

BEFORE THEIR TIME
EMPLOYMENT AND FAMILY FORMATION IN A
NORTHERN TEXTILE TOWN, KEIGHLEY, 1851-81

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Abstract

This thesis studies the phenomenon of low fertility amongst mid- to late- nineteenth century textile workers by examining fertility behaviour in the context of one contemporary textile town; the worsted centre of Keighley, in Yorkshire's West Riding.

The high level of women's work, both before and after marriage, to be found in the textile districts has long been said to lie behind the low levels of fertility there. Using the census enumerators' books returned for Keighley in 1851, 1861, 1871 and 1881 the fertility levels and patterns of various occupational and class groups were calculated in order to assess the effects of the town's high level of female employment on its inhabitants' marital fertility. The measures used, however, are shown to give a distorted impression of fertility behaviour due to the point-in-time nature of the census data.

With the aid of a computer Nominal Record Linkage was undertaken to gain a clearer picture of the family building strategies of different individuals, and various groups, over time.

The patterns which emerge from the two types of analysis suggest that women in Keighley could, or would, not work when they had several children. They further suggest that the low fertility levels in the town during the early years of the study period were the result of younger married women not achieving a normal fertility potential, rather than older women limiting the number of their children in a parity specific way, which became an increasingly common practice by the 1880s. A debate is conducted as to whether the lack of fertility amongst young married women was deliberate in order that they might elongate their work-span, or whether it was the result of long years of work having adverse consequences for the female textile workers' reproductive systems.

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It was once remarked that when this thesis eventually arrived in a library it would be catalogued under "GARRETT, E.M. (ed.)". I hope the finished product disproves this forecast but nevertheless many people have contributed to the finished product in their own special ways and I would like to take this opportunity to thank them all.

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CHAPTER 1.

Introduction

Section 1:1 Why Study Nineteenth Century Fertility?

In 1964 G.J. Stolnitz observed:

"Demographic transitions rank among the most sweeping and best documented historical trends of modern times." (Stolnitz, 1964)

Over two decades later researchers are still debating the mechanisms underlying the switch from the high birth and death rates of the early nineteenth century to the low rates found today in most of the "Western" world. In this thesis the focus of attention will be the decline in fertility rates. Although, through the efforts of the Princeton European Fertility Project,¹ amongst others, the timing, rates and extent of the fertility declines in North-Western Europe have been extensively measured and analysed few conclusive explanations have been put forward as to the mechanisms which precipitated whole populations into a new era of small families, with all the attendant sociological and psychological changes which that entailed. The studies could not be conclusive in their judgement of what the causal influences might have been because there were just

"...too many explanations which contradict each other to some degree and which fail to fit some significant part of the facts."

(Tilly, 1978)

In England and Wales the decline in overall fertility rates had begun as early as the last decade of the eighteenth century. (Wrigley & Schofield, 1981). However, for at least the first half of the nineteenth century this can be ascribed mainly to changing patterns of

nuptiality; marital fertility remained high. In 1876-77, however, the overall marital fertility figures took the first downward turn towards the new low levels. Obviously some sectors of the community must have been experiencing low numbers of births for some time before this. It is difficult to compare the progress of the fertility declines in various countries as the original fertility levels from which the declines started differed as did the date of their first downward movement and the rate at which they proceeded. Andorka (1978) attempted to standardise the figures by taking the beginning of the fertility decline as the date at which a drop of 10 per cent from the level of the last upward point on the fertility trend occurred. For France this date was very early; 1830², for Germany 1890, for England and Wales 1892 and for Ireland it was comparatively late; 1929. There was no doubt that these fertility declines were due to the widespread uptake of family limitation amongst the populations in question. The explanations sought were as to what had caused this new pattern of behaviour. Was it a new invention or inventions in birth control technology, greater dissemination of knowledge about birth control methods, greater acceptance, both personal and societal, of such practices or a combination of one or more of these factors which encouraged people to defy the conduct of generations? Certainly in England and Wales 1876-77, the year which heralded the downturn in fertility rates, also saw Anne Besant and Charles Bradlaugh brought to trial for re-publishing Knowlton's Fruits of Philosophy. The press reports of the proceedings brought the issues of birth control and family limitation out of the closet of secrecy and into wider public ken. Or was it perhaps that the tide of public opinion had already changed which allowed the trial's

subject, previously "taboo", to be more openly discussed than might have been the case had it taken place a few years earlier?

Changes consequent to the "modernisation" processes accompanying the Industrial Revolution are usually charged with bringing about the new attitudes which would be required for the successful and widespread uptake of marital fertility control. Exactly which aspect, or aspects, of modernisation was chiefly responsible is still, however, under debate. Levels of mortality, urbanisation, industrialisation, education and per capita income; all varied as each European country embarked on its period of decreasing fertility rates. (van de Walle & Knodel, 1980; Teitelbaum, 1984; Coale and Watkins, 1986). Within countries too similar discrepancies existed in the timing and rate of the decline and the circumstances prevailing.

The purpose of this study, therefore, was to aid in the unravelling of the conundrum of the origins of the decline in marital fertility observed in England and Wales in the late nineteenth century.

Section 1:2 Why Study Textile Workers' Fertility in the Nineteenth Century?

The spatial variations in the date of the initial downward turn and subsequent rate of decline of fertility suggested that the populations, or groups within the populations, of certain areas were acting as "innovators", either through choice or out of necessity and that other groups were following their lead as they saw advantages for themselves in the new practices (Carlsson, 1966). However, it was not certain whether these "innovators" were a similar group of people in each case, nor were the circumstances under which they had begun to limit their fertility at all obvious.

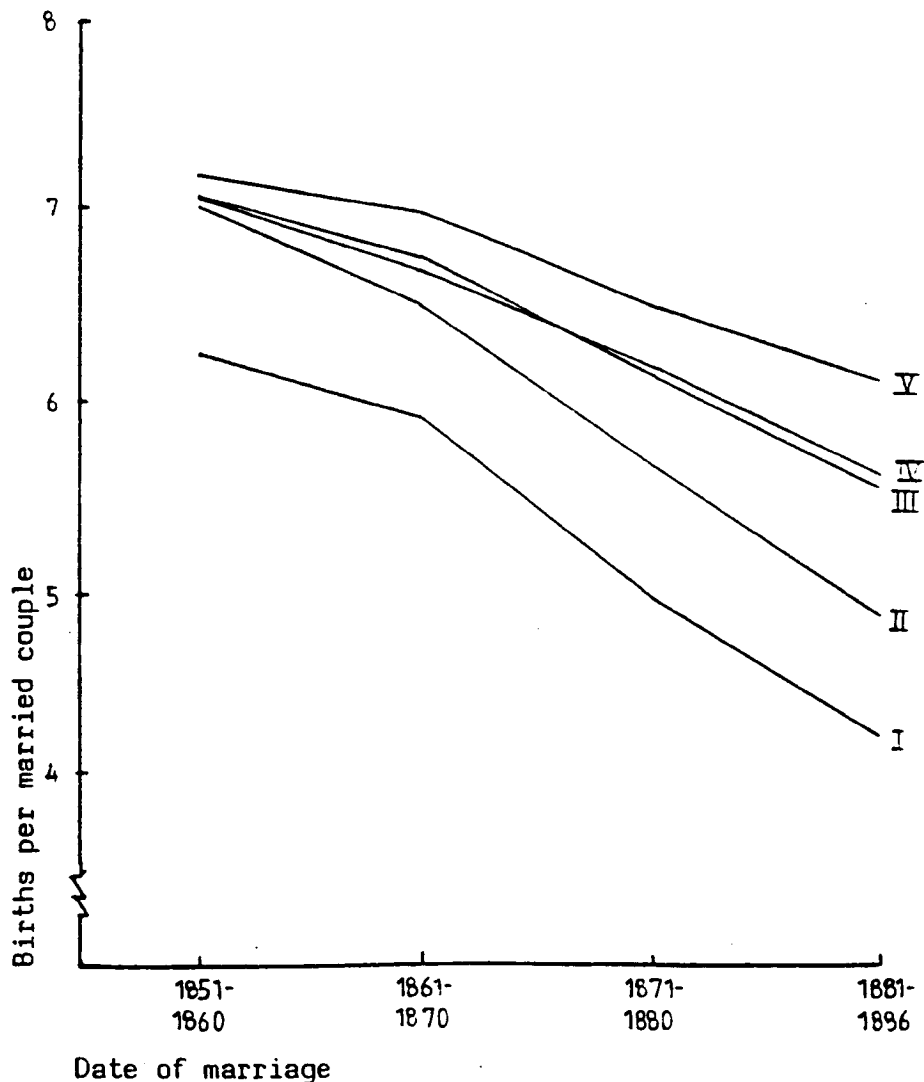
The original theory of Demographic Transition put forward by

Notestein in 1945 (Woods, 1986) had stressed the changing value of children which would have accompanied decreasing infant and child mortality rates as the major reason behind the altered fertility behaviour. van de Walle and Knodel (1986) were able to show, however, that the downward trend in mortality did not always precede that of fertility as Notestein's theory required. The theories which followed also stressed the changing value of children but placed these changes in the altering economic and social milieux of the Industrial Revolution, allowing the changes to take place at different times and rates amongst the various sectors of the population. These theories suggested that with the onset of the Industrial Revolution the upper and middle classes became more status oriented. Consumerism rose as, or because, everyone attempted to outdo or keep up with "the Joneses" (Banks, 1954). One aspect of this was that it became more important that children should succeed in life. To ensure this a "good", and therefore expensive, education was required. Their accomplishments, social graces and accoutrements also had to meet a socially specified standard leading to more expense. As money was not without limit, and only a certain amount of sacrifice was permissible, parents began to limit the number of their offspring in order to achieve the desired "quality" of children. For the working class, too, children became more expensive as the Industrial Revolution progressed. Compulsory schooling increased and child labour came under stricter control; a child's wage earning capacity therefore decreased. Through economic necessity rather than social choice the working class began to adopt fertility control; knowledge of the methods to use being gleaned, or filtering down, from the middle classes whose fertility decline had preceded their own

(Coale, in Woods, 1982a; Carlsson, 1966). A logical consequence of such lines of thought was the belief that certain groups within the working class should act as innovators, adopting fertility control more rapidly because they were affected to a greater degree by the changes being wrought in their milieu. Others, little affected by the changes, would retain their high fertility levels much longer.

When the published results of the 1911 "Fertility" census (H.M.S.O., 1923) are first examined it would seem that they amply illustrated the veracity of these theories. When the births per married couple for four marriage cohorts and all ages of wife were considered by class (Figure 1.1) the low levels of fertility 1851-60 and steep rate of decline amongst the Professional-Managerial Social Class I were very marked. Social Class II, the Lower Middle Class, although having fertility levels similar to those of Classes III, IV and V (the skilled, semi-skilled and unskilled manual workers) in 1851-60, experienced a much more rapid decline in fertility than the latter 1861-1886. Factors encouraging fertility limitation and the knowledge required to practise it appeared to be filtering downward through the social hierarchy. However, when compiling the report the Fertility Commission also calculated figures for three "special industrial groups" (Hewitt, 1958): textile workers (Class VI), miners (Class VII) and agricultural labourers (Class VIII). When the figures for these groups are added to those in Figure 1.1 (Figure 1.2) we can see that the supposed orderly sequence of the diffusion process breaks down. Even when the figures were standardised to allow for variations in patterns of marriage amongst the classes (Hewitt, 1958) the same results emerged; not only were textile workers apparently leaders amongst the working classes in the use of birth control but their

Figure 1.1 Class Specific Fertility Rates: Social Classes I-V - for four marriage cohorts 1851-1886¹

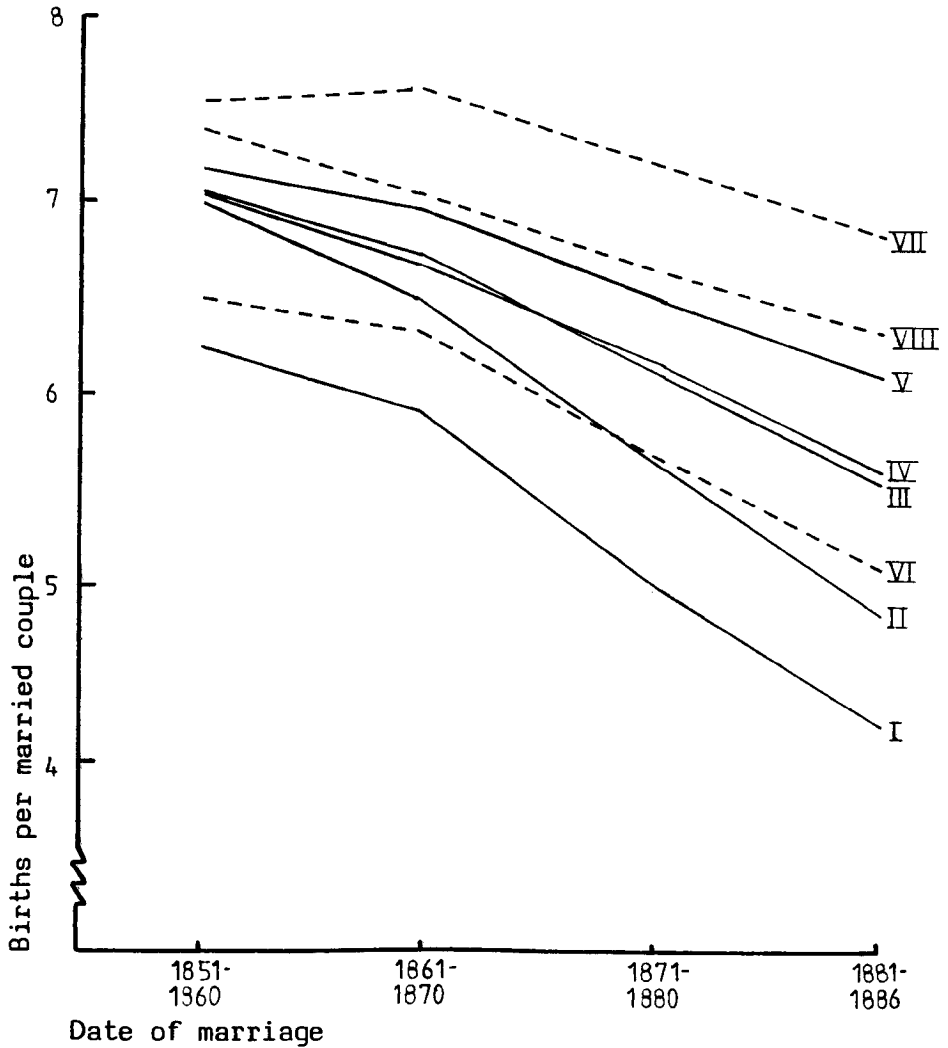


KEY. / Social Classes:
 I. Professional-managerial
 II. Lower Middle Class
 III. Skilled Working Class
 IV. Semi-skilled Working Class
 V. Unskilled Working Class

1. The figures have been standardised on all families in England and Wales with marriage durations of 30-40 years.

Source: Population Census of England and Wales, 1911, Vol. XIII, Fertility of Marriage, Part II, (p. xcvi Table XLIV) (HMSO, London, 1923)

Figure 1.2 Class Specific Fertility Rates: Social Classes I-V and Occupational Classes VI-VIII for four marriage cohorts 1851-1886.¹



KEY: \ Social Classes - see Figure 1.1.
 - - - Occupational Classes:
 VI. Textile Workers
 VII. Miners
 VIII. Agricultural Workers

1. Standardised as in Figure 1.1

Source: see Figure 1.1

fertility levels lay well below those of Social Class II even before 1851. If the Industrial Revolution had brought changes to the lives of textile workers it had done so very early and if the textile workers' low levels of fertility were due to marital fertility control then it seemed that they must have had knowledge of the methods to use well before their lower middle class contemporaries. Either that or the knowledge was already widely disseminated and the textile workers were amongst the very first groups to have motivations strong enough to overcome their scruples against making use of it. The association of declining births with declining or low infant and child mortality was also confounded in the case of textile workers who were notorious for their high levels of infant mortality. (e.g. Cooke Taylor, 1873, 1874). If textile workers were amongst the first groups in England and Wales to adopt a family building strategy involving only a few children what factors lay behind their decision?

This question was addressed by Hewitt in her work on Wives and Mothers in Victorian Industry (Hewitt, 1958). Having highlighted the paucity of births amongst late nineteenth-century textile workers she proceeded to elaborate on the subject making full reference to the Registrar General's comments in the 19th Fertility Commission Report (H.M.S.O., 1923):

"Textile workers...furnish no instance among their subdivisions...of even average reproductiveness, the ratios of standardised continuing fertility (3) ranging from 93 per cent (4) for lace workers to 79 per cent for wool and worsted weavers. For completed fertility (5) their ratios though low, run a little higher, ranging from 83 per cent for wool spinners and weavers to 96 per cent for hosiery workers...One of the most interesting factors brought out...is the superiority of the spinners over the weavers

of cotton. Both branches of the industry are centred chiefly in the same county (Lancashire), though to a great extent in different localities, so at first a marked difference...seems surprising. There may, of course, be economic factors, but the explanation is probably to be found largely in the difference between the two occupations in regard to the occupation of wives. It may be fairly inferred...that a much larger proportion of the wives of cotton-weaving husbands than of cotton spinners work in the mills, which would account for their lower fertility. For, as will be seen, when the fertility of occupied married women is discussed, occupation of the wife entails, as might be expected, considerable reduction of fertility..."

(Hewitt, 1958 pp. 87-88)

Factors other than the proportion of married women out at work could be inferred to be at work, however, as the Registrar General went on to note:

"Wool and worsted are only slightly less fertile than cotton workers, the total standardised continuing fertility being 86 per cent for cotton and 84 per cent for wool, while, in consequence of the lower child mortality in the West Riding than in Lancashire, wool holds a slight advantage in regard to effective fertility. But for completed fertility the difference is greater - showing a ratio of 92 per cent for cotton and only 85 per cent for wool.

In this connexion, it is to be remembered that wool is very much less handicapped than cotton by the mill employment of wives, married women employed in the cotton industry amounting to 90 per cent of the married men, against only 50 per cent for wool..."

(ibid. p. 89)

Where cases were taken approximately representative of the incidences where the husband and wife both worked in the mill the woollen workers were "seen to be decidedly less fertile than the cotton, the total standardised fertility rates being 66 per cent for wool, against

74 per cent for cotton..." (ibid, p. 89). Furthermore in many of the other occupations where both men and women were employed in sufficient numbers to allow comparison between the fertility of married men and that of married women the latter fell well short of the former. Unfortunately the "opportunity of directly contrasting the fertility within occupational groups where the husband alone was employed with the fertility where both the husband and the wife were employed was lost when (the) Census material was being analysed". (ibid, p. 91).

Hewitt further refers to the findings of the report which show that while in areas where there were concentrations of agricultural labourers or miners the high fertility rates of these two groups were not reflected in the rates of the surrounding population, amongst the general population of the textile districts low fertility appears to have been the norm. This the Registrar General ascribed to the fact that:

"...factory work by married women...is open to the wives of men engaged in other occupations equally with those of male textile workers. Where the wife works little, as in agriculture, or not at all, as in mining, the husband's occupation alone can influence fertility; but where the wife works as much in textile production, it may be that her work largely, or even mainly, governs the situation."

(ibid, p. 92)

The above passages, while suggesting one reason for the unexpectedly low fertility levels amongst mid-nineteenth century textile workers (viz: the large scale employment of women and more especially married women in the industry) also raise several further questions which the present study will endeavour to answer.

First; all Hewitt's comments are based on

observations at a general scale. They refer to all textile workers (as defined by the 1911 Census) or to large groups within the industry defined by the type of fibre which they worked rather than by geographic location, economic status, stage in the work cycle or several other factors which might have an influence on fertility or fertility behaviour. Do observations at a more local level bear out the conclusions drawn from national figures?

Second; if married women's work is responsible for the low level of fertility amongst textile workers why is it that woollen and worsted workers display markedly lower fertility levels than cotton workers when the proportion of married women workers working with wool is considerably less than that working with cotton?

Third; what were the patterns of marriage in the textile areas? Did male textile workers marry their female workmates more often than men in other trades married female textile workers, and if not, did the different occupational groups have different propensities for the wife to remain out at work after marriage?

Fourth; Did women who were originally factory hands but gave up work on marriage have different fertility patterns from those who had never done any factory work? That is; was it married women's work or just women's work per se which affected fertility levels?

Finally; it would be interesting to fill the gaps left by the 1911 Census and to calculate the differences in fertility between those families where only the husband worked and those where both spouses were "gainfully employed".

Hewitt had hinted that the lower fertility of women occupied outside the home could be related to the circumstances under which they found themselves at the time their fertility was recorded:

"Some mothers gave up their outside employment "when their families grew so large as to demand their attention at home"; others were women deserted by their husbands; yet others may have worked in the mills previously because they were unable to have children for physiological reasons."

(ibid, p. 93)

As the Registrar based his comments on the occupations in 1911 of the couples rather than at the period for which their fertility was being measured many other intervening factors may have been affecting the fertility measures. It would be interesting, it was felt, to assess how work histories differed from group to group to see how these might have affected fertility behaviour.

Hewitt came to the conclusion that:

"the lower fertility of the mother employed away from home was, in part at least, the almost inevitable result of the conflict between motherhood and the claims of her job"

(ibid, p. 93)

and that "there can be little doubt that active measures on the part of the operatives to limit the size of their family increased over the period".

(ibid, pp. 97-98)

Branca however in her work on Women in Europe since 1750 had a different interpretation of the textile workers' low fertility rates:

"The impact of the factory extended well beyond its interior hell. Where work had to continue problems were passed from generation to generation. Children in textile centres suffered worse health compared to those in (other) working class communities. Mothers at the mills could not attend to their children's minimum needs. Poor health in childhood insured a disabled adulthood, the inability to do heavy work, which confined much of the next

generation to the low-paid textile centre where they had been raised. A vicious circle entrapped the most vulnerable - the women and the children."

(Branca, 1978, p. 42)

Did married female textile workers, therefore, have little choice in the level of their fertility as the industrial environment in which they existed was reducing their physiological ability to bear children? Perhaps the Registrar General found low fertility levels generally in the textile areas because the populations of Lancashire and Yorkshire were naturally less fertile than those in the rest of the country and therefore, because textile workers were congregated in these areas they, as an occupational group, displayed low fertility. The relationship between health and fertility appears to have undergone little direct scrutiny; and Woods (1982b) has demonstrated that life expectancy in the textile districts was amongst the lowest in the country. They were not healthy places to live, and child bearing ability would have been seriously affected without showing up in the female mortality statistics.

While the study is to be focussed on the differences between textile and non-textile workers' fertility behaviour and their relationship to the work of married women attention must also be brought to bear on factors which may affect fertility independently of whether or not women go out to work.

Social status, as was shown above, can affect decisions to have children. Comparative status, both amongst the textile workers and within the communities in which they live, needs to be considered. This, of course, leads to problems as, if economic status is being considered should this be judged on the income of the main breadwinner alone or on the combined wages of the family?

The stage in a couple's life cycle at which certain events occur may determine their future behaviour. Inter- and intra-occupational differences of the timing of marriage and children plus entering and leaving the labour market also need to be taken into consideration.

Some of the "non-textile" population at any one time must have previously worked in the mills. If health factors, or attitudes, spawned in the factories were at work do these show up in the fertility rates of women who have "ever worked" in the factories even if they were no longer doing so?

Religion, too, may have had an influence on nineteenth century fertility patterns. Non-conformism was very strong in the textile districts but influxes of Irish immigrants also meant that there were large "pockets" of Catholicism. Were religious influences reflected by the population or were other factors at work, overriding religious beliefs.

By studying the fertility levels of textile workers, therefore, several facets of the complex process which is the Demographic Transition can be investigated. The textile population had many unique features but it must also have had a plethora of things in common with the non-textile population. In order to try and separate out whether textile workers were indeed "before their time", and led the working classes in deliberately limiting their fertility or whether they had low fertility levels because women in the areas in which they were found were infertile or subfecund; having difficulty in conceiving, being prone to still births or miscarriages or going into labour before their time and producing weak and sickly infants, five central questions were to be asked in the course of this work:

1. WITHIN MID-TO-LATE NINETEENTH CENTURY TEXTILE TOWNS WAS IT ONLY

THE TEXTILE WORKERS WHO EXPERIENCED LOW FERTILITY OR WAS THIS A GENERAL PHENOMENON?

2. WAS THERE A DIFFERENCE BETWEEN MOTHERS WHO WORKED IN TEXTILES, MOTHERS WHO WORKED BUT NOT IN TEXTILES AND MOTHERS WHO DID NOT WORK?
3. DID A MOTHER'S OCCUPATIONAL HISTORY AFFECT HER FERTILITY?
4. IS THERE ANY EVIDENCE THAT THE HEALTH OF TEXTILE WORKERS WAS ADVERSELY AFFECTING THEIR REPRODUCTIVE CAPABILITIES?
5. WERE THERE DIFFERENCES IN FERTILITY BETWEEN DIFFERENT GROUPS OF TEXTILE WORKERS, AND IF SO WHAT FACTORS APPEAR TO BE INVOLVED? WERE THESE EVIDENT AMONGST THE REST OF THE TEXTILE TOWNS' POPULATIONS?

These questions were designed to help build up a mosaic of the different aspects of life which might have influenced the fertility of last century's textile workers. The final picture, that of a working class group with unexpectedly low levels of fertility mid-century, is known. A better understanding of the interlocking of the constituent pieces is what is sought in the course of this thesis.

Section 1:3 Why study textile workers' fertility in Nineteenth Century Keighley?

In order to study the phenomenon of low marital fertility levels amongst nineteenth century textile workers it was decided to follow the suggestion of J.T. Krause that:

"Only after detailed local studies have been concluded will a relatively exact explanation of English demographic growth during the Industrial Revolution become available."

(Krause, 1958-9)

and that of van de Walle who believed that:

"An explanation of the exact timing and determinants of the fertility decline should investigate individual couples, classified according to a series of cultural, social and economic characteristics. A series of cohorts should be followed throughout the historical sequence of fertility transition. Fertility behaviour of classes of people should be related to their background."

(C. Tilly, 1978)

This piece of research therefore was designed as a study of a community, of groups within that community and of individuals within the groups. Previous studies of the fertility transition carried out at Sheffield (C.W. Smith, 1982; Hinde, 1985) had used information contained in the census enumerators' books, compiled during the taking of the decennial censuses and now available under the 100 year confidentiality rule, to calculate measures of fertility behaviour designed to gauge the uptake of parity specific birth control and the underlying rates of "natural" fertility, by A.J. Coale and T.J. Trussell. At the time of this study 4 sets of enumerators' books suitable for the calculation of such measures were available; those from 1851, 1861, 1871 and 1881.

The thirty year period covered included the decade in which the overall marital fertility decline began in England and Wales but information from the 1891 census would have been welcome as by that date any move toward greater use of birth control would have been longer established and therefore more distinct. The low levels of textile workers' fertility had, however, been established, so Figure 1.2 indicated, before 1851 so it was hoped that the lack of data on the very late nineteenth century would not be a problem.

The first stage of this study was therefore to be the calculation of these fertility measures for the chosen study site or sites to allow inter- and intra-occupational comparisons of fertility behaviour across time, and to assess whether or not the textile community under observation conformed to the patterns monitored by the 1911 Fertility census. The second stage was envisaged as making use of record linkage techniques to balance the four static snapshots of fertility with a greater understanding of the dynamics of couples' family building strategies. It was originally intended that couples identified in one census would be linked to the following census and to the parish registers of vital events as well as to mill records listing employees and their wages. By this means it was hoped to examine the ties between marriage and fertility behaviour and the workers' financial situation and conditions of work. The full range of these aims was thwarted as it turned out but, nevertheless, the record linkage exercise carried out did provide a longitudinal dimension missing from previous studies of nineteenth century fertility.

The proposed record-linkage element of the study dictated that the study area would have to be of a size which allowed total coverage of the population as random sampling would reduce the likelihood of making "correct" links census to census. Any other type of sampling might produce biases large enough to mask or distort the causal relationships underlying the observed fertility behaviour. On the other hand any study area had to encompass a population large enough to produce subdivisions from which meaningful measures of fertility could be calculated. As it was proposed to divide the married population where the wife was in the fertile age group by the husband's or wife's occupation and then subdivide these groups by the other

spouse's occupation a relatively large population was required.

The community identified for study, therefore, had to have the following attributes:

- 1) It had to be a "fairly typical" textile town lying within the "textile districts".
- 2) It could not be so big as to make data handling prohibitively unwieldy nor so small as to prevent production of meaningful statistics.
- 3) Census material and vital registers would have to be easily available.
- 4) Mill records listing employees from within the community and their wages were desirable.

The "textile districts" were defined as those census registration districts of Lancashire, Yorkshire's West Riding and north Derbyshire where over 20 per cent of the population aged over 20 were employed in the textile industry. These are shown in Figure 1.3.

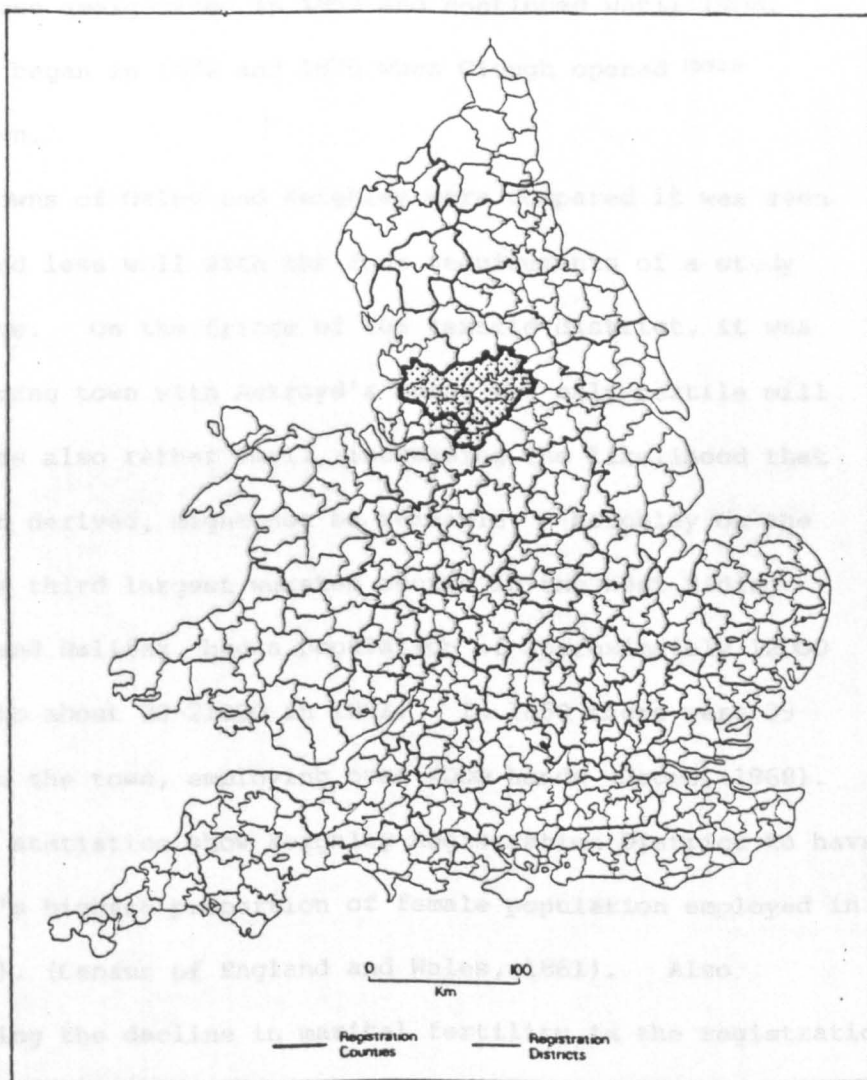
As the mill wages books were the rarest set of records required they were sought first. They had to fulfil further specifications in order to be of use:

- 1) they had to be legible.
 - 2) they had to make "true" identification of those named as positive as possible.
 - 3) they needed to cover a relatively long time span within the second half of the nineteenth century.
- and 4) for statistical purposes they had to list quite large numbers of employees.

The libraries and record repositories of Lancashire yielded no suitable wages books. The West Riding, however, yielded several sets, two of which were excellent. The first set for the firm of Joseph Ackroyd, worsted spinners, Otley included notes next to the wages on time "taken off" or worked "over" by each employee.

Unfortunately, there was a large gap in the records during the 1860s

Figure 1.3 "The Textile Districts."



Those Registration Districts which, in 1861, had at least 20 percent of either sex in the over 20 age group working in textiles.

Source: 1861 Census.

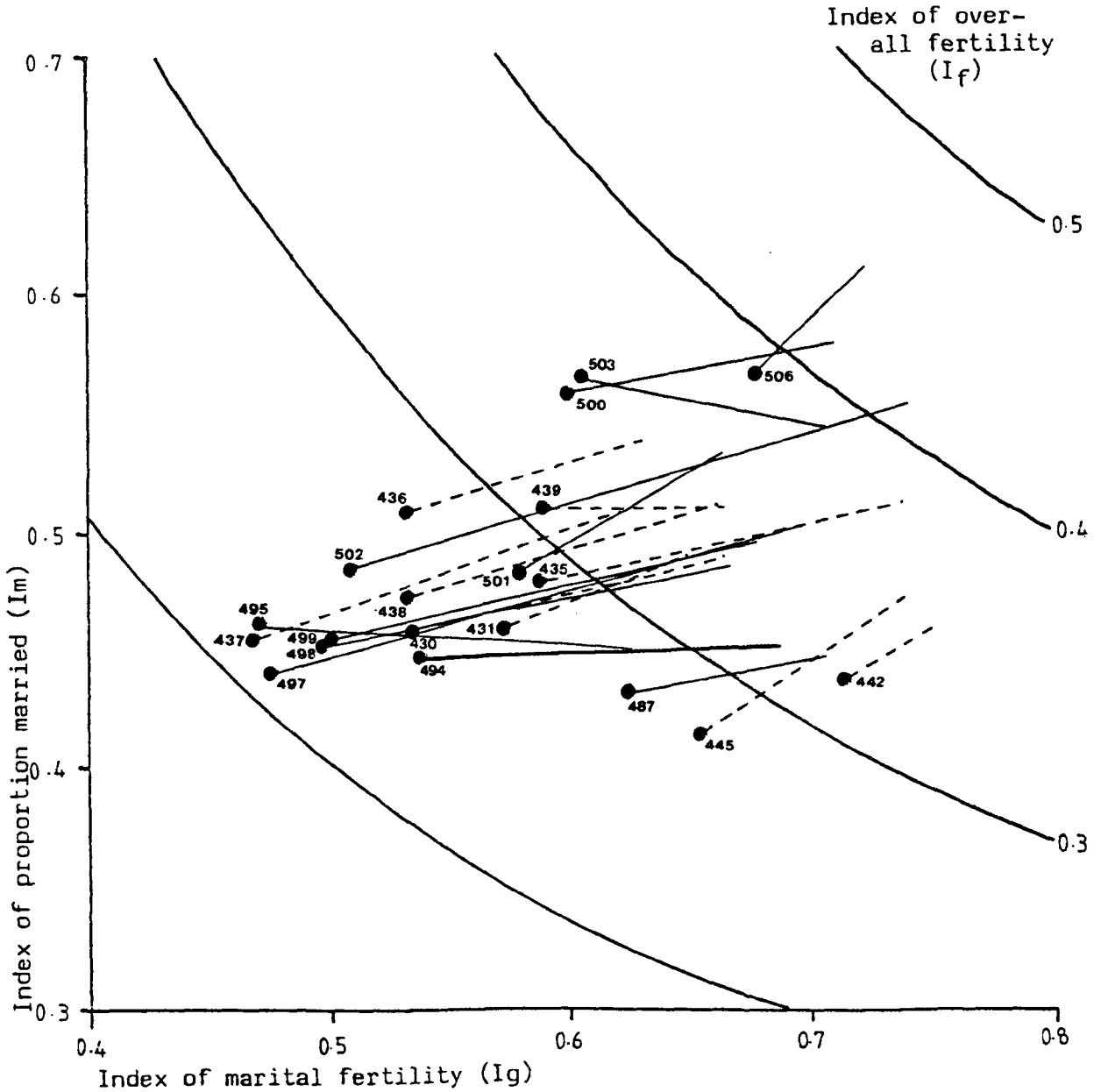
and a large reduction of employees thereafter. The second set were those of the firm of Robert Clough, worsted spinners and manufacturers in Ingrow, Keighley. These records enjoyed a long run and obviously concerned a large work force as three books ran concurrently: weavers (hand and power loom) 1842-70, mill hands (1842-62) and handcombers (1842-62). These amalgamated in 1857 and continued until 1908. Further records began in 1872 and 1876 when Clough opened more mills in the town.

When the towns of Otley and Keighley were compared it was seen that Otley fitted less well with the four requirements of a study area listed above. On the fringe of the textile district, it was more an engineering town with Ackroyd's being the only textile mill in town. It was also rather small, increasing the likelihood that statistics, when derived, might not be reliable. Keighley on the other hand, the third largest worsted centre in the West Riding after Bradford and Halifax, had a population of approximately 12000 in 1851 rising to about 20-21000 in 1881. In 1850 there were 39 worsted mills in the town, employing over 4000 hands (James, 1968). 1861 Occupation statistics show Keighley Registration District to have the West Riding's highest proportion of female population employed in textiles (43.7%). (Census of England and Wales, 1861). Also diagrams depicting the decline in marital fertility in the registration districts within the textile areas 1861-1891 indicated that Keighley R.D. was undergoing a decline fairly typical of its neighbouring textile centres (see Figure 1.4).

As Clough's Grove Mill was situated in the village of Ingrow to the south-south-west of Keighley it was thought advisable to extend the limits of the study area to include some of the town's environs.

Figure 1.4

The index of proportion married (I_m) against the index of marital fertility (I_g) for those Registration Districts in Lancashire and the West Riding of Yorkshire where 20 per cent or more of men aged 20 or over were working in the textile industry in 1861: 1861 compared with 1891



Source: R.I. Woods

KEY: 1861 1891

● - - -

Lancashire Registration Districts

● —

Yorkshire R.D.s

● —
494

Keighley R.D.

- | | |
|------------------------|-------------------------|
| 430. Bury | 431. Barton upon Irwell |
| 435. Ashton-under-Lyme | 436. Oldham |
| 437. Rochdale | 437. Rochdale |
| 438. Haslingden | 439. Burnley |
| 442. Chorley | 445. Garstang |
| 487. Sedbergh | 494. Keighley |
| 495. Todmorden | 497. Huddersfield |
| 496. Halifax | 499. Bradford |
| 500. Holbeck/Hunslet | 501. Leeds |
| 502. Dewsbury | 503. Wakefield |
| 506. Wortley | |

The proposed study area covered a population of some 14.5 thousand in 1851, a figure which had grown to over 27.5 thousand by 1881. Large as this seemed it was within the data-handling of the Sheffield University computers and so Keighley was chosen as the community for study over the period 1851-1881.

Section 1:4 Summary

The focus of this thesis is, therefore, the unexpectedly low levels of fertility to be found amongst textile workers in the mid-to-late nineteenth century. This phenomenon has been ascribed to the fact that a large number of married women in the textile districts were to be found employed in the mills. The work carried out and reported here attempts to document the relationship between married women's participation in the labour force and fertility behaviour in one textile centre, using the census enumerators' books covering the town in 1851, 1861, 1871 and 1881 to compute measures of fertility and fertility limitation and as the basis for a longitudinal study of family building strategies.

By concentrating on just one aspect of life in the textile districts - the high incidence of women's work - many other factors have had to be laid aside or treated indirectly. This does not signify that these factors are unimportant, they may indeed be central to the community's fertility behaviour, but in putting one aspect of life under the microscope, others have to be put into softer focus. Their turn will come.

Also there is little doubt that a study such as this would have benefited from a comparison with the findings of similar work carried out in another textile community.

The size of the population within the Keighley study area

frustrated plans originally laid to repeat the type of work reported here in a second textile settlement. Thus intra- rather than inter-community comparisons have had to suffice. It is hoped that the conclusions reached, and the questions raised, by this study will be carried forward to future work in different locations within the textile districts of the nineteenth century or beyond, allowing comparative work to be carried out.

The work carried out has been reported in this thesis in six further chapters.

Chapter 2 discusses in greater depth the theories put forward to explain the Demographic Transition and examines how these may, or may not, have applied in the textile districts during the last century. The question of, if a nineteenth century working class group was deliberately limiting its fertility methods what methods might it have been using?, is then considered. Attention is next turned to the possibility that low levels of fertility may have been involuntary and the factors which may have impaired the physiological ability to reproduce are reviewed. The chapter concludes by proposing several alternative causal pathways, from the onset of industrialisation and urbanisation to low fertility levels, which are to be further examined in the course of the following chapters.

Chapter 3 takes some of the themes outlined in Chapter 2 and develops them in the context of nineteenth-century Keighley, in order to "set the scene" for the interpretation of the fertility measurements and observations on family building which are to follow.

Chapter 4 catalogues and discusses the sources used in the course of the project.

Chapter 5 reports on the calculation and interpretation of the

fertility measures M and m for a variety of occupational and class groups within Keighley. The opportunity is taken to compare the figures calculated against Coale and Trussell's original Standard Schedule of Marital Fertility and those calculated using the British Standard Schedule, designed by Hinde and Woods as more specific to the context of nineteenth century England and Wales. It is shown that occupational subdivision within a community makes interpretation of these figures very difficult, especially when these subdivisions include occupational differences amongst married women. The Total Marital Fertility Rate for each group is also considered and the conclusion reached that the point in time nature of the census contrives to allow changes in the "actors" whose behaviour is being monitored as much as changes in behaviour per se to create shifting levels of fertility.

Chapter 6 moves on to a longitudinal survey of a selected group of young couples, monitoring their work and family building patterns. The methods used are described and discussed, as are the patterns which they bring to light.

Chapter 7 reviews the findings reported in the previous chapters and reassesses their implications for the understanding of the links between married women's work and family formation in both nineteenth-century Keighley and beyond.

Notes for Chapter 1

1. See, for instance, Teitelbaum, 1984 and Coale, A.J. and Watkins, S.C. (eds.) (1986) The Decline of Fertility in Europe (Princeton, Princeton Univ. Press).
2. France has always stood out as having had unusual fertility experience, of much interest to demographers. See for instance Wrigley, E.A. (1985) "The Fall of Marital Fertility in Nineteenth century France: Exemplar or Exception?" European Jnl. of Population, 1, pp. 31-60 and 141-77.
3. As the Fertility Commission's figures continued up until 1911 some of the couples to which the Registrar General was referring would include women who had not yet completed their fertile span.
4. The percentage figures given are "expressing their average size as a proportion of the average for all classes together" (Hewitt, 1958, p. 86).
5. Only those couples where the wife was assumed to be menopausal would be included in measures of "completed fertility".

CHAPTER 2.

The Philosophical versus the Physiological:
Fertility and The Textile WorkerSection 2:1 Introduction

"too many explanations which contradict each other to some degree and which fail to fit some significant part of the facts."

C. Tilly, 1978.

To recapitulate, the main aim of this study is the low level of fertility to be found amongst the textile population of England and Wales by the mid-nineteenth century.

That the overall fertility rates of England and Wales began to decline in the late 1870's is undisputed. Why they should do so is a much debated question. Why textile workers' fertility levels should fall in advance of those of the rest of the working class is an even more contentious issue. As we saw in Chapter 1 the textile workers' fertility rates had fallen, as far as can be discerned, from very high levels in the early decades of the nineteenth century; the mill hands had not always been unfruitful.

This chapter will take a brief look at theories which have attempted to explain the factors underlying fertility decline. With this grounding a discussion of the conditions known, presumed or postulated to have been experienced in the mill towns of Lancashire and Yorkshire from the turn of the nineteenth century to the turn of the twentieth will be undertaken in order to assess what

relevance the theories may have had in that context.

Could textile workers indeed have adopted birth control before their time - and if so why? - or was their fertility the price they paid for an early involvement in the Industrial Revolution?

Section 2.2 Assorted Theories about Fertility Decline

The father of Demography, The Reverend T.R. Malthus, was neither the first to advocate the limitation of births¹ nor was he concerned solely with fertility. In his 1798 'Essay on Population' he suggested that high reproduction rates resulted in exponential population growth while resources could only expand in an arithmetic fashion. When the resources could no longer support the populace Death, via starvation and disease, would prune numbers back to balance the system. Malthus' particular worry was the breeding capacity of the poor which was condemning this sector of society to a life of "misery and vice". By urging his middle class readers to "constraint", meaning delayed marriage and possibly abstinence within marriage, he hoped they would provide an example to the poor of how they could improve their lot. Thus the concept that fewer births could be "a good thing" was implanted, and the belief that the working classes followed the lead of the middle classes was reinforced.

During the first half of the nineteenth century English birth rates were high and indeed, some argue (Krause in Drake, 1969), were rising within certain sectors of the community. Death rates fluctuated and the fact that killer diseases struck most often and with greatest effect in the poorer, more crowded districts may well have substantiated Malthus' theories for contemporary observers.

As the century progressed, however, it became clear that fertility was no longer achieving its previous levels. Despite the previous unthinkable resources being unleashed by the Industrial Revolution and the heyday of the British Empire, fertility began to decline. Malthus' assumptions about the expansion of population no longer held - new theories had to be devised. This challenge was made increasingly interesting by the great changes in life being wrought by the Industrial Revolution. Which factors, it had to be asked, preceded the Revolution, which had accompanied it and which had come in its wake? Other countries too were experiencing a fertility decline and yet industrialisation had not proceeded so far as in Britain, (see Chapter 1) so were the two phenomena linked?

In 1945 Notestein advanced a proto-type of the demographic transition theory. Because the death rate had fallen, he argued, the fertility rate had decreased. The population no longer needed a high number of births in order to maintain reproduction levels in the face of numerous deaths. Mechanisms had existed in society which encouraged a high birth rate. As the death rate fell these mechanisms fell into disuse as the reproduction rate could be maintained with fewer births (Notestein, 1945). These statements developed into a four stage model:

- 1) a community with high birth rates and high, fluctuating death rates reaches a certain stage of development

which

- 2) lowers the death rate. After a time lag the population realises their children's increased chances of survival so they begin to limit their fertility

which

- 3) reduces the birth rate. This continues until the death rate can fall no further

resulting in

- 4) a community with low death rates and low, fluctuating birth rates.

The controversies over this 'theory' are now legend. Davis & Blake (1956) argued that high fertility was not deliberately sustained in the face of high mortality rates but that it made sense in other ways for pre-industrial societies (Caldwell, 1982). Today's experience in certain Third World countries certainly supports this argument. The question of 'thresholds' also had to be considered. How far did the death rate have to fall before the birth rate followed suit? Knodel (1977) showed that in Germany mortality and fertility declined together; there was no sign of the expected time lag. Various factors were proposed to explain differences in the timing and the rate of declines observed but, as Andorka (1978) shows, many significant factors, such as levels of industrialisation, urbanisation, education, infant mortality, were at very different points on the scale in the various countries when they had reached similar stages in the fertility decline.

If the decline was to be attributed to the uptake of fertility limitation how did this fit into the transition theory? Did birth control technology and 'know-how' spring up 'overnight' as the need for it arose or had it been available to certain members of the community for generations from whom the knowledge percolated through when more general interest had been aroused? Was the uptake of fertility control, as Carlsson (1966) put it, an adjustment or an innovation process?

As Davis underlined with his theory of 'multiphasic response' (Davis, 1963), voluntary control of fertility was only one means open to a population faced with 'increasing population pressure'

consequent to a decline in the death rate. Delayed marriage, increased numbers of celibates and outmigration were alternative options which were taken in the Victorian era, although they might operate also in times of increased death rate, as a result of population pressures brought about by a scarcity of resources; witness the Irish Potato Famine of the 1840's.

But is a decline in the death rate sufficient by itself to justify all these, and other, great changes being wrought in nineteenth century society? While "demographic transitions rank amongst the most sweeping and best documented historical trends of modern times" (Stolnitz, 1964), the Transition Model, while being "valuable as a guiding generalisation" (Davis, 1963) remained only descriptive rather than explanatory. Other disciplines interested in the changes accompanying the Industrial Revolution began to contribute theories to explain the observed decline in fertility levels. As each new hypothesis emerged it helped account for some aspect of the patterns but invariably raised as many questions as it had answered. In 1960 Becker proposed an economic theory of fertility behaviour, which was later elaborated upon by others such as Lancaster and Leibenstein (Andorka, 1978). Children, this theory ran, can be considered as consumer durables with utilities and disutilities, marginal costs and substitutability. Parents could be expected to take rational decisions about the number of children they wanted, or could afford, and to have ready access to contraceptive knowledge and materials. If children were able to earn wages and almost "keep themselves" there would be little economic hardship entailed by having several children. However, were the law to make schooling compulsory, or to ban the employment of young children then each child engenders a

certain amount of disutility; they become an economic burden. To minimise the disutility the parents reduce the number of their children. Different couples will, of course, have different perceptions of the disutilities that children represent and therefore ideal family size may vary.

In 1968, however, Judith Blake levelled criticism at Becker and his disciples. He had, she argued, offered an exclusively economic analysis of fertility decisions and Blake proceeded to take issue on three points. Firstly, babies were not "consumer durables" which could be exchanged or "returned to the shop" if they proved unsatisfactory. Secondly, the decision to have children was not made by the parents in isolation but involved kin, peer group circles and society as a whole. Thirdly, unlike shop bought goods which, unless a decision is made to purchase them, stay on the shelf babies usually appear unless a deliberate policy to prevent this is adopted.² (Busfield & Padon, 1977). Blake pled for more attention to be paid to the "sociological determinants of reproductive motivation".

Acknowledging the interaction between economic and social factors (if not theories³) Easterlin attempted to meld the two in one "theory of modernisation". It was not the number of births parents were primarily concerned about, he argued, but the number of "grown" offspring. As the process of "modernisation proceeded infant survival rates were affected, altering parents' evaluation of their children as potential adults, leading to reduced fertility rates, via contraception. The use of contraception depended, Easterlin believed, on motivation, the costs of birth control and new balances between social and individual control of decision making. Easterlin illustrated his theories by the means of diagrams (Tilly, 1978),

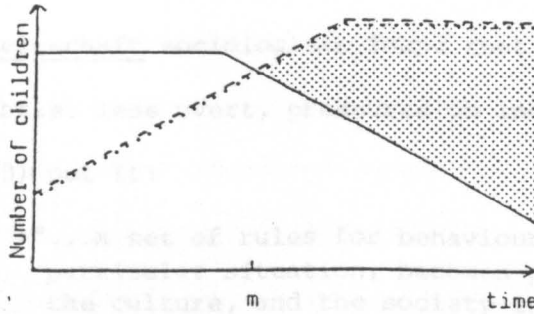
three of which have been reproduced in Figure 2.1.

Motivations for birth control have always existed but "modernisation" brought new, and possibly stronger, motivations into play. Those wishing to control fertility and those actually doing so do not always equate, a fact not taken into consideration by purely economic models. Financial constraints can operate while some people can find the cost of enquiries about contraception unacceptably high in terms of embarrassment. Others may find the self-control or discipline required too high a price to pay. Both Wrigley (in Tilly, 1978) and Shorter (1971) have examined the concept of social versus individual control of fertility in some detail and have speculated on the changes surrounding shifts between gemeinschaft; community supervision, and gesellschaft; where the decisions were made by and for the family unit.

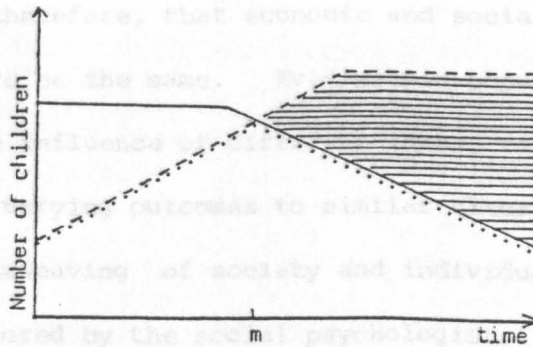
Easterlin's "modernisation" encompassed innovations in public health, medical care and formal schooling, urbanisation, the introduction of new goods and the growth of per capita income and he believes that while children are different from other goods their existence is not independent of the household's desire for consumer goods. Another concept which Easterlin introduces into the fertility behaviour debate is "potential income". Two men at a given point in time may earn the same amount of money but one may have to work longer hours for it or the other may have greater job security and, therefore, be more certain of his future income. The man with the shorter hours may be able to take another job and augment his income or he can devote his extra time to some other occupation - such as raising children! A man with a more reliable income is better able to plan in advance and be sure of his aims in life, what he wants

Figure 2.1 Easterlin Diagrams indicating the extent to which birth control may be achieved under various economic and social conditions.

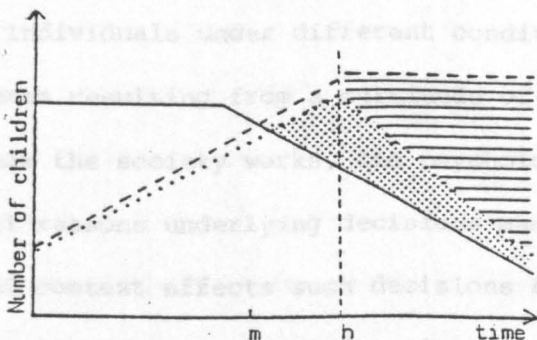
Legend: — Desired number of children in a perfectly contracepting society
 - - - Number of children surviving when fertility is unregulated
 Actual number of surviving children
 [Stippled Area] Unwanted children
 [Horizontal Lines Area] Children averted
 m modernization creates motivation to limit births



Outcome: Unwanted children - there is motivation to control fertility but the costs of birth control are too great.



Outcome: Perfect contraception - as motivation to control births occurs couples do so.



Outcome: Nearest to a real world situation - even although motivation to limit births has occurred social control makes the cost of fertility control outweigh that of an extra child. At point 'h' the extra child is seen as more costly than the practice of birth control and therefore the latter is adopted - if there is any cost attached to birth control there will always be some unwanted births.

Source: Tilly, C. (ed.) (1978)
Historical Studies in Changing Fertility.
 Princeton Univ. Press, Princeton, N.J.

for his children and the impact of additional progeny on these aspirations.

The two men on similar incomes may, of course, have very different tastes according to their "socialisation" by parents, friends, school and local culture (Hawthorn, 1970). Despite the waning of gemeinschaft sociologists found that society was still exercising subtle, less overt, pressures on individual couples. As Freedman (1963) put it:

"...a set of rules for behaviour in a particular situation, becomes part of the culture, and the society indoctrinates its members to conform more or less closely to the norms by implicit or explicit rewards or punishments."

It follows, therefore, that economic and social rationality will not everywhere be the same. Even within populations, groups will act under the influence of different ideas, values and norms resulting in varying outcomes to similar situations.

The interweaving of society and individual fertility behaviour has been explored by the social psychologists. Back (1967) argues that demography submerges the individual and his behaviour within "rates" while the social psychologists build models from the decisions of individuals under different conditions. Rather than use the patterns resulting from a multitude of individual decisions to describe how the society works, the psychologists try to unravel the individual reasons underlying decisions made and to understand how the social context affects such decisions thus offering a closer insight into the workings of society. Fawcett's "Psychological Perspectives on Population" (1973) is a useful introduction to such work.

These type of studies are mentioned because much of what follows,

although based broadly on the theories of fertility decline, calls much upon the reader to imagine what effect conditions and changes in these conditions during the Industrial Revolution might have had on "ordinary" people's perception of the world in which they lived. What did the coming of Easterlin's modernisation mean to those who actually experienced it? While the "grand" theories of fertility decline have been discussed here, many other hypotheses exist concerning the mechanisms which activated the decline. In the next section we consider some of these in turn and investigate their applicability within the context of the textile districts and mills of nineteenth century Lancashire and Yorkshire.

Section 2.3 Some Caveats to the Interpretation of Historical Evidence

The Registrar General, as we have seen (Chapter 1), believed that the large number of working wives in the textile industry was the root cause of textile workers' low fertility rates, but he did not attempt to explain why "occupation of the wife entails considerable reduction in fertility" (Registrar General, 1923 - see Sources section of bibliography).

In this section hypotheses, advanced to explain why the fertility decline was seen to start at different times and to proceed at varying rates in diverse places, will be assessed against conditions in the textile areas. Could factors affecting fertility behaviour have been at work in textile towns earlier than elsewhere? Did women's work encourage the emergence of such factors?

Before embarking on the discussion, however, certain points should be made.

Firstly: Many of the more orthodox theories are based on the

assumption that the fertility decline was caused, for the most part, by the uptake of birth control within and without marriage. The control has been assumed to operate in a parity specific way - i.e. couples having a certain number of births without the use of contraception and then deliberately curtailing fertility thereafter. In this chapter only marital fertility will be considered and fertility control will encompass the deliberate timing of a birth, i.e. "birth spacing", as well as the control of births achieved.

Secondly: Accounts of Victorian working class life rarely come to us first hand. Apart from the few existing autobiographies, we must rely on the accounts of Government Reports, middle class observers and novelists.⁴ Even more elusive are descriptions of what life was like for working class women, especially working wives. For the last few years of Victoria's reign the work of the Oral Historians is doing a great deal to remedy those deficiencies (Adams, 1982; Gittins, 1982; Roberts, 1984). However, as Disraeli remarked Victorian England consisted of:

"Two nations between whom there is no intercourse and no sympathy, who are as ignorant of each others habits, thoughts and feelings, as if they were dwellers in different zones, or inhabitants of different planets; who are formed by different breeding, are fed by different food and are ordered by different mores and are not governed by the same laws..."

(Disraeli, G., Sybil Bk. II, Ch. V, p. 99)

Thus we must appreciate that the observations on which our interpretations are based may have been made with very

little understanding of the full meaning for the participants.

Thirdly: If we are critical of past observers then cognizance of the changes of the last hundred years and the new value systems which they have brought must also be acknowledged. What does a post-"Pill", post anaesthetics, post-Maternity Benefit, post anti-biotics, post-Welfare State "observer" know of the choices and decisions to be made concerning conception and childbirth one hundred years ago?

Fourthly: As a codicil to the previous point, whatever they may have been in other sectors of Victorian society, sexual matters were not a subject for discussion or discourse amongst the "respectable" middle-classes on whose reports so much reliance is placed. However, despite O.R. MacGregor's observation that "the Victorian bedroom door is firmly shut in the investigator's face" (MacGregor, 1955), diaries and letters (including some from the Queen herself) do shed some light on how couples from the "higher classes" conducted themselves in the privacy of the marriage bed. In trying to decipher working class mores and practices we must listen as hard to what is not being said as to what is said. Statements concerning practices to be avoided can be as enlightening as statements as to what people's behaviour was presumed to be, although care must be taken not to carry the inferences too far.

Fifthly: Concerning the specific thirty year period of this study, 1851-1881. During the first half of the nineteenth century the textile work force was the centre of public

attention. Campaigns for better conditions and shorter hours, especially for women and children, aroused concern and interest. By the 1850's, however, legislation had elevated female mill hands to be a "favoured class of women workers" (Neff 1929/1966) and the lot of young mill workers was considered to be superior to that of child workers in other industries (See Table 2.1). The hue and cry concerning women's work in the mills therefore subsided until re-awakened by the "infant mortality rate question" in the 1870s.⁵ Over the 1850s and 1860s male mill hands - and by association, their families - were the main object of concern with, first, the plight of the hand-loom weavers and then the hand wool-combers, followed by the Cotton Famine, but we must remember that many men were "seen through" these poor times by the work of their women folk although we can find out little about them. By the turn of the century and into the Edwardian period interest had again turned to the Woman Worker in the wake of the Suffrage Movement.⁶

Thus much of the evidence given below is culled from sources which do not refer to the study period, but from which inferences about the study period may be made.

Finally: As well as temporal distortion, spatial distortion has to be allowed for. There were a variety of premises at which textile work was undertaken and they were found in a diversity of places. Conditions for "spinners" in cotton could be entirely different to those experienced by spinners in the worsted or woollen industry.⁷ Even

Table 2.1 Legislation enacted by 1850 in favour of women, children and young persons working in textile mills.

1802	The work of apprentice children working in factories regulated
1819	Children under 16 years of age limited to 72 factory working hours in the week
1833	The employment of children under 9 years of age forbidden, except in silk mills
	Children under 13 years of age limited to 8 hours factory work per day
	Compulsory school attendance 2 hours a day for children aged less than 14 working in the factories
	Night work in the factories forbidden to those under 18 years of age
1844	The work of adult women in the factories limited to 12 hours per day
	The minimum working age of children in the factories reduced to 8 years
1847	Women and young persons (i.e. those aged 13-18 years) in factories limited to a 58 hour working week
1850	Work in the factories limited to the hours of 7a.m. to 7p.m. or 6a.m. to 6p.m., with 1½ hours for meals and work to end at 2p.m. on Saturdays. This, therefore, affected all factory hands.

Sources: Fielden, J. (1836, reprint 1969) The Curse of the Factory System. (Cass, London)

Hellerstein, E.O., et al (1981) Victorian Women: a Documentary Account. (Harvester, Brighton)

Neff, W.F. (1929, reprint 1966) Victorian Working Women: An Historical and Literary Study of Women in British Industries and Professions, 1832-1859. (Cass, London)

within sectors of the industry differences could be marked. Neff's example of the rurally situated Scottish mills manned by hardy Scottish workers, being used to provide evidence for the beneficial effects of textile work, while the bad conditions in Lancashire factories were attributed to the "undersized natives and degraded Irish exiles" clearly illustrates this point (Neff, 1929/1966).

Innovations also varied in their timing from place to place depending on the manufacturer's wishes, local power supplies, the agreement of the workforce and the suitability of machines and materials.⁸

Thus despite Neff's assertions that the mill women have been

"studied minutely from a variety of sources, and presented to the public with a wealth of detail in numerous important books dealing with the industrial development of nineteenth century England" (Neff, 1929/1966)

it yet remains very difficult to gauge the conditions under which an "average" textile worker, be they male or female, lived and laboured at any one particular time. This is particularly true of the worsted and woollen workers of the West Riding, who appear to have caused less public concern than their Lancashire neighbours, and therefore leave even more nebulous impressions of the lives they led.

With these caveats in mind we now turn to assess, in the light of the evidence available, the merits of some proposed links between changing social and economic conditions and a declining number of births in the context of the nineteenth century textile districts. From this discussion a model of the factors which may have acted to reduce the marital fertility rates amongst textile workers of the late nineteenth century will be constructed and in the chapters which

follow the validity of this 'model' to one particular textile town in the 1851-1881 period will be considered.

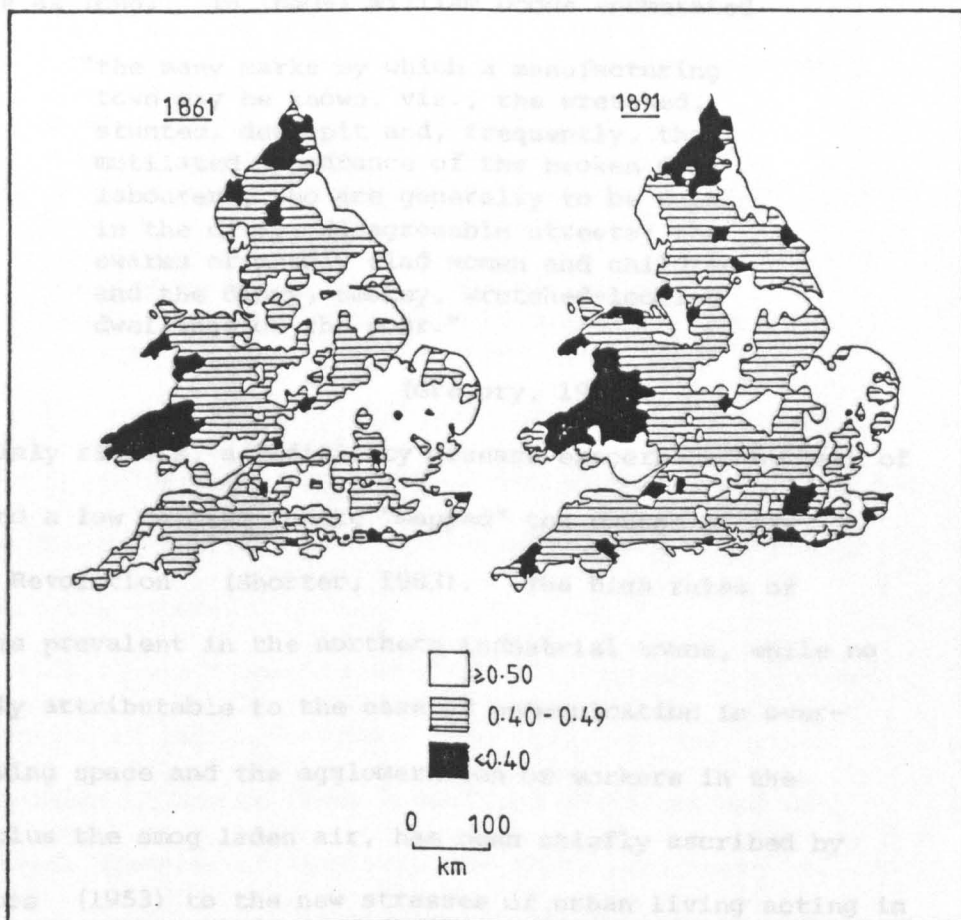
Section 2.4 Life and Work in Nineteenth-Century Mill towns

There can be no doubt that the textile industry was in the vanguard of the Industrial Revolution. Arkwright's invention of the spinning-jenny in 1767 was an early link in a chain of events which would culminate in large scale mechanisation, industrialisation and urbanisation. The textile workforce was one of the first to be taken out of their cottage-workshops and resituated in the towns and factories; 'home' and 'workplace' being distinctly separate. Thus they had to adjust to new milieux in both their working and living environments. These changes, of course, did not occur overnight, nor without protest from the workforce.⁹ However, by the 1850s a large proportion of the textile workforce was urbanised with only a few stalwarts attempting to compete from their cottages with the factory produced goods. Many sent their wife and children to the mills of the neighbouring towns in order to maintain the family income. With mechanisation much of the heavy labour involved in the production of cloth was removed which facilitated the employment of women and children who had been helping in the cottage industry for generations. They had nimble fingers, were more docile and they received less pay. The children were also small enough to duck under or through moving machinery when required... The demand for female labour meant that in many textile towns there was a marked surfeit of women of marriageable age. It is likely therefore that there was a "squeeze" in the marriage market meaning that girls had to wait longer to find a husband, and a certain percentage might

never marry. This contrasts with some contemporary opinion which saw the textile areas as conducive to early marriage, girls in their mid-teens becoming mothers. There were, no doubt, incidences of this but the maps in Figure 2.2 do not show the textile districts as having the very high proportions married that a large number of teenage brides would suggest, indeed the textile districts (shown in Figure 1.3.) have comparatively low I_m ratios (Coale's Index of Proportions Married) in both 1861 and 1891, especially when compared with the very high I_m values of the coal fields.

The demand for labour resulted in large numbers of people moving to the factory towns coupled with high natural growth, which in turn encouraged mill owners to site their new factories in these centres perpetuating the growth spiral. The growth of amenities was not, however, always commensurate with the growth of the population. There was much overcrowding which, coupled with insanitary conditions, aided the spread of disease. Domestic and factory chimneys (with the coming of steam power) created air pollution which added to the trials of washing day and encouraged or exacerbated lung ailments, while reducing the amount of sunlight reaching the populace below. Poor transport networks meant that fresh meat and vegetables were hard to come by. Unlike the mining areas which were often rurally situated land was at a premium in the industrial areas so allotments were few. If animals were kept, and the Irish, for instance, were notorious for keeping pigs, they had to be housed in back yards or alleyways, adding further to the general degradation of the environment. The evils of Victorian urban living have been much described and discussed (e.g. Chadwick, 1842/1965; Engels 1845/1969; Dyos & Wolff, 1973; Stedman Jones, 1971), and while many

Figure 2.2 I_m , the index of proportion married;
England and Wales, 1861 and 1891.



Source: Woods, R.I. and Hinde, P.R.A. (1985)

Yet the proportion of marriages occurring at an early age was high. "Nuptiality and Age at Marriage in Nineteenth Century England." *Jnl. of Family History*, 10,2 pp. 119-144.

of the written works and reports deal with the very poor areas there can be little doubt that urbanisation, at least in its early stages, probably produced a drop in living standards despite the increase in wages received. Longmate (1970) reckoned that a farm worker in Rutland earned one half of a Manchester factory worker's wage but he lived twice as long. In 1840-1 William Dodds enumerated

"the many marks by which a manufacturing town may be known, viz., the wretched, stunted, decrepit and, frequently, the mutilated appearance of the broken down labourers, who are generally to be seen in the dirty, disagreeable streets; the swarms of meanly clad women and children and the dingy, smokey, wretched-looking dwellings of the poor."

(Gregory, 1982)

Certainly rickets, a deficiency disease exacerbated by lack of sunlight and a low calcium intake "mapped" the course of the Industrial Revolution (Shorter, 1983). The high rates of tuberculosis prevalent in the northern industrial towns, while no doubt partly attributable to the ease of communication in overcrowded living space and the agglomeration of workers in the factories plus the smog laden air, has been chiefly ascribed by Dubos & Dubos (1953) to the new stresses of urban living acting in conjunction with inadequate accommodation and nourishment coupled with excess physical exertion.

Yet the people crowding into the textile centres must have seen advantages to outweigh all the disamenities they faced. Certainly consumption of goods probably rose. As whole families were now at work little time could be spared for domestic tasks. Were a woman not to work herself to an early grave she would have to buy in some food, buy clothes second hand or ready made and perhaps pay someone

else to do the washing and the childminding. On the other hand those with little cash to spare may simply have omitted certain tasks from the schedule altogether. Hewitt quotes Ferrand who calculated the organisation of a married textile worker's day given that she was working a 15 hour day and looking after a baby:

"Half an hour to suckle her infant and
 carry it out to nurse
 one hour for household duties before leaving home
 half an hour for travelling to mill
 twelve hours actual labour
 one and a half hours for meals
 half an hour returning home at night
 one and a half hours for household duties
 and preparing for bed
 leaving six and a half hours for recreation,
 seeing or visiting friend and sleep.
 In winter add on an extra hour for travel."

(Ferrand; in Hewitt, 1958).

And the middle class philanthropists who hired servants to do their housework saw fit to complain about the state in which the married operatives kept their homes!

Another side to the "domestic economy" issue argues that women brought up working in the mills from a very early age had little practical knowledge of how to "keep house" and therefore had to resort to outside agencies if they were not to be even worse off. This point is rather poignantly illustrated by Mrs Gaskell in "Mary Barton" who wrote of one mill girl who had

"been in a factory sin five years old
 a'most, and...knew nought about cleaning
 or cooking, let alone washing and such-like work..."

and who had, on the day after she was married,

"no notion how to cook a potato"

(Gaskell, 1848/1970).

Plain needle work was made compulsory as part of girls' schools' curricula in 1862, domestic economy in 1877; practical cookery

classes joined the curriculum in 1882 and practical laundry classes in 1890 (Roberts, 1984).

While the lack of domestic comforts in many working class homes was condemned by many middle class observers a much greater cause for philanthropic concern was the child care practices of mothers working in the textile districts.

In the very early factory era babies could sometimes be brought to the work place swaddled and hung on a convenient peg until feeding time. Stone (1977) mentions this practice although not with direct reference to textile workers. As machinery grew faster and space and time more precious, regulations became stricter; mothers had to leave their children while they went to work. Many entrusted their children to the care of relatives but often the infants were left with nurses or child minders. This was not the infamous "wet nursing" as seen in France or London as the child would be reclaimed at the end of the day, and the "nurse" was often an old woman, or a young girl, either incapable of supplying breast milk. The mother had several options open to her. Having fed the child before going to work, she could return, if she lived nearby, at lunch time to feed it again. Alternatively, the minder could bring the child to the mother. Again the nurse could feed the child "paps" or "pobbies" (bread boiled up in milk and water), feed it with a feeding bottle containing cows milk or, later, tinned condensed milk or else administer drugs to dull their charge's hunger pangs and keep it quiet. Early weaning onto "paps" or even more substantial solids played havoc with infant digestive systems. Feeding bottles too were a health hazard, being very difficult to clean as they made use of a long feeding tube and because of the impurities and infections in cows milk (which was anyway very

expensive) or the propensity of condensed milk to become germladen if left standing. Little wonder that diarrhoeal diseases were amongst the most common cause of infant death in the textile districts. (Wright & Thompson, 1984; Jowitt, 1982).

It should be noted here that early weaning usually reduces lactation which reduces the latter's contraceptive effect. If textile women were using artificial feeding methods and not limiting their fertility by some means their low fertility is even more surprising (Habicht et al., 1985). However, it has also been reported that many working class mothers, not only those in the textile districts, had to resort to artificial feeding practices as, often through hard work and malnourishment, they could not produce their own milk (Davies, 1978). The chance of a malnourished woman carrying a pregnancy successfully to term must anyway have been considerably lower than that of a well fed one.

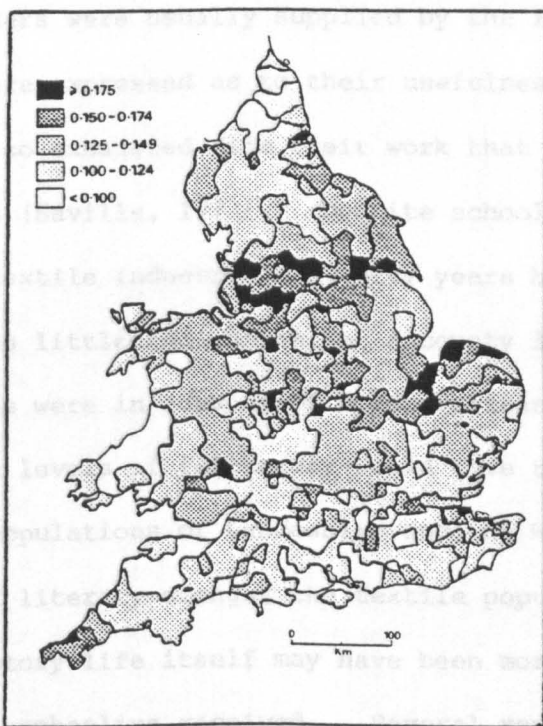
The use of opiates, especially laudanum, in "sleepy stuff" or "infant cordials" such as Godfrey's Mixture or Infant Quietness, is frequently mentioned. This was administered by child-minders to keep their charges docile and also, as Reach (1848/1984) pointed out, by the mothers themselves in order to obtain a good night's rest. While today this would seem a horrific practice we must remember how often babies are now "required" to be fed and how many "syrups" and "cordials" are available in the modern pharmacy to soothe infant aches and pains. Parents still desire "quietness" and relief from pain for their offspring. Thus while the means are deplored the motives are understandable. Godfrey's Mixture had, by Reach's report, been "in vogue for near a century" in 1849. Nor was its use restricted to the textile areas; the same condemnations

were being made as far away as East Anglia. (Mary Dobson, personal communication, 1985). Nevertheless, the high concentration of working mothers focussed discussion of the issues on the textile districts and malnourishment as a consequence of drug induced appetite suppression, drug related convulsions and straight overdoses were thought to contribute to high infant death rates there, although proof was difficult to obtain.

Concern was not only for the infants and small children. Middle class observers were concerned that the older children saw their father's authority undermined by the mother's position as a wage-earner, in some cases she might even be the main breadwinner. This was seen to contribute to family breakup. The older children may have had independence thrust upon them in that much of the day their parents would be away from home leaving the children, if not employed, to look after themselves and their younger siblings.

Thus we have seen that urban and factory living created new domestic and childcare problems for the textile work force. These, it has been suggested, contributed to the high infant death rates to be found in the textile districts (Figure 2.3). This creates a problem concerning the theories of fertility decline. Why was the textile worker's fertility so low when their infant mortality rates remained so high? As we have seen the childcare practices were widespread, the high resultant morbidity and mortality in the textile districts must have resulted from combinations of other factors although certainly the absence of mothers from the home played a considerable part. The fact that infant mortality actually fell during the Cotton Famine when many were out of work and therefore at home is a good demonstration of this point (Hewitt, 1953;

Figure 2.3 Spatial variation in infant mortality; England and Wales, 1861.



Source: R.I. Woods (1985a)

"Infant mortality...was greater for males than females...In a sizeable number of Lancashire and Yorkshire registration districts there was a greater than 0.2 probability that a baby boy would die before reaching his first birthday."

Woods, (1982b).

Hunt, 1981).

If the rates of infant mortality were not conducive to lower fertility what other mechanisms could be in operation?

High literacy is one factor which has been correlated with lower fertility (Woods, 1986). As we have seen already, school was a compulsory part of the working day for children in the factories as early as the 1830s. Did these schools educate the textile work force to a greater and earlier extent than their working class peers? The schools and the teachers were usually supplied by the factory owners. Reservations were expressed as to their usefulness as children were very often so exhausted from their work that they fell asleep during the lessons (Saville, 1973). Despite schooling being compulsory in the textile industry some forty years before the nation as a whole there is little indication, at a county level at least, that literacy rates were in advance of other regions¹⁰ (See Table 2.2.). Very great levels of illiteracy would have to be found amongst the non-textile populations of Lancashire and the West Riding to obscure high levels of literacy amongst the textile population in the county figures. Factory life itself may have been more of an education than any formal schooling received. Several reporters comment on an "animation", an awareness of self and the world around them which distinguished "the operative class" from the rest of the working classes. This was particularly true of the female mill hands.

Reach noted "factory girls, somewhat stunted and pale, but smart and active looking" in Manchester in 1869 (Reach; Aspin (ed.) 1972). Burnley, in Bradford in 1871, reported that "the men and women walk with an independent bearing which denotes anything but a

Table 2.2 Percentages of males and females signing marriage registers with a mark, England and Wales, registration counties, 1841, 1861, 1881 and 1901.

County	1841		1861		1881		1901	
	Males	Females	Males	Females	Males	Females	Males	Females
London	11	24	11	18	7	10	2	3
Surrey	33	34	22	18	8	5	2	2
Kent	30	40	23	24	10	9	2	2
Sussex	28	39	22	18	9	6	2	1
Hampshire	32	41	21	21	9	8	2	1
Berkshire	41	44	31	27	13	8	2	1
Middlesex	31	35	23	18	10	8	1	1
Hertfordshire	50	56	38	34	19	15	3	1
Buckinghamshire	40	50	33	39	15	15	2	1
Oxfordshire	35	46	29	28	13	11	2	1
Northhamptonshire	38	51	26	39	13	14	3	3
Huntingdonshire	43	52	33	31	19	15	3	2
Bedfordshire	49	62	38	46	22	26	2	3
Cambridgeshire	47	55	34	32	19	14	4	2
Essex	47	53	36	30	15	10	2	2
Suffolk	47	52	38	32	22	14	4	1
Norfolk	42	48	36	31	20	13	3	2
Wiltshire	43	55	30	29	15	11	2	1
Dorset	30	38	28	27	14	9	3	2
Devon	28	40	22	27	10	12	2	2
Cornwall	35	55	32	42	17	22	4	4
Somerset	37	49	30	30	16	13	3	2
Gloucestershire	28	41	23	26	13	13	2	2
Herefordshire	38	45	46	32	20	9	4	2
Shropshire	41	52	35	39	17	18	3	2
Staffordshire	46	60	37	49	25	31	3	4
Worcestershire	42	59	27	32	18	19	3	3
Warwickshire	32	47	25	32	15	20	3	3
Leicestershire	32	45	23	33	12	18	2	2
Rutland	40	36	20	24	10	5	2	1
Lincolnshire	32	47	23	26	13	11	2	2
Nottinghamshire	33	49	26	37	14	20	2	2
Derbyshire	30	48	23	35	12	16	2	2
Cheshire	38	62	25	42	15	20	2	3
Lancashire	38	67	27	52	14	26	2	4
West Riding	37	63	24	44	14	23	3	4
East Riding	21	38	16	45	22	16	2	2
North Riding	22	38	16	26	14	17	3	3
Durham	26	49	25	40	18	26	3	4
Northumberland	18	38	17	29	10	17	2	3
Cumberland	16	36	18	29	11	19	2	2
Westmoreland	20	34	14	21	7	7	1	1
Monmouthshire	51	64	41	50	29	30	4	4
South Wales	46	70	35	56	20	31	3	5
North Wales	48	71	37	51	20	27	4	4

Source: Woods, R.I.

Figures from: Registrar General's Annual Reports
for 1841, 1861, 1881 and 1901.

state of slavery" while some thirty years earlier Hickson had stated that; "Education only (was) wanting to place the women of Lancashire higher in the social scale than in any other part of the world... the consciousness of independence in being able to earn (their) own living, is favourable to the development of (their) best moral energies" (Pinchbeck, 1930).

How far "economic independence" extended is hard to judge. In the early decades of the century it was quite common for a "family wage" to be paid in a lump sum to the eldest representative in a factory. This was particularly the case when a parent brought in children or a spouse to help with their work. In later years, although each working member of a family received their own wage, custom was that this was handed over or "tipped up" to the family chancellor (usually the mother) who then allocated the household budget and, if there was sufficient, returned "pocket money" to the earners. If times were hard spending money would be curtailed, usually in ascending order of rank so that the father would be the last to give up his "treats" - an arrangement which held when other cutbacks, such as in food, were to be made. The mother was almost always lowest in the pecking order. To what extent this was true when she was also out at work is seldom discussed; the opinion that one was a wife and mother first and a worker second being widely held even in the textile districts. In addition to the relative deprivation such systems entailed the married women had the additional worry of balancing the family budget around family crises as well as its everyday needs. This task could be a nightmare if a husband's idea of "tipping up" meant handing over a set amount of money each week and retaining the remainder of his wages for his own use. It

became even more difficult if the set amount did not expand as the family grew in number. Just how much power the wife's position as family chancellor gave her within the household is open to debate.

Female weavers were reputedly amongst the most highly paid female workers but female wages were very much calculated on the woman being "dependent" in some way or another. They may have earned sufficient to be able to support themselves but very often their wages were needed at home and thus they remained under parental jurisdiction until they married, unlike the workers in American mills who very often lived in hostel accommodation away from home (Dublin, 1975; 1979) or British girls who left home at an early age to go into domestic service. There is therefore evidence to support Tilly, Scott & Cohen's (1976) criticism of Shorter that rather than young women going out to work in defiance of parental authority in fact their wages were needed and they were sent out to work as soon as possible by their families. The fact that the parents too might have been out at work perhaps accounts for a certain lack of discipline and control over how the mill girls spent any pocket money they earned. Middle class observers viewed some of their pastimes askance. Mill girls were notorious for their love of finery (Black, 1915) but this did not necessarily entail as great an outlay as some observers supposed. Groups of girls would form "clothes clubs", each subscribing a small amount per week or per month and by some prearranged method each girl would receive a sum sufficient to buy a desired item of clothing. (Pember Reeves 1913/1979). Many married women had a similar system for clothing for their children. Borrowing, passing on and making over were also common.

Neff (1929) in commenting that mill girls were "not at all like other Victorian women" because they "smoked, drank, swore and had the adventures in sex the Victorians reserved for men" is echoing middle class Victorian values. However, what about working class values? In few other areas were working class women seen en masse thus what was being observed was, perhaps, simply "working class" behaviour rather than "textile hand" behaviour. Factory work certainly gave its female workers a greater opportunity to socialise more regularly and with a greater number of people than many of their contemporaries. Release from the confines of the home may in itself have been sufficient to produce the animated looks of the textile women.

Previously, church had been a great meeting place (Longmate, 1978), but now the walk to and from work and the factory - at least during the dinner hours when the noisy machines were stilled¹¹ - presented great opportunities for social activities and interchange of ideas, the latter often being of a more secular nature than church pews might countenance. Banks (1981), among others believes that Church and religion were playing a declining part of life in the nineteenth century, especially amongst the working classes. The 1851 "Religious Census" suggested that church attendance was low in the northern industrial districts, hardly surprising to the modern day mind if Sunday was the only day in which to catch up with housework, relaxation and sleep. The hold of the Anglian Church in the textile districts was by no means firm to begin with. The figures in Table 2.3.A indicate that Non-Conformism, especially Wesleyan Methodism had a firm seat, in the West Riding at least. These figures were taken from the 1851 "Religious Census" as were those

Table 2.3.A Church provision in the West Riding of Yorkshire: 1851.

Denomination	Number of places of worship in the West Riding	Number of sittings available in the West Riding	Proportion per cent of sittings to population in the West Riding	Proportion per cent of sittings to population in England
Church of England	583	288,343	21.7	29.7
Scottish Presbyterian	2	739	0.1	0.5
Independents	158	74,125	5.6	6.0
Baptists	99	39,730	3.0	4.2
Weslyan Methodists	1060	278,211	21.0	12.2
Calvanistic Methodists				1.4
Roman Catholic	31	8,846	0.7	1.0
Others	123	25,774	1.9	2.0

Note: In the West Riding the Church of England had 40.3 per cent of the sittings while the other churches had 59.8 per cent.

Table 2.3.B Church provision and attendance on March 30th 1851, Keighley Registration District.

Denomination	Number of places of worship	Number of sittings	Proportion per cent of sittings to population in Keighley R.D.	Total number of attendances on March 30th ¹
Church of England	14	6333	13.8	133
Scottish Presbyterian				
Independents	5	1984	4.3	255
Baptists	9	3575	7.8	1173
Weslyan Methodists	23	8172	17.8	4316
Calvanistic Methodists				
Roman Catholic	1	300	0.6	100
Society of Friends	1	50	0.1	
Methodist New Connexion	10			
Primitive Methodists	10	2636	5.7	1604
Weslyan Association	2	416	0.9	103
New Church	1	191	0.4	
Undefined	2	330	0.7	250

Source: Census of Religious Worship, England and Wales. Parliamentary Papers (1852-3 LXXXIX) The tables pertaining to Keighley can be found under: Div. IX Yorkshire, 494.

Note: 1. The numbers include both afternoon and evening services.

Total church attendance in Keighley R.D., on March 30th, 1851 was (including, no doubt, several individuals counted twice over) 7934. The R.D. had a total population that night of 45,903.

for Table 2.3.B which indicates for Keighley Registration District how large a disparity existed between church provision and actual attendance. The Church of England attendance was particularly low, with only 2 per cent of the sittings in the R.D. being filled - a percentage which diminishes even more when the fact that some people would have attended more than one service is taken into account. The comparative strength of the Non-Conformist churches has been attributed to their greater appeal for the working classes, despite non-conformist disapproval of working class "movements". (Hammond, 1917/1978). Methodism, the best represented non-conformist church in the West Riding, preached "individualism", which produced, in turn, a reduced acceptance of one's lot. Self-improvement was encouraged and the Sunday schools provided various types of instruction other than the scriptures. Methodists eschewed drinking, and gambling and valued meekness, punctuality, exactness and thrift (Moore, 1974) - all virtues to stand them in good stead in the industrial milieu. Further they placed a high value on the role of women. In 1900 the Wesleyan Methodist Conference heard that

"the strength of a nation is its family life and woman the cornerstone of the whole...she was regarded no longer as man's tool and plaything. She was learning to combine two things: strength and modesty".

(Moore, 1974)

These ideals were inculcated in the Sunday schools which many children attended even if their parents stayed away from church, thus Methodist influence probably reached far wider than church attendances might indicate.

Thus while formal education was not perhaps at its strongest in the textile districts new styles of life and social ideals combined

to create new philosophies. For instance the need to keep regular and precise time in the factories (tardiness meant lost wages) was reinforced by religious beliefs which praised self-control and punctuality. Time had to be organised and thus life had to be organised too.

Beyond this it is difficult to gauge the level of education working women might hope to achieve. When men had time off work and wished to "better themselves" they could repair to the Mechanics Institute to use the library, listen to a lecture or join in a debate on politics or current affairs. Women's non-factory hours, however, would be filled with domestic chores, although the younger women might go out together or with their "young men". This time, however, seems to have been spent less in "uplifting pursuits" and more in pleasure seeking. Married women did not have the luxury of "spare time". The sacrifice of leisure and social activities on marriage was one reason, Hewitt suggests, that mill girls considered delaying marriage (Hewitt, 1954).

We have seen how changes outside the mills might have engendered changes in attitudes and behaviour. Were changes also going on within the work place?

Having large numbers of the two sexes in one work place was seen by several Victorian commentators as "immoral". Except at the youngest ages the various types of jobs tended to be segregated by sex but some intermingling was inevitable. Even the heterogeneous range of ages concerned some commentators who considered that the conversation of the married workers would be "unsuitable" for the unmarried ones. It is unlikely, in the crowded houses in the textile areas, that many of the secrets of "married life" remained

unknown by the teenage hands. However, mingling of the sexes at work probably created a better understanding of each other's problems and discussion of topics usually reserved for when company was not "mixed". The men could also appreciate the women as workers and therefore realise that they too had "rights" as individuals even although women collectively were not allowed to join trade unions until 1872.

Husbands and wives who worked, or had worked, in the same industry, it might be supposed, would have more in common and therefore more to talk about on an equal footing. This greater communication might have increased joint decision making. Having worked or being a worker the woman might have greater ability to put her own views forward and to put in a stronger claim for help or consideration.

This section has explored several ways in which change operated within the textile districts in the wake of the Industrial Revolution. How might these have affected child bearing decisions?

1. Changing housekeeping and child rearing practices

In many cases the change was not for the better. Infant mortality remained high which usually argues against a drop in fertility. However, it may be that women saw the difficulties and expense involved in rearing a family and therefore decided to have fewer children in order to minimise these. Further discussions of this point will be made in Section 6 where arguments which make high infant mortality and low fertility compatible in the context of working wives in the nineteenth century will be laid out.

2. New beliefs

New regulations and discipline imposed by factory working, the altering value of children with offspring being seen as "nuisances"

rather than "blessings", the breakdown of the family group as a social unit with more activities being "peer group centred", the rise of Non-conformism with its emphasis on self-improvement and the decline of the Anglican Church with its teachings on accepting fate as "God-ordained", the new political power and awareness resulting from the struggles against mechanisation, deskilling and importation of labour, plus the increasing legislation on behalf of the women and children as well as a need to be aware of the state of supply and demand and increasing education: all may have helped to create new philosophies in the textile districts.

Women, enjoying some degree of freedom and status through their work, were loathe to give it up in exchange for the drudgery of marriage. They delayed marriage, not having to marry in order to have a means of support, and could save up to give themselves a better start to married life. The lack of male partners may also have contributed to this strategy. The delay, however, reduced the span of potential fertility and therefore fertility fell.

Alternatively the new philosophies increased the acceptability of family limitation. It was no longer seen to be a sin against God and the advantages of smaller families were more apparent. With better communications between couples, contraception was more likely to be effective (Rainwater, 1960) and therefore fertility fell through deliberate limitation of births.

A third option lies somewhere between the former two. Women saw the advantages of fewer children and therefore took it upon themselves to limit their fertility. The greater communication networks available to them yielded information on possible methods. Without male consent, however, their options were more limited.

The next section examines what options were open to those wishing to limit their fertility in the 19th century and to consider the likely behaviour in the textile districts.

Section 5: "If of Children you wish to be Rid..."¹²

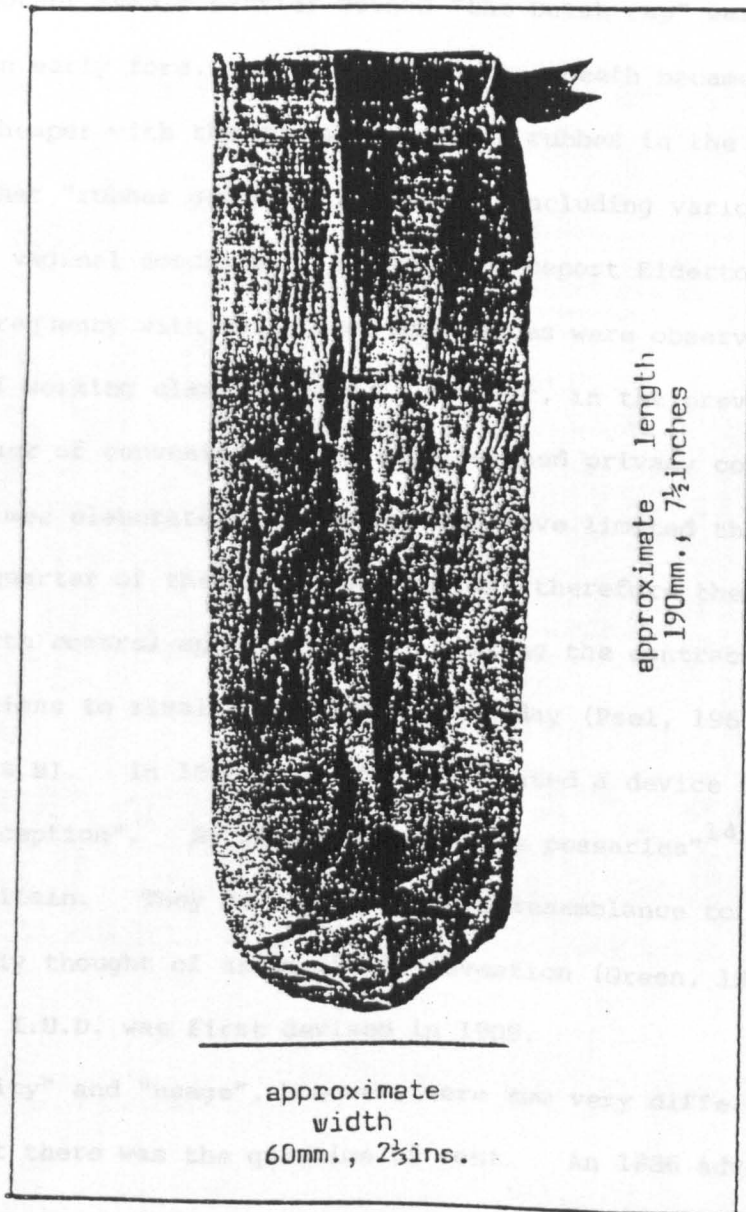
"The whole question of family limitation is formidably complex, bedevilled as it is by inhibitions, ignorance and reticence about sex and sexuality".

(Roberts, 1984).

N.E. Himes believed that the desire to control conception is a universal cultural trait over both space and time; although he admitted that the desire was probably more universal and general than the practice thereof. (Himes, 1970). Nevertheless he was able to demonstrate that both the Ancient Egyptians and Greeks had suggestions for avoiding conception and preventing births.

By the time of Hogarth, 1697-1764, quite sophisticated contraceptive methods were being used by prostitutes. The artist sketched his "Harlot" at a table carrying both a syringe, which might have been used for douching, and several sheaths (Green, 1971)¹³. The latter were most probably used to protect her customers from V.D. rather than as a deliberate contraceptive measure. The prophylactic property of sheaths was a major concern as recently as the First World War when they became standard issue amongst British troops in an attempt to prevent the army succumbing to further ravages of sexually transmitted diseases (McLaren, 1978). The association with prostitution long prevented the sheath becoming a "respectable" method of contraception. The early condom was made out of animal gut and was expensive but re-usable (See Figure 2.4). Certain London ladies made a living out of manufacturing and recycling the

Figure 2.4 A late eighteenth-century English condom.



"made from animal membrane, and tied round the top with a pink silk ribbon."

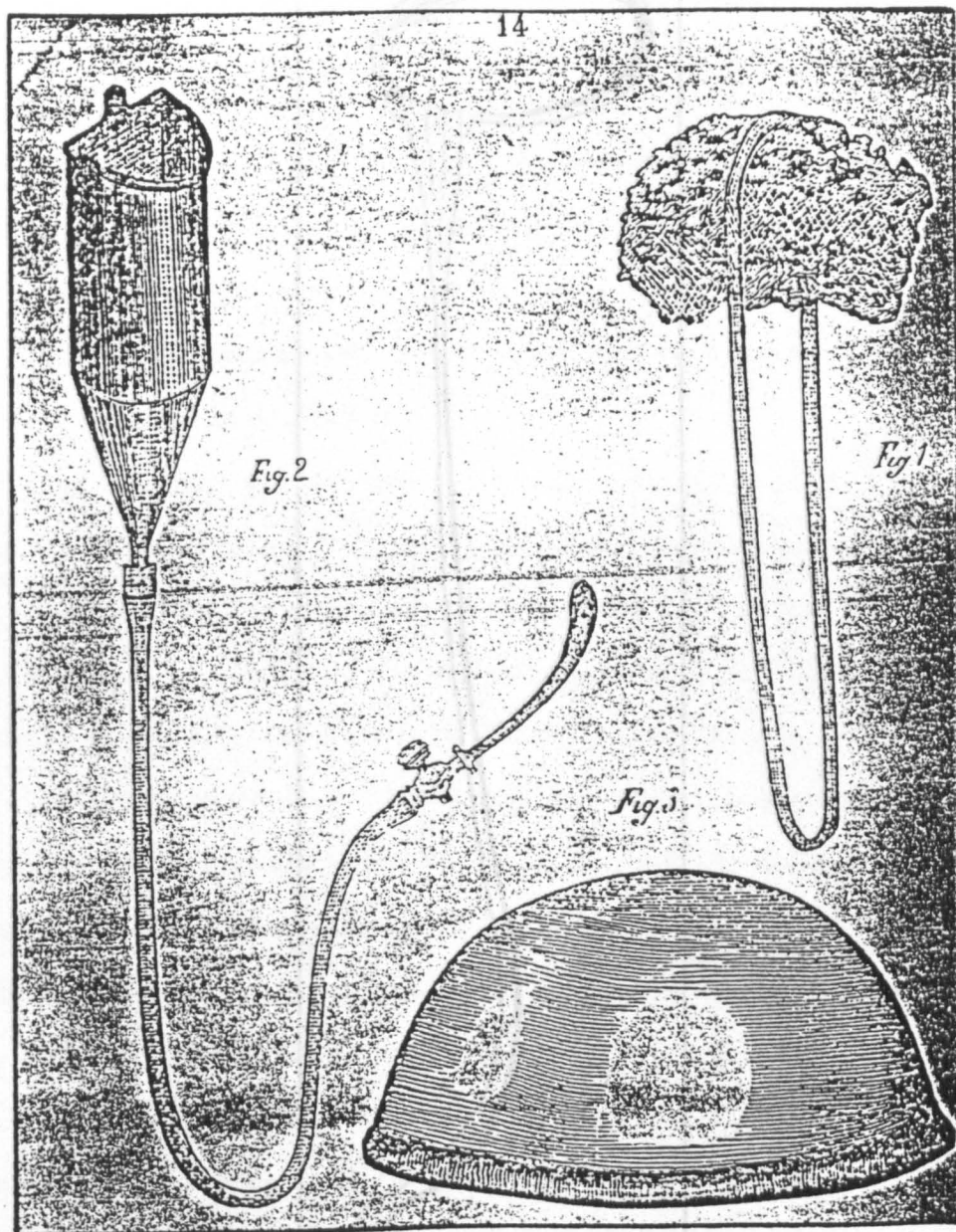
Source: Green, S. (1971) The Curious History of Contraception. (Ebury Press, London)

product - the clientele being composed of "gentlemen, ambassadors and captains of ships" (Green, 1971).

An alternative was the sponge. This method was favoured by Francis Place as being the "most likely to succeed in this country as it depends upon the female" (1823, Himes, 1927); which says a great deal about male attitudes to contraception in the early eighteenth hundreds. Another female barrier method "the Dutch cap" was also available in an early form. Both this and the sheath became considerably cheaper with the vulcanization of rubber in the 1870s, as did many other "rubber goods" (Figure 2.5) including various appliances for vaginal douching. In her 1914 report Elderton mentions the frequency with which such appliances were observed in the bedrooms of working class couples. However, in the previous century, the lack of convenient water supplies and privacy combined with the sometimes elaborate preparations may have limited their use. By the fourth quarter of the nineteenth century therefore there was an array of birth control appliances only missing the contraceptive Pill and injections to rival any to be found today (Peel, 1963), (Figure 2.6. A & B). In 1846 an American patented a device for "Preventing Conception". By 1864 similar "stem pessaries"¹⁴ were available in Britain. They bear a remarkable resemblance to modern I.U.D's - usually thought of as an 1950's invention (Green, 1971) although a true I.U.D. was first devised in 1909.

"Availability" and "usage", however, were two very different matters. First there was the question of cost. An 1886 advertisement listed:

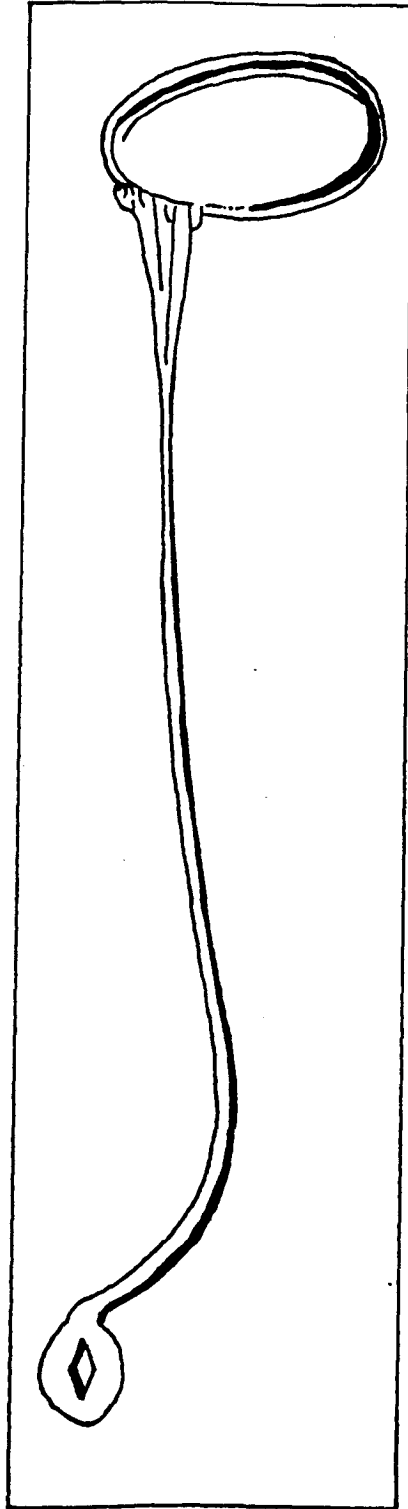
Figure 2.6.A Birth control devices available in the nineteenth century.



Source: Green, S. (1971) The Curious History of Contraception. (Ebury Press, London)

Source: Green, S. (1971) The Curious History of Contraception. (Ebury Press, London).

Figure 2.6.B "The Stem-Pessary" patented in 1846.



Source: Green, S. (1971) The Curious History of Contraception. (Ebury Press, London).

Sheaths	3/- a dozen
extra strong quality	5/- a dozen
Sponge and quinine ¹⁵ pessary	3/- each
Dutch caps	2/3d, 2/6d, 3/- each

(A. Lambert & Co., London)

(Adams, 1982)

Prices which were well out of the range of the majority of the working class. There was also a high price in embarrassment to be paid, asking for such goods over the counter, although there was always mail order if one had access to the newspaper or magazine in which the advertisements were placed.

A great deal has been written about the campaigns to spread birth control knowledge amongst the working classes. Malthus in 1798 first recommended delayed marriage, reiterating this point with greater strength in 1803, but Place felt that early marriage was more acceptable, especially as methods of birth control were available. In 1823 he published 3 handbills and had them distributed in London and the northern industrial towns. The ensuing history of birth control literature is summarised in Table 2.4. A great deal has been made of the impact of the Bradlaugh-Besant trial (see Smith, 1982; Hinde, 1985) but as we have seen the low level of textile workers' fertility begins well before the late 1870s so the newspaper reports of the trial may have been "spreading the gospel" amongst the "converted" in the textile towns.

The earlier literature appears to have made its mark, however, In 1832 a scandalised Member of Parliament, on being told that fewer illegitimate children were being born in the textile areas of the north was moved to ask if "certain books, the disgrace of the age,

Table 2.4 A precis of the Birth Control movement as far as 1877. Some notable publications and the methods of family limitation recommended.

Date	Birth control advocate	Work	Recommended Method
1789	Malthus	<u>Essay on the Principle of Population</u>	"moral restraint"
1822	Place	<u>Illustrations and Proofs of Population</u>	
1823	Place	Three handbills: <u>To the Married of Both Sexes.</u> <u>To the Married of Both Sexes in Genteel Life.</u> <u>To the Married of Both Sexes of the Working People.¹</u>	the sponge
1825	Carlile	"What is Love?" in <u>The Republican</u> , May 6th.	"bedruche" (sheath) sponge with- drawal
1826	Carlile	<u>Every Woman's Book, or What is Love?</u>	drawal
1830	Robert Dale Owen	<u>Moral Physiology</u>	<u>coitus interruptus</u>
1832	Knowlton	<u>The Fruits of Philosophy</u> (appeared in England in 1833)	douche + "germicide"
1838	"Marcus"	<u>An Essay on Populousness</u> (reissued in 1841 as <u>The Book of Murders</u>)	infanticide
1854	G.R. Drysdale	<u>The Elements of Social Science, or Physical, Sexual and Natural Religion</u>	
1877	Annie Besant Charles Bradlaugh	re-published Knowlton's <u>Fruits of Philosophy</u> . The press coverage of the resulting trial brought the issue of birth control into the public eye.	

Sources: Langer, W.L. (1975) "The Origins of the Birth Control Movement in the Nineteenth Century" Jnl. of Interdisciplinary History; 5,4. pp 669- 686

McLaren, A. (1978) Birth Control in Nineteenth Century England (Croom Helm, London)

Note: 1. Reproduced in Figure 2.7

have been put forth and circulated among females in factories, to the effect you state?" On receiving an affirmative reply he continued, "and you attribute the circumstances of there being fewer illegitimate children to that disgusting fact?" The reply was "yes" again. The "books" were those of Carlile (Hewitt, 1958.) Place's handbills were also thought to have circulated widely in the textile areas. (Figure 2.7)

While only a few might be able to read such documents where many young people were "congregated together" as in the factories the information gleaned by one reader could be quickly passed on by word of mouth. The idea that the textile workers were highly "immoral", although as Neff (1929/1966) has shown, hardly more so than many other working class groups, and yet did not seem to produce high numbers of illegitimate births clearly suggested to contemporaries that "they knew something".

This, however, does not equate with oral and penned accounts of the amount of birth control information which actually reached the working class in general as Liddington and Norris put it:

"Birth control was still a subject surrounded in mystery, particularly among the working class, and the view of those in authority was that it should stay that way. Even as late as the 1890's, birth control advocates could still be persecuted...
...Although more reliable methods such as the sheath or cervical cap were gradually becoming available, birth control still remained an agonising and unspoken problem for most married women; it was high praise to say of a husband that "he doesn't bother me too often".

(Liddington and Norris, 1978)

Roberts (1982) was not able to find any evidence that textile workers were any better informed than their peers on these matters although

Figure 2.7 The third of Francis Place's "diabolical handbills" distributed in the working class districts of the North in 1823.

TO THE MARRIED OF BOTH SEXES OF THE WORKING PEOPLE.

This paper is addressed to the reasonable and considerate among you, the most numerous and most useful class of society.

It is not intended to produce vice and debauchery, but to destroy vice, and put an end to debauchery.

It is a great truth, often told and never denied, that when there are too many working people in any trade or manufacture, they are worse paid than they ought to be paid, and are compelled to work more hours than they ought to work.

When the number of working people in any trade or manufacture, has for some years been too great, wages are reduced very low, and the working people become little better than slaves.

When wages have thus been reduced to a very small sum, working people can not longer maintain their children as all good and respectable people wish to maintain their children, but are compelled to neglect them;— to send them to different employments;— to Mills and Manufactories, at a very early age.

The misery of these poor children cannot be described, and need not be described to you who witness them and deplore them every day of your lives.

Many indeed among you are compelled for a bare subsistence to labour incessantly from the moment you rise in the morning to the moment you lie down again at night, without even the hope of ever being better off.

The sickness of yourselves and your children, the privation and pain and premature death of those you love but cannot cherish as you wish, need only be alluded to. You know all these evils too well.

And, what, you will ask is the remedy?

How are we to avoid these miseries?

The answer is short and plain: the means are easy. Do as other people, do, to avoid having more children than they wish to have, and can easily maintain.

What is done by other people is this. A piece of soft sponge is tied by a bobbin or penny ribbon, and inserted just before the sexual intercourse takes place, and is withdrawn again as soon as it has taken place. Many tie a piece of sponge to each end of the ribbon, and they take care not to use the same sponge again until it has been washed.

If the sponge be large enough, that is; as large as a green walnut, or small apple, it will prevent conception, and thus, without diminishing the pleasures of married life, or doing the least injury to the health of the most delicate woman, both the woman and her husband will be saved from all the miseries which having too many children produces.

By limiting the number of children, the wages both of children and of grown up persons will rise; the hours of working will be no more than they ought to be; you will have some time for recreation, some means of enjoying yourselves rationally, some means as well as some time for your own and your children's moral and religious instruction.

At present every respectable mother trembles for the fate of her daughters as they grow up. Debauchery is always feared. This fear makes many good mothers unhappy. The evil when it comes makes them miserable.

And why is there so much debauchery? Why such sad consequences?

Why? But, because many young men, who fear the consequences which a large family produces, turn to debauchery, and destroy their own happiness as well as the happiness of the unfortunate girls with whom they connect themselves.

Other young men, whose moral and religious feelings deter them from this vicious course, marry early and produce large families, which they are utterly unable to maintain. These are the causes of the wretchedness which afflicts you.

But when it has become the custom here as elsewhere, to limit the number of children, so that none need have more than they wish to have, no man will fear to take a wife, all will be married while young—debauchery will diminish—while good morals, and religious duties will be promoted.

You cannot fail to see that this address is intended solely for your good. It is quite impossible that those who address you can receive any benefit from it, beyond the satisfaction which every benevolent person, every true christian, must feel, at seeing you comfortable, healthy and happy.

Source: Himes, N. (1927) "Birth Control Handbills of 1823" Lancet; Aug. 6th. pp. 313-316.

she did admit that some women who had in fact practised contraception did not wish to own up to doing so.

The question of abstinence and the use of withdrawal or coitus interruptus is seldom raised, probably because their use is very difficult to gauge although certainly the evidence of the oral historians and of the letters written to Marie Stopes (Hall, 1981) and the Women's Cooperative Guild (1915) do give the impression that abstinence was much used. However, as some of the letters to Dr. Stopes reveal (Stopes, 1929; Hall, 1981) a great fear existed that lack of sexual intercourse could be very bad for the health, especially for the husband. Coitus interruptus was also considered in some circles to be a sin to be condemned as "Onanism", on a par with masturbation (Banks, 1954).

Jane Austen had suggested separate rooms for the prevention of too frequent childbearing, a measure more readily adopted in large middle class houses than in the cramped rooms of the working classes. The lack of privacy may, in fact, have acted as a restraint on intercourse especially as children grew older.¹⁶

We must also remember, intercourse was not always viewed as it is in Western society today. Women were expected to "suffer and be still" (Vicinius, 1972) and to subject themselves to "the desires" of their husbands. Hence the remark above about a "good" husband being one who left his wife in peace. It may be wondered whether, if both parties were working long shifts and having as little time to themselves as Ferrand's calculation in Section 2.4 above suggests, fatigue was not one of the most successful contraceptive measures. As one respondent told Roberts:

"I'm certainly not saying we tried to get

any more family. We certainly didn't do anything to stop it. But we never tried very hard."

(Roberts, 1984)

Measures were, therefore, available to prevent conception. The most reliable were, however, not widely known amongst the working classes, who may not even have been able to afford them anyway. Several of the methods needed male compliance, if not outright initiative, and we have seen that the prevailing attitude appears to have been that women were more concerned about the possibility of conception than the men - although new attitudes in the textile districts might have overcome this hurdle. Even were information available taken up and acted upon reliable contraception required discipline, planning, privacy and a certain degree of understanding between partners. Very often these factors did not all come together in nineteenth century households. This has led to strong arguments being developed for abortion being the main method of birth control amongst the lower classes of the era. These are considered in Section 2.6 below.

Section 2.6: "And Corpse the Incipient Kid"¹²

As a method of birth control abortion had (and has) the advantages of being less expensive than appliance methods of contraception and being within the sole control of the woman. It could also be separated from the act of intercourse and could be delayed in order to see whether or not circumstances changed. (McLaren, 1977).

Although an Act was passed in 1803 making abortion illegal¹⁷, a woman could not be prosecuted for seeking an abortion until 1861. (McLaren, 1977). However, for many working class women "birth

control" meant abortion, as Marie Stopes discovered to her horror.¹⁸ The women did not appear to realise that such actions were illegal. This may have been a result of a belief still common in the early part of the nineteenth century that a woman was not pregnant until she felt a child "quickening" in her womb - which usually happened about four months after conception - and therefore any action which she took previously was simply for "restoring the menses." (McLaren, 1978). Frisch (1978) is of the opinion that irregular periods were very common among working class women, especially those in the textile mills where hard work was combined with an insufficient diet (see Section 2.7). Thus while Banks sees adverts for "female pills" as a rather thin disguise for abortifacients, Frisch sees the product as supplying a much wider felt need.¹⁹ Such advertisements (a selection of which is shown in Figure 2.8) were appearing in Keighley in the 1850s.

Recipes for abortifacients are reportedly numerous with many ingredients being readily available in the kitchen, garden or hedge-row. Pharmacists could also supply "pennyworths" of various substances which would induce severe stomach cramps or vomiting, which it was hoped would dislodge the foetus. In 1836 Davis listed "madder" (rubia tinctorum satura), rue, savin (i.e. juniper oil), arnica montana, Myrrh, ergot and mercury as prescriptions to relieve "suppression of the menses". "Hikey Pikey" (hieera picra)²⁰ was noted as being a favourite amongst working class women, as were bitter aloes and, later in the century "lead pills" made from lead plasters sold by chemists for the relief of bruises and fractured ribs²¹ (Knight, 1977). Indeed, in his report of 1883 the Medical Officer of Health for Keighley mentions several cases of lead poisoning.

Figure 2.8 Pills for females and female pills.

A.

WIDOW WELCH'S FEMALE PILLS.
 Prompt and Reliable for Ladies. The only Genuine
AWARDED CERTIFICATE OF MERIT at the
 Transatlantic Exhibition, 1883. 100 Years' Experience.
 Ordered by Speciality. Held in bronze, 1/3
 and 3/6, of all Chemists, or post free for 1/6 and
 3/6 from
CATHERINE NEARLEY (Dept. N.W.J)
 42, Waterloo Road, E.C.

There is nothing
 in equal form
 The most and only
 reliable remedy.

**TOWLE'S
 PILLS**

For Females
 In boxes 1/11, 2/6, and 4/6 each
 having contained 3 times 1 1/2 grains.
 Of all chemists, or post free for
 P.O. 14, 210, or 47 from Sole Proprietors,
E. T. TOWLE & CO., Ltd.,
 72, LONG ROW, NOTTINGHAM.

News of the World, 7 Jan. 1912.

B.

THE GREAT BOTANIC REMEDY!

DR. TORRENS' HERBAL PILLS

THE FOLLOWING FACTS
 HAVE BEEN PROVED BY TESTIMONIALS
 IN THOUSANDS OF CASES.

DR. TORRENS' HERBAL PILLS
 Purify the Blood, and improve the Digestion.

DR. TORRENS' HERBAL PILLS
 Relieve palpitation of the Heart, and difficulty of Breathing.

DR. TORRENS' HERBAL PILLS
 Are good to Heartburn, and Liver Complaints.

DR. TORRENS' HERBAL PILLS
 Cleanses the Skin, and preserves the Complexion.

DR. TORRENS' HERBAL PILLS
 Are a certain specific in all female complaints.

DR. TORRENS' HERBAL PILLS
 Are composed of the most simple herbs, and may be
 taken with the utmost safety, by the most delicate.

OBSERVE THE WORDS

DR. TORRENS' HERBAL PILLS
 Printed on the Government Stamp, which is pasted
 round each box. All others are cheats!


Dealers in Patent Medicines can be supplied with
 Dr. Torrens' Herbal Pills from Richard Brook, Printer,
 Buxton-road, Huddersfield, or from any of the Whole-
 sale Houses.

May also be had of Messrs. J. Harrison and Son, Prin-
 ters, Publishers, Wholesale Stationers, and Dealers in all
 kinds of Patent Medicines, Airedale Courant Office, and
 York Place, Bingley.

C.

HEALTH WITHIN REACH OF ALL

FRIEND OF ALL



HOLLOWAY'S PILLS

DISEASES OF THE THROAT AND LUNGS.
 In these affections a safe and reliable remedy is invaluable. Holloway's Pills
 is such a remedy, and no other so eminently merits the confidence of the public.
 These Pills strike at the foundation of all such diseases as Coughs, Colds, Sore
 Throat, Bronchitis, Influenza, Croup, and Catarrh. Their effects in small
 repeated doses, combined with the external use of the Ointment, are marvellous
 and complete. Thousands are annually preserved from serious illness by their
 timely administration.

AFFECTIONS OF THE LIVER AND DYSPEPSIA.
 Showing themselves in the form of dulness and drowsiness, impaired appetite,
 load on stomach after meals, irregular action of bowels, &c. These Pills
 effectually clear out the cavities of the liver, promote digestion, and regulate
 the secretions generally. They never fail to relieve in these complaints.

NERVOUS WEAKNESS.
 These justly celebrated Pills restore tone to the nerve centres, whether
 the nervous and physical forces have been partially or wholly lost or from
 whatever other cause this disease may arise.

FEMALES OF ALL AGES
 Should never be without these Pills. They act rapidly in cases of functional
 derangements, regulating and renovating the secretory organs and the nervous
 system in a remarkable manner. Holloway's Pills are invaluable to females of
 all ages and in all climates. A few doses will speedily remove any obstruction or
 impurity, and thereby restore the patient to health.

SKIN DISEASES OF ALL KINDS.
 It is quite unimportant what form these affections assume, or the age or sex
 of the patient. Holloway's Pills, if taken faithfully and perseveringly, combined
 with the external use of the Ointment, never fail to effect a cure.

The Ointment and Pills are sold at **THOMAS HOLLOWAY'S Establishment, 78,
 New Oxford Street (late 433, Oxford Street), London;** also by nearly every
 respectable Vendor of Medicine throughout the Civilised World.

N.B.—Advice gratis at the above address, daily, between the hours of 11 and 4, or by letter.

No. 45.

D.

A remedy which never fails to give speedy Relief, unless there exist considerable derangement of the Stomach and
 Digestive Organs, which will speedily be removed by the use of

SHARP'S PILL OF HEALTH.

This Medicine is a safe and certain Remedy, in all diseases arising from functional derangement of the Digestive appar-
 atus: the following are a few of the multitudinous Disorders, emanating from this prolific source—Dyspepsia, Bilious
 Affections, Pain in the Head, Giddiness, Sickness, a confined state of the Bowels, Acidity of the Stomach, Flatulence,
 Pain in the Stomach, Nausea, Loss of Appetite, Palpitation of the Heart, Female Irregularities, Fits, Jaundice, Liver
 Complaints, Spasms, Weakness of Sight, Low Spirits, General Lassitude, Fatigue after slight exertion, shortness of
 Breath, Piles, Fevers, Diarrhoea, Diabetes, Gravel and Stone, Gout, Marasmus, and the numerous class of Nervous
 Diseases, as Hysteria, Melancholy, Mania, Hypochondriacism, Epilepsy, Cholera, St. Vitus' Dance, Tic-Doloureux,
 Sciatica, Neuralgia or shooting Pains in the Limbs, Nervous Rheumatism, Tremor of the Extremities, Aching Pains
 along the Loins, &c. Thousands Cured of Coughs, Colds, Asthmas, etc., by the use of

SHARP'S MIRACULOUS COUGH PILLS,
 Which surpass all other Remedies before the Public. Prepared in Packets and Boxes, at 1s. 1 1/2d. and 2s. 9d. each, by

J. SHARP, 79, Westgate, Bradford, Yorkshire.

Sources: A. Knight, P. "Women and abortion in Victorian and Edwardian England" History Workshop; 4 (1977) p.57

B. Airedale Courant and Keighley Advertiser: no.54, Feb.1858

C. Keighley Bourough Yearbook; 1887, p.84

D. Airedale Courant and Keighley Advertiser; June 1856

Unfortunately he does not mention the source of the lead, nor who was poisoned. Other substances taken included tansy, pennyroyal, apiol and steel, gin and gunpowder, gin and salts, iron and aloes, caraway seeds, turpentine and washing soda (Knight, 1977). Some women swore by large doses of Epsom Salts while others took quinine. (National Birth-rate Commission, 1916). A witness for the National Birth-rate Commission testified, however, that only the more well-to-do workers could afford quinine and that they used it as a preventative rather than as an abortifacient. She was certain that abortion was the resort of the very poor while "the better class of working people" knew about preventatives and used those. (Miss Martin, National Birth-rate Commission, 1916).

If abortion by drug failed, the desperate could induce abortion by instrument either with the help of some other party or by herself. The dangers connected with these measures were very high as great damage could be done to the internal organs, even before the risk of infection. Nevertheless, as Potts et al (1977) state, there is qualitative evidence to support "a well-established, illegal abortion service", very often run by unqualified midwives.

Natural abortions, in the form of miscarriages and still births were very high in the nineteenth century, although there are few concrete rates as still births were not registered until 1874, and therefore it is very difficult to distinguish these cases where women successfully induced abortions. It is difficult, from a viewpoint almost a century later, to imagine women risking their lives several times over in repeated abortion attempts yet if textile workers' fertility rates were to be achieved by this method then that is what women must have faced. However, we cannot appreciate the dread of

childbirth which must have accompanied each pregnancy in an era of high maternal mortality and unrelieved labour pains; perhaps the risks of abortion did not seem comparatively so traumatic then. Our welfare state has also diminished the terror of having yet another mouth to feed.

Finally, in this section we would like to agree with McLaren that working class birth control practices and those of the middle class differed markedly. Birth control amongst the middle classes was probably instigated by the men, amongst the working classes it was mainly the woman's responsibility. The availability of methods to the different social strata probably means that diffusion of knowledge was probably sideways amongst peer groups rather than vertically between social classes as Banks (1954) and others have suggested. If vertical diffusion did take place it might be suggested that it travelled in an upward direction from prostitutes to the working class; these two groups being in greater contact than the working and middle classes. In towns like Keighley, with a very low proportion of domestic servants, the chances for downward diffusion would be minimal.

We must ask, however, whether textile workers were "better class" workers who resorted to preventatives or the poorer class who attempted abortion through ignorance of any other means of birth control? And if they were in the better class were they really more likely to risk an abortion attempt than other working class groups or was their knowledge of the practice that much greater that their success rate was higher?

All the sections thus far have suggested that the low rates of fertility amongst textile workers was the result of deliberate choices to limit fertility. There is, however, a body of evidence, not much

explored in recent years, which suggests that in fact reduction in fertility may not have been entirely voluntary. In the next section this question is further explored.

Section 2.7: Work, Health and the Reproductive System

While many sociological and psychological changes occurred as a result of, or as an accompaniment to mechanisation, industrialisation and urbanisation, many environmental changes were also taking place.

Housing stock and amenities were hard pressed to keep pace with the burgeoning populations of the textile centres. Water from communal pumps was often polluted by sewage. Factories and houses jumbled together with little rhyme or reason in order that the pedestrian workforce would be within easy reach of their workplace. Industrial and domestic smoke filled the air. Jerry-built houses were packed together in courts and alleyways. "Privy" facilities were very basic and often shared - sometimes by whole streets. High rents meant that whole families were cramped into one or two rooms and the taking in of lodgers to augment the family income exacerbated this situation even further; overcrowding could be ferocious. Even the "better class" of back to back housing was hard pressed to contain a large family in comfort. Cellar dwellings were a notorious feature of the textile towns although, as Mrs Gaskell illustrates in "North and South" (Gaskell, 1854-5/1970), they, like any other dwelling, could be turned into a "home" through hard work and care. As we have seen, however, not every wife in the textile areas had the ability or the time to keep a "model" house.

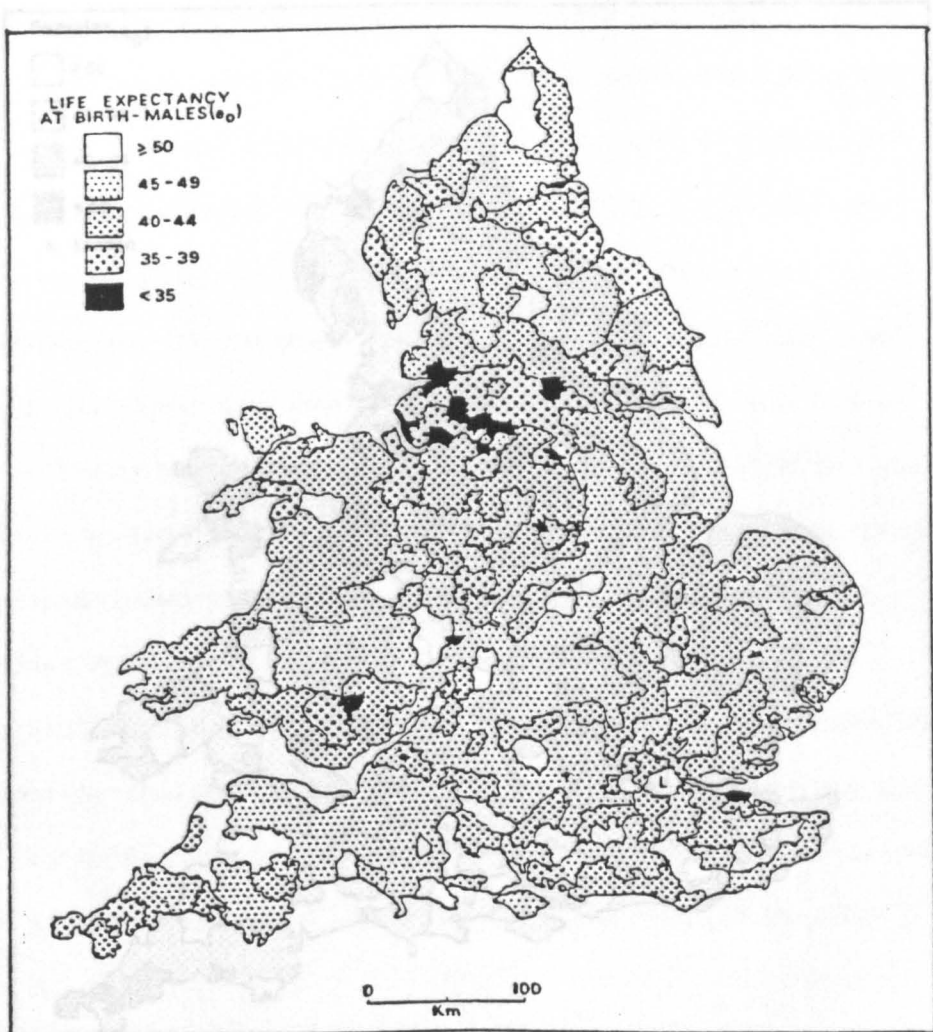
As a result of such conditions the mortality levels in these areas were high, not just among children and infants but amongst adults as

well. Figure 2.9 shows that Lancashire and the West Riding had between them some of the lowest rates of life expectancy at birth in the country. In Manchester Registration District male life expectancy at birth in 1861 was about 28½ years. For Bradford Registration District it was approximately 35 years, for Keighley Registration District it was roughly 38 years (see Chapter 5, Section 5).

It is likely, therefore, that many couples' fertility was curtailed through the death of one or other spouse although remarriage, which was fairly common, especially amongst widowers, may in fact increase the completed family size over what it would have been had the original couple survived intact. Nevertheless, if the textile workers were particularly prone to early death then this might have affected their fertility rates. However, when the Registrar General collected his data for the 1911 Fertility Census he questioned only those couples where both partners had survived until census day 1911. Therefore his fertility statistics show low fertility rates for the textile workers whose fertility was not curtailed by death (or separation or divorce which would have had a similar effect.) There is also little evidence that textile workers did have higher mortality rates than other urban dwellers in industrial districts; the towns were unhealthy places whatever one's occupation. As well as high infant death rates already seen (Figure 2.3) the low life expectancy of the areas suggests high underlying levels of morbidity.

Morbidity statistics are notoriously difficult to collect and most of the evidence comes in the form of impressionistic reports. There is little doubt that the industrial areas were plagued by deficiency diseases such as rickets and scrofula. These resulted from a lack of sunlight and poor nutrition and they were preventable

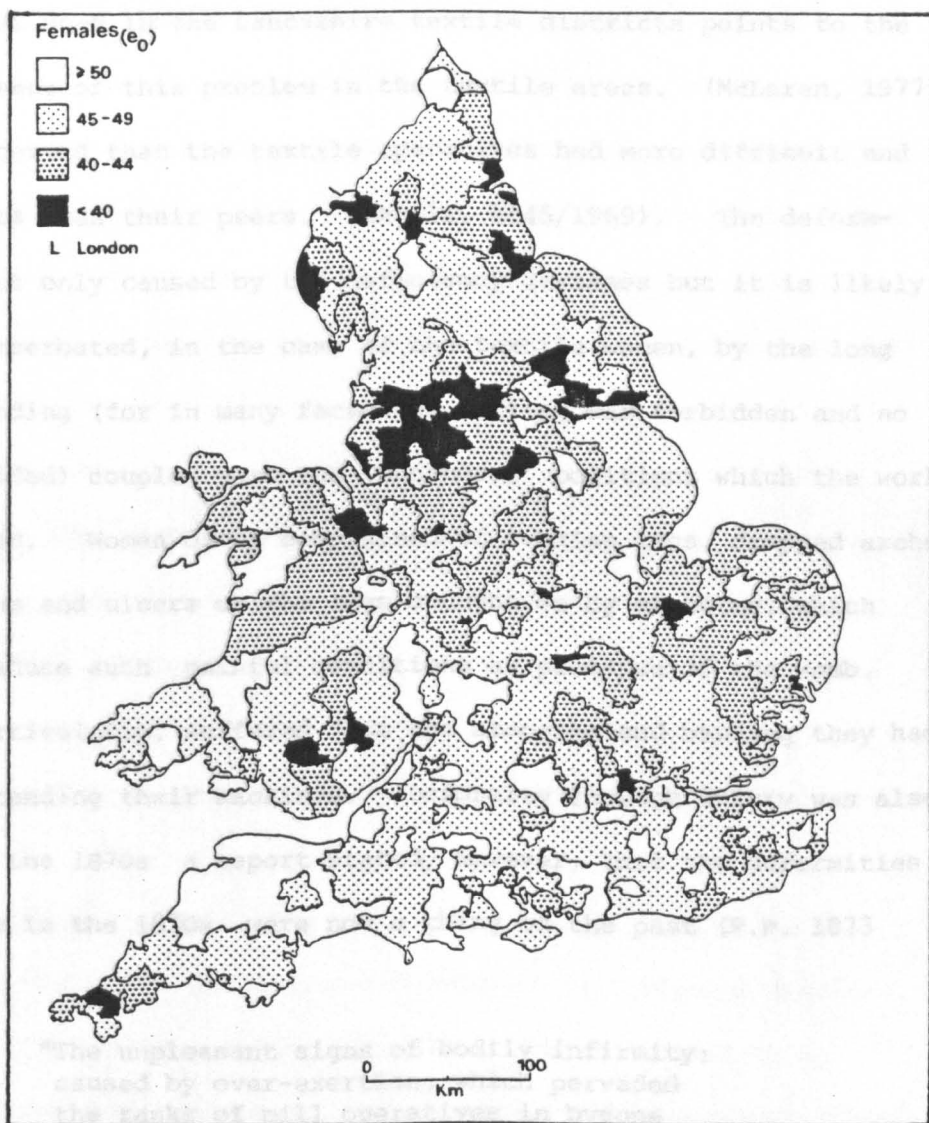
Figure 2.9.A Male life expectancy at birth (e_0), England and Wales; 1861, by Registration District.



Source: Woods, R.I. (1982b) "The Structure of Mortality in Mid-Nineteenth Century England and Wales" Jnl. of Historical Geography; 8,4 pp. 373-394.

Source: R.I. Woods

Figure 2.9.B Female life expectancy at birth (e_0), England and Wales; 1861, by Registration District.



Source: R.I. Woods.

and curable. However, if left untreated, they could pose serious obstetrical difficulties as, if the female pelvic bones became distorted, labour could be very protracted; endangering the mother and giving little hope of a successful birth. The fact that when Caesarian deliveries were first introduced into obstetrical practice they were most used in the Lancashire textile districts points to the higher incidence of this problem in the textile areas. (McLaren, 1977) Witnesses reported that the textile operatives had more difficult and longer labours than their peers. (Engels, 1845/1969). The deformities were not only caused by the deficiency diseases but it is likely they were exacerbated, in the case of the textile women, by the long hours of standing (for in many factories sitting was forbidden and no seating provided) coupled with the 'unnatural' positions which the work often demanded. Women often complained of swollen legs, dropped arches, varicose veins and ulcers on the legs brought on by standing, which could also induce such painful conditions as prolapse of the womb. Children, particularly, suffered from the stooping and bending they had to do while tending their machines. Deformity through injury was also common. By the 1870s a report stated, however, that the deformities so noticeable in the 1830s were now a thing of the past (P.P. 1873 (c754)).

"The unpleasant signs of bodily infirmity; caused by over-exertion, which pervaded the ranks of mill operatives in bygone days, and which provided Oastler, Ashley and Sadler with such strong arguments during the Ten Hours' Bill agitation, have almost entirely disappeared."

(Burnley, 1871)

In the cotton districts male mule spinners were susceptible to scrotal cancer, caused, it was believed, by sliding up and down an

oiled rod during the course of their work. This, of course, would affect their fertility but it is doubtful that the effect on the textile worker's fertility overall would be very great. There is little evidence that worsted or woollen workers faced similar problems. However, in the areas where wool was the staple fibre, a dangerous occupational hazard for the "wool sorters" - a higher status adult male occupation - was infection with anthrax which could be carried from abroad in the animal skins; not just sheepskins were used in the production of more exotic yarns. Tuberculosis was very prevalent in the industrial districts (Cronjé, 1984) and this disease can cause inflammation of both the male and female reproductive system reducing fertility before the characteristic 'decline' sets in, both of which might reduce the chances of conception. The incidence of syphilis and gonorrhoea, although not precisely known, was also considered to be very high amongst the working classes of the nineteenth century. (Thompson, 1984). Syphilis did not prevent conception but it did tend to result in still births or miscarriages while gonorrhoea impaired the ability to conceive. Both may have acted as a deterrent to intercourse.

More insidious, however, was the general deprivation which the women suffered which did not manifest itself in identifiable diseases. We have already noted that women, particularly wives tended to be lower on the food chain than men. If working and keeping house they also worked longer hours than the men. While women working elsewhere worked as long hours they had more chance to sit down and were less driven by machinery than the textile women. The distinctive feature of textile work was that, while monotonous, it demanded great concentration while the machines were in motion. The machine did not let up

so neither could the worker. This resulted in a great deal of mental and physical stress. As many workers relieved the boredom by competing against each other the stress levels increased even further. (Parliamentary Papers, 1873 (c754) LV, 803).

Numerous observers report how enervating work in the factory was. (Hutchins, 1915; pp. 1873 (c754); Burnett, 1974; Cadbury et al, 1909; Dearden, 1927). Stomach disorders were amongst the most common symptoms. This was made worse by the amount of stimulant consumed in the course of a working day, first in the form of gin and later tea (P.P. 1873 (c754)) which also depressed the appetite and therefore reduced nutritional intake even further. Virulent aemia and a related condition called "chlorosis"²² were common amongst working class women and indicated a poor diet. It could cause suppressed or retarded menses and therefore reduce a woman's chances of conceiving. As stress can also produce similar effects plus directly reduce the chance of conception, the two in combination could reduce a woman's conception chances to almost zero. The undernourishment and aemia can also combine to produce a higher risk of miscarriage, still birth and infant death which as we have seen characterised the textile districts.

Without being explicit about her sources, Frisch (1978) calculated that one quarter of women working in the mills suffered from retarded or suppressed menses. She also suggested that during the nineteenth century the average age at menarche was 15-16 years. This was followed by a period of "adolescent sterility" when conception was unlikely to occur. A woman would be fully capable of procreation at about age 22 and at her fittest for procreation between the ages of 25-29. She would cease to have children about age 40 when her natural

fertility declined and would be menopausal at about age 47.

One contemporary observer in the textile districts, however, believed that:

"The employment of young girls (in the factories) produces all sorts of irregularities during the period of development. In some, those who are better fed, the heat of the factories hastens the process...the abnormally early development revenges itself by correspondingly premature age and debility...on the other hand retarded development of the female constitution occurs ...menstruation first appears in the seventeenth or eighteenth, sometimes in the twentieth year and is often wholly wanting. Irregular menstruation, coupled with great pain and numerous affections; especially with aenæmia, is very frequent, as the medical reports unanimously state."

(Engels, 1845)

If a girl did not start her periods until she was twenty she may have been almost in her thirties before she could successfully carry a pregnancy to term.

Clarke (1858) suggested that the stress could be relieved by absence from the mill and rest. It may be, therefore, that, having worked in the mill since their early teens, newly married girls found that, with their menstrual problems and the stress they were under, working full time and having to keep house, conception took some considerable time. If the birth of the baby meant, however, that they left work much of the stress was relieved and further conceptions were "easier". If this were the case then we might expect to see unusually low fertility amongst young married women but reasonable levels of fertility in the older age groups. This might also help explain the low level of illegitimacy in the textile areas as a much greater exposure to intercourse would be needed to produce the same level of illegitimacy as those areas where conceptions and births were more

frequent, stress levels being lower and nutrition higher. Any population, of course, will have a percentage of involuntarily infertile couples. This has been calculated to be as high as 10 per cent in some cases. (Kiser & Whelpton, 1958; Wilson, 1986). In the textile districts, in such a case, if the wife was working she may never leave her job in the factory as she had no family to look after, thus a higher proportion of subfecund and infertile women would be found amongst the older age groups of the female textile workers than in the population as a whole.

This, of course, allows for a population where the husband could support a non-working wife and a growing family. While some male textile workers, such as overseers, were undoubtedly very well paid, in many cases wives worked because they had to, their husbands income being insufficient to support a family. (Black, 1915; Anderson, 1971). In these cases mothers worked very late into pregnancy, needing to save up for the birth, and then returned very quickly afterwards in order to preserve their job and earn the income needed now that the family was one larger.²³ The effects on the infant mortality rate have already been discussed but the number of pregnancies not brought to term must also have been high. The mother's health must also have suffered, which boded ill for future pregnancies and if her ailments were sufficient to stop her working might also mean deprivation for her existing family.

The validity of these claims is not easily judged. In an era where matters sexual were seldom discussed between mother and daughter it is even less likely that they would be discussed with a doctor, especially amongst a population who only resorted to the medical authorities in a great emergency because of the expense and had to

save up months in advance in order to pay the doctor's fees for a confinement (Davies, 1915/1978). Even today older women very often decline to tell male doctors about their "women's troubles". Thus the extent of the problem may never have been realised and this is why little attention has been hitherto devoted to this aspect of nineteenth century life. A lesson can be learned from the fact that women's needs in sanitation were not recognised in factories until the advent of female factory inspectors (Hutchins, 1915).

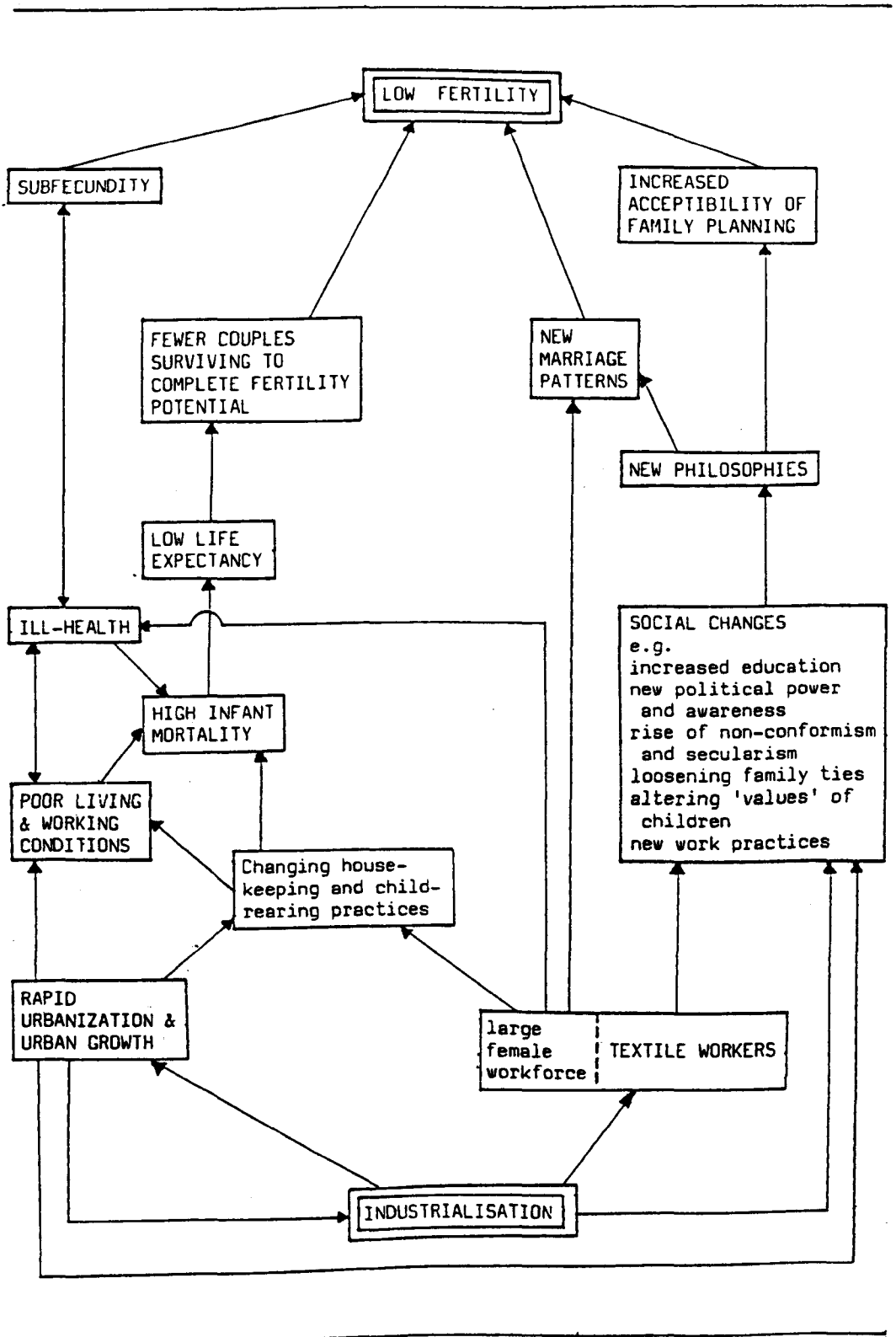
The argument that combinations of stress, hard work, long hours and an insufficient diet²⁴ can produce high infant mortality rates and low fertility rates does, however, match observed demographic rates. Thus, despite protestations that lower rates of fecundability were not behind the decline in overall fertility observed in the nineteenth century, it is possible that such factors were operating in the textile areas helping to reduce fertility there.²⁵

Section 2.8: Conclusion

The mechanisms which may have been acting to reduce fertility amongst nineteenth century textile workers and which have been discussed above are illustrated as a flow diagram in Figure 2.10.

This "model" is merely descriptive and is neither spatially nor temporally defined. It can, however, be divided into two halves, into the two types of element which might have been instrumental in lowering the textile workers' fertility levels below those of their working class contemporaries. On the right are the "philosophical changes" which may have made textile workers more receptive than their peers to the concept of birth control, and on the left hand side are the environmental changes which the textile work force experienced

Figure 2.10 Factors possibly affecting the fertility of textile workers.



more severely through their early induction to the rigours of industrial life and which may have affected fertility physiologically.

The diversity of the reports which depict textile life does not make it easy to distinguish which factors were more likely to be at work. Were the married women who worked in the textile mills forced to do so in order that the family had sufficient income to survive and was the consequent sacrifice and effort taking a toll on their reproductive systems? Or were these women

" inclined to regard industrial employment
...as their occupation for life far more
than domestic management... (working) not
merely for a minimum standard wage, but
(aiming) at a considerable margin for
saving and for greater comfort of living "

(Collet, 1894)

and therefore prepared to limit their fertility in order to more easily achieve these aims?

The two views are represented in Figures 2.11 and 2.12. In the next chapter we investigate which is the more likely scenario in Keighley between 1851 and 1881 and proceed to hypothesise which pathway from industrialisation to textile work to lower fertility we might expect to find in this worsted town.

Figure 2.11 "Victoria Road, Saltaire."
A typical scene in the textile districts?



Source: Bradford Metropolitan Libraries Scrapbook. DB5, Case 34.

Figure 2.12 "Factory Girls Returning From Work".
A typical scene in the textile districts?



Source: Bradford Metropolitan Libraries: Daily Graphic ,
3rd. July 1890.

Notes for Chapter 2

1. In 1797 George Bentham had advocated use of "the sponge" to reduce the Poor Rate (Peel, 1963), although, of course, birth limitation had been desired and apparently practised as far back as ancient civilisations. Egypt, Greece and Rome have all left recipes for, and "useful tips" on, avoidance of pregnancy. (Himes, 1970; Green, 1971).
2. It may be argued that amongst involuntarily fertile couples advances such as in vitro fertilisation have created a more market-like decision process where positive decisions are made to have a child.
3. A note by Duesenberry sums up the schism between the two disciplines: "economics is all about how people make choices, sociology is all about how they don't have any choices to make." (Andorka, 1978).
4. With reference to textile workers some examples of these sources include:

Autobiographies: included in the selections of Vincent (1982), Burnett (1974), Hellerstein et al (1981), Thomas Wood, Autobiography of a Life in Keighley 1822-1880, no publication date.

Government Reports: Royal Commission on the Employment of Women and Children in Factories: P.P. 1833 (450) XX, 1833 (519) XXI, 1834 Supplementary Report (167) XIX.

On Proposed Changes in Hours and Ages of Employment in Textile Factories, P.P. 1873 C754 LV 803.

J.H. Bridges and J. Holmes.

On the Death of women, Children and Young Persons engaged in textile manufactures with special reference to hours and ages of employment.

Observers: Clarke, (1888); Cobden (1st edn, 1853), Cudworth (1887), Burnley (1971), Engels (1845), Fielden (1836), Room (1882) Jevons (1882), Cooke Taylor (1874 1876) Reach (1849), Jones (1857).

Novels: Mrs Trollope: The Life and Adventures of Michael Armstrong the Factory Boy. 1840, London, Colburn.

Mrs Gaskell: North and South (1854-5); Mary Barton (1848)

5. See for example: Report of the Select Committee on the Protection of Infant Life (Parliamentary Paper No. 372, 20 July 1871, Collected Series Vol. VII, p. 607) See Jevons 1882.
6. See such works as Lady F.E.E. Bell (1907), Black (1915), Cadbury et al (1909). Collet, (1984), Dudfield (1908), Elderton (1914), Hutchins (1909 & 1915), Martin (1911), Papworth & Zimmern (1915)
7. Not only conditions but personnel differed from sector to sector. Spinners in the cotton districts were grown men in a highly prestigious position. In the woollen and worsted areas 'spinners' were usually teenage children, many "half-times" going to school for part of the working day, earning low wages. As they grew older they would progress to weaving if they were female (after the 1840s) and either gain more prestigious jobs in the mill or move into some other industry if they were male (after the 1850s).
8. Examples of differences in machine/material compatibility include the fact that power looms were adopted much more quickly in the worsted areas of Yorkshire than the woollen areas because the much looser, softer, woollen yarn was broken more easily by the early machines. Conversely, wool carding was mechanised much earlier than worsted combing; the different length of the fibres used creating problems for the machine designers. (Jenkins & Ponting, 1982).
9. Protest against mechanisation was both vociferous and silent. In some areas at certain times it took the form of strikes and machine breaking (Johnstone, 1976). In others men simply refused to take the jobs which they saw as "de-skilling". Thus power loom weaving (in the worsted areas) became a woman's job (the machinery lightening the strenuous action necessary) although all the skilled hand-loom weavers had been men. The craftsmen valued their autonomy and were disinclined to submit to the discipline of the factory (Thompson, 1963).
10. The use of a signature in the marriage register as a measure of literacy has been much debated but for lack of other evidence has been widely used. A major item within the debate is the degree of literacy which being able to write one's name entails; reading ability may have been considerably more widespread as this skill tends to be learnt before writing.
11. Although the noise of the machinery could be deafening it is reported that the hands could lip read sufficiently to hold conversations. The modern day comedian, Les Dawson, specialises in skits based on those soundless exchanges which he claims to base on observations of mill workers in his native Lancashire.
12. The title to Sections 4 and 5 are lines from a (rather inaccurate) rhyme written with the Bradlaugh-Besant trial in mind:

"Said the good Mrs Besant,
 To make all things pleasant,
 If of children you wish to be rid,
 Just after coition,
 Prevent all fruition
 And corpse the incipient kid.

Anon. (Green, 1971)

13. The number of illustrations taken from Green's "Curious History of Contraception" (1971) is not due to that being the sole source of information on pre-20th century contraception (see Himes, 1957/1970) but Green's book has the most varied selection of birth control methods visually depicted.
14. The "Stem pessary" - a stem like object, sometimes with loops on the end, was inserted through the cervix into the womb and therefore acted in a fashion very similar to the modern IUD. The device had a history going back as far as Hippocrates but it was most often used to promote fertility not to reduce it (Green, 1971).
15. Quinine acts as a spermicide. It is still used in contraceptives today.
16. Where accommodation was crowded sleeping arrangements would sometimes be reorganised when the children in a family began to reach puberty. The mother would end up with all the girls in one room, and the father with all the boys in another (Roberts, 1984). Thus separate rooms were achieved, in a way even less likely to promote fertility than that probably envisaged by Austen.

 A further working class account (Williamson, W., 1982) relates that children were surprised to find their mother pregnant again as they could not work out when their parents had been alone together long enough for intercourse to take place.
17. Further acts were passed in 1828 and 1837 (McLaren, 1979).
18. Marie Stopes was very much pro-birth control because it prevented the need for abortion, to which she was fervently opposed (Hall, 1978).
19. An ex-pharmacist assures me that such "female pills" were on sale as late as the 1950's, although by then the term had come to imply a preparation which would induce an abortion.
20. A South American tree bark which was either infused or chewed.
21. The National Birth Rate Commission in its 1916 Report on "The Declining Birth Rate - its Causes and Effects" roundly condemned such use of lead plasters. They suggested that the plasters should cease to be manufactured and their sale made a penal offence. In addition, or at the very least, all lead salts or compounds should be designated as "poisons" and only sold on prescription. This suggests that the abortifacient properties of lead pills were well known and widely used.

22. Chlorosis: or "the green sickness" was a form of iron deficient anaemia. It was particularly prevalent amongst pubescent girls in the Victorian era but has since disappeared. It could cause suppression of the menses. (Hudson, 1977).
23. R.W. Cooke Taylor as an Inspector of Factories argued in 1874 that women should be forced to stay away from the factory before and after their confinement to prevent damage to the health of the mother and baby. There had been little concern for maternal health before this.
24. Some idea of a textile worker's diet can be gained from Table 3.13, although when times were hard spending on foodstuffs was curtailed as shown in Table 3.12.
25. In 1915 Hutchins reported Mr Arthur Greenwood*as quoting medical opinion to the effect that:

"the industrial stress to which several generations of women in the textile districts have now been subjected is responsible not only for serious disease, but even for sterility among women."

*The Schoolchild in Industry , A. Greenwood,
Workers Educational Association.

CHAPTER 3.

Nineteenth-Century Keighley

"The parish...with little which can interest the eye, the memory, or the imagination."? (1)

Section 3.1: Introduction

In Chapter 2 some of the factors which may have reduced, or helped to reduce, the fertility levels of late-nineteenth-century textile workers below those of their peers were considered. Most of the statements, opinions and observations consulted concerned the "Textile Districts" and "Textile Workers" as a whole. Conditions and circumstances varied from area to area within the textile districts, however, and as a result textile workers in one town may have experienced certain of the factors discussed in Chapter 2 in a different combination at a different time from workers in another textile town. In Chapters 5 and 6 the fertility behaviour of the inhabitants of the town of Keighley, in Yorkshire's West Riding, between 1851 and 1881 will be investigated. The aim of the present chapter is to explore the context in which that behaviour was measured and observed. Certain of the themes followed in the preceding chapter will be expanded using data specifically from Keighley or its nearneighbours. A variety of data sources have been utilised, and Chapter 4 discusses the merits and pitfalls of the major ones. Nevertheless, many aspects of contemporary life in the Keighley area remain untouched and for those who wish a more detailed picture Dewhurst (1974), Hodgson (1879) and Johnstone (1976) are recommended as further reading.

If Chapter 2 considered "the Textile Districts", this chapter looks at one community within these districts, Chapter 5 considers groups within that community and Chapter 6 is concerned with individuals within these groups. By looking at behaviour and the factors influencing and being influenced by it at these different levels it is hoped that the relationship between industrialisation, women's work and fertility might be more clearly defined.

Section 3.2: The Story as Far as 1851

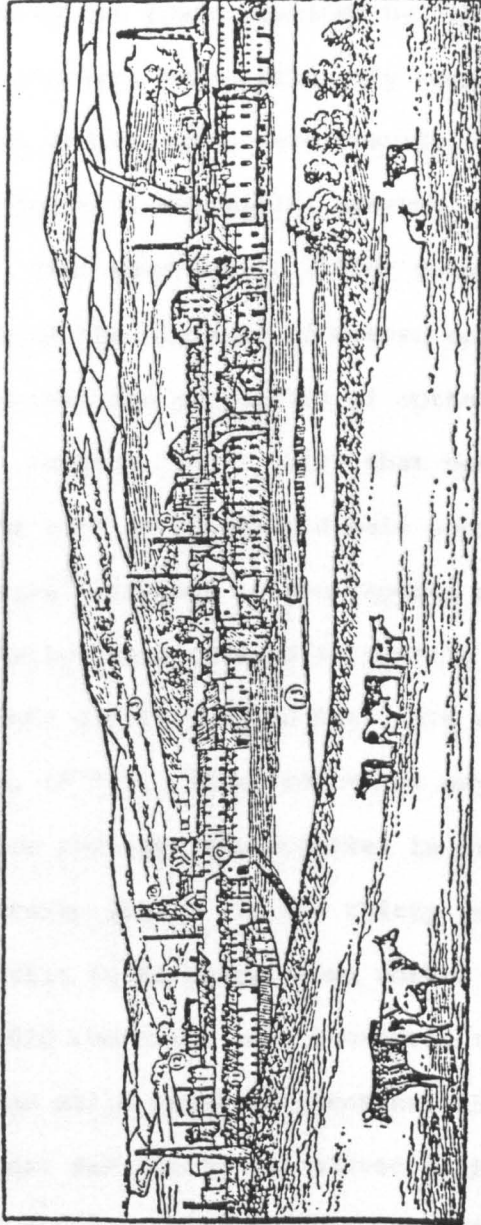
"This town, the head of a union in the east division of the Wapentake of Staincliffe and Eucross, west riding of York, 44 miles (W. by S.) from York and 210 (N.N.W.) from London, is seated in a beautiful valley near the confluence of the rivulets Worth and North Beck, which, uniting their streams, flow into the river Aire about a mile below the bridge."

(Ranger, 1855)

Thus wrote the Superintending Health Inspector in the introduction to his report on the "Sewerage, Drainage, Supply of Water and Sanitary Conditions of the Inhabitants of the town of Keighley." Figure 3.1. pictures the town, which Ranger found much less attractive than its surroundings, about a decade before his visit, and some six years before the start of the period of the study. Already the industrial nature of the town is signalled by the factory chimneys protruding over the rooftops.

Shalloon² weavers first appeared in Keighley's parish registers in 1724 (James, 1857/1968) but when the first textile mill in the town, indeed in the whole of Yorkshire, began work in June 1780 it was devoted to cotton spinning. It was not until 1808 that Keighley's first worsted spinning mill went into production. The cotton industry

Figure 3.1 Keighley in 1846.



Keighley in 1846.

"The above view is taken from an old drawing of Keighley....It will be seen that the drawing was made from the east side of the town. The mill in the centre belonged to Mr. Joseph Keighley, the elder, and is the site of the present premises of Sugden Keighley & Co. Ltd. (1) East Parade; (2) Fleece Mills; (3) Highfield Lane; (4) Roper's warehouse; (5) Wesleyan Chapel; (6) the Rectory (?); (7) Mr. Joseph Keighley's mill, Low Street; (8) Messrs. Briggs' mill, Calversyke Hill; (9) Mr. James Mitchell's mill, Coney Lane; (10) Parish Church; (11) Mr. Blakey's mill, Low Bridge; (12) dwelling houses, Oakworth Road; (13) River Worth."

tended to lead in the process of mechanisation, the fibre being more suited to machine handling.³ Inventions then percolated eastwards across the Pennines to Yorkshire where the woollen and worsted industries would adapt them to suit the idiosyncrasies of their chosen fibres. Attracted by the power provided by the Pennine streams Keighley's early factories, being primarily engaged in spinning, which required nimble feet and fingers, were heavily dependant on child and female labour. Outside of the mills, however, the fibre being worked by hand was wool. Thus when Lawton (1954) drew up a map compiled from an 1803 muster list of the district of Craven only men of recruitment age were listed and thus the proportion of cotton workers appeared relatively small. Hodgson (1879) notes that between 1810 and 1820 approximately 80 per cent of Keighley's male population were employed in combing and weaving⁴ although Lawton reports only 54 per cent of the enrolled male population were engaged in textile manufacture in 1803. These men were thought poorly paid as they were earning less than 10s⁵ per week (Hodgson, 1879). These low wages may have encouraged wives and children to enter the new manufactories in order to raise the family income above the poverty line. In the thirty years after 1780 some 20 cotton mills were built in Keighley, some worked both cotton and worsteds but from 1810 almost all were converted to spin worsteds. By 1835 only four cotton mills remained (Jenkins, 1979). Cotton retreated from the Keighley area and "became localised in Barnoldswick and Settle, in Wharfedale and the Ribble Valley." (Lawton, 1954, p. 104). However, during the 1840's, '50's and '60's the worsted weaving industry was to make extensive use of cotton warps in their "mixed" cloths and thus the Yorkshire cotton industry was rather more tightly knit to the fortunes of the worsted industry than to those of the Lancashire cotton industry.

In 1844 Keighley had 14 firms producing cotton warped worsteds or "lighter stuffs".

In 1822 the first power loom was introduced into the area (Feather, 1972) but it was not until the 1840s that hand loom weavers would feel the full force of "technological redundancy". Power loom weaving was, from its earliest introduction a female job, perhaps due to the fact that women were already employed in the factories whereas their menfolk valued the independence they had in their work and could not be persuaded into the mills. This, not unfounded, fear that machines would demean and demote their skills may also have prevented hand loom weavers from taking on factory work. The fact that the new machinery lightened the relatively heavy task of weaving sufficiently to allow it to be undertaken by women was, no doubt, much to the advantage of the employers as female wages were lower than those which would have had to be paid to men, although by female standards they were amongst the highest in the land, being second only to those in the cotton industry. Nevertheless, a mill girl would have to work hard for her wages and until, and even after, the legislation discussed in Chapter 2 (see Table 2.1) was enforced the supposed "lightness" of the work was more than offset by the very long and tedious hours of daily labour.

Keighley's Union Surgeon, lecturing at the Mechanics Institute in the town in 1847, mentioned how

"a great number of female factory workers have ...swollen feet or ankles...(and) other complaints from which they frequently suffer...(are) congestion of the liver...relaxation of the ligaments of the uterus, prolapses of that organ, abortion and haemorrhage".

He also remarked,

"the motion of our large workhouses (factories)
...produces in females premature labour"

(Milligan, 1847)

But more of health matters later.

Many of the displaced hand loom weavers moved into hand wool combing, an occupation whose skills were easily learnt, as their industry died. Feather (1972) working on the nineteenth-century census returns for Oxenhope, a small town 4 miles to the south of Keighley, notes a 45 per cent decrease in the number of weavers and a 40 per cent increase in the number of hand combers between 1841 and 1851, although this change did not solely represent direct movement from one occupation to another. For instance young men were no longer becoming hand loom weavers but preferred to enter combing shops. The combing industry was becoming over supplied with labour, however. The combers, once "politically" powerful due to the industry's dependence on their product, now found themselves losing their bargaining power and their wage levels as a result. This was not helped, it was believed, by the large influx of Irish immigrants to the area in the wake of the 1840's Potato Famine. As we shall see later in this chapter Irish men, at this time, did not find work in textiles but preferred to take labouring jobs in agriculture. It may be that as agricultural work was the employment which hand combers normally sought in slack periods, they now found themselves trapped in their combshops, these alternative jobs being taken, unable to relieve the pressure of numbers which in turn might have allowed wages to rise a little.

The 1830s and 1840s were, therefore, unsettled times for the textile population of Keighley. Strikes, riots and turnouts added to the tension culminating in a 22 week-long strike of hand combers and weavers 1846-7. The Trade Union movement was revitalised and Keighley for a time, became a centre for radical activities (G.M. Smith, 1982). These rumblings continued but between 1848 and 1850 trade picked up and

combers' wages rose again. This was simply a swansong, a lull before the storm of redundancy broke yet again.

Alongside the developing textile industry, worsted machine making was enjoying rather more humble beginnings. In 1789 Berry Smith began production of bolts and screws. By the 1820s several firms were producing worsted spinning frames and associated paraphernalia and, while components for hand looms had been being forged for several decades, power looms joined the list of products in 1834 (Dewhurst, 1974).

By 1850 Keighley had 39 textile mills; 17 devoted solely to spinning and employing 1013 hands, 8 which only carried out weaving employing 863 hands and 14 in which both weaving and spinning were conducted, employing 2581 hands (James, 1968). Three years before, the nearest comparable date, White's West Riding Directory listed

"seven wool comb makers, six read and heald makers, nine manufacturers of rollers, spindles and fliers (6), six iron founders, nine braziers, seven machine makers, (and) four nail makers..."

(Dewhurst, 1974)

This very rough outline of Keighley's industrial history brings us to the middle of the nineteenth century. Let us now consider the fortunes of the town and its inhabitants over the ensuing 30 years by examining, amongst other sources, the evidence evinced by the census enumerators' returns for 1851, 1861, 1871 and 1881.

Section 3.3: Divisions of Labour,⁷ 1851-1881

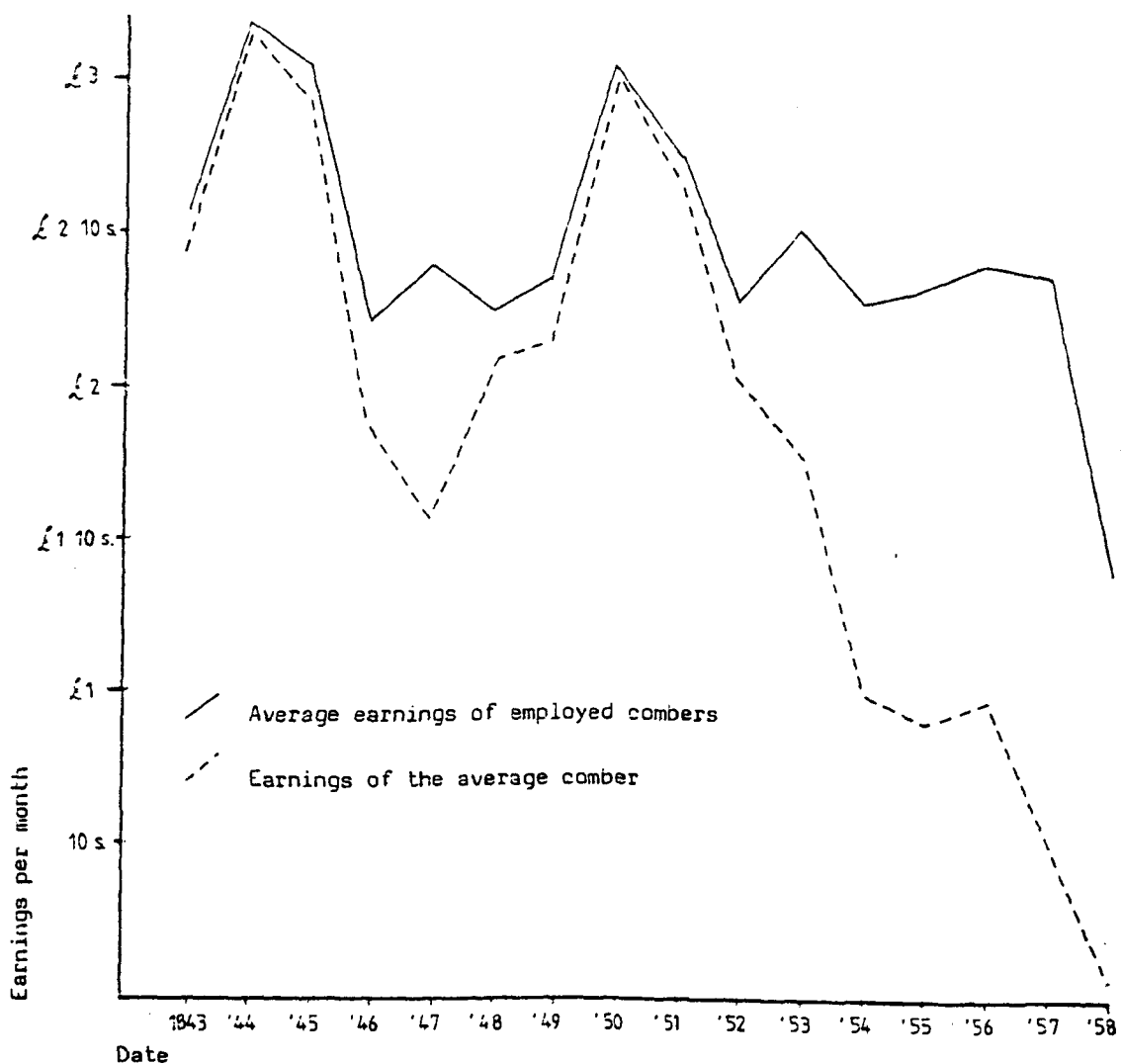
The unsettled atmosphere of the 1840s was followed, in the 1850s, by a period of increased productive capacity and factory production

within the worsted areas. Those textile workers in employment, and these included many men in the more skilled occupations in the textile process, saw their wages increase and their hours fixed in 1850 to a standard twelve hour day; 6 a.m. to 6 p.m. or 7 a.m. to 7 p.m. (Neff 1929/1966). This generally bright picture was overshadowed by the plight of the hand-loom weavers, and more especially perhaps, by the devastation which was to be wrought over the decade by the introduction of power-driven combing machines. The first of these had, in fact, been introduced in Bradford in 1841, but it was not until the 1850s that their full impact was felt. Capable of doing the work of one hundred men, although the feeling remained for some time that hand combed fibre was superior to machine produced, the machines had made combing shops almost completely obsolete by 1861 (Feather, 1972). The men displaced by the technological changes took jobs requiring little skill in other industries. For many this was the beginning of a "retraining period"; there was little adaption to the new textile jobs of power weaving and combing; the men preferred (or had little choice but) to send their wives and children into the mills. In a town such as Keighley where combers and weavers had formed the majority of household heads, their unemployment must have had a swingeing effect on the economies and intra-familial relationships of the majority of Keighley households. Child and female labour must have been a crucial factor in the financial outlook of many families as well as to the industry as a whole. The attitudes engendered by the contribution made by wives and daughters to family upkeep over the 1840s and 50s may well have been tinged with more respect, equality and understanding between the sexes than found in other areas of Victorian society.

Figures 3.2A and 3.2B graph wages figures given by Johnstone (1976) for combers and power loom weavers in one "typical" Keighley factory. Although they do not cover exactly the same time period it is easy to follow the 1840s depression in woolcombers' wages followed by recovery and then a final plunge into obscurity. Johnstone also cleverly illustrates the level of under- and un-employment amongst the work force by giving the monthly earnings of these men in full employment and, in parallel, the earnings of an "average" worker. Thus, in the 1850s, not only did combers suffer a substantial decrease in wage level; unemployment levels were so high that few men were able to earn even the meagre sums on offer. In 1854 the average comber was earning less than 5s.⁸ a week. Weavers, in contrast, while experiencing a slight wages slump in the 1850s suffered far less unemployment and, if their father or husband was a comber, they may well have been the household's main breadwinner as they were bringing home 8s. a week or more, for most of the decade. Admittedly these figures are for only one mill. Others were later in installing machinery and some hand combing lingered, especially amongst the older generation of men in the more rural districts. By 1871, however, hand combing was all but extinct.

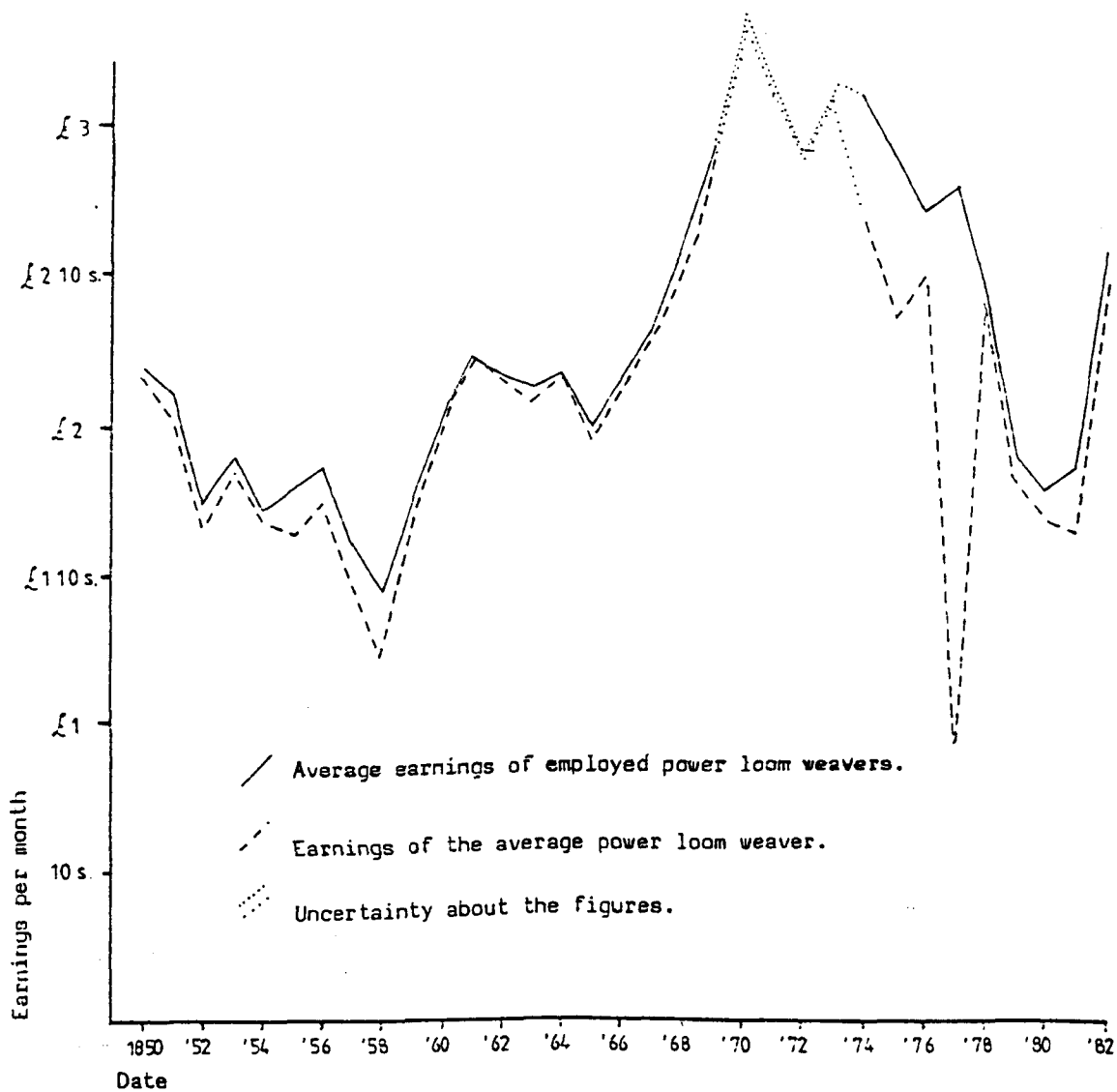
The graph of weavers' wages mirrors the general trend in the worsted industry for the 1860s - upwards. At the beginning of the decade trade was so good that labour supply was a problem (Jenkins & Ponting, 1982). The American Civil War effectively curtailed the export of cotton, pushing up prices and resulting in the Cotton Famine (1862-3)⁹ in Lancashire. Worsteds were, therefore, more competitively priced and consequently increased in popularity; they became fashionable. They also had the advantage over woollens which were suffering

Figure 3.2.A Annual average monthly earnings of hand combers, 1843-1858, Grove Mill, Ingrow. The wages of employed combers compared with those of the average comber.



Source: Johnstone, C. (1976) "The Standard of Living of Worsted Workers in Keighley during the Nineteenth Century." (Unpublished Ph.D. thesis, University of York.)

Figure 3.2.B Annual average monthly earnings of power loom weavers, 1850-1882, Grove Mills, Ingrow. The wages of employed power loom weavers compared with those of the average power loom weaver.



Source: as Figure 3.2.A.

from foreign tariffs and competition. Even after the Cotton Famine ended demand for worsteds remained high and consequently weavers' wages rose and unemployment amongst them was virtually unheard of. By the mid-1870s the tide had turned. "Fickle fashion" swung away from worsteds and, with foreign tariffs penalising heavier cloths, they fell into a decline. Keighley was particularly badly hit as there the heaviest worsteds were produced¹⁰ (Jenkins 1972). The Yorkshire textile industry was in a "chronic depression" by the late 1870s (Singleton, 1970). Keighley's importance as a worsted weaving centre declined, and spinning came back into its own with an increase in wages for the "half-timers" and "young persons" who made up the bulk of the spinning work force. As Figure 3.2B indicates weavers' wages would recover as the 1880s progressed but 1880-81, where we last see them, was the nadir of a wages trough.

Weavers, combers and spinners made up the majority of Keighley's textile work force in the early part of the study period. Other textile occupations were also prominent, however, and they too experienced cycles of boom and slump. Johnstone (1976) discusses the fortunes of a comprehensive list of such occupations and those wishing a deeper insight into wages levels within the separate branches of the industry should consult her work. In synopsis, however, her observations can be illuminating to the present discussion. "Overlooking", the job of supervising the workers responsible for different processes within a mill, was a highly paid, stable job; wages rising with age. Wage rates in different branches of the industry varied; in the 1860s and 1870s monthly wages lay, on average, between £4 and £6.

Woolsorters¹¹ were considered to be highly skilled and tended to be strongly unionised. The wool was sorted by eye - a knack which

could take some time to develop and was invaluable to the employer who stood to lose both time and money if poor sorting resulted in low quality yarn. Exclusively male, the job was highly regarded although the risk of catching the "Bradford Disease" (anthrax) was quite substantial, especially if working with more exotic fleeces from abroad (Wohl, 1983) (see Figure 3.4.). In 1871 sorters' wages averaged £4 per month.

Warpdressing¹² too was well paid, but was rather less secure than the previous two occupations. In the analysis of fertility which follows (Chapter 5), these three occupations have been designated "Higher Status Textile" occupations.

In contrast, by the beginning of the study period, combers and weavers had sunk to form a lower status group. Also in this group are those designated here as "special textile" workers. This latter group encompasses all the women, children, young persons and men who returned themselves as working in textile occupations other than overlooking, combing, sorting, warpdressing, weaving and spinning. These include pieceners, twistors and drawers, "mill girls", finishers and "mill hands". The latter term is used by Johnstone (1976) to denote a predominately male group of skilled or semi-skilled workers amongst whom unemployment was "almost non-existent" but whose wages were considerably lower than those paid to men in the higher status occupations. In the census enumerators' books, however, "mill hand" seems to have been used as a generic term for anyone who worked in a textile factory. When married men only are considered "special textiles" is probably more akin to Johnstone's "mill hand" as all the other groups covered by the former term are predominately composed of children, young persons or women. The exception is "finishers" but the number of those is to be found in the

Figure 3.3 A notice of regulations to safeguard against anthrax or "Woolsorter's Disease", published in 1888.

BOROUGH OF KEIGHLEY.

WOOLSORTERS' DISEASE.

REGULATIONS TO PREVENT THE DISEASE.

These Regulations were approved by the Council of the Chamber of Commerce at a meeting held on the 5th December, 1887.

At a meeting held on the 28th September, 1887, the Woolsorters unanimously agreed that these regulations were sufficient protection for them.

These Regulations were passed at a meeting of the Town Council held on January 2nd, 1888.

1. The Sorting-rooms of all classes of Van Mohair, Persian, Pelitan, Camel Hair, East Indian Cashmere, Alpaca, and Dusty or Limey Wool shall be provided with extracting fans, so arranged that each sorting board shall be independently connected with the extracting shaft, in order that the dust arising from the material being sorted may be drawn downwards, and thus prevented from injuring the sorter.
2. The bales of the above-named materials shall be opened over a large grate, provided with an extracting fan, by a person capable of judging of the materials. All fallen fleeces or damaged material shall be removed, and either washed without sorting, or disinfected.
3. All pieces of dead skin, scab, and clippings or "shearlings" must be removed weekly from the Sorting-room.
4. No sorter having any exposed open cut or sore upon his person should be allowed to sort.
5. A place shall be provided in which the Sorters can leave their coats outside the Sorting room, or in some suitable place covered over during working hours.
6. Proper provision shall be made for the keeping of the Sorters' food out of the Sorting-room, or in a closed closet, during working hours. No meals are allowed to be taken in the Sorting-room.
7. The Sorting-room shall be warmed during cold weather.
8. Proper provision shall be made for the Sorters to wash in or near to the Sorting-room.
9. A Copy of these precautionary Regulations shall be hung up in a conspicuous place in every Sorting-piece.

GEORGE BURR.

January 2nd, 1888. Town Clerk.

Source: Annual Reports of the Medical Officer of Health for the Borough of Keighley, 1883-1896. (no publisher or place of publication given.)

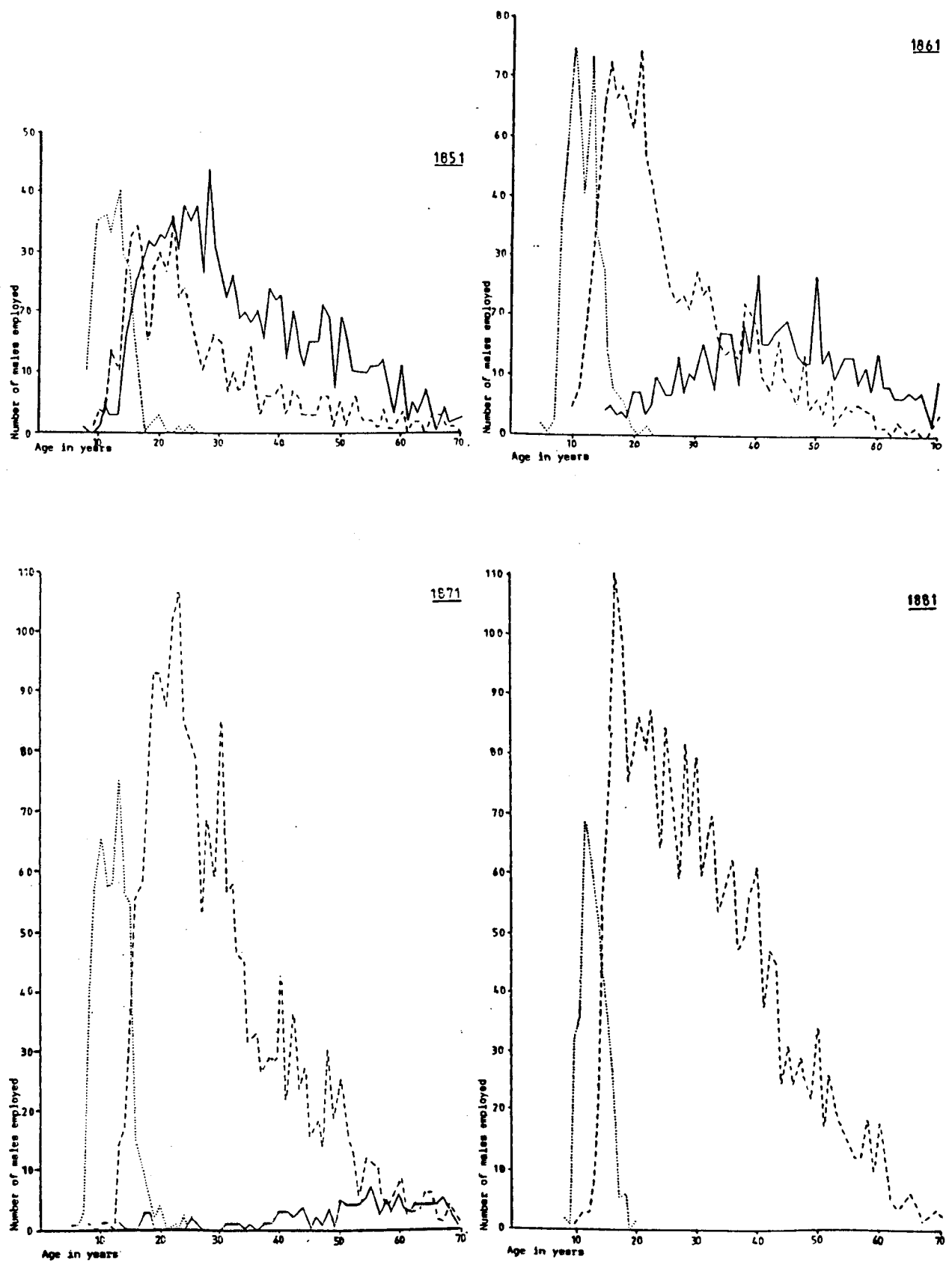
returns of the Keighley study area is very small.

It should not be forgotten that although Keighley's urban-industrial centre was attracting many people, because of its employment opportunities, the increasing population may well have pushed some textile processes requiring space or clean water out of town and therefore out of the study area. Figure 4.1 which shows the location of hand combers working for Robert Clough, helps to illustrate this point. Many of the combers had their "shops" in the town's rural hinterland, coming into town to collect the wool to be combed from their masters' representative and returning the combed "tops" at the same time.¹³ Many of these men were helped by their women folk who returned themselves as being combers¹⁴ but in Keighley a female comber was a very rare individual. Women in the town who wanted to work found employment in the factories - female combing was, therefore, a "rural" occupation. Hand weaving too was found later in the rural districts because those wishing to work with power looms would move into town to be near the factories.

Finally, while the attraction of employment acted as a "pull" to immigrants the demise of the combing and handloom weaving industries acted as a "push". As we shall see in Section 3.5 the 1850s saw large amounts of emigration especially amongst the community's young males.

However, the metal-mechanical industries were growing apace both in the 1850s and, more markedly, in the 1860s, providing a new demand for male labour. By 1881 there were more men working in this sector than in textiles, a situation which would remain unchanged into the twentieth century. Not only worsted machinery was being made but all manner of domestic equipment and other appliances; an advertisement reproduced in Dewhirst (1974, p. 93) lists wringers, mangles,

Figure 3.4 Changing employment structure amongst males in Keighley, 1851-1881.



Source: Census enumerators' books.

Key: — combers
 - - - metal-mechanical workers
 . . . spinners

washers and sewing machines as well as chaff cutters, oil cake breakers, turnip pulpers and currant cleaners!

It would appear from evidence outlined in Chapters 5 and 6 that there was seldom a straight transition for men from the declining textile industry to the growing metal-mechanical sector. New skills had to be acquired and it would appear that many men who left combing went first into agriculture or general labouring until they managed to enter the machine shops as labourers. From there skills might be learned which would enable upward progress to be made. For the sons of these men new "career" paths were developing. This change is illustrated by the sequence of graphs in Figure 3.4.

In 1851 combing was still the dominant male occupation with the bulk of the men being between 15 and 40 years of age. Metal-mechanical work at this stage included a lot of smithying requiring strength and stamina. It was therefore predominantly "young man's" work; the majority being in their teens and twenties. Before the age of 15, the main occupation, as it was amongst girls, was spinning. After age 13, when a boy was no longer a "child worker" but a "young person", the number of male spinners began to decrease as the adolescents followed their fathers into the combing shops, or their brothers into the metal-mechanical industry. By 1861 this choice of occupation had become more limited. Very few young men were going into combing. Metal-mechanical work was the main employer of men in their late teens and twenties (although the effects of age were still apparent in the sharp decline in numbers employed after age 30). Combing had become the preserve of those over 40. Those men young enough in 1851 to leave the latter business and relearn a new trade had done so; the 1851 20-29 year peak had not moved through to the

30-39 age range in 1861. Migration too was playing its part. By 1871 combers remained in only very small numbers, mostly in the over 50 age range. The metal-mechanical peak was broadening to include those aged 15-34. The expansion of the industry between 1861 and 1871 may have spawned a greater need for skilled and general labour. Thus as a man's strength waned he could put his experience to use in a supervisory or technical capacity or else take on a lower status job requiring less strength. New machines or techniques may also have lightened some tasks thus elongating "the average working life".

The final graph in the series shows the situation in 1881. Only 122 combers were enumerated in the census returns, so few as to hardly register on the graph. The numbers employed in the metal-mechanical industries, however, had risen yet again. The peak of men employed had again moved back into the late teens, but once in the 20s the decline in numbers with age had slowed noticeably, proportionately more men in their 30s were employed than a decade previously.

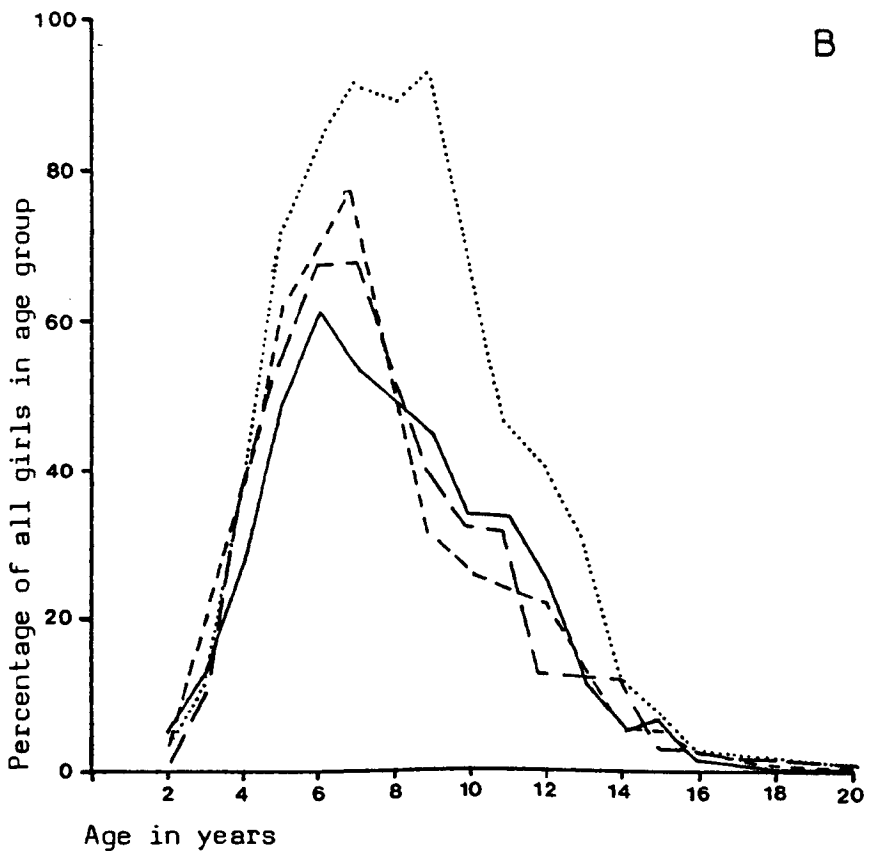
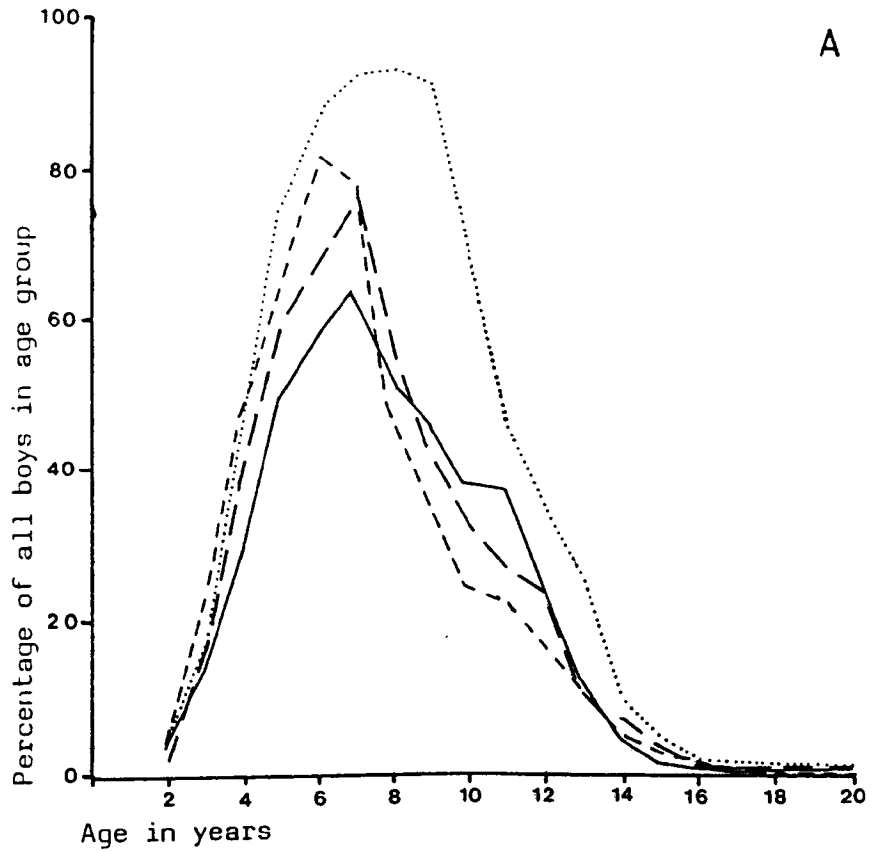
The spinners graph had also changed shape, but it had diminished rather than grown. The numbers in the under 12 age groups in particular had shrunk. This had less to do with technical innovation than with new legislation. In 1870 the Elementary Education Act had set in motion the building of schools for children aged 5 to 13. However, attendance was not made compulsory until a further Act in 1880. The consequent surge in children attending school (Figure 3.5) reduced the number of children available to work as spinners. On top of this, between 1874 and 1878 (Collet, 1894) the minimum age of employment for "half-timers" was raised from 8 to 10 years. Thus, even without the Education Acts, the spinning work force might have been expected to decrease and the school population increase. Figure 3.5 indicates

that there was an increase in the proportion of children under working age attending school 1851-71, although it appears that more children were staying away from school once they were old enough to join the work force. Re¹ which it should be noted that these graphs include only those children returned as "scholar" in the census. Those listed as 'half-timer' were not included, although they would be attending classes either in the morning or afternoon for at least two hours. It is of interest that, although Keighley was renowned for its high proportion of half-timers, and although Dewhirst (1974) notes that in 1875, out of 4,826 5 to 13 year olds 2144 were half timers, this term appears with less and less frequency in the enumerators' books as the study period progresses. Presumably local people thought that if a child was of a certain age and working in a textile mill that it would be taken for granted that he or she would be working "half-time".

From the proportions displayed by graphs A and B in Figure 3.5, it would appear that there was little discrimination between the sexes as to who received schooling. We do not know whether girls were kept away more regularly to help with child minding or household chores or whether the content of lessons differed depending on the sex of the pupils and society's expectation of their futures. As few schools reportedly progressed beyond the 3Rs, however, there does not seem to have been much scope for variation.¹⁵

The very early age at which some children were apparently sent to school may be accounted for by the presence of "Dame Schools" where older siblings going for (often very basic) tuition might take younger charges while the mother was out at work. The arrangement might be even more direct, the "Dame" acting as child minder for several toddlers.

Figure 3.5 Percentage of (A) boys and (B) girls going to school by years of age; Keighley 1851-1881. 113



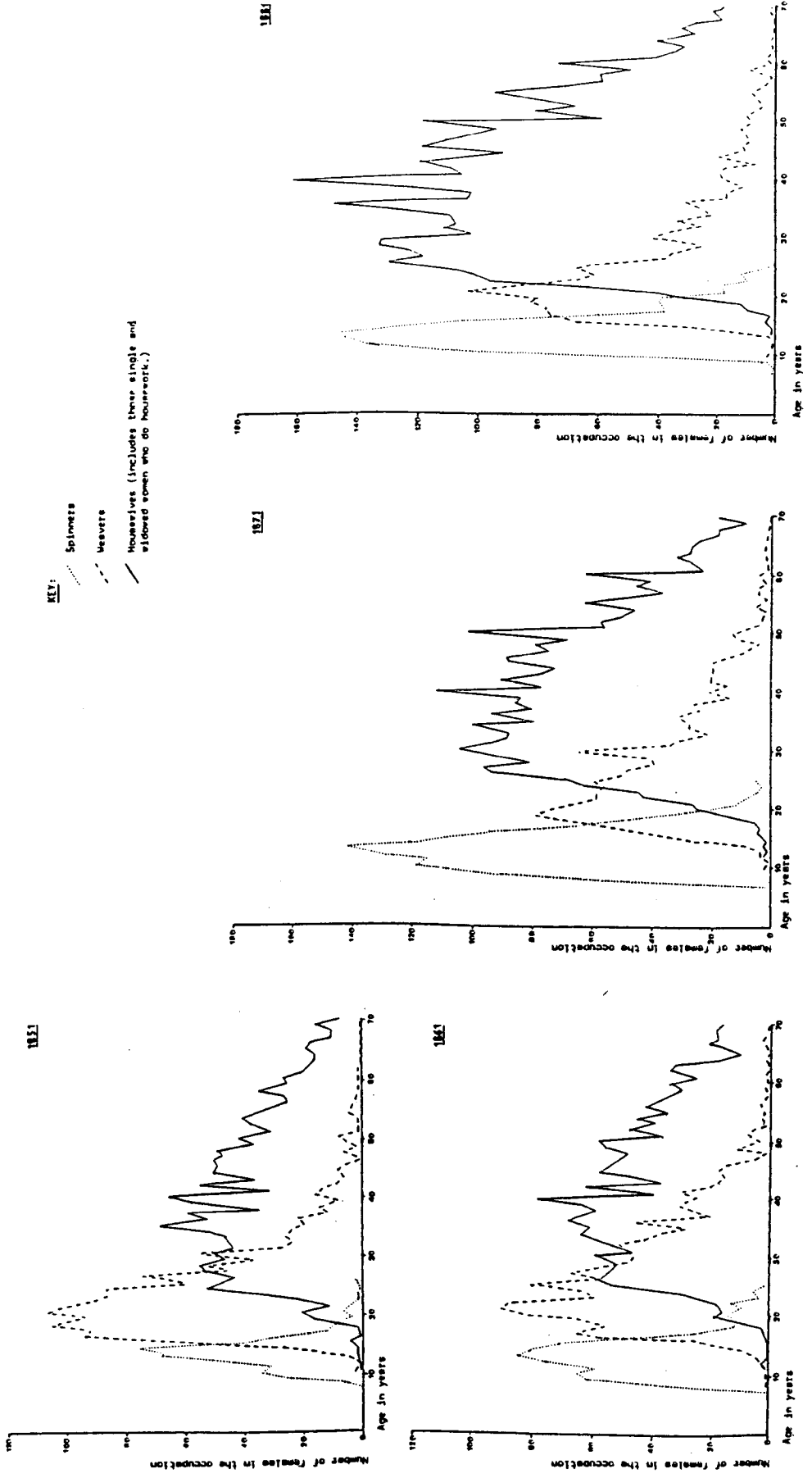

 1851 1861 1871 1881

Source: Census enumerators' books

If girls' educational experience varied little from that of boys' their eventual occupational choices differed quite substantially, although girls too were likely to spend their early teenage years as spinners; even more likely, in fact. Always more numerous than their male counterparts, by 1871 there were almost two girl spinners for every boy spinner, proportions not reflected by the sex ratio (see below). Closer scrutiny of the enumerators' books suggests that between 1861 and 1871 changes in work practice or in naming practice occurred. In 1851 and 1861 equal numbers of male and female child and adolescent workers were enumerated in the "special textile category; mainly as "doffers" or "pieceners" or " factory boy or girl". In the 1871 and 1881 censuses, however, twice as many male young persons were in this category as female. Either spinning was becoming more female oriented with males being hired for the odd jobs or else boys were less likely to admit to being spinners. It may be that employers were realising that far fewer boys were now going to remain in the mills after the age of 15 or thereabouts, whereas girls were treating spinning as a step up the promotion ladder, such as it was, to a "career" in weaving. It may therefore have paid the employer to increase the number of his female spinners. Although the actual reason for this change is not immediately apparent it is worth noting its occurrence as it highlights how different facets of life can affect others which are apparently unconnected.

The number of girl spinners expanded quite markedly between 1851 and 1861, especially in the under 14 age groups (Figure 3.6). The broadened peak then increased in height over the 1870s but again, by 1881, the raising of the minimum working age reduced the number of under 10s working to virtually zero. However, there were more girls

Figure 3.6 The age distribution of females in various occupations; Keighley 1851-1881.



Source: Census enumerators' books.

remaining in spinning until their late teens and twenties by this census.

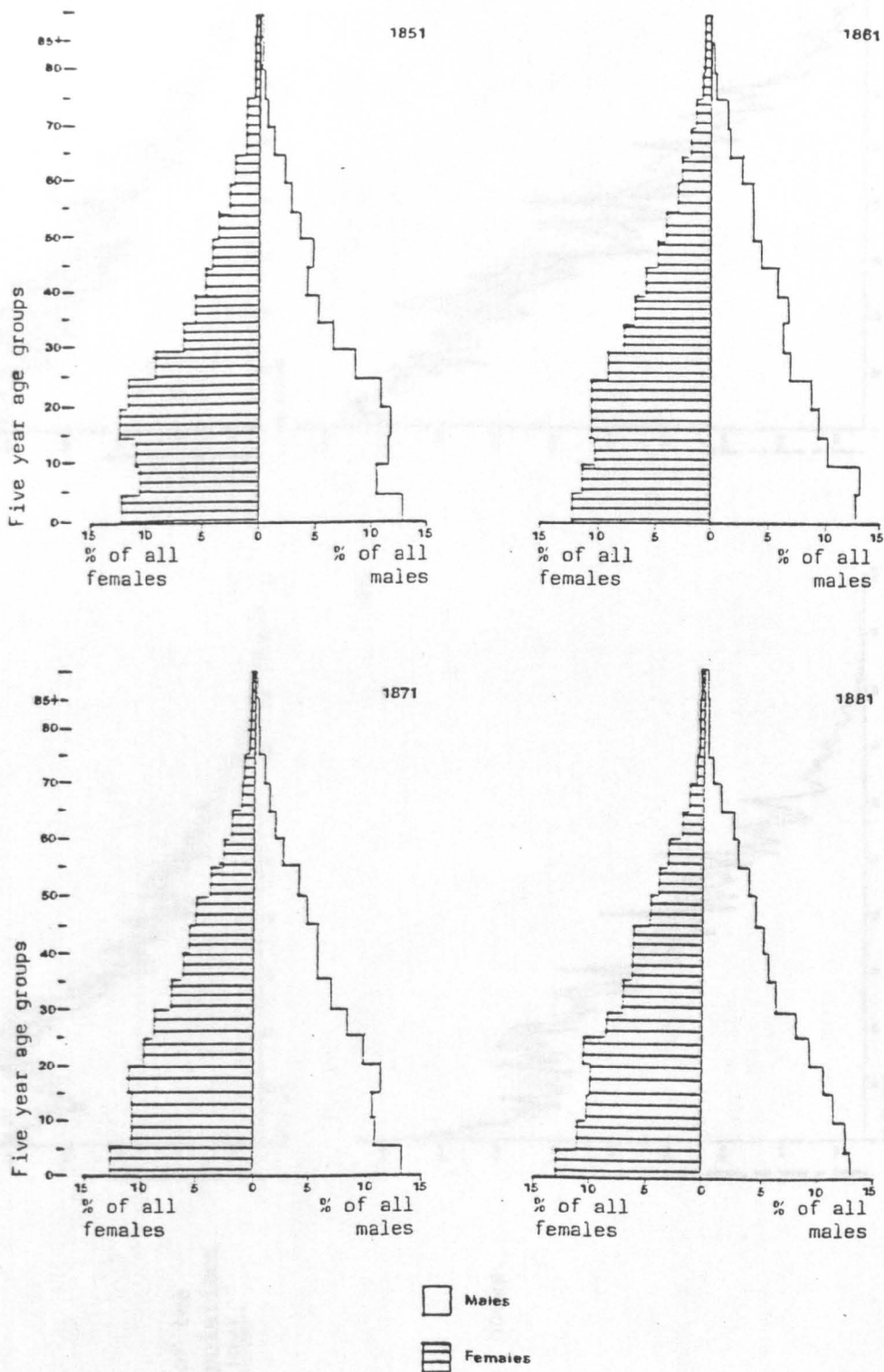
The weavers graphs in Figure 3.6 follow a somewhat different pattern. In 1851 the majority of weavers were aged between 15 and 30, with a very definite peak between 15, the earliest a girl could normally expect to be considered for "promotion" to the looms, and 25, by which age marriage was beginning to erode the workforce. As we shall see marriage did not necessarily put an end to a woman's career in textiles, but very often a growing family would. By 1861 the peak's appearance had altered. It was substantially lower and now 30 was no longer a distinct break point. Fewer young women were employed as weavers and many more older women were remaining longer in the mills or returning to work after a break. Reasons for this may be traced back to the redundancy of the woolcombers. Because of this much migration had taken place over the 1850's. The population pyramids of Figure 3.7 indicate that the percentage of men in every 5 year age group between the ages of 10 and 35 had declined over the decade, while that in the age groups between 35 and 70 had grown. The phenomenon was not so marked amongst women, but here too a decrease had occurred, especially amongst the 15-24 year olds, offset by a slight increase in almost all the over 30 age groups. Migration may therefore have reduced the number of young women available to fill weaving jobs and employers, at that time experiencing a labour shortage in the sector, had taken on older women. An alternative, and by no means exclusive, interpretation is that financial difficulties biting amongst those families headed by combers led more wives to stay on at work, or to return to the mills in order to maintain, or at least support, the family income level. Many combers by 1861 were in the older age brackets, so we might

expect their wives to be somewhat older too. With these older women occupying weaving positions there may have been fewer openings for those trying to move from spinning to weaving, and this is certainly suggested by the marked decrease in 15-19 year old weavers and the increased number of spinners in this age group. Perhaps an increased demand for spinners was, in fact, restricting the number of young weavers. Jenkins & Ponting (1982) certainly note that in 1859-60 trade was so good in the Bradford area that there were problems of labour supply. A remark, of course, not directed at the combing industry.

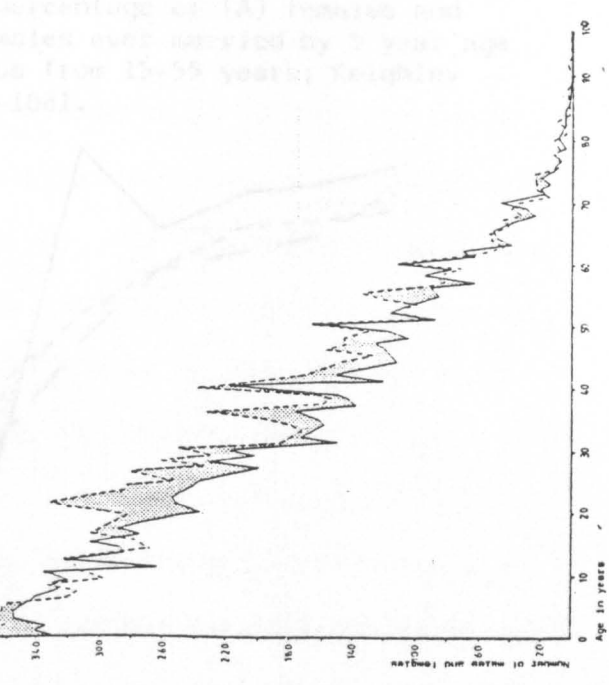
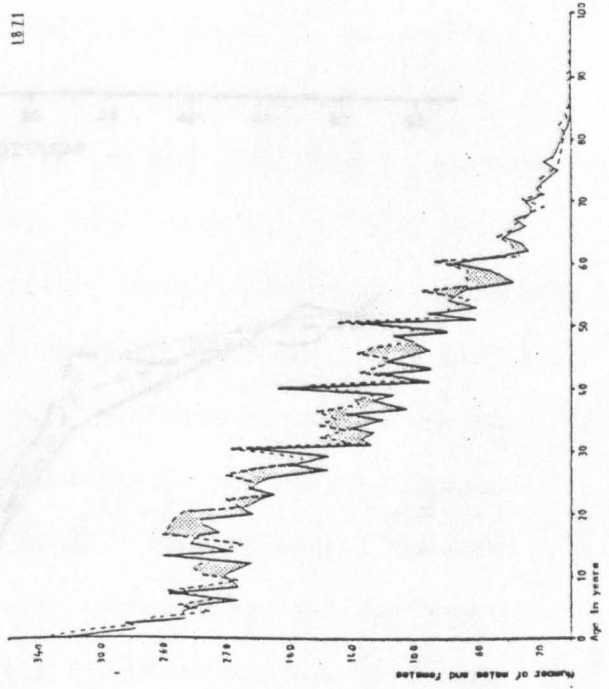
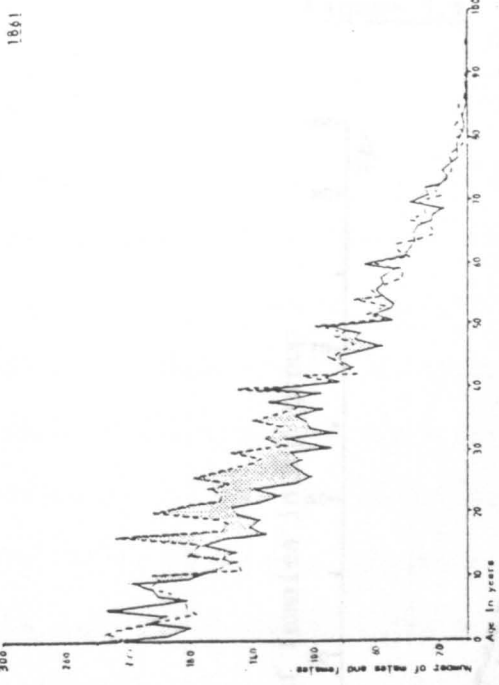
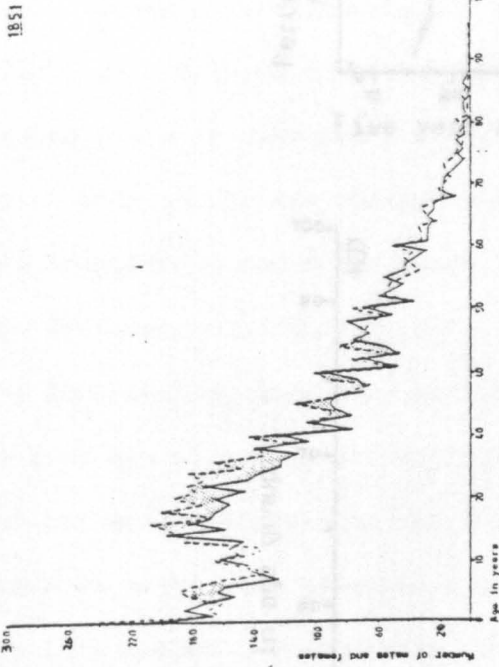
If smaller numbers of young women were out weaving, fewer were staying at home, a fact demonstrated by the 1851-61 changes in the shape of the housewives graph in Figure 3.6. If more 20-25 year olds were out at work where were they working if not in weaving? However, if times were hard and many young men had migrated away perhaps the girls' marriage chances had been considerably reduced. Figure 3.7 shows the population pyramids for the Keighley population at each of the four censuses. By plotting the female figures along the same axes as the male it is possible to see the changing sex ratios over time* especially in the 15-34 age group, as well as the changing shapes of the pyramids. Between 1851 and 1861 the number of under 10s rose; in the 15-29 age group there was some increase in the number of females (especially in the 25-29 age group) while the number of men remained static or decreased slightly thus creating a greater surfeit of women. This "excess" of women, which in 1851 had been confined mainly to the less-than-30 year olds, had by 1861 also become obvious amongst those in their 30s. Figure 3.9 shows how the surfeit of women meant an increased proportion of men ever marrying 1851-61 but a decreased

* Figure 3.8

Figure 3.7 Population pyramids for the Keighley study area at each census; 1851-1881.



Source: Census enumerators' books.



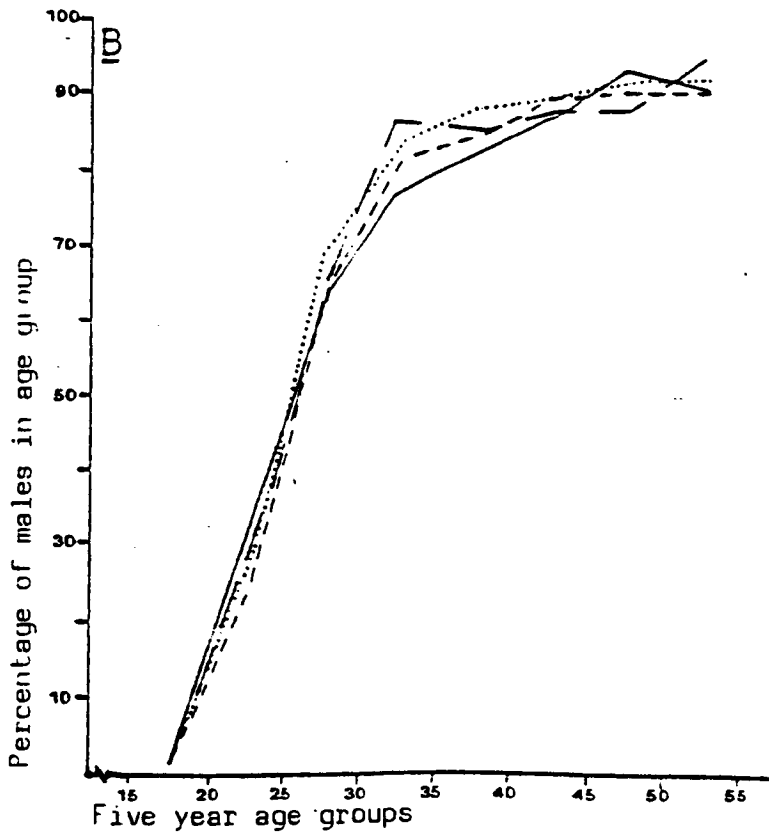
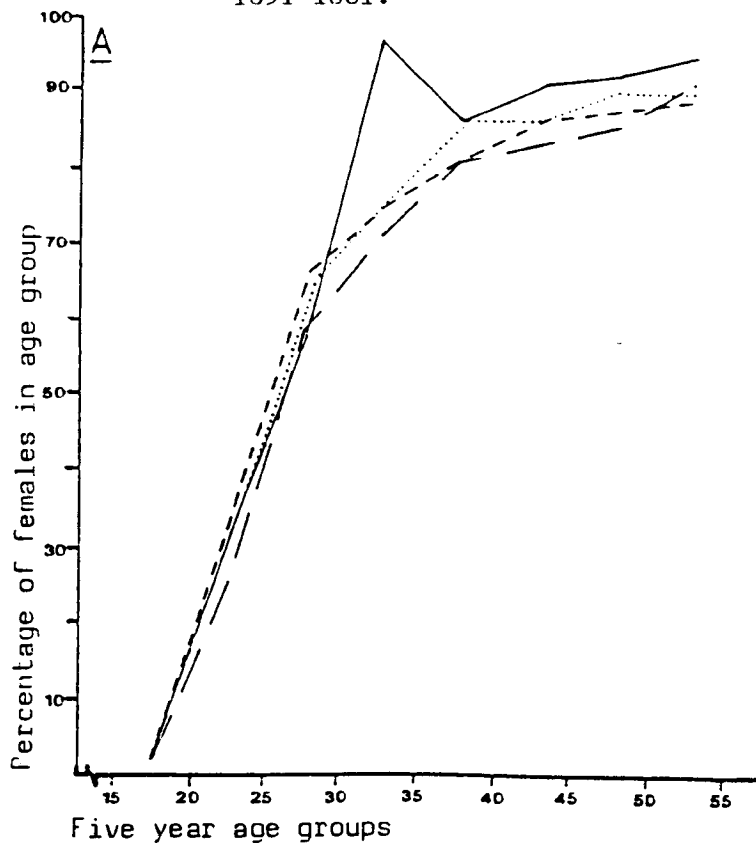
— Males
 - - - Females
 □ Excess of females over males

Figure 3.8

The age structure of the male and female populations of Keighley, 1851-1881.

Source:
Census enumerators' books.

Figure 3.9 The percentage of (A) females and (B) males ever married by 5 year age groups from 15-55 years; Keighley 1851-1881.



Key: / 1851 - - 1861 - · - 1871 ··· 1881

Source: Census enumerators' books.

proportion of women marrying. The peculiar shape of the 1851 graph in Figure 3.9 appears to be related to the relatively steep decline in the number of 25-34 year old women in the 1851 pyramid shown in Figure 3.7. It would appear that there has been considerable out-migration of single women in the age group from the town leaving the age group composed mainly of married women, hence the peak in the 1851 curve in Figure 3.9. Why this should be so is not at all clear. By 1871 the influx of workers attracted by the metal-mechanical industry and its employment opportunities had evened out the sex rates differences; those women in their teens and twenties particularly benefiting whereas those in their 30s and 40s were now in excess of similarly aged men. Women's marriage chances rose again, but those of the men fell slightly. Between 1871 and 1881, although no great upheaval was taking place it appeared that either many men had left Keighley or many more women in all age groups from 15-50, had arrived. In fact great net immigration had taken place, especially amongst the women. Although the differences in numbers were spread across a wider age range than in the 1861 census, they were not so acute and therefore amongst the men we see, again, a greater proportion ever married over 1871's figures but not quite as great as the 1861 figures. Amongst women, however, where we might have expected a decline in numbers ever married over the 1871 figures, there is in fact a rise. Older men may have been marrying younger women or else men were marrying, whereas in 1861 they had been kept from marriage by economic constraints whereas in 1881 this was not the case. It may also mean that in 1881, with slack times in the mill the women in Keighley were more prepared to marry than they might have been when job opportunities were good.

Table 3.1 shows the singulate mean age at marriage (SMAM) for

Table 3.1 The Singulate Mean Age at Marriage for both males and females; Keighley compared with England (less Monmouth), 1851-1881.

	<u>Keighley</u>		<u>England</u>	
	Males	Females	Males	Females
1851	26.55	27.14	26.94	25.77
1861	25.98	26.76	26.39	25.39
1871	25.94	25.58	26.43	25.13
1881	25.72	25.82	26.60	25.30

Sources:

SMAMs for Keighley calculated using a micro-computer programme written by P.R.A. Hinde following the guidelines of J. Hajnal. (see Hinde, P.R.A. (1985a) The Fertility Transition in Rural England. (Unpublished Ph. D. thesis, University of Sheffield)) and data from the census enumerators' books, Keighley 1851-1881.

Figures for England (less Monmouth) taken from Wrigley, E.A. & Schofield, R.S. (1981) The Population History of England. (Arnold, London).

males and females in Keighley at each census, calculated following the methods of Hajnal (1953) (see also Hinde, 1985a). If differential migration is taking place then their interpretation can only be tentative but it would appear that Keighley women marry at a later age than Keighley men and at a later age than women in England as a whole (Table 3.1), while their menfolk marry slightly younger than the English male population. However, if late-teenage, early twenties girls come into the town to work for a few years and then leave again this will increase the number of single people but not the number consequently marrying in the town and therefore a SMAM value will result which is higher than the actual average bridal age of women in Keighley.

During the 1860s, while the numbers of spinners and housewives had almost doubled, the number of weavers was shrinking (Figure 3.6). However, as older women were again leaving the mills the leftward skew of the weavers graph was more marked, partially because of the relatively higher numbers of 25-39 year olds remaining in the home. This leftward skew became even more apparent by 1881. The 1870s slump in trade, as we have seen, had both reduced the need for weavers and resulted in a decrease of wages. Thus many women, whose husbands were now settled in more secure trades after the upheavals of the 1840s and 50s, may have felt they reaped more benefits from remaining in the home than working in the mills. The decline in demand for weavers is mirrored by the increase in the number of girls remaining in spinning in their late teens and early twenties, and the more precipitate decrease in the number of weavers after age 21 may indicate that marriage rather than childbearing was now removing the female workforce into the home.

Figure 3.10, using percentages rather than absolute figures, summarises the different fortunes of the occupations which we have been considering. The decline in the male textile occupations (Figure 3.10A) continued steadily over the four censuses, paralleling that of the combers for the first two decades and then reacting to the rising number of scholars in the third. Between 1851 and 1871 the rise of the metal-mechanical industry was as spectacular as the decline of the combing. Over the decade 1871-1881 the industry grew only at the same rate as the population in general. With the worsted industry in recession and the middle classes caught in "the Great Depression" demand for metal industrial and domestic products had fallen.

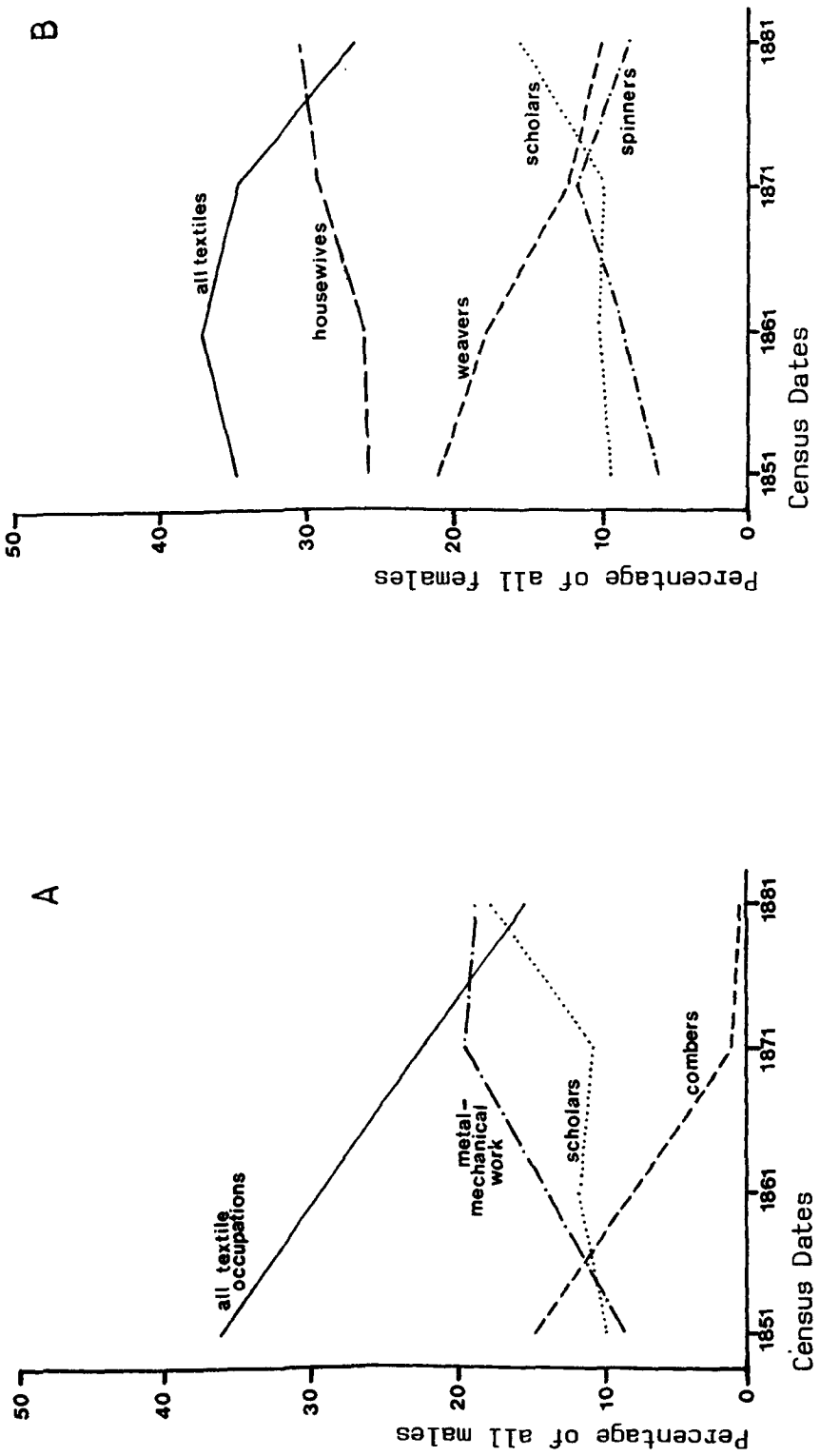
The proportion of women employed in the textile industry peaked in 1861, mainly due to an increase in the proportion hired as spinners, weaving as a female occupation being already in decline. This decline accelerated 1861-71, cancelling out a simultaneous rise in the proportion of spinners and the overall textile figures dropped slightly. By 1881 both weaving and spinning and the overall proportion of textile workers had plunged to such an extent that, for the first time in many decades, the main female occupation in Keighley was that of housewife.

Thus the great growth in population which Keighley underwent, from 14,587 individuals in 1851 to 27,631 in 1881 (see Table 4.1.), was not absorbed by the textile industry; the female population was becoming progressively more "domesticated" over the study period and the metal-mechanical industry had ousted textiles as the main employer of males.

Section 3.4: The Occupations of Married Couples; 1851-1881

The primary focus of this study is, of course, those couples

Figure 3.10 The percentage of (A) all males and (B) all females in certain occupations: Keighley 1851-1881.

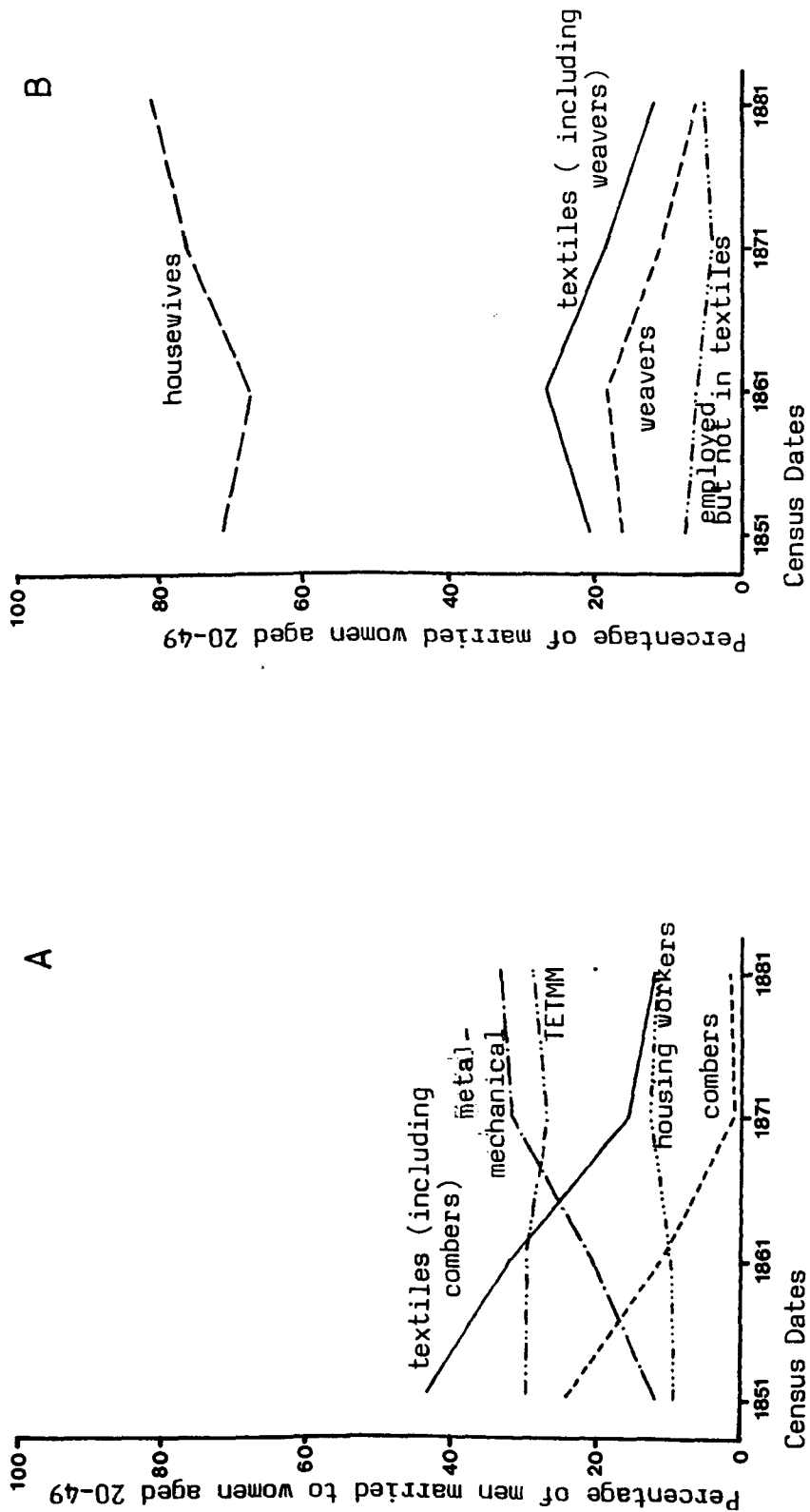


Source: Census enumerators' books.

where the wife is in the fertile age group; 20-49 years. The employment structure of this group of women and their husbands is, necessarily, different from that of the population as a whole, as shown by Figures 3.11A & B.

Considering the wives first (Figure 3.11B), by far the greatest percentage, not unexpectedly, is composed of housewives. Nevertheless in 1851 about 1 in every 5 married women aged 20-49¹⁶ was working in textiles and by 1861 this had risen to approximately 1 in every 4. Thereafter the proportion declined. The majority of married textile workers were weavers and it appears to have been the decline in this particular occupation which reduced married women's participation in the textile workforce as the proportion working in "other textile occupations" (the difference between the "textiles and the "weavers" line) remains almost constant 1861-1881. Although textiles was the major female occupation, dress-making, millinery, schoolteaching, shopkeeping, hawking, laundering and charring plus domestic work also provided employment. Amongst married women approximately 5 per cent¹⁷ were employed in some occupation other than textiles, a proportion which remained relatively constant over the 30 year study period. The husbands of women in this age group would, of course, be expected to show greater proportions in employment than the population overall. Figure 3.11A indicates that the growth of the metal-mechanical industry had a much greater impact on the employment of men married to women aged 20-49 (hereafter "married men" unless otherwise stated) than it had on males in general. By 1871 this type of work was the main employment of married men by some substantial margin. Amongst these men the decline in combing was the main cause of reduced textile employment. Unlike the overall male figures the decline in textile

Figure 3.11 The percentage of (A) men married to women aged 20-49 and of (B) married women aged 20-49 in certain occupations: Keighley, 1851-1881.



Note 1. TETMM = Trades other than textiles and metal-mechanical work.

Source: Census enumerators' books.

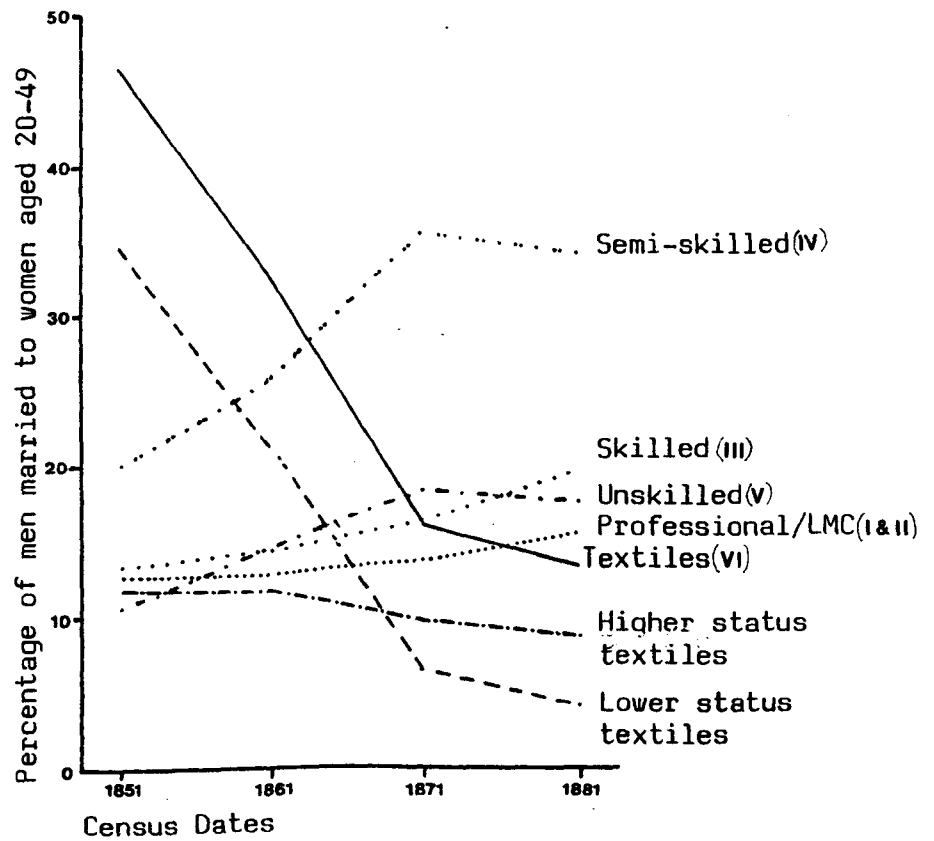
employment slows dramatically after 1871. Included in this group is a line representing all those married men in sections of trade other than textiles or metal-mechanical work (TETMM). This includes those in transport, clothing, food, housing, agriculture, mining-quarrying and navvying, plus, in a "miscellaneous" class those who were not otherwise easily classifiable (e.g. printer, bookbinder, umbrella maker and bird stuffer). Together this group comprised some 30 per cent of the married male population, about double the proportion it represented amongst the population as a whole (15.4% in 1851; 17.5% in 1861 and 1871; and 17.6% in 1881). By far the biggest sub-group of the TETMM occupations was 'housing' which had its greatest demand for employment over the 1860s; as the population burgeoned, requiring housing, and 'boom times' meant that there was spare cash available for alterations, repairs and improvements if desired. The following decade, despite the even greater population increase, was not so wealthy and the demand for housing workers declined. The other TETMM groups each have their own history in the town; the growth of the 'transport' sector with the popularisation of the railways, the demise of the local quarrying enterprises in the 1850s and the influx of railway navvies to build a railway tunnel in 1881. Navy 'gangs' can be picked out from the census returns as a 'clutch' of 'exotic' birthplaces. In 1881 Bedfordshire was the origin of several navy families. Much as the history of these groups is of interest, here it will suffice to note again, that about one third of married men at any one time found employment outside of textiles or metal-mechanical work.

We have so far been discussing occupational sectors. Within each of these sectors, however, would have been a hierarchy of status and wages based upon skill levels (See Appendix B for a discussion of the

classification of different occupations within each trade by skill) or, in the case of textiles, on skill and sex. Also omitted from the occupational sectors are those who classified themselves simply as 'labourer' who would pick up employment where and when they could. (see Chapter 5 for a discussion of the numbers involved). Age, of course, plays a large part in skill and status level thus comparisons across the whole population have little merit. It is also very difficult to compare skill and status levels between the sexes. Here, therefore, only married men will be considered. The textile occupations have not been strictly classified according to skill for two reasons. Firstly, the Registrär General did not include them in his Social Classes III, IV and V in his report in the 1911 "Fertility Census", preferring to keep them as a separate group. Secondly, the industry had lost its 'craft' status with mechanisation and therefore 'skill' had a rather different meaning to that used in other trades. The crude division into higher status and lower status workers outlined in section 3 above will be used here. How these equate to the 'skilled', (III) 'semi-skilled' (IV) and 'unskilled' (V) classes will be further investigated below.

Figure 3.12 shows that all Social Classes in Keighley except the textile workers experienced growth over the 30 year period. The most dramatic increase was amongst Social Class IV. By 1871 1 in 3 married men was a semi-skilled worker compared with 1 in 5 in 1851. Between 1871 and 1881, however, growth of this class stagnated, a pattern mirrored by Social Class V which had also seen steady growth over the previous two decades. Social Class III and the combined white collar Classes I and II experienced more moderate but nevertheless steady growth 1851-1881. The familiar plummet of the textile workers is

Figure 3.12 The proportion of men married to women aged 20-49 in various "social classes"; Keighley 1851-1881.



Source: Census enumerators' books.

(LMC = Lower Middle Class.)

repeated with the shrinkage of the lower status group as the combing industry died. The higher status group saw, in contrast, only a small proportional reduction and by 1871 the majority of married, male textile workers were in this better paid, higher status class. "Textile workers" of 1851 were therefore a very different breed from those of 1881, a point to be remembered over the ensuing chapters.

Which men, then, married the female textile workers on whom the blame was being put in hindsight, by the Registrar General, for the low textile fertility rates? Did female textile workers only marry male textile workers or did they marry into the surrounding population and take their low fertility rates with them? Table 3.2 lists the percentages of single women in Keighley on census night, aged 15-29 by 5 year age groups), who were returned as textile workers. As these were just the women and girls working at the time of the census, a man's chances of picking a bride who had ever worked in the mills if he chose a Keighley girl must have been very high indeed. If knowledge of contraception was circulating freely amongst the textile population then most girls in the town must have had the chance to acquire it, and many young men too would have started their working life in the mills so they also may have had access to the information.

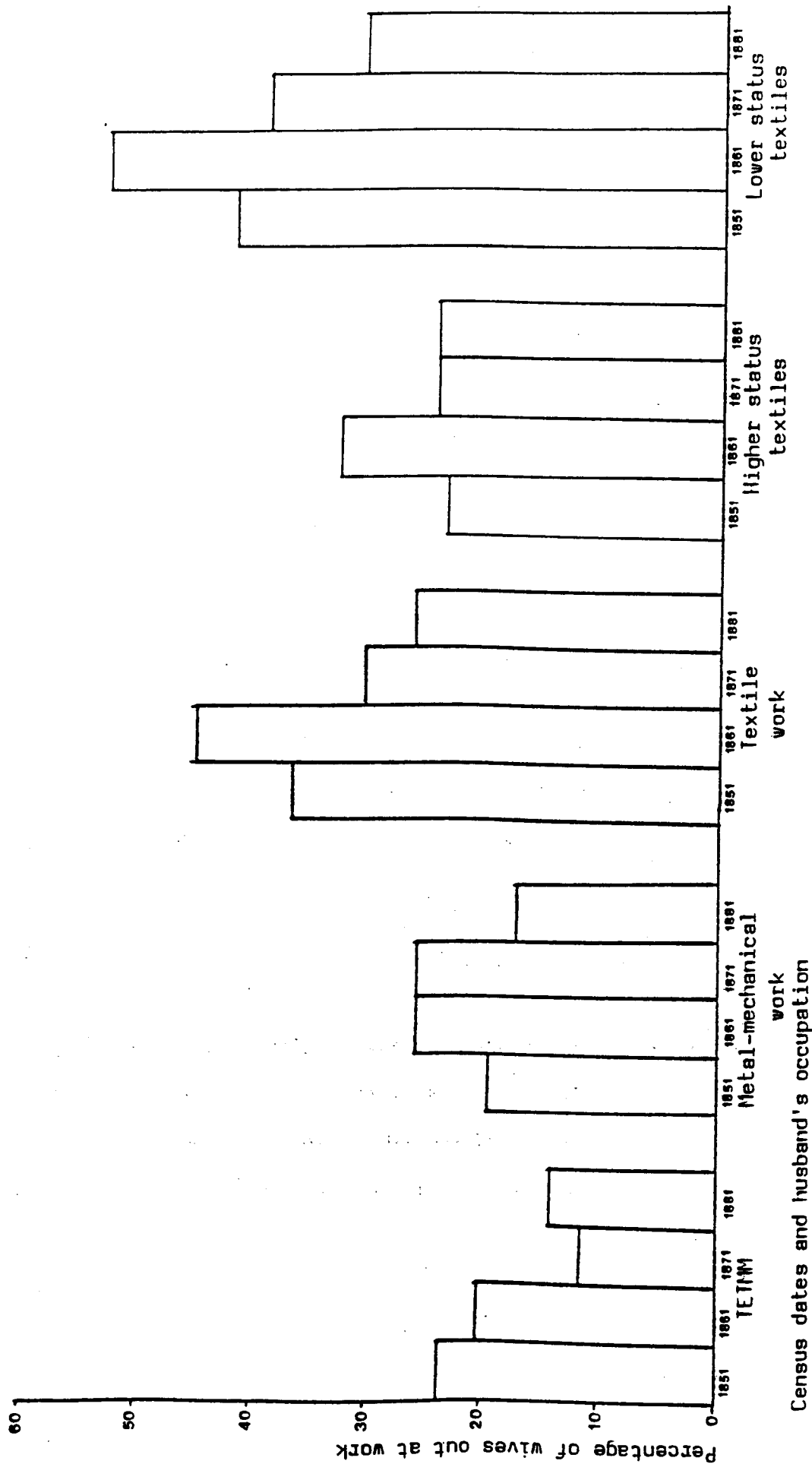
If almost all wives had worked in the mills before marriage, whose wife worked after marriage? If first we consider the three main male occupational groups, textiles, metal-mechanical work and TETMM, (Figure 3.13) we see that male textile workers were far more likely to have working wives than either of the other two groups. However, as we have seen, metal-mechanical work and TETMM encompass more than one social class. By redrawing Figure 3.11 using social class rather than occupational groups it becomes obvious that the lower a worker's

Table 3.2 The percentage of single women aged 15-29 working in textiles, Keighley 1851-1881.

Date	Age Groups			15-29
	15-19	20-24	25-29	
1851	77.6	71.8	68.6	72.0
1861	81.1	75.1	66.2	63.0
1871	79.8	70.6	65.0	68.9
1881	75.2	66.1	58.8	64.1

Source: Census enumerators' books, Keighley 1851-1881.

Figure 3.13 The percentