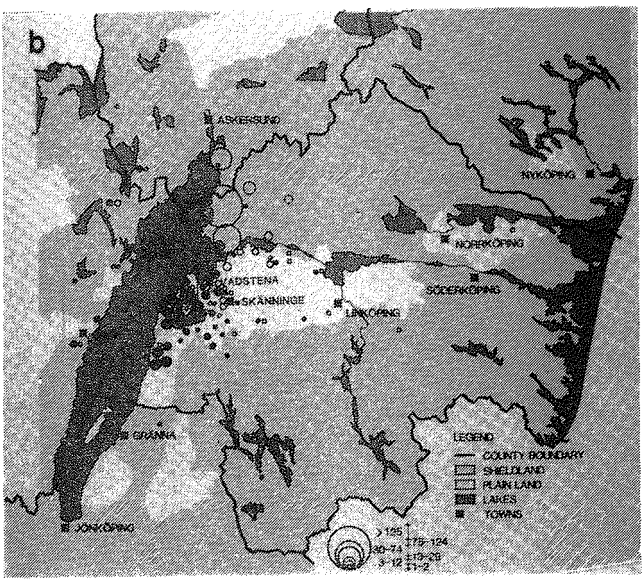

**4. a. Parishes** of birth of farmhands living in Herrestad (H) and Nykyrke (N) **parishes 1850-60.** (Herrestad shaded)



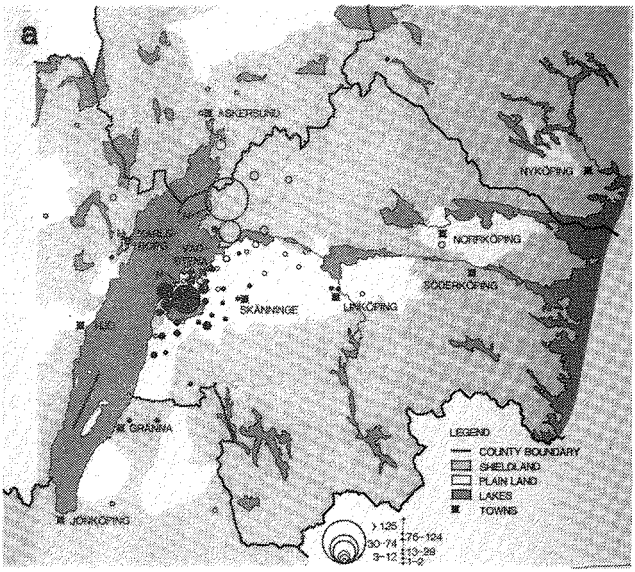

**b. Parishes** of last residence of farmhands living in Herrestad (H) and Nykyrke (N) **1850-60.** Herrestad shaded)



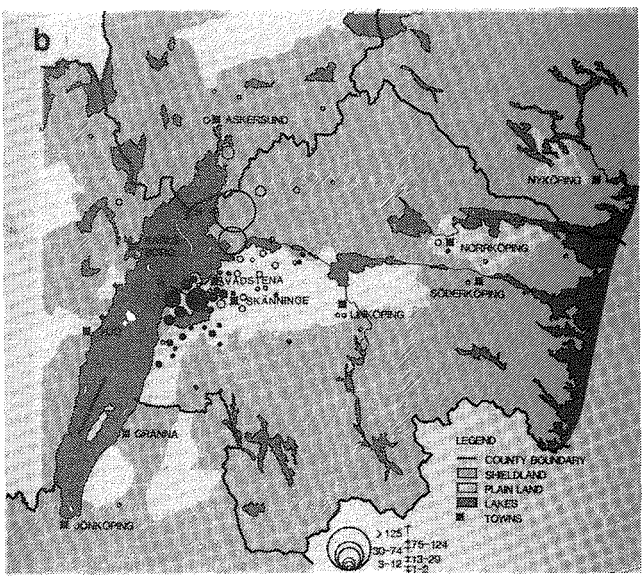

**5. a. Parishes** of birth of maids living in Herrestad (H) and Nykyrke (N) **parishes 1850-60.** (Herrestad shaded)



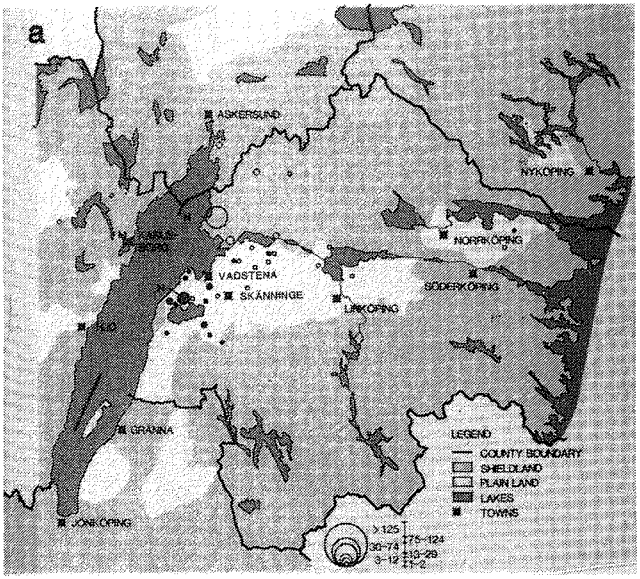

**b. Parishes** of last residence of maids living in Herrestad (H) and Nykyrke (N) **1850-60.** (**Herrestad** shaded)



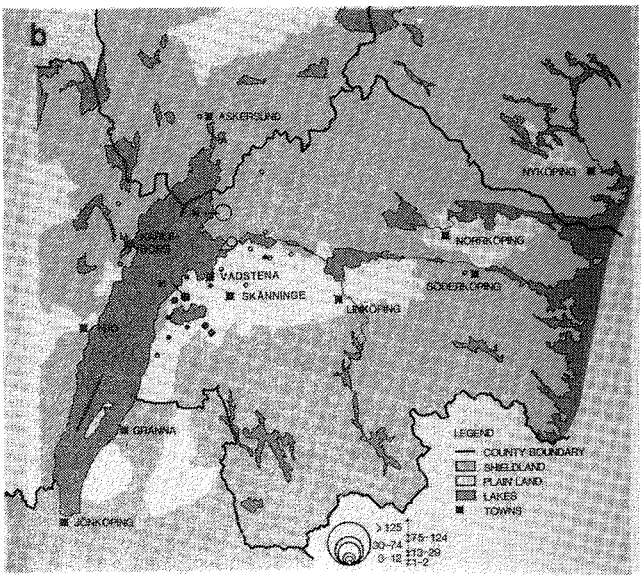

**6. a. Parishes** of next residence of farmhands living in Herrestad (H) and Nykyrke (N) 1850-60. (Herrestad shaded)



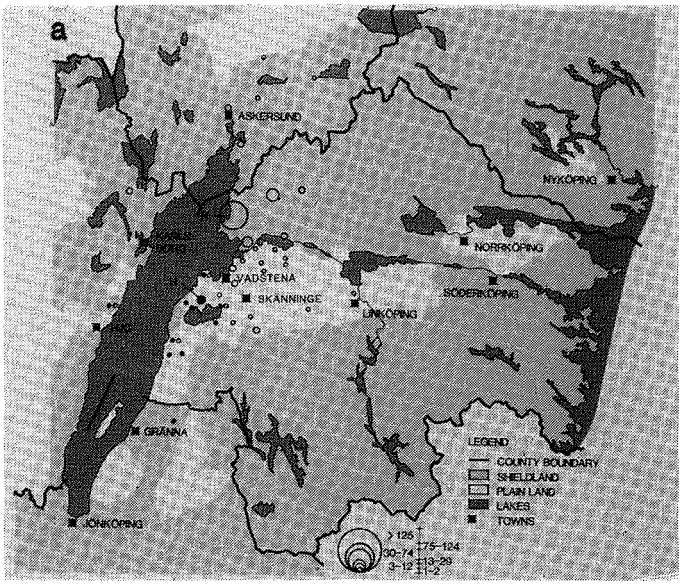

**b. Parishes** of next residence of maids living in Herrestad (H) and Nykyrke (N) 1850-60. (Herrestad shaded)



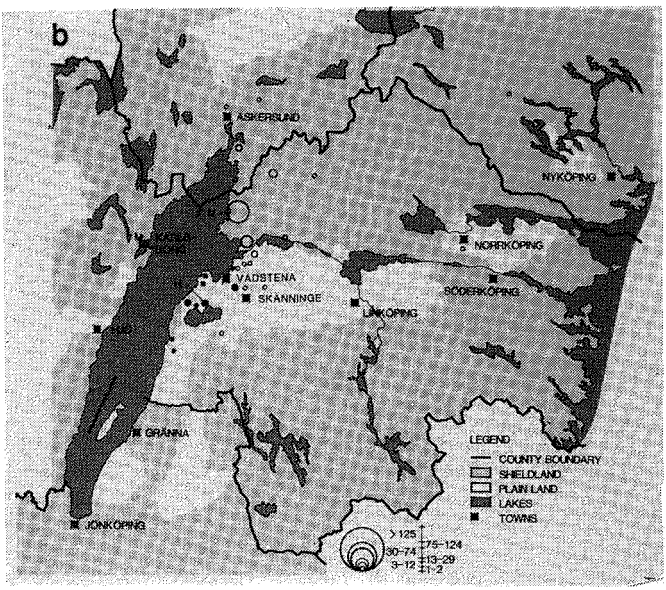

**7. a. Parishes** of birth of farmers living in Herrestad (H) and Nykyrke (N) **parishes 1850-60.** (Herrestad shaded)



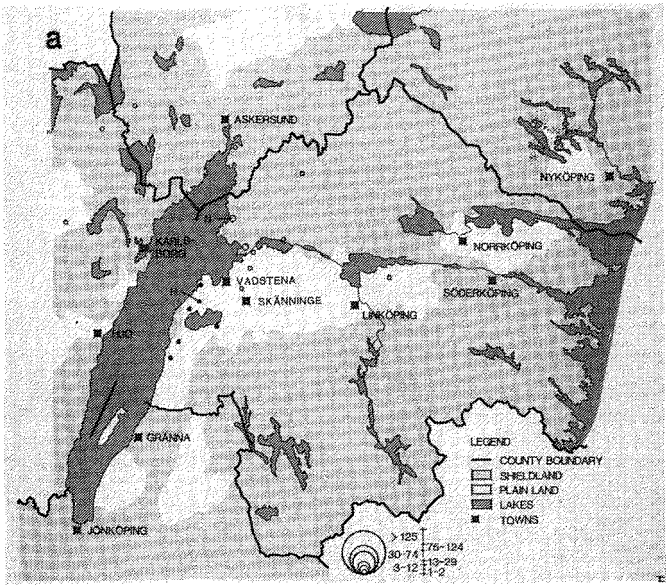

**b. Parishes** of last residence of farmers living in Herrestad (H) and Nykyrke (N)) **parishes 1850-60.** (Herrestad shaded)



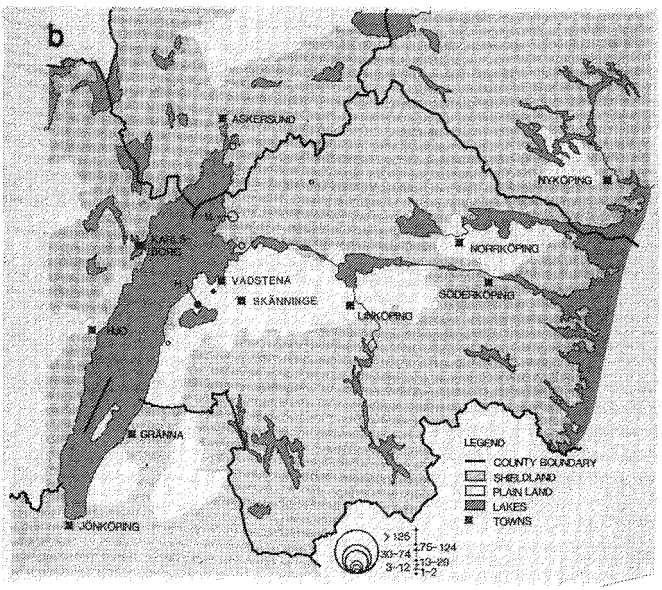

**8. a.** Parishes of birth of crofters and soldiers living in Herrestad (H) and Nykyrke (N) parishes 1850-60. (Herrestad shaded)



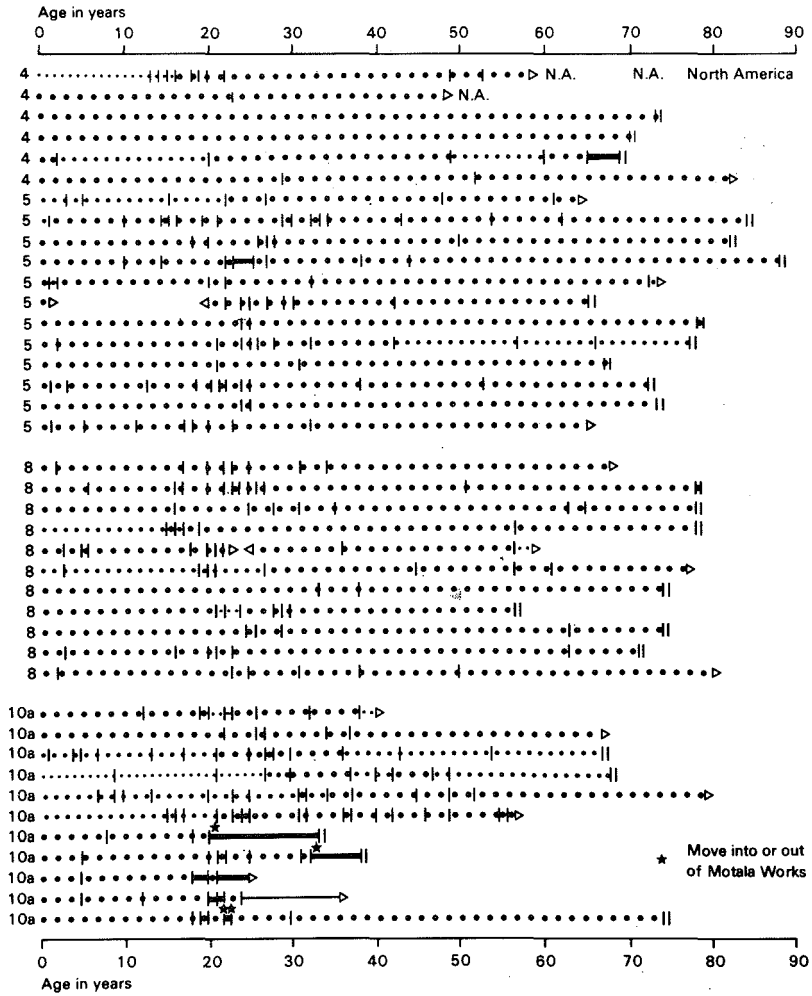

**b.** Parishes of last residence of crofters and soldiers living in Herrestad (H) and Nykyrke (N) parishes 1850-60. (Herrestad shaded)




**9. a.** Parishes of next residence of farmers living in Herrestad (H) and Nykyrke (N) 1850-60. (Herrestad shaded)




**b.** Parishes of next residence of crofters and soldiers living in Herrestad (H) and Nykyrke (N) parishes 1850-60. (Herrestad shaded)




Occupational categories

| | | |
|---|---|---|
| 1 Official | 6a Independent craftsman | 10a Hand; labourer; workman |
| 2 Trader | 6b Journeyman | 10b Maid |
| 3 Master craftsman | 7a Widow | 11a Apprentice |
| 4 Farmer > quarter mantal | 7b Spinster | 11b Shop assistant |
| 5 Farmer ≤ quarter mantal | 8 Crofter; soldier | 12 Living in |
| | 9 Cottager | 13 Destitute |

**10. a.** Life-lines of the rural cohort: the occupations of the persons concerned in 1855-60 are indicated by the letter codes to the left of the lines; each vertical peck across a lifeline indicates residential move; a key to line styles and symbols, which indicate whether places of residence were rural or urban, near or far, is given on figures 20 and 23.

expansion was more rapid, all the maps of recruitment on Figures 4-9 show wider catchment areas, even if turnover was less intense in nearly all positions there. This might imply that the estate and industrial positions for hands required more specialist qualifications, or that they were more attractive and therefore drew people over longer distances.

As the number of farmhand positions, and especially those for married hands, increased substantially in the plains the crofts virtually disappeared. In Herrestad, the number of crofts declined from 19 to 12 as the hands and labourers increased from 39 to 55, implying a gradual flow of people from the crofting population, both of erstwhile crofters and their sons, into the farmhand positions. In Nykyrke, the number of hands trebled over the 50 years, whilst the number of crofts increased from 108 in 1810 to 114 in 1860. Thus, any flow here into the hand positions from an expanding farm and crofter population must have been supplemented by an inflow of new hands from further away. This is probably what is reflected in the proportion of hands born in neighbouring counties shown on Figure 4a.

The outflows of the three groups, shown on Figures 6a, 9a and 9c, differed to quite a large extent as well, even if they can in general all be seen as quite local in destination. Very few of the freeholders moved out at all during the eight years studied. Again, Nykyrke displayed a slightly less local pattern. A few more crofters moved, those in Herrestad presumably evicted by the landowners on enclosure. Figure 9b shows that their destinations were mainly within the parish, whilst the Nykyrke crofters, even though they more than maintained their numbers, more frequently moved longer distances, both outside the parish and the county. The hands, finally, to a small extent (Herrestad 5% and Nykyrke 3%) moved to towns, giving us a fresh dimension to their mobility, but one which seems to have been of little significance as a component of the pattern of aggregate flow described by the cohort resident in rural areas in 1855-60. The degree of urban-bound mobility seems to have been quite similar among the hands of both parishes. There was a strong bias towards neighbouring Motala in the Nykyrke case, although we cannot at this stage discover whether there were hands in this flow who went directly to the industry there.

## Flows of people through the countryside: evidence from the full lifelines

From the analysis of abbreviated life-paths we know a great deal already, quite enough to decide if the full life-lines are atypical in some particular respects, but not enough to be sure that our discussion so far is entirely correct and complete. The full longitudinal studies of small samples will, then, be used as more detailed illustrations as well as means of verifying or refuting what the abbreviated paths have suggested. The detailed life-lines can, of course, be illustrated and analysed in a number of ways, from the qualitative verbal description of individual lines to an extremely schematic and quantitative table or diagram where only one or two dimensions of all the lines are treated at once. We have worked here according to the latter principle and will discuss the aggregate spatial, social and mobility characteristics of each sample of life-lines in general terms.

A rural cohort was sampled for the reconstruction of complete lifelines of the three categories of productive people discussed so far: freeholders, crofters and hands. In order to show potential differences between freeholders with farms of different sizes, a number of wealthier farmers from Väversunda parish were sampled together with some of their less prosperous colleagues from Orlunda, a bit further north on the plain, and from Motala in the northern shieldland (see Figure 1a) - in all 18 farmers. The Orlunda freeholders all owned very small farms and were deliberately chosen as a contrast to their wealthier Väversunda counterparts - for one reason or another, the farmland of Orlunda, as we have mentioned, underwent substantial subdivision in the 1830's and 1840's, quite contrary to development elsewhere on the plains. This might lead us to suspect a difference in recruitment among its smallholders from what was normal for farms in both plains and shieldland parishes. In addition to the farmers, eleven crofters and eleven hands from Väversunda and Motala were sampled.

Figure 10 is a diagrammatic representation of the residential information in these life-lines. On it, each line represents the life-path of an individual, with years from birth marked on the horizontal axis, tracing each change of residence from birth to death or the time at which they fell out of observation. The lines are grouped according to the occupations of the people concerned, designated by the letter-codes at the beginning of the lines. A change of residence is marked by a vertical peck across the life-line. The way in which the line is drawn designates whether the place of residence is urban or rural (solid or dotted), within Aska and Dahl, elsewhere in Östergötland, elsewhere in Sweden (fine, medium or bold thickness) or abroad (wavy line). Vadstena, Stockholm and Göteborg are indicated by their initial letters. Thus, the information contained on Figure 10 is highly generalized and the spatial categories are highly aggregated. Nonetheless, it reveals much more fully the nature of the massive residential mobility made evident by the abbreviated life-paths.

We have already seen that the birth-parishes of all farmers in both plains and shieldland were concentrated in minute areas around the place where they lived their productive lives. Not surprisingly, this was also the case with the farmers whose full life-lines were reconstructed. Only one of the Väversunda group was born outside the county, albeit in the neighbouring one, and only two out of the total of eighteen had been born outside Aska and Dahl. Small differences can be distinguished between the three subsets in that three of the five Väversunda and Motala farmers were born in their current home parishes, while only two out of eight of the Orlunda smallholders were. This, of course, indicates a greater reliance on inheritance among the Väversunda and Motala property-owners, an observation which becomes easily explicable when the social origins of the group are considered. Four out of five of the Motala and Väversunda farmers came from either freeholding or tenant farmer families, while none of the Orlunda farmers had a freeholding father, although five came from the farm tenant class. In total, thirteen of eighteen farmers had farmer fathers. The fathers of all five others were crofters. None had purely proletarian origins.

When we compare these origins with those of the crofters, a clear difference is apparent. Only two out of eleven crofters had fathers who held land in any capacity, in each case as tenants. Thus, even if a certain degree of social circulation was occurring, the son of a crofter had a much smaller possibility of acquiring land than the son of a farmer. At the same time, being the son of a crofter left a person with better chances of becoming a crofter himself, or even a tenant, than the hand's son. Not one of the latter became a freeholder, tenant or even a crofter. This stresses the limited degree of upward social mobility. Downward, obviously, it was much easier to go. In consequence, among the fathers of the eleven hands of the cohort there were two farmers and five crofters. More than half of the hands had farm origins, which would seemingly destine them for a better situation later in their life-cycle. Moreover, not less than 11 of the 18 farmers of the cohort had worked as hands before acquiring a farm of their own. The traditional peasant pattern of life-cycle mobility still persisted into our period, despite of the growth of capitalist agriculture.

Nine of the eleven crofters had worked as hands before reaching the former position so that one would expect also that the hands of our cohort would eventually acquire slightly better positions than those they held at the time of their sampling in the mid-1850's. However, only two of the eleven hands, irrespective of whether they came from the plains or the forest, actually became a crofter or a freeholder. Five remained agricultural hands, all of them coming from the plains, whereas all the hands from the north became, at one time or another, engaged in secondary production. Three went to Motala Works, one was employed on the Göta Canal and one in craft production in Motala köping. Obviously, there was a greater propensity among the agrarian hands from the shieldland to go into secondary, and especially industrial, production. The shieldland hands came from slightly more prosperous homes than those from the plains, probably a consequence of the less marked social distances there. Whereas the plains hands had fathers who were proletarian labourers (three), crofters (two) or were illegitimate, their northern counterparts came from the homes of freeholders (one), crofters (three) or were illegitimate (one). Evidently, changes in society had taken place between when the freeholders and crofters of 1855-60 had themselves been hands and the end of the period.

Changing times are amply reflected not only in the differing background and early life-paths of the groups, but also in their fates after they were sampled. In particular, the freeholders of the plains seem to have had difficult periods: after losing their farms, two had to emigrate to North America in the 1860's, when it was possible to acquire free land there under the Homestead Act; another ended up as a married hand, while only two ended their days as retired freeholders. Of the smaller freeholders from Orlunda and Motala, only three out of 13 lost their farms. This is in line with the pattern previously described, where the larger farms in the plains grew in area but not in number and the intermediate group was the one which was reduced. In the shieldlands, on the other hand,

small farms maintained their large number and proportional predominance (see Table II).

Similarly, as we have already seen, the crofts declined dramatically in numbers on the plains between 1810 and 1860 although not on the shield (see Table III). It is not surprising, then, that the plains crofters of our cohort became the victims of production structure changes on the farms to which their crofts belonged, as the arable of their crofts was taken over by the landowners. None of them retired as a crofter, but instead as cottagers or married hands. Only one of the five crofters in the north suffered the same fate.

We can conclude, therefore, that the sample of full life-paths is completely representative of the population from which it was drawn. Most of the changes and patterns described in a more summary form earlier have been given fuller substance here. We have learnt, too, that the growing proletarian agrarian population was actually recruited from the freeholder and crofter groups (and also, of course, and to a growing extent, internally). There seems to have been little willingness to leave agrarian life, even if alternative opportunities were close at hand. This was particularly so for the people of the plains: none in our cohort left agrarian life, even if some moved across the Atlantic.

Although agricultural positions were more stable on the shield, strong population growth forced many out of their paternal livelihoods. This was true of the superfluous sons of freeholders, crofters and cottagers. Some of them moved into the expanding proletarian positions in the agriculture of the plain. Or, as all those in our sample lifelines in fact did, they moved into industrial positions on the shield, perhaps because they had experience from their youth of proto-industrial part-time production in their homes, or part-time employment in local iron-works, sawmills and other forest industries.

**Flows of people through Vadstena: the evidence of the abbreviated lifepaths**

A comparison of Tables VI and VII shows that the through-flow of people was greater in the town of Vadstena than in the countryside. This was true of the occupants of all livelihood positions. The adults in the basic urban occupations grouped together in the first row of Table VII had a greater rate of turnover than the farmers of the countryside, and even the adult menial group had a higher ratio of occupants to positions in the town than the combined hands and labourers of the countryside, a large majority of whom were, in fact, juvenile hands. Maids were not so mobile as those of the countryside or as some other urban groups. Many more town than country maids were adult rather than juvenile, and the maps show that they moved steadily through the countryside towards the town. Perhaps the town had more positions than the countryside for older unmarried women without any resources of their own. The apprentices, journeymen and adult menial workers employed by the craftsmen and merchants were much more mobile than all rural groups except for the maids - even than the rural hands. Generally, therefore, the townsfolk were more mobile than the countryfolk, and the turnover of population in the town was further intensified by the proportional importance of a large

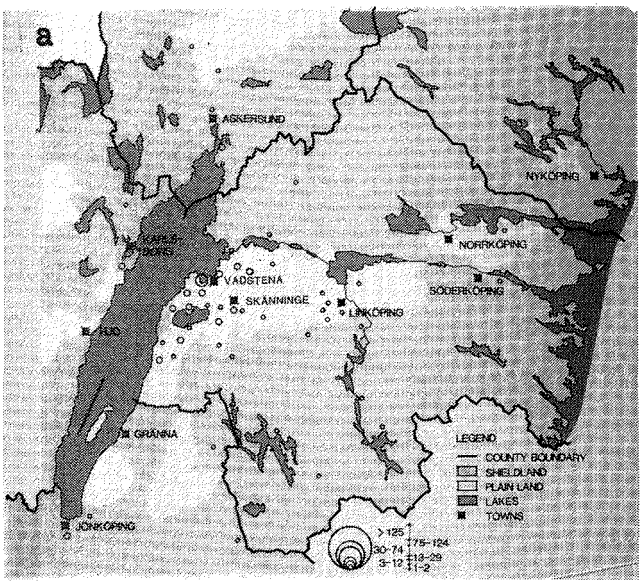
juvenile element with an exceptional propensity to change place of residence (although, of course, the smallness of the town's area and the density and abundance of housing within it would cause more movement across and within its boundaries than occurred in the generally much larger rural parishes) [50].

Table VII. Numbers of livelihood positions in Vadstena as recorded in the mantalslängder tax records of 1860, and numbers of people occupying them between 1855 and 1860 as recorded in the abbreviated life-paths taken from the husförhörslängder.

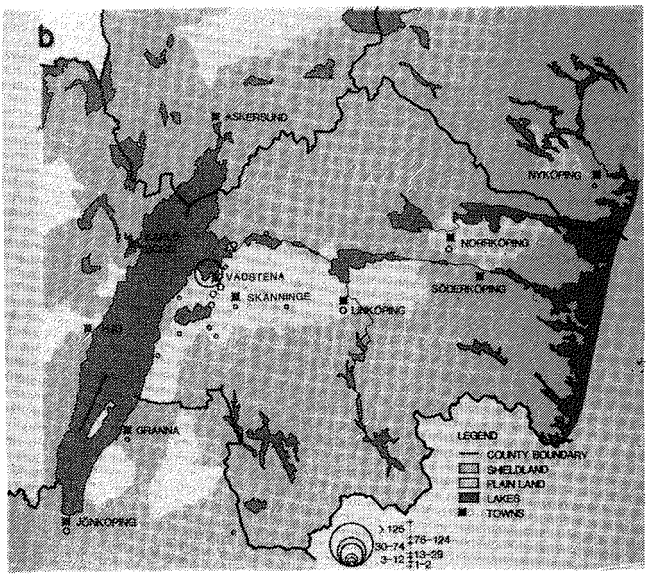
| | Abbr. paths | Liv. pos. | Ratio A/L |
|---|---|---|---|
| Adult professionals, craft and services | 310 | 102 | 2.3 |
| Independent craftsmen, labourers and farmers | 351 | 178 | 2.3 |
| Apprentices, journeymen and shop assistants | 391 | 100 | 3.9 |
| Hands | 335 | 67 | 5.0 |
| Maids | 637 | 190 | 3.4 |
| "Unproductive" | 384 | 101 | 3.8 |
| Totals | 2,342 | 741 | 3.2 |

We will concentrate our analysis on the male townsfolk and maids, for whom occupations are given in the sources we have used for information on residential mobility. This is not because we are unaware that the large number of apparently "unproductive" households [51] headed by widows and spinsters did, in fact, engage in significant economic activity, primarily lacemaking and other textiles production. However, it is impossible to adduce how many of these households were producing such goods in significant quantities, and how many were truly unproductive, from the sources used here. That would require the examination of inventories, which are available for only the small proportion of the 1855-1860 population which died [52]. Therefore, regrettably, in the abbreviated life-paths we must concentrate on the male-headed households which can be categorised into different sectors of the labour force through the occupational designations given in the tax and church registers. We have, however, included five of the widow and spinster heads of household of the town in the sample for whom we have drawn full life-lines.

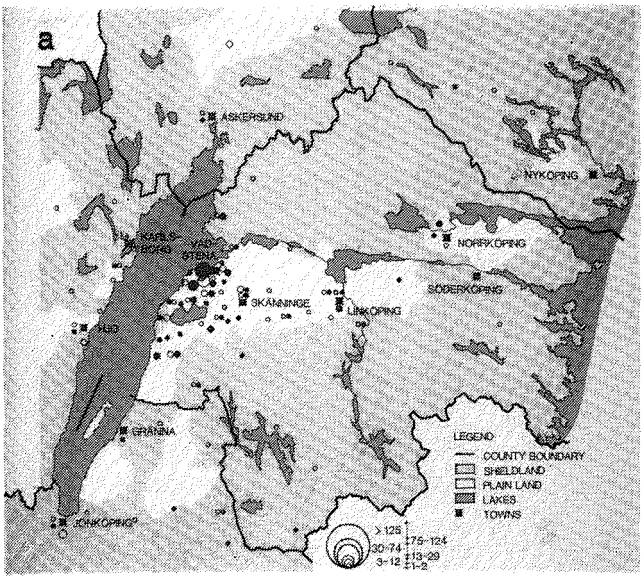
Figures 11a, 11b, 14a and 14d reveal significant patterns in the distribution of the parishes of birth of the traditional craft component of the Vadstena economy, although not in the way one would expect of a traditional "closed shop" urban activity. More than 50% of all urban craftsmen were actually born in the countryside, in the case of journeymen and apprentices, in training to occupy craft positions later in their lives, more than 60%. The rural-urban relationship must obviously have been a close one, and it might have been growing more intense over the years, if the increasing degree of rural origin amongst the more junior craft occupations reflects a change in recruitment patterns. However, it is equally plausible that the proportions had been constant, and that the higher proportion of the adult craftsmen with urban origins reflects a higher degree of professional success for the



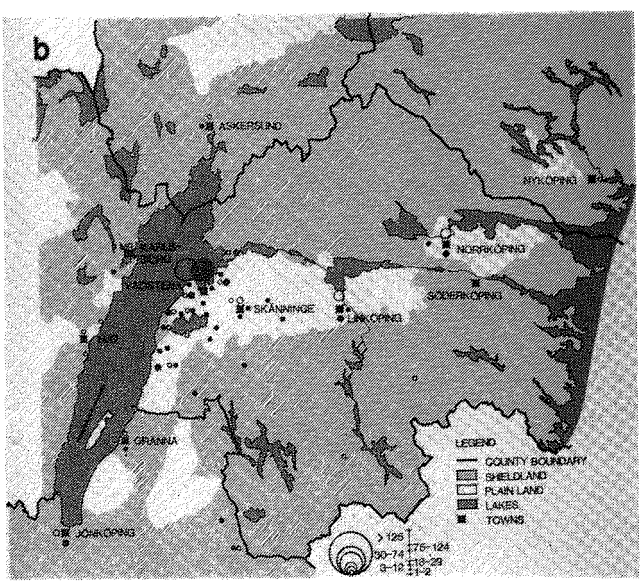

**11. a. Parishes** of birth within Östergötland and its immediate vicinity of master craftsmen living in Vadstena 1850-60.



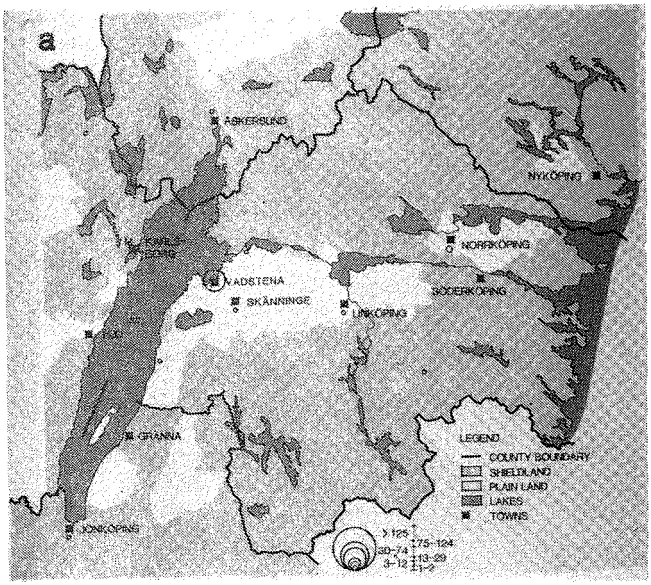

**b. Parishes** of last residence within Östergötland and its immediate vicinity of master craftsmen living in Vadstena 1850-60



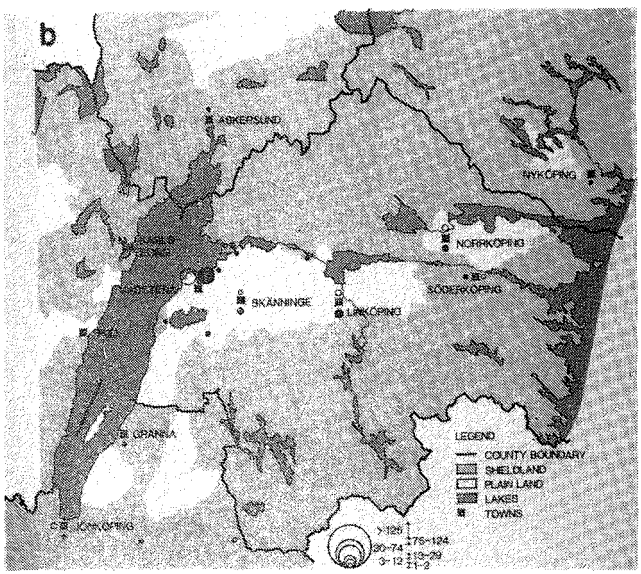

**12. a.** Parishes of birth within Östergötland and its immediate vicinity of journeymen and apprentices living in Vadstena 1850-60. (Apprentices shaded).




**b.** Parishes of last residence within Östergötland and its immediate vicinity of journeymen and apprentices living in Vadstena 1850-60 (Apprentices shaded)




**13. a. Parishes** of next residence within Östergötland and its **immediate vicinity of master craftsmen** living in Vadstena 1850-60.




**b. Parishes** of next residence within Östergötland and its **immediate vicinity of journeymen** and apprentices living in Vadstena 1850-60. (Apprentices shaded)

urbanites. They were the ones who could inherit a father's or a relative's business, and they had the urban contacts and hence an easier access to an independent business of their own, accepted by the local guilds. This would imply a certain degree of spatial stability amongst those craftsmen who became masters, at least those who inherited craft shops from their relations. This hypothesis can only be fully examined through fully reconstituted life-lines, but looking at patterns of birthplaces of all craftsmen is, nonetheless, suggestive.

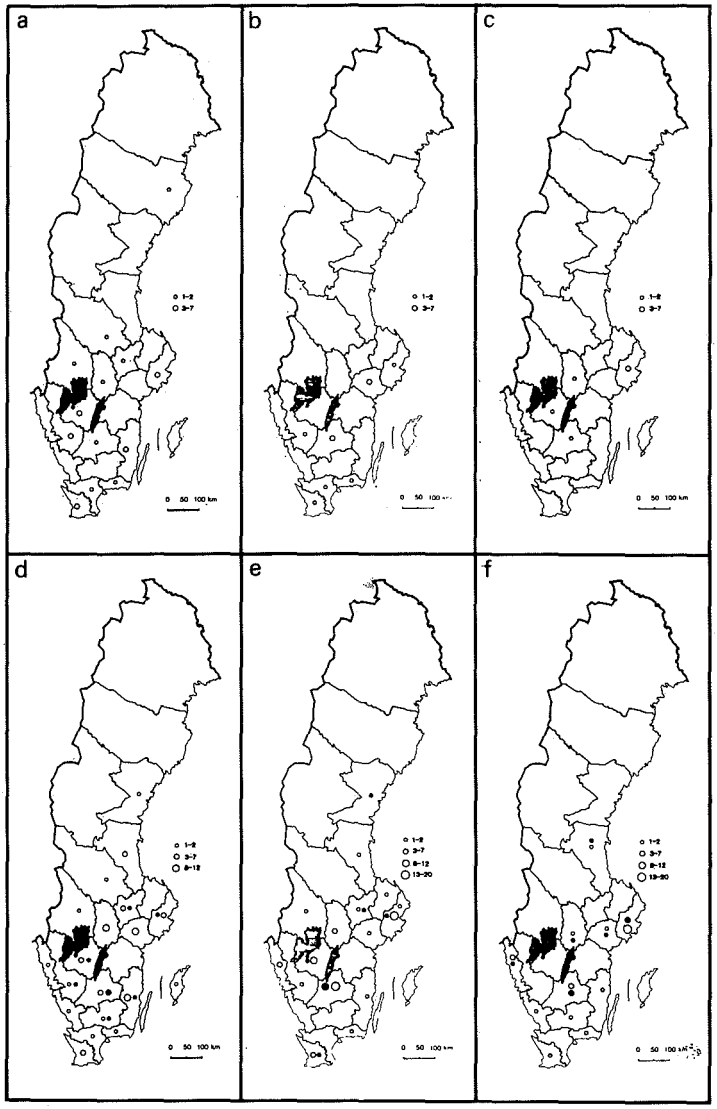
The category with the strongest local connection was the apprentices, of whom 56% were born in Aska and Dahl and 23% in Vadstena town. This is not revealed by Figure 14d, which combines the birthplaces of apprentices with those of journeymen, who, as we have seen, had much further-flung origins. However, more than four out of five apprentices were born in the province of Östergötland, but only 35% in towns. This indicates, of course, that a large percentage of the apprentices, and in turn the more qualified craftsmen, had agrarian origins; the urban and rural worlds of this region were closely connected, at least in terms of flows of labour.

The journeymen did not have such close local, rural, origins, even though many were born in the countryside. Clearly, this is a reflection of the "journeying" part of their professional role. In order to qualify as a master, they had to work for several businesses to learn their craft fully. Indeed, in Sweden it was not at all uncommon for journeymen to work on the continent for a while in order to learn the latest fashions and methods. Locally-born journeymen who stayed put were thus probably less enterprising, or the availability of a workshop was in prospect through kin or parental professional connections. 45% of their total number were born in Östergötland, only 25% in Aska and Dahl and 12% in Vadstena itself, so journeymen were obviously normally adventurous in looking for better prospects outside their home area and the place in which they trained as apprentices.

Apparently, local connections were a continuing influence, judging from the tendency among the craft masters or future masters to return eventually to their home region. Almost as many masters in Vadstena as apprentices were born in the town, even if fewer were born in Aska and Dahl as a whole (compare Figures 11a and 14a). Moreover, two out of three masters were born in Östergötland, so that even if they did not return to the immediate vicinity of their parish of birth, there was a strong tendency to return to their home area after a few years further away during the journeyman phase of their life-cycle.

The craftsmen who were not part of the traditional guild system and who increased their number during the 19th century when guild control became less strict were, not surprisingly, recruited differently. Half of their number was born in Vadstena or the local hundreds, and 75% of the total in Östergötland county. They were more rurally recruited than the master craftsmen, but not to such an extent as the apprentices and journeymen. Obviously, these craftsmen did not organize their lives according to guild rules, though they may well have started off as apprentices but left the system before the journeyman stage, due to a lack of skills or a concern to profit immediately from the training they had already received.

The trading community of the town also comprised a number

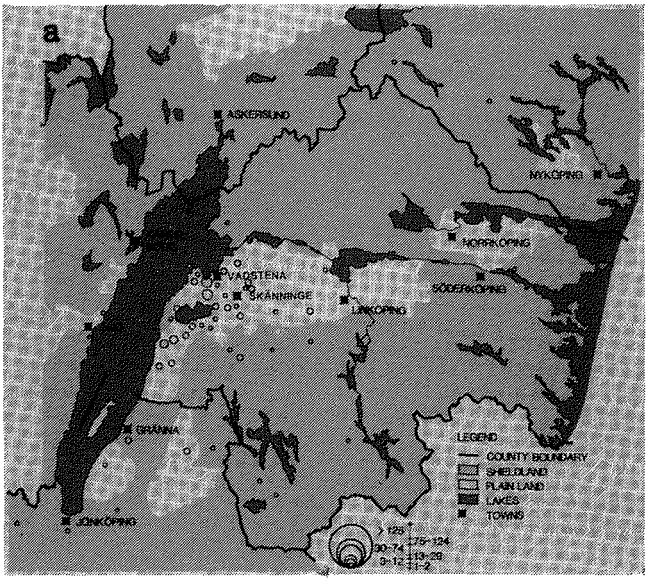



**14. a.** Counties of birth outside Östergötland of master craftsmen living in Vadstena 1850-60. **b.** Counties of last residence outside Östergötland of master craftsmen living in Vadstena 1850-60. **c.** Counties of next residence outside Östergötland of master craftsmen living in Vadstena 1850-60. **d.** Counties of birth outside Östergötland of journeymen and apprentices living in Vadstena 1850-60. (Apprentices shaded). **e.** Counties of last residence outside Ostergotland of journeymen and apprentices living in Vadstena 1850-60. (Apprentices shaded). **f.** Counties of next residence outside Östergötland of journeymen and apprentices living in Vadstena 1850-60. (Apprentices shaded)

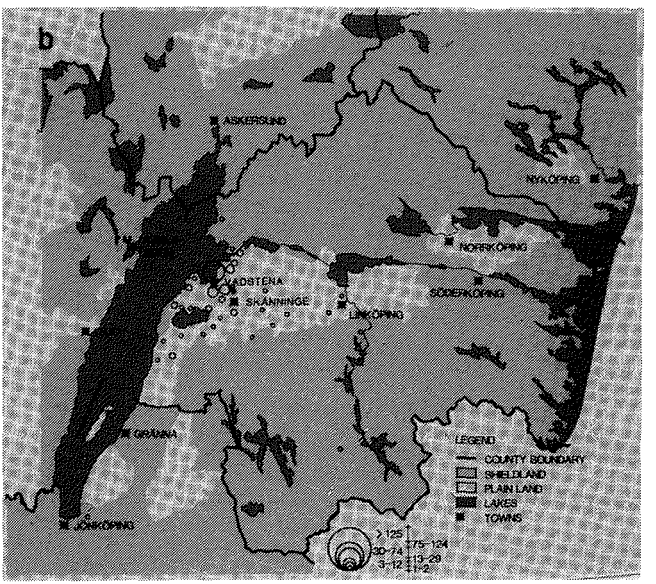
of distinct categories. In this context, only the traders/-merchants [53] and shop assistants will be discussed: hands and labourers, who were of course also employed by traders (and craftsmen), must be treated as part of the menially employed population because it is impossible at this level of analysis to connect them with a particular business. The recruitment of traders was a much more exclusively urban and geographically wide-ranging process than the recruitment of craftsmen, even if 40% of the traders were born in the countryside. Considering shop assistants, juveniles in training to be merchants, shopkeepers and traders, the urban bias is even more marked. Three out of five shop assistants were urban-born and spent most of their active careers, judging from their places of last residence, in towns. It is not possible to conceptualize, as with the craftsmen, a recruitment flow from the countryside through the local town and on to the more distant parts of the urban system before an eventual return. Rather, the flow of people within trade was mainly urban from the beginning, with continuous minority reinforcements from the local countryside.

So far, we have seen that within the craft and service communities which formed the basis of Vadstena's economy, the flows of people originated in the countryside or other towns, moved to towns and then largely remained within the urban system. This pattern is fully evident on Figures 11a, 12a, 14a and 14d. Those from country to town were extremely local: most of the people living in Vadstena between 1855 and 1860 had been born in the rural parishes of Aska and Dahl. This seems to imply an urban development process; that it was in the towns where things happened and hence, where underemployed countryfolk went for training or general experience of the wider world, never to look back. But as the analysis of flows in the countryside showed, although Vadstena's population was overwhelmingly locally rural in origin, very few indeed of the mobile country dwellers ended up in or passed through the town at all. In fact, well over 90% of them moved around solely within the countryside. As far as the aggregate pattern of mobility in Aska and Dahl were concerned, the net flow of population to the town was quite insignificant. The process of rural-urban migration which is apparent in the analysis of the Vadstena figures alone gives quite a misleading picture of the flows in the regional system as a whole.

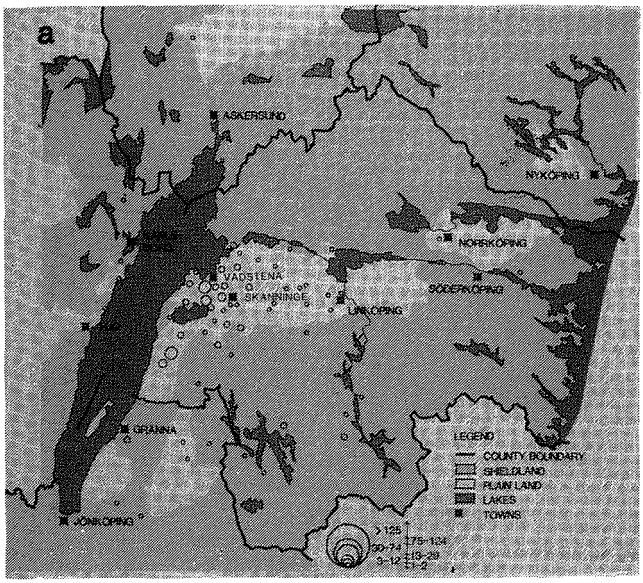
We have only examined people who were trained or in training for a skilled urban occupation. But many of the townsmen remained as hands, labourers or workmen, sometimes for craftsmen or merchants, sometimes with a more vague occupational connection. Rural birthplaces were completely dominant in this group: 87% of the menials came from the countryside, a large majority from Aska and Dahl and most of the remainder from elsewhere in Östergötland (see Figures 15a, 15b, 16a and 16b). Thus, the expansion of the active urban population was recruited externally and mainly from the narrowly local rural population, both to crafts and unqualified labouring positions. However, the differences in career patterns between the two subgroups were very great. Whereas the craftsmen almost without exception stayed on in towns, locally or more remote, the unqualified people retained their close contact with the local countryside. 25% of their moves after coming to Vadstena



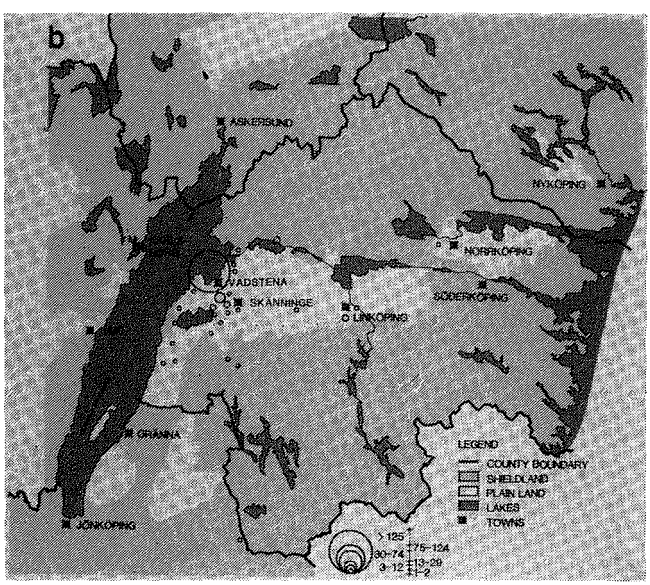

15. a. Parishes of birth of hands living in Vadstena 1850-60.



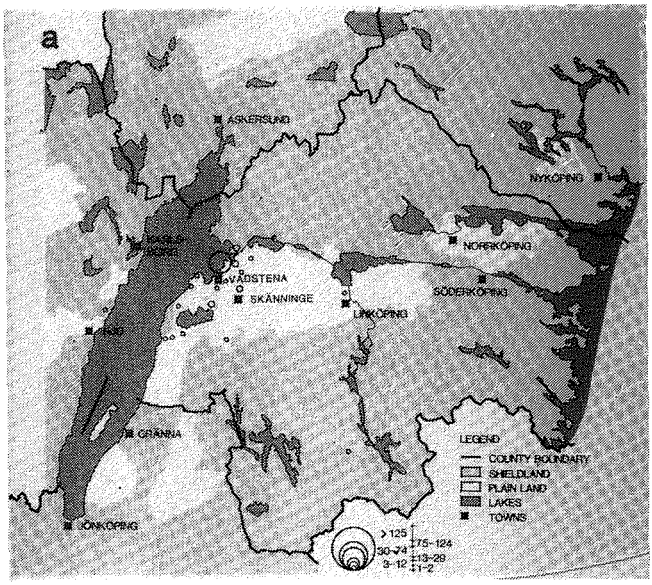

b. Parishes of last residence of hands living in Vadstena 1850-60.



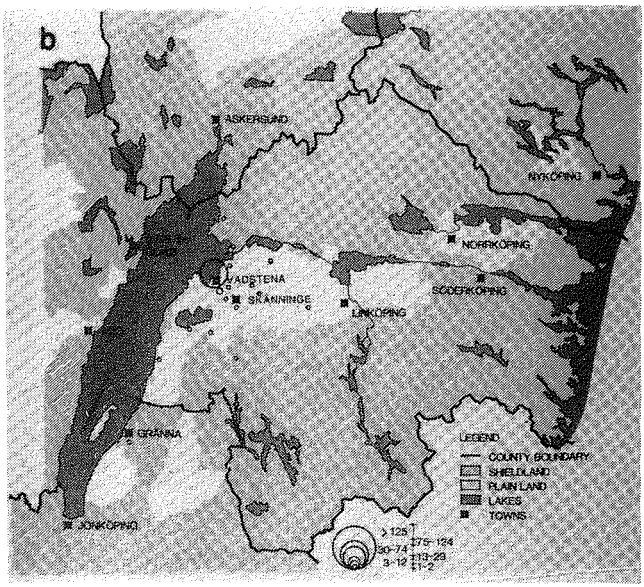

**16. a.** Parishes of birth of labourers living in Vadstena 1850-60.




**b.** Parishes of last residence of labourers living in Vadstena 1850-60.




**17. a.** Parishes of next residence of hands living in Vadstena 1850-60.

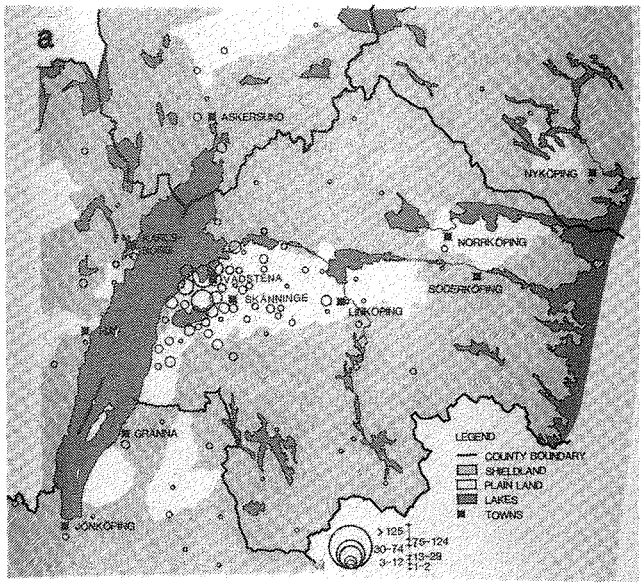



**b.** Parishes of next residence of labourers living in Vadstena 1850-60.

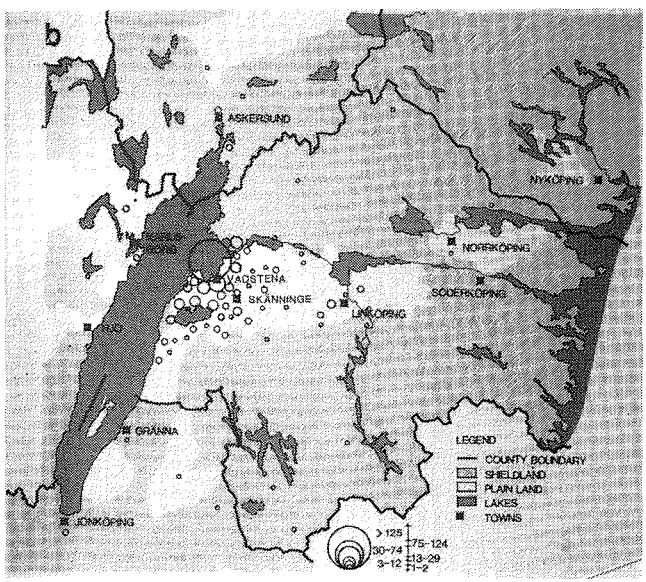
were back to the local hundreds or county, while almost 70% were to other addresses within the town itself. The labourers' flow was thus completely different from that of the craftsmen. The step from rural to urban was a definite one for the future craftsman. Through a gradual specialisation for work in specifically urban livelihood positions he would be unable to return to the countryside unless he gave up his skills [54]. The labourers, on the other hand, only rarely became urbanised, most probably when they gradually acquired a skill informally by working, for example, as a craftsman's hand. Otherwise, it seems that an urban or a rural hand or labourer position did not differ much, judging from the ease and frequency with which people in menial livelihood positions went into town and out again. They rarely moved out to destinations, nearly all of which were rural, more than a few kilometres away (see Figures 14c and 14f). It might reasonably be expected that with a stay of longer duration in town, the unwillingness to change environment would increase, both as a consequence of increasing age and of level of skill acquisition. Nevertheless, the rural-urban step still seems to have been a very small one for most of the people who did not immediately enter formal training, and they moved back and forth between town and country with alacrity, but, as Figures 14b, 14c, 14e and 14f show, within a very restricted spatial arena.

The life-cycle dimension of mobility is illustrated quite well by the fact that men designated as "hands" (drängar) were normally young and unmarried and, like single farmhands, living in the household of their employer. Members of the other category of urban menial labour, called "labourers" (arbetare, or arbetskarlar) in the sources, were usually older and married with their own households. This older labourer group, even if of equally rural origin, was much more firmly rooted in town than the younger hands. No less than 70% of their places of last residence were other addresses in Vadstena, whilst among the hands this was true of only 37% (see Figures 14d and 14e). At the same time, established roots in Vadstena militated against inter-urban mobility, and the hands, even if they were closer to their rural origins, tended to move more frequently to other towns than the urban labourers, who had probably settled into more permanent jobs, acquired skills, families and, sometimes, property.

The flow of maids through Vadstena, toward which they obviously coursed through the adjacent countryside, was not so rapid as that of rural maids. The wider geographical spread of maids' places of birth compared with their places of last residence shows that they were converging in a step-wise progression through the countryside to the town (see Figures 18a and 18b, where places of last residence are more closely clustered around the town than places of birth). Once there, as we have seen, many of them stayed; quite a high proportion of urban maids were adult rather than juvenile. Unlike the hands and labourers of the town, maids seem quite frequently to have moved over greater distances on leaving Vadstena (see Figure 19). Some went up the urban hierarchy to Norrköping, Linköping and Jönköping after their first experience of town life. Indeed, though largely unrevealed by Figure 19, 49 of the 486 erstwhile Vadstena maids moved to larger towns outside Östergötland, 27 of them directly to Stockholm.




**18. a.** Parishes of birth of maids living in Vadstena 1850-60.

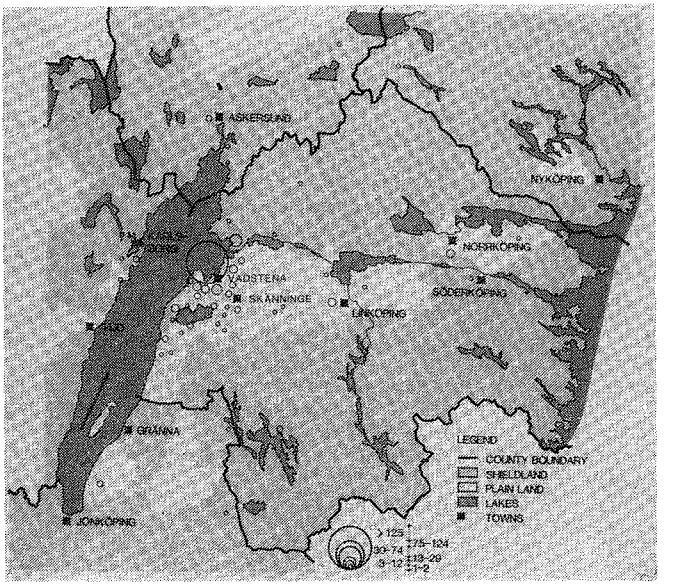



**b.** Parishes of last residence of maids living in Vadstena 1850-60.

The local area around Vadstena was dominated by more and more capitalistic agriculture. Hence, the immigrants to town who had grown up in these parts cannot be expected to have had any training or experience in tasks of an urban nature, through involvement in proto-industrial production or forest industries. All training for a skilled non-agrarian occupation had to take place in town, but the hands and labourers who remained in town doing menial tasks did not receive any craft or industrial training there. As unqualified labour, it was equally easy to move back to the countryside as to move within town, provided that livelihood positions were available, because the tasks involved were simple and similar in both cases. Moves to other towns would not mean any improvement in livelihood without further training, as it would for journeymen who could go to a more profitable business higher up in the urban hierarchy. In consequence, very little migration to other towns or over long distances took place in the urban menial group. Those who came to town were only a minute fraction of the menial population coursing through the local countryside, and were hardly any different from the vast majority who never came to town at all.

## Flows of people through Vadstena: the evidence of the full lifelines

It is only possible to pursue patterns of urban labour mobility further from full longitudinal information. The Vadstena cohort for whom full life-paths have been compiled consists of representatives from all the groups discussed so



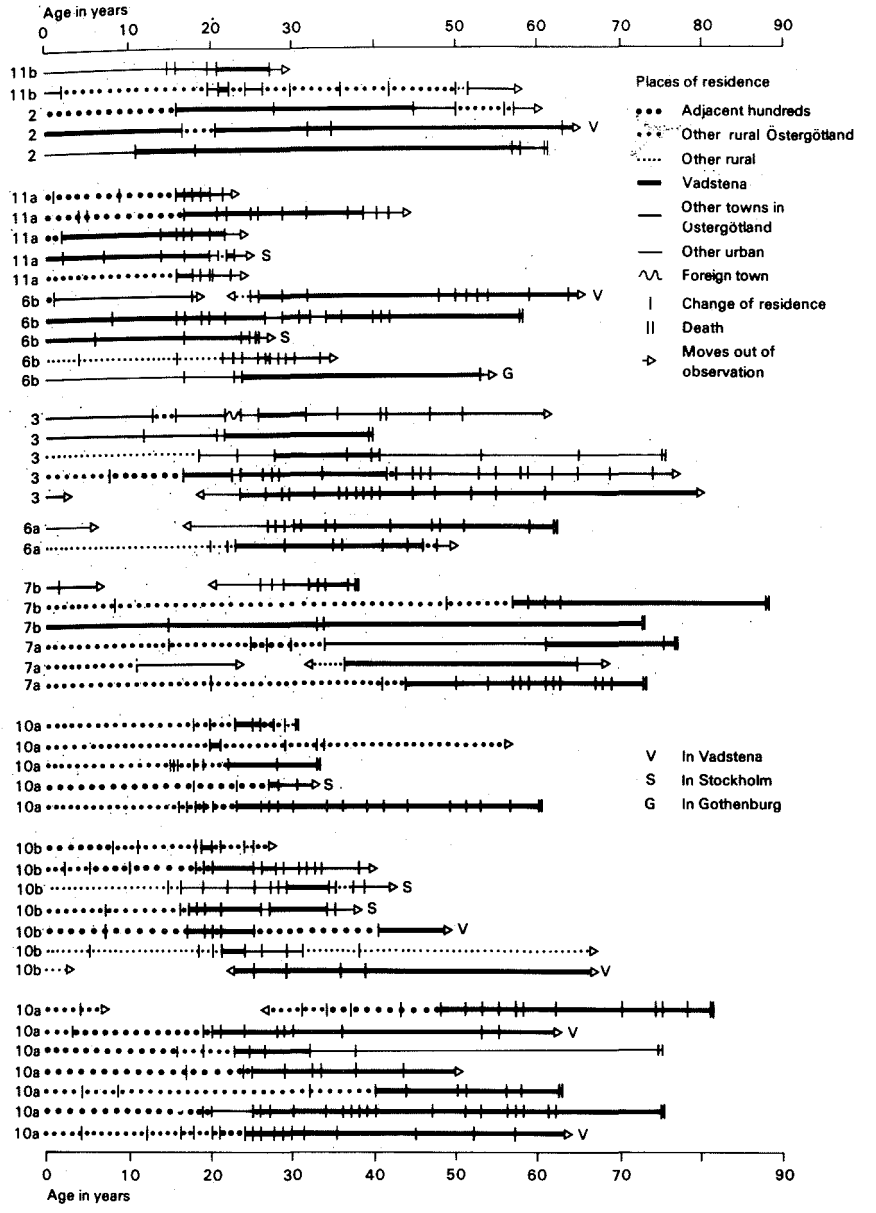

19. Parishes of next residence of maids living in Vadstena 1850-60.

far. In total, we reconstructed 47 life-lines for people who belonged to one or other of the economically active categories in Vadstena during the period 1855-60.

In Figure 20, the Vadstena cohort is presented in the same format as the rural cohort of Figure 10. A number of general points can be made about this diagram before a more detailed scrutiny of the paths of different subgroups. As in the countryside, most people moved very frequently: many lines have ten or more moves marked on them. This high rate of mobility was also, of course, reflected in the rapid turnover made apparent in the abbreviated paths. What was not revealed there, however, was the fact that the number of moves was equally high, irrespective of whether they were undertaken in town or country, by the young or the old. In most research on migration over the life career, the high degree of mobility of young people is stressed, and the relative stability of older people. Although there was a tendency in 19th century Vadstena for people to be most mobile in their late teens and early twenties, they continued to move about throughout their subsequent lives, which is also reflected in the high mobility of early childhood, when the people concerned were still in their parental homes. It is, of course, important to stress the differences between the movements normally registered in migration research, as for example between parishes, and the spatial moves described here, where every registered move is included. Many of these moves within parishes could be just as long as movements between parishes, although for some they only meant the distance of a few fields or doors along a street. However, short moves between adjacent farms or streets could be much more significant in a person's life-path development if they were associated with changing from hand to farmer or journeyman to master than moves over many miles which involved no change of livelihood position [55]. Among the latter, it is not surprising that journeymen were more mobile than masters with their own shop, nor that shop assistants were more so than the tradesmen with businesses of their own, or hands than married labourers.

Differences are apparent between the mobility patterns of people in different occupations. Shop assistants, judging from the few included here, tended to be less mobile than hands or craftsmen, and with the adult merchants were the least mobile group depicted on Figure 20. Those of them who were rural in origin seem to have been slightly more mobile. This is not surprising, suggesting, as it does, that the originally rural members of the group, as distinct from those with urban origins, had more difficulty in finding their way into an independent mercantile position of their own after training.

Regarding the distances moved, people involved in trade were no different from craftsmen. Moving from Stockholm to Vadstena or from Vadstena to Landskrona in the south of Sweden could obviously be achieved without many complications by those in the higher echelons of the urban economy at the time. The traders and shop assistants, in parallel with their less frequent movement behaviour, were also a socially stable group. Even if only one had a father who was a tradesman himself, none had an agricultural origin: the fathers were in four cases out of five fairly affluent urban professionals. The impression from the abbreviated paths analysis regarding




**20.** Life-lines of the cohort from Vadstena. A key to the numerical occupational codes to the left of the lifelines is given on figure 10.

this group, that it was almost completely urban in origin, is thus confirmed. Those who succeeded in establishing a trading business of their own, or joined one of the trading companies common by 1860, also remained almost completely urban all their lives. Thus, we can confidently conclude that trade was a very closed urban shop providing desirable livelihood positions; only with urban contacts and an urban background was it possible to become established in a mercantile position - there were few Dick Whittingtons in 19th-century Vadstena.

The craftsmen are represented in the cohort by a larger group, five of each of the three qualification-cum-lifecycle levels of master, journeyman and apprentice. Of these fifteen people, eight had a rural background, a roughly similar proportion to that in the abbreviated paths analysis. All three craft categories were extremely mobile, moving a lot both locally and between town and town. This was not only a result of the qualification process. Even the masters moved about a lot, both in Vadstena and to other towns and cities such as Stockholm, Motala Town and Norrköping, obviously in attempts to acquire a position where because the market was wider or competition less, it would be possible to sell more of their particular product. According to the rules of the parish registration system, it was possible to record outmigrants who were looking for a job they were not already aware of at their place of departure, such as journeymen, as moving to a "destination unknown". This makes it impossible to trace these people continuously over space and time unless, as a few in this cohort have been, they are found in the registers of other places by sheer luck. This is the reason why apprentices tended to fall out of observation when they became journeymen and moved out of their previous position, and why journeymen who had not yet qualified as masters in some cases tended to do the same when they moved on to another master's shop.

The journeymen and apprentices of 1855-60 seem to have followed paths similar to those traced by the earlier stages of the life-lines of those who had become masters by that time, although their origins were a bit more humble and less based in secondary production. All the apprentices came from the countryside, their fathers being crofters or agricultural labourers and hands. Also, as in the abbreviated path analysis, they all originated locally in Aska and Dahl. In terms of social origins, the journeymen and masters were more similar: three out of five in each group came from towns, and three out of five had fathers involved in secondary production. Those who came from the countryside had fathers who occupied slightly better positions than the fathers of apprentices. The pattern verifies the conclusion drawn previously from the abbreviated paths, that it was easier to succeed if of urban origins, with a father already involved in some kind of more qualified urban trade. It also shows that the majority of the expansion in craft production in towns came from an increasing inflow of rural apprentices from very humble proletarian, rather than farming, origins. The great relative increase of their numbers, compared with craftsmen, made it highly probable that they would be employed later as qualified wage workers in more substantial craft shops, rather than becoming masters of their own workshops. Thus the craft life-paths not only reflect a life-cycle development but also a historical

process. The younger apprentices were all from the local countryside, while the "successful" journeymen and masters had much more widespread and more urban origins. This was not only a result of their further education and search process for a proper position, but also a result of an actual change in recruitment patterns as apprentices and journeymen took on more and more the function of hired labourer rather than trainees for succession to the control of urban workshops.

The independent craftsmen, of whom there were only two in the cohort, seem to have been journeymen and apprentices who failed to qualify, but who, with the gradual disappearance of guild rules, succeeded in establishing some kind of small craft shop. Their background and life-paths were similar to those of the apprentices. This may also explain the differences between craftsmen of different skill levels in the late 1850's: the apprentices did not fully succeed in qualifying became independent craftsmen, leaving a dominant group with much more urban origins to qualify and become masters.

The hands in the cohort consist of five people who were all born in the countryside of Östergötland not far from Vadstena. This result is also similar to that of the abbreviated path analysis. The normal life-path of an urban hand began in varied circumstances. Two of the five had fathers who were freeholders, the others were agricultural day labourers and cottagers. Their personal careers in four cases began in the countryside as an agricultural hand. After passing through a couple of these positions, the move to town took place at an age between 18 and 25. We are not able at this level of analysis to see any rationale behind the urban move of these hands, whilst hundreds of others stayed in the countryside. None of the urban migrants had worked in any secondary position before the urban move, and from what can be seen in the sources, neither had their parents. (We cannot exclude the possibility that, for example, part-time textile production took place in these particular homes and that rural-urban contacts existed through dependence on a putter-out, and that it was through such contacts that the entrée to urban life was achieved) [56].

It is not possible to see exactly what these urban hands first did for a living in town but, judging from their future occupations, they were employed by established urban traders or craftsmen for menial tasks. Three of the five stayed urban while two moved back to agriculture, reflecting the significant return flow of urban migrants in the abbreviated paths analysis, and the short social distance between town and country for the vast majority of people in the region, which made it possible to move in as well as to move back. The three who stayed on in towns followed different careers. Two stayed permanently in Vadstena where they established themselves as married labourers in joinery and hauling, while the third moved on to Motala Works and then to Stockholm as an industrial labourer. Curiously, the two sons of freeholders were those who returned to agriculture, even though they did not have a farm awaiting them. One ended up as a wandering countryside book pedlar, the other died as a hand on a farm outside Stockholm.

The seven adult labourers of the sample drawn for Vadstena between 1855 and 1860 also all had rural origins. As we

have seen from the life-paths of urban hands, when they became firmly established in towns they became "labourers", so we can consider the sample labourers as being one step further into an urban proletarian life-cycle. This is also clearly reflected in the backgrounds of the labourers, of whom six came from crofter and cottager homes and one had a father who was a tenant farmer. All left their homes in their teens to become farm hands, and six out of seven moved to town at about the same age as the hands previously discussed. Without exception, the future labourers became urban hands in identical positions to those of the sampled hands and consequently, as they were encountered later on in their lifecycle in more established positions, labourers in Vadstena, although one later moved to another town. Their final positions were normally identical to those occupied at the time of their selection, although a gradual specialisation within secondary production took place in at least four cases, who became building and haulage workers, joinery and carpentry labourers.

A number of the labourers had honorary titles like night-watchman and bellringer (which, if they had indicated full-time occupations, would have meant that half of Vadstena was kept awake all night by ringing bells!). However, they probably reflect some degree of social achievement, and the title bearer must to some extent have succeeded in establishing himself in urban society, despite his rural origins. Unfortunately, the use of these honorary titles in the sources obscures what the bearer actually did for a living, and in these cases, conclusions have been based on assumptions and information from before and after the periods of honorary title bearing which suggest that they were labourers.

What differences were there then between the rural apprentices in crafts, who were also extremely locally recruited, but who at least were attempting to advance socially and who normally moved on in the urban hierarchy, and the hands and labourers of whom most unenterprisingly stayed on in Vadstena or moved back to the local countryside? To begin with, their origins were similar. Almost all came from the crofter or cottager groups, but all the apprentices moved directly from home to town, if their home was not already urban. None of the apprentices started as farm hands and all of them were in town well before the age of 18. What decisions, initiatives and contacts this reflects is unclear, but the significance of this age difference on first entering town is nonetheless an important aspect of the mechanisms behind the social and spatial formations of society during its modernisation.

As we pointed out earlier, the women heads of household who were described simply as widows or spinsters made up an extremely heterogeneous group. Some of them possessed a considerable amount of wealth, inherited from their husbands or parents. Others earned their keep by producing or dealing in lace and other textile goods which the analysis of inventories reveals to have been exclusively the prerogative of women in the town [57]. Yet others were aged and almost destitute. Thus, it would be dangerous to generalize from the small sample of female head-of-households' life-lines depicted as 7a and 7b on Figure 20. Nonetheless, all the women in this sample, except the one who was born in Vadstena, came to the town when well into their adult years, often from farm or

vicarage homes. All but one stayed on after their arrival until the end of their lives. The seven maids, represented as 10b on Figure 10, in accord with the conclusions we drew from the abbreviated life-paths, frequently either stayed in Vadstena or left for another town, in two cases Stockholm, which in turn indicates that a much larger number than the 27 who moved there directly from Vadstena would ultimately end up there.

**Flows of people through the early industries of Motala Town: the evidence of the abbreviated life-paths**

Table VIII shows the relationship between the number of available livelihood positions in 1860 and the number of people who occupied positions of those kinds during the second half of the 1850's at the large Motala Engineering Works and at a smaller ironworks, paper mill and two breweries. Unfort-

Table VIII. Numbers of livelihood positions in selected industries in Motala Town recorded in the **mantalslängder** tax records of 1860, and numbers of people occupying them between 1855 and 1860 as recorded in the abbreviated lifepaths taken from the **husförhörslängder**.

| | Motala Eng.Works | | | 4 other industries. | | |
|---|---|---|---|---|---|---|
| | Abbr. paths | Liv. pos. | Ratio A/L | Abbr. paths | Liv. pos. | Ratio A/L |
| White collar & skilled workers | 52 | 132 | 0.4 | 18 | 9 | 2.0 |
| Labourers and hands | 1,095 | 497 | 2.2 | 87 | 42 | 2.1 |
| Apprentices | 6 | 36 | 0.2 | 2 | 0 | - |
| Maids | 198 | 30 | 6.6 | 21 | 9 | 2.3 |
| Total | 1,351 | 695 | 1.9 | 129 | 60 | 2.2 |

unately, the source from which the abbreviated life-paths were collected does not categorise any but a small minority of workers in detail, so that the smiths of various kinds, pattern makers, founders and so on who are fully listed in the tax records are hidden amongst the vast majority of "workers" entered in the husförhörslängder. Thus, little credence can be placed in the turnover ratios for particular occupations on Table VIII. Moreover, even the total figures, and especially those of Motala Works itself, are not directly comparable with those calculated earlier for Vadstena and the countryside because the size of the labour force grew very rapidly through the 1850's. This will cause the actual amount of throughflow to be understated by the ratio given on Table VIII. Even so, the impression that people tended to stay considerably longer in these works than they generally did in positions in the countryside and Vadstena is supported by more detailed analysis of the abbreviated life-paths.

Motala Works were established in 1822 and thus, unlike Vadstena, had nothing traditional to build on, apart from the mills and sawmills along Motala Ström which in total employed less than 60 people in 1820. All the labour had to move to the works from elsewhere during quite a short period of time. Initially, while the works supplied only the limited needs of

the Göta Canal, the demand for labour was not extensive. The labour force in 1830 was just over a hundred, and in 1840 about 170. The big growth came after the sale of the Works in 1840 and its liberation from the narrow range of demands of the Göta Canal Company. Twelve shareholders, some of them local ironworks owners, took over and directed production much more towards a market outside the region, to a large extent international. In 1850, 360 people were employed and in 1860 around 700. So the period studied here witnessed the most rapid growth so far in the Works' history (in fact it was the period of most rapid growth of employment during the entire existence of the Works). When the Works were first established, numerous skilled labourers and foremen were recruited from Britain together with the works master Daniel Fraser [58]. Gradually, the percentage of Swedish-born employees grew until they were completely dominant by the 1850's. From our present point of view, the period after the initial British incursion is the more interesting because it was only when labour recruitment became linked with other population flows of Aska and Dahl that it is feasible to examine if there was a continuation from proto-industrial production in the region into mechanical industrial work. Even if Motala Works itself cannot be regarded as having developed out of proto-industry, its labour force might well have done so [59].

Motala Works needed a wide range of specialist workers due to the many different production lines within its two main parts, the ironworks and the mechanical works. The former produced raw materials for the latter, and can almost be seen as a large-scale traditional ironworks, even if gradually more modern processes were introduced: first puddling and rolling mills, later Martin ovens. The mechanical works employed all sorts of skilled people, from joiners who built models of the planned products to coppersmiths and filers. All this meant that the works were not open only to one kind of pre-industrial skill (if pre-industrial skill was required), but to a whole series of skills. It is unfortunate that it has not been possible to distinguish these skills in detail in the sources used here.

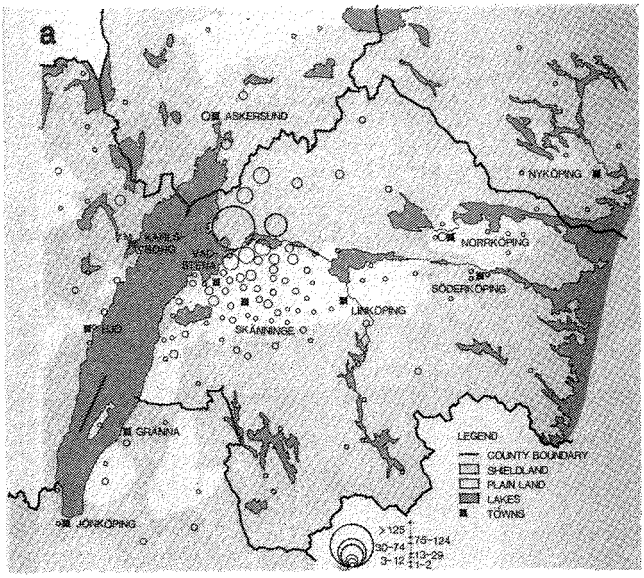
However, it is clear that the pattern of birthplaces of employees at Motala Works was quite different from that of any of the urban groups in Vadstena. Compared with the workers of the town, they came from a much wider area (compare Figures 16a and 16b with 21a and 21b), even if 51% were born in Aska and Dahl, and 73% in Östergötland province as a whole. Compared with different kinds of craftsmen in Vadstena, they were tremendously more rural in origin: only 1% of the Motala labourers of the 1850's who originated in Östergötland were born in a town, though a further 7% came from towns elsewhere in Sweden (compared with 20% from rural areas beyond the provincial boundary). Obviously, traditional towns like Vadstena did not channel labour through to places like Motala Works, and we have already seen that their menial labourers mainly stayed on, moved to other towns or back into the agricultural countryside they had come from. Recruitment to growing industry must have flowed along completely different, more direct, lines. It is quite striking that so many workers came from the immediate hinterland of Aska and Dahl, although, as we have seen, proto-industrial or pre-industrial mass production of various kinds

took place in the shieldland. About one third of the workers were born in northern Aska, in fact, and a large percentage of that third would, in consequence, from their early days have been exposed to non-agrarian activities within their households, in the forest, and at the numerous water-powered small works on the shield.

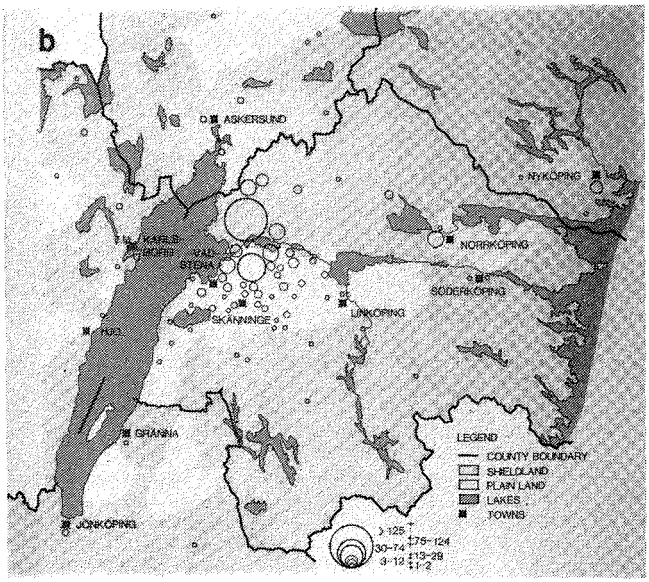
Many of the other labourers might equally well have had a background in some kind of secondary production, even if they had been born in more purely agrarian surroundings or further away from Motala in areas of a similar environment to that north and east of Motala. This possibility can be pursued further through an examination of the labourers' places of last residence, and through a more elaborate classification of their birth-parishes. Of the 73% of the labourers who were born in Östergötland, much more than half (40% of the total) were born in forested areas similar to northern Aska, with ironworks and other kinds of non-agrarian production: places like Åtvid and Boxholm, where for centuries copper or iron had been worked at water-powered sites; or the Mjölby area, also with copious water supplies used to drive numerous mills and hammers. The Motala works labourers born outside Östergötland seem to have belonged even more preponderantly to the same category of people, whose threshold for taking part in industrial activities must have been low.

The places of last residence for the Motala works labour confirms this statement to a large extent. This is partly a result of the fact that many more workers came directly from towns than were born there (over 20% compared with 1%) while still around 40% came from forested areas in Östergötland and 10% had moved within the Motala Works itself. Thus, in total 70%, had at least gained some familiarity with the kind of life secondary producers led before they came to Motala. A further 5% came from forested rural areas outside Östergötland, so that in all only 25% moved into the works from purely agrarian arable areas. Those who came from towns did not conform with the pattern of journeymen or menial urban labourers in Vadstena in that to a very large extent they came from towns and cities with big mechanical factories like Motala. They had obviously been trained in similar establishments and were now looking for similar or better jobs, and Motala was a rapidly expanding factory in the 1850's (as we remember, probably the most expansive in Sweden at the time) and thus a strong magnet for skilled industrial labour. Göteborg's mechanical works and shipyards (one of which was bought by Motala Works in 1858), that at Nyköping (set up by a former manager of Motala Works), the large Bergsund and Bolinder Works in Stockholm, and the Motala Works branch in Norrköping, opened in the 1840's, all provided recruits. They were the source of about 15% of the total inflow, which can therefore be subdivided into three distinct groups: one from completely agrarian areas, which was presumably unskilled (30%), one from forested areas where ironworks, handicrafts, mills, sawmills and charcoal burning were important subsidiary means of support (45%), and a third, skilled, industrial labour group from other factories (15%). The remaining 10% of the workers came from miscellaneous towns, from inside Motala Works or from abroad.

Inevitably, the factory functioned as a training centre for the completely unskilled and the proto-industrial workers,



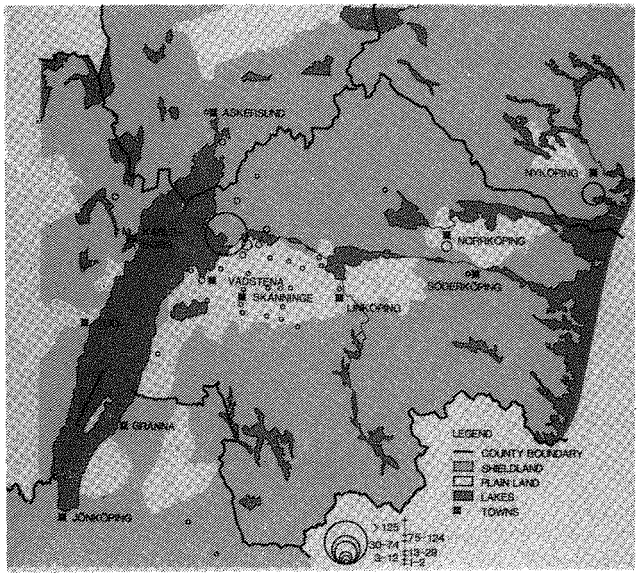

**21. a.** Parishes of birth of workers at Motala Works 1850-60.




**b.** Parishes of last residence of workers at Motala Works 1850-60.

in which the latter quite naturally had an advantage. As with the apprentices and journeymen in Vadstena, we would expect most of the workers (at least those who did not quickly leave) to continue working within the industrial sphere, and particularly in large-scale iron-processing and mechanical engineering. The final dimension of the abbreviated paths of the Motala workers verifies this surmise, even if most of the places of next residence were actually in Motala Works itself (see Figure 22). One reason for this is that the Works were known as a good employer, providing reasonably good housing, medical, social security and pensions schemes, and in consequence had a stable labour force which stayed on for decades [60]. Of the 25% of the labourers who moved out, more than half went to other mechanical industries while a slightly smaller group moved to areas similar to their places of last residence. Considering that around 90% of the labourers remained within the industrial sphere, it is quite obvious that Motala functioned as a major industrial school for the previously mentioned groups, provided that our assumptions about the influences upon them of the social and economic character of the areas in which they originated are correct. The only way of testing this assumption is, of course, through longitudinal cohort analysis.

The foremen and administrators of Motala Works, the other major subgroup of immigrants, comprised in total only 50 peo-




**22.** Parishes of next residence of workers at Motala Works 1850-60. Migrants to large cities are shaded in the insert.

ple. As these had to have reached a certain level of qualification before arrival, one would expect them to come from other industries of a similar nature or to have been trained extensively at Motala. The places of birth pattern, however, does not fit such a picture. Almost 40% of the foremen and administrators were born in towns, but only a few in places with mechanical industry (of which very little existed when the foremen were born). At the same time, a certain degree of local recruitment is discernible, even if, at 20%, it was much smaller than for the labourers. Places of birth patterns also differed in that few of this higher status group came from what we have called proto-industrial areas, and many more (54%) from outside Östergötland. It is difficult to draw definite conclusions without knowing more about individual recruitment, but it seems as if the higher status employees were recruited about equally from a mainly urban bourgeois class and from the labourer group, though not to a great extent from the Motala labourers. The places of last residence reinforce this picture but also show that some of this group did, in fact, move in from traditional ironworks communities.

Apart from Motala Works, numerous other formal industries were established along the Motala river during the 1850's and 1860's. In the same way as for Motala Works, we constructed abbreviated life-paths for all the workers from a selection of these industries, comprising parishes of birth, last residence and next residence, together with information on year of birth and length of stay in Motala. Also in the same way as for Motala Works, Vadstena and the countryside, small groups of labourers from these smaller industries were sampled for longitudinal tracing. The other industries selected were Cathrinefors ironworks, opened in 1858, Motala and Strömsnäs breweries, both opened in the mid-1850's, and finally Duvedahl mechanical paper mill, built in the same period. These four industries give us quite a different picture in terms of recruitment from that of Motala Works, and there were also considerable differences between them. Cathrinefors produced iron goods (tools, nails and iron rods for further treatment) following the tradition of two smaller smithies in the vicinity. It was owned by a local estate-owner and to a large extent recruited labour from parishes containing ironworks communities, presumably from the ironworks themselves. The parishes of birth were not so close to Motala and in total only 46% of the labour was born in Östergötland county. 68% of all the labour was born in what can be thought of as secondary production areas even if we cannot at this stage prove any direct connection with "proto-industrial" families. This pattern is reinforced by a map of parishes of last residence (not presented here), which shows that no fewer than 85% of the workers came from ironworks communities, shieldland areas or the immediate vicinity of Motala, all classified as proto-industrial.

Compared with Cathrinefors, the breweries had a much stronger local connection. 78% of their labour was born in Östergötland and 88% had Östergötland parishes as places of last residence when they took up work at one of the two breweries, which implies a stepwise progression to Motala Town. At the same time, it is not possible to distinguish such a close connection with non-agrarian areas: more than half of the

brewery labour was born on the agrarian plainland, mainly in Östergötland, and 7% in towns. This, of course, emphasizes the tradition of non-industrial brewing, which was either closely connected with agrarian production or with urban consumption. It is not surprising that an old recruitment pattern should persist into industrial brewing. This, and the fact that most tasks did not call for advanced skills, lie behind the labour recruitment pattern of the breweries as it can be judged at this level of analysis: to a large extent, it involved unqualified people from arable agriculture, but also depended on some skilled labourers and foremen who had been engaged in similar activities in towns before.

The industrial paper mill, finally, had what seems to be the most complex recruitment pattern apart from Motala Works, which in some ways it resembled. A number of skilled workers came from abroad and from remote parts of the country (to some extent from the traditional paper making areas south of Östergötland), but also from local places on the agrarian plains of Östergötland. It is only possible to assess their previous skills through a longitudinal tracer study.

The difference between recruitment patterns and destinations of the labourers who move on to other activities provides a good indicator of the level of qualification and of the schooling process derived from employment in an industry. Traditionally, a limited group of skilled labourers moved between early industrial plants like ironworks, mines, papermills and textile manufactures, with a recruitment system similar to that which used to be thought of as typical for guilds in towns: sons of already skilled labourers were preferred and trained to become hammersmith masters, paper makers or the like. Proto-industrial activities of the kind Mendels and others have described, however, were connected with increasingly small scale agriculture on subdivided holdings and population growth, but had the effect of fixing people in their home areas by precluding the need for children to migrate in search of work. According to the proto-industrial model, factory industries developed within such areas; established by the merchant putters-out, they sucked labour from the household looms and forges as the process was completed [61].

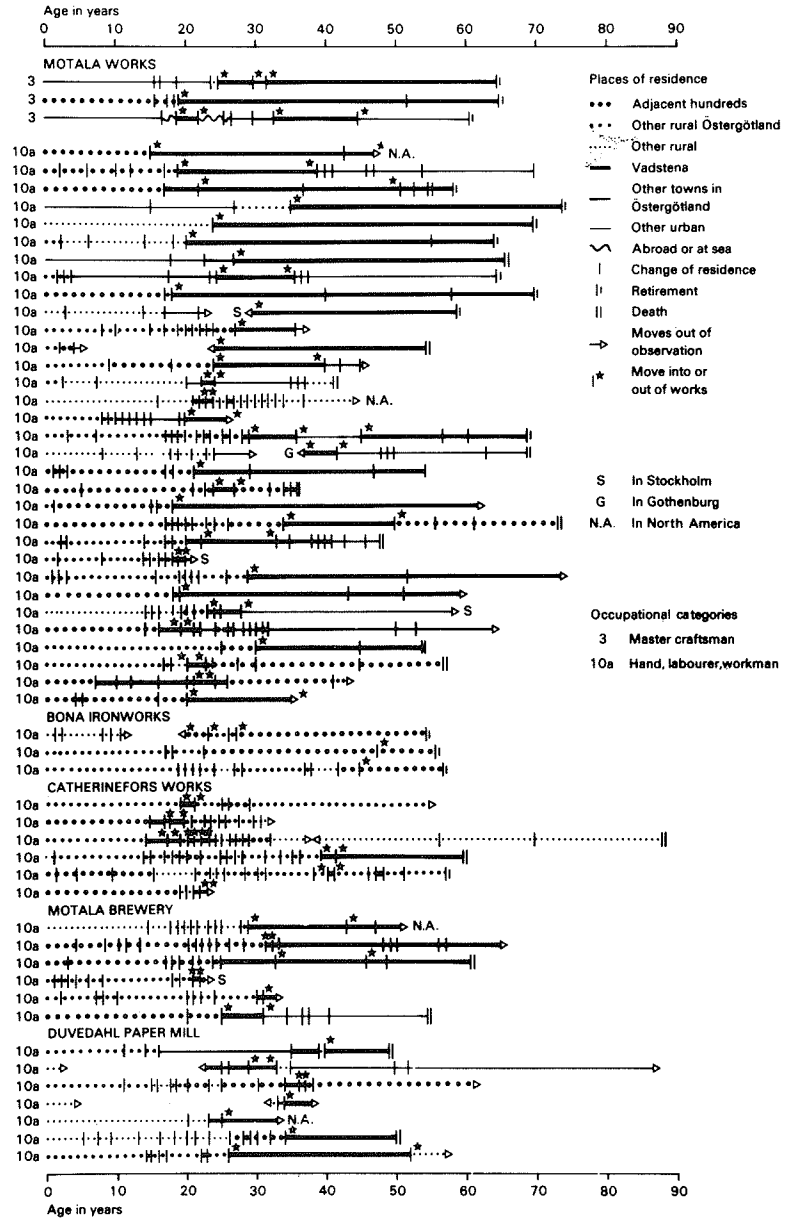
Thus, recruitment to factory industry from the labour-force of early plant-based industry would imply in-migration and birth-place patterns characterized by nodes at different distances where the plants were located. From rural proto-industry one would expect more of a <u>local</u> recruitment from a continuous area. Recruitment of totally unskilled labour, if it existed, would also be of the latter kind: hands and maids from the nearby countryside where demand for labour as well as wages were smaller than in the growing industry. Depending on the extent of skills already acquired in childhood, or the training received in a factory industry, the outmigrants could have quite different patterns of migration and job-search behaviour. An industry like Motala Works, which obviously employed all categories of labour, had very few employees who returned to a pattern of movement like that exhibited before their Works employment. This must mean that the schooling effects of this particular factory industry transformed the workers to become almost completely dependent on it.

Looking at the out-migration from other industry in Motala in the 1850's, it becomes obvious that not all industrial employment had such an effect. The employees at Cathrinefors already experienced in working at plants outside their homes had an almost identical pattern of movement before and after working there. The brewery labourers, however, became much more urbanized during their industrial employment. The Duvedahl mill employees, finally, stayed on to such an extent that it is impossible to say anything from the behaviour of the few who moved out. However, this can be seen as a result in itself: the labourers became much more stable in the same way as those of Motala Works, and unlike those of Cathrinefors and the breweries. The varying transformative capacity of these industrial livelihood positions depended on the differing nature of the work performed in them. Cathrinefors apparently relied on traditional techniques and seems in reality, from what can be seen here, to have been an old-style pre-industrial plant and recruited labour which afterwards continued to work in other similar establishments. The other Motala industries were real factories which trained most of their workforce into skilled industrial workers who required future industrial employment.

**Flows of people through the early industries of Motala Town: the evidence of the full lifelines**

Like the other cohorts, 53 employees of the different industries in Motala Town were traced over space and time, if possible from birth to retirement or death (see Figure 23). The majority, of course, were sampled among the employees of Motala Works, which was by far the dominant industrial employer of the Motala area. Apart from the 35 Works employees, six or seven workers from each of Cathrinefors, one of the breweries and the Duvedahl paper mill were selected for tracing. Aspects of the life-paths which are of particular interest in the present context are origins, in terms not only of spatial position but also what fathers and mothers did for a living, and professional careers: what had the future industrial workers experienced over the years previous to their industrial debut, and can this in any way explain why they did not stay in their respective countryside or town home environment?

The spatial origins of the Works labourers have been grouped into the five different categories used earlier for the total population of workers in Motala. Of the eight who came from the plains to the south, only one had a father who was engaged in anything but primary production (he was a miller at a substantial mill south of Vadstena). As proto-industrial production was to a large extent a part-time or seasonal activity, we cannot exclude the possibility that it existed on the plains, unregistered in the official ledgers, especially as we know that this kind of production was not entirely confined to the less productive agricultural areas [62]. Thus, we cannot say definitely that seven out of eight future labourers had had no contact whatsoever with secondary production as children, merely that one certainly did have and that it is most unlikely that the experience of the others was of any relevance, in terms of both aptitudes and attitudes, to their future Works employment. During their pre-Motala careers,




**23.** Life-lines of the cohort of employees at various works in Motala. A key to the numerical occupational codes to the left of lifelines is given on figure 10.

however, four of them were exposed to some kind of secondary production, three as mill hands immediately before their Works employment and another as a hand at an estate with an ironworks. Thus, at least half of the labourers who came from the agrarian plains had had some kind of work experience in secondary production while the others, as far as we can see, were employed in agriculture up to their entry into factory industry.

Circumstances were quite similar for the six cohort members born in the parishes surrounding Motala. All of them came from the non-propertied agrarian stratum and two were employed as mill hands in Motala before entering the Works. Like the men from the plains, these from the immediately surrounding parishes remained for quite a long time in the mechanical industry, most frequently in Motala. Three out of 14 cohort members returned to agrarian society after two or three years (contracts at the Works ran for three years generally) and stayed there as married hands or as crofters. These "aborted" industrial careers did not, however, reflect a lack of experience of secondary production before moving to Motala.

The shieldland beyond the parishes surrounding Motala supported different kinds of craft production. We have referred above to ironworks communities, and there were others more directed towards small-scale domestic craft or processing forest products. In the cohort sample, about as many (13) came from these parts as from the plains and the vicinity of Motala. According both to our previous discussions and received wisdom about proto-industrial production, we would expect the strongest connection between pre-industrial mass production and Works employment here. Concerning the home environment, this proves to be correct for the group coming from ironworks communities: five out of seven fathers had other occupations than agriculture (shoemaker, master hammersmith, joiner etc), but this was not true of workers born in forested parishes without ironworks. In that group, only one of six workers had a father employed completely outside agriculture, and hence registered as such in our sources. In the other cases, as well as in the remaining ones from the ironworks communities and the plain, possible part-time proto-industrial activities in the homes are hidden from us. But, whether or not experience of craft production in the home environment predisposed people to move into factory work is questionable: indeed, many domestic industrial communities showed complete revulsion from the regimented lifestyle of the factory [63]. As with the previously discussed groups, a number of labourers had gained experience of secondary production as they progressed through their life-paths, so that by the time they came to Motala half of the workers from the forest parishes and six of the seven from parishes with ironworks had worked outside agriculture - two of them in factory industry proper. Notwithstanding these credentials for industrial labourer, a couple moved back into agriculture.

In sum, then, it is apparent that slightly more than half of the labourers recruited from within the county had some experience of non-agrarian employment before moving to Motala, but that only 2 out of 27 had worked in factory industry and only one in the particular branch of industry he entered in Motala. However, even completely fresh recruits remained

within industry, and no differences of background can be distinguished between the five drop-outs and workmen who remained in Motala for 30 or 40 years.

A comparison of these local recruits with the little group that came from further away demonstrates significant differences. The latter had obviously to a large extent been trained elsewhere and were recruited to Motala because they were already skilled workers. In total, the group was not big, comprising about 15% of the labour force as it has been measured here. Five such people are represented in the sample cohort. Four of them had prior experience of craft or industry although their parental backgrounds were virtually identical to those of the locals, being almost totally agrarian. As the largest engineering and shipbuilding enterprise in Sweden, exceeding even those of Stockholm and Göteborg, Motala Works were an important school for the Swedish heavy mechanical industry, and this was obviously how it worked during the most expansive phase. Many of the locally recruited workmen who were trained as steam hammer- or puddle-smiths, as rolling mill operators or joiner-patternmakers ended up in similar positions all over the country and as far away as Finland and Russia. We have already seen that the main flow from Motala Works went to other places where big mechanical works were developing. In the sample cohort, most of those who left Motala went to Nyköping, Norrköping or Göteborg, all of which had engineering works that were owned by Motala, or had other strong entrepreneurial connections with it. Or they went to Stockholm, with its several heavy industries, as their final destination.

The comparison between the total labour recruitment of Motala Works and that of the other, smaller, industries along Motala river showed significant differences from a spatial point of view. These differences are even more marked in the life-paths. Four of the six Cathrinefors workmen in the sample came from areas with ironworks. All of them stayed only for one or two years, moving on to another ironworks in the neighbourhood, then another ... This behaviour is totally consistent with that of traditional ironworks labour: obviously, even if Cathrinefors may have been more like a modern factory than the little ironworks scattered through the forests, at least in scale, its workers did not adopt the spatial stability characteristic of those at Motala Works.

The previous analysis of abbreviated life-paths indicated that the breweries recruited their labour from a more agrarian background. The sampled group of six workers from Strömsnäs brewery were all recruited from the plains in the vicinity of Motala and all had agrarian origins. On recruitment to Strömsnäs, only one had experience of anything but agricultural work, as a mill hand. The expertise required in the brewery was obviously not very specialised and internal training was more important than previous experience. Most of the brewery labourers remained, if not in brewing, in another sphere of secondary production. In this respect, the workers at the brewery were more similar to those of Motala Works than to those of Cathrinefors. So, too, were the employees at Duvedahl paper mill. Even if recruitment was much less local, it was not of already skilled labour. Six out of seven cohort members had some earlier experience of secondary production: one was a

skilled paper maker's journeyman, two came from Motala Works, one was a mill hand and one a carpenter from Vadstena. The family backgrounds were agrarian in six cases out of seven. The careers after the paper mill were no less homogeneous than those we have already seen: four of seven remained in paper production and all continued in some kind of secondary production. The mean time of 10 years employment at the paper mill was long, as it was at Motala Works and the breweries. It seems as if the industries which recruited fairly inexperienced labour could keep it for longer than that recruiting already skilled workers, who were well aware of the possibilities open to men with their trade.

4

## CONCLUSION

In accordance with the stated general aim of time-geography (and modern social theory generally), we have tried to achieve a regional synthesis of aspects of the past which have commonly been treated separately in theoretical and empirical work. Not only have we dealt with both economic structures and the social relations dependent upon them, but also with the flows of labour (although not, of course, other numerous kinds of flows) that link them. In doing this, the development of agrarian capitalism, proto-industrialisation, urban bourgeois capitalism, and the early stage of large-scale factory production have all of necessity had to be included together. When we try to study the socio-economic structure of a region in total, immediately we must bring together what the analytical conceptualisations of the social sciences pull apart [64].

Having said this, it should also be clear from our presentation that the necessity to categorize in order to handle enormous masses of empirical data means that theoretical claims that agency and structure can be treated simultaneously are very ambitious: it is possible, as we hope we have shown, to demonstrate how economic structures and the agency of mobile human beings interact to change each other, but we have not been able to dispense with the separate categories themselves. Similarly, we have shown how urban and rural life were so massively interdependent that their separate treatment must exclude much of what was dynamic in both. However, again, it is necessary to use the conceptions urban and rural themselves in order to organize the empirical analysis.

At the most general level it is possible to conceive of the circumstances we have described as a pivotal part of a longer transition from pre-capitalist to capitalist economic production and social relations. Indeed, if we were to have presented cross-sectional pictures of the economy in the region in 1810 and 1860 sharp differences would have been apparent. In 1810, the economic system was dominated by subsistence peasant farming, with considerable self-provisioning of farm households with other goods than food and drink; urban craft workshops and merchant establishments organized into guilds, based in households, employing only trainees who would in time acquire the status of master themselves; small mills and forges scattered through the forest which were hardly separated in terms of labour and capital from the agricultural estates on which they were located. There was very little specialist full-time wage labour in this system. Nearly all the stations were based in family households which both possessed the means of production and supplied the labour required. In 1860, although many small farms survived, most of them provided only a partial livelihood which must be supplemented by wage-work elsewhere. Equally numerous large farms were clearly by now capitalist enterprises employing fully proletarianised labour geared towards pumping out processed crops and animal products to distant markets along the Göta Canal. The urban craft workshops had become larger, too, though by no means as large as the farm enterprises. They still maintained the

system of apprenticeship and journeying but this had become degraded and was well on its way to becoming a system of pure wage labour. The scattered mills and forges of the forest had spawned many larger and one massive factory unit between the canal and Motala Ström. Motala Works itself was part of an enormous capitalist enterprise which incorporated many other factory units only slightly smaller than itself from Göteborg in the southwest to Norrköping in the east.

Thus, a system of peasant farming and pre-industrial mass production was superseded by capitalist farms, workshops and factories, household labour by wage-workers. Although it is possible to make a comprehensive generalisation of this kind, it is also apparent that different sub-regions contained quite different versions of this process, and that the differences between the changes occurring in different physical environments (and therefore with different natural resources) were profound. The plains were the scene of agrarian capitalism, and though the large farms contained processing plants such as stills and dairies and some craft production, proto-industrialisation as it is normally construed was much more characteristic of less fertile areas of the shield. It was here that small farms remained numerous, and that part-time work was available off the farm in the forests and at mills and ironworks run by the estates. It was this resource base, too, where given access to wider markets, that spawned large scale factory production. Meanwhile, the medieval town was undergoing a quieter transformation as the port and central place of the plains.

The change from pre-capitalist to early capitalist production systems that would be revealed through comparisons of cross-sections for 1810 and 1860 would, in fact, represent a number of quite distinct processes of structural change. Just as these changes would not have been geographically uniform, neither would they had appeared to be revolutionary to those who lived through them. And it is in this aspect of the process that the study of flows of people yields its most significant findings. It is clear, though perhaps surprising, that the patterns of population flows which underpinned the pre-industrial and apparently much less dynamic economic system were, in fact, little less intense and complicated than those related to the capitalist system of production. Indeed, it is possible to recognize clear evolutionary steps in the progression from the earlier to the later pattern of flows, none of which would have seemed particularly steep for most of those passing through them during the course of their life-paths.

Most people moved numerous times during their lives and traced spatially complicated paths as they did so. It is possible to recognize a number of characteristic paths which in aggregate sustained regularly patterned flows through the stations of the traditional economy. First, those people who did not possess resources of their own coursed through the countryside from farm to farm, into town and out of it, and moved only less frequently after marriage and family formation. They normally remained within the subregion of their birth, although the aggregate distance they moved during the course of their life might be very considerable. Secondly, and in the short term indistinguishable from this seething substr-

atum, were the movements of sons and daughters of peasant farmers who usually left their family household to supplement the labour force of other family farms or of urban craftsmens' households before settling back into farming on inheritance and marriage. Of course, as farm population grew and as farms increased in size, an increasing proportion of this group would join with the first category and fail to complete the final settled step of the peasant sons' and daughters' life-paths. Thirdly, both these channels provided recruits to the urban economy where they acquired a skill which fitted them for craft positions. The subsequent life-paths of these recruits differed enormously from those of the previous two groups as they moved over great distances from town to town during the completion of their training and in search of a niche for a workshop of their own (which might well be back in the town where their training began). Although it is possible to generalise in this way, nonetheless these patterns coalesced into an astonishingly intricate patternless whirl of movements.

The major change in this system by 1860 was the increase of demand for proletarian labour in all subregions. There is, from what we have seen, reason to believe that parts of the demand for proletarian labour of all kinds was filled from areas where supply was richest, which was in the swiftly expanding wage labour-force of the increasingly capitalist farming system of the densely populated arable plains. This did not occur in the secondary sector only; recruitment was local in both town and countryside. It seems, too, as if most of the movement to areas of high demand, not surprisingly, occurred in a stepwise fashion, just like the flows of the earlier period. At the same time, a proportion of the largely unskilled hands were absorbed into the expanding economies of Vadstena and Motala Town from where some moved off into a national labour market for craftsmen and industrial labour. Again, this pattern merely represents a continuation of that which had been characteristic of apprentices and journeymen in the earlier period.

It is quite apparent that only the younger people were willing or able to take this step from the primary sector to the secondary; although the number taking it increased massively as the economy was transformed, only youngish agricultural hands were employed as "green" industrial labour or in the town. Freeholders who had to give up their farms and crofters who were evicted from their crofts found no alternative in the growth areas, either due to an inherent conservatism amongst the agriculturalists, or to the fact that it was difficult then (as it is today) for a mature person to acquire gainful employment outside the sector where his or her skills are appropriate. The consequence was that part of the rural proletariat rapidly built up over the period was recruited from previously landed agriculturalists, others of whom, in the mass-emigration from Sweden to North America, tried to recreate or improve their customary position abroad. In terms of position of origin, the base for all the flows of hands, labourers and apprentices, from the shieldland to the plains and to Motala, from the plains into Vadstena and Motala, and from more remote and less rapidly developing areas into the region studied here, was the freeholding and crofter groups and their already proletarianized offspring.

Finally, a new channel of movement had developed by 1860. We have shown that there was a connection between areas with early rural ironworks, forest and proto-industry and expanding factory industry. Many of the new industrial workers represented in the abbreviated life-path data came from the shieldland area and particularly from parishes with ironworks, and more than half of the labourers' life-paths either began in or passed through plant or domestic manufacturing positions prior to their entry into factory industry. Even so, we must not forget that numerous workers were also recruited directly from purely agricultural tasks, in the same way as the urban hands and labourers. The connection between proto-industrial and early factory development was not such an exclusive one as is sometimes supposed.

Thus, a cross-sectional consideration of both the economic structures and the patterns of population movement at the beginning and the end of the period presents stark contrasts. However, these contrasts would not be reflected in the movements of the people whose life-paths spanned the transition. As we have shown, there was no sudden shift of migrational behaviour. This is because the positions which were available at the end of the period as permanent sources of livelihood had had close equivalents at stages in the life-cycle of the pre-industrial life-paths. Boys had always moved off the family farm in their youth; it was simply that by the end of the period many never returned. Moreover, their passage into a fully proletarian adulthood was considerably blurred by their occupation of married farmhand positions (which would normally involve them living with their families in farmhouses deserted as land was assembled into bigger holdings). The rural recruits into the urban proletariat still began their lives in the households of craftsmen with the title of apprentice. The migrant to full-time factory work from the small farms of the shieldland often began this apparently momentous transition by working full or part time at mills or in forest industries. In any event, almost everyone, whether from the plains or the shieldland, who made this change in lifestyle had experience from earliest childhood of domestic craft production in their own homes, whether for sale or for household self-provisioning.

In conclusion, while fully supporting time-geography's plea for the integrated study of different aspects of people's lives within a regional setting, we hope we have shown that it is necessary to progress further than schematised hypothetical descriptions of all aspects of people's webs of daily movements before and after some supposedly significant change in economic structure to address the ways in which individual people actually moved through that structure as it was being transformed. Only in this way is it possible to engage directly with the study of actual historical processes and to discover both how those processes affected people's lives and how it was actually their changing lives that transformed the structure itself.

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19. Carlstein, T. (1982): Time Resources, Society and Ecology, Vol. 1, London, Allen and Unwin, Chap.2.

20. Gregory, D. (1985): Suspended animation: the stasis of diffusion theory, in Gregory D. and Urry, J. (eds): Social relations and spatial structures, London, Hutchinson, pp.296-336; Gregory, D. (1989): Presences and absences: time-space relations and structuration theory, in Held, D. and Thompson, J. B. (eds), Social theory of modern societies: Anthony Giddens and his critics, Cambridge, Cambridge University Press, pp.185-214; Gregson, N. (1989): On the (ir)relevance of structuration theory to empirical research, in ibid., pp.235-48, and Hauer, J. (1990): What about regional geography after structuration theory? in Johnston, R. J., Hauer, J. and Hoekveld, G. A. (eds), Regional geography: current developments and future prospects, London, Routledge, pp.85-102.

21. Pred, A. (1986): Place, Practice and Structure, Oxford, Polity Press.

22. Hoppe and Langton (1986): op. cit.

23. Hoppe and Langton (1979): op. cit.

24. ibid., p.17.

25. This shift of emphasis in human geography towards the study of individuals over their whole lifetimes was advocated by Hägerstrand as long ago as 1970. Hägerstrand, T. (1970): What have we done with people in regional science?, Papers of the Regional Science Association, 24, pp.7-21.

26. Carlstein, T. (1982): op. cit. and Pred, A. (1981): Production, family and free-time projects: a time-geographic perspective on the individual and societal change in nineteenth century U.S. cities, Journal of Historical Geography, 7, pp.3-36.

27. Gustafsson, B. (1983): Från udd och stad till glädjens blomster, Svenska Turistföreningens Årsbok, Östergötland, pp.299-305.

28. Fridlizius, G. (1957): Swedish corn export in the free trade era, Lund, Gleerup.

29. In Sweden it is possible to discover the nature and value of the productive resources or income belonging to each individual in every year of the nineteenth century from the taxation ledgers known as mantalslängder and taxeringslängder. Complete records of changes of place of residence between birth and death or emigration are contained in the church registers known as husförhörslängder and flyttningslängder. For details of these sources, see:- Lext, G. (1967): Mantalsskrivningen i Sverige före 1860, Meddelanden från ekonomiskhistoriska intitutionen vid Göteborgs universitet, 13, Göteborg; Lext, G. (1984): Studier i svensk kyrkobokföring 1600-1946, ibid., 54, Göteborg, and Kälvemark, A-S. (1979): The country that kept track of its population, in Sundin, J. and Söderlund, E. (eds), Time, space and man, Almqvist & Wiksell International, Stockholm, pp.221-238.

30. See Hoppe and Langton (1986): op. cit.

31. Each of these individuals was traced from their entry in the husförhörslängder of 1855-60 backwards to their place of birth and forwards to their place of death. Events such as marriage, the birth of children and changes of occupation were noted as well as changes of residence. The sampling was not random. We tried to ensure that only people who were economically active during our period were selected, and the more economically significant occupations are disproportionately over-represented, although within each occupational group selection was random. The results of these reconstitutions are depicted on Figures 6, 20 and 23.

32. All the detailed illustrative material used in this paper is from our forthcoming book, Regional dynamics in a peasant society? Western Östergötland in the early nineteenth century, Cambridge, Cambridge University Press.

33. Hoppe and Langton (1986): op. cit.

34. The categorisation of farms on table 1 is based on their taxation values. Large farms had more than 3,500 Riksdaler worth of land in 1810 and Rdr 5,250 in 1860, the changed value reflecting the currency devaluation of 1855. Small farms had Rdr 1,500 worth of land or less in 1810, Rdr 2,250 in 1860. The methods used to reconstitute the holdings belonging to individual farmsteads are discussed in Hoppe and Langton (1986), op. cit. where a much fuller discussion of the changing structure of farms in Dahl may be found.

35. Crofters were smallholders-cum-hands who were allowed by farmers to occupy a small area of land for a stipulated number of years in return for a certain number of day's work a year.

36. The large farms of Dahl worked about 50% of the subregion's farmland in 1810 and about 70% in 1860.

37. Eriksson, I. and Rogers, J.(1978): Rural labor and population change, Studia Historica Upsaliensia, 100, Acta Universitatis Upsaliensis, Uppsala; Jonsson, U. (1980); Jor-

dmagnater, landbönder och torpare i sydöstra Södermanland, 1800-1880, Stockholm Studies in Economic history, 5, Acta Universitatis Stockholmiensis, Stockholm.

38. Utterström, G. (1957), Jordbrukets arbetare, Vol. 1, Stockholm, Tiden.

39. The number of large farms in Allhelgona parish fell from 8 to 6 over the period, but they expanded the area they farmed, so that the number of middle sized farms decreased from 14 to 11 and the number of small farms from 13 to 3. In Orlunda, in contrast, the number of large farms fell from 9 to 5, the number of middle sized farms remained constant at 10, and the number of small farms increased from 13 to 47.

40. There were more than 400 stills on the farms of the region in 1850, and in all but 6 of its 27 parishes the value of liquor tax paid by farmers exceeded the tax they paid on land.

41. Boqvist, A. (1978): Den dolda ekonomin, Lund, Lund University Press.

42. According to inventories, in the 1850's 64% of households in Orlunda parish had equipment and/or materials for the production of textiles. Mrs Ölander of Piltorp farm possessed 120 metres of linen and cotton cloth; it seems as if some of the household domestic production of the parish ended up in her hands.

43. De Vries, J. (1984): European urbanization 1500-1800, London, Methuen.

44. Berg, M., Hudson, P. and Sonenscher, M. (eds) (1983): Manufacture in town and country before the factory, Cambridge, Cambridge University Press. Clarkson, L.A. (1985): Proto-industrialization: the first phase of industrialization? London, Macmillan.

45. Stadin, K. (1979): Småstäder, småborgare och stora samhällsförändringars, Studia Historica Upsaliensia, 105, Acta Universitatis Upsaliensis, Uppsala.

46. Utterström, op.cit., Vol. 2; Söderlund, E. (1949): Hantverkarna, del II. Den svenska arbetarklassens historia, Stockholm, Tiden.

47. The flow of Motala Ström, the only outlet of Lake Vättern to the sea, is 43 cubic metres per second. The fall between lakes Vättern and Boren is 15 m. In the early twentieth century, immediately before the opening of a modern hydro-electric power plant, various industries between Vättern and Boren harnessed 1,156 horse power from the river, while the power plant could utilize not less than 20,000 h.p. Wallén, A. (1914): Hydrology, pp.20-31 of Guinchard, J.(ed): Sweden: Historical and Statistical Handbook, Stockholm, P.A. Norstedt & Söner.

48. That is, six times as many maids were recorded in the region over the six years between 1855 and 1860 as there were livelihood positions for maids in 1860.

49. Hoppe, G (1982): "At the ventilation of the suggested redistribution, much controversy was disclosed...", University of Stockholm, Kulturgeografiskt Seminarium, 5/82. This seems to have been a general feature of enclosure: see Turner, M.E. (1975): Parliamentary enclosure and landownership change in Buckinghamshire, Economic History Review, 2nd series, 28, pp.565-76.

50. Population flows through Vadstena are dealt with in more detail in Langton, J. and Hoppe, G. (1990): Urbanization, social structure and population circulation in pre-industrial times: flows of people through Vadstena (Sweden) in the mid-nineteenth century, in Corfield, P. and Keene, D. (eds), Work in Towns, 850-1850, Leicester, Leicester University Press, pp.138-63.

51. We have not included those people described as "formerly" involved in an occupation in the unproductive category, but in the appropriate productive occupational category. This is for two reasons. First, it is clear that at a time when there was little support for the aged except in the poor house or from their own savings or exertions, many people must continue to practice their craft or trade to some extent even after they had ceased to be engaged in it full-time. Secondly, many people who had ceased to practice their craft full-time by 1860 would have been fully active in it at some time between 1855 and 1860, so that it is necessary to count them as active for the purpose of comparing the throughflow of migrants with the number of occupational positions that were available.

52. Our forthcoming book op. cit. contains full analyses of samples of inventories for rural and urban residents occupying a wide range of livelihood positions.

53. The terms handlande and handelsman are almost invariably used to designate both wholesale and retail traders, who cannot, therefore, be distinguished in the registers, and neither can the goods in which they traded.

54. Due, at least in part, to legal regulations consigning crafts and trade to chartered towns, there were few full-time craftsmen and traders in the Swedish countryside until after our period ends, except for carpenters, shoemakers, and so on who were supposed only to supply the market of their own parish. In our region, their number was particularly small on the plains, as the very small aggregate of "others" (which also contains such people as sextons) for Herrestad on Table VI shows. Their numbers were larger in the more remote but rapidly growing shieldland, as the total of "others" in Nykyrke suggests.

55. See Hoppe, G., (1977): Skolutbildning och individbanans utvecking, University of Stockholm, Kulturgeografiskt Seminarium, 5/1977.

56. As we pointed out earler, the analysis of inventories shows that rural textile production was common on both the plains and shield. There is no evidence that this work was put-out from Vadstena, although lace work was put-out in the town, and a number of crofters and cottagers in the plainland parish of Örberga who were involved in leather production and processing owed debts to Vadstena tanners.

57. 54% of the Vadstena inventories from the 1850's that we examined, the vast majority being those of single women, contained evidence of textile production, 20% of the production of lace. The widow of a tanner, whose urban and rural property amounted to as much as all but the largest rural estates, possessed 109 metres of linen and cotton cloth at her death, and seems obviously to have been dealing in it. A number of widows owed debts for put-out lace (spetsförlag).

58. The influence of British practices was extremely strong in Sweden at that time. Many other then-modern Swedish engineering works were set up by Scots and English people brought in for the purpose, including the important Bergsund Works in Stockholm, which was established by Thomas Lewis from the Carron Works and developed by Samuel Owen, who had been employed at the Boulton and Watt Soho Works in Birmingham. Owen also helped to set up the Nyby Works at Eskilstuna. In addition, many Swedes visited British works to learn best-practice techniques, and others were taught them by those who had. One such person was Count Adolf Eugène von Rosen, who managed Motala Works from 1828 to 1830 and set up a similar factory and shipyard at Nyköping a few years later. Another was Edvard Ollman, who was second in command to his brother-in-law Otto Carlsund at Motala Works for a number of years, after extensive training in Sweden and England, and went on in 1854 to manage Bergsund Works in Stockholm for two decades. See Gustavsson, C. G. (1986): The small giant: Sweden enters the industrial era, Athens, Ohio, Ohio University Press, esp. pp.8-9, 77 and 154-5.

59. The importance of pre-existing labour skills developed in domestic and early workshop production for the successful development of large-scale industry in Sweden is heavily stressed in Isacson, M. and Magnusson, L., op. cit.

60. The living and housing conditions for workers at Motala Works were probably better than at many similar industries around Sweden at the time. Hence, Motala Works was known for its stable and skilled labourer population. Oral communication, the late Dean Carl Hoppe, Motala, 1960's.

61. Mendels, F. F. (1976): Social mobility and phases of industrialization, Journal of Interdisciplinary History, 7 pp. 193-216 and Levine D., op.cit.

62. Gullickson has shown that domestic industrial production occurred in a fertile corn-growing region of northern France and, of course, Mendels' type case was on the Plain of Flanders. Inventories show that craft production was also common

in the farmhouses of the arable plain in our region. In fact, some of the bigger arable farms had stills as costly and productive as many industrial plant, and the homes of crofters and cottagers as well as farmers contained equipment for craft production. Even hands and maids, who lived-in with farm households, as often as not had their own looms, spinning wheels and so on. Gullickson, G.L. (1983): Agriculture and Cottage Industry: Redefining the Causes of Proto-Industrialisation, Journal of Economic History, 43, pp.831-850.

63. Bythell, D. (1969): The handloom weavers, Cambridge, Cambridge University Press) and Thompson, E. P. (1967): The making of the English working class, Harmondsworth, Pelican Books.

64. Hägerstrand, T. (1982) op. cit.; Hägerstrand, T. (1976): Geography and the study of interaction between nature and society, Geoforum, 7 pp. 329-34.

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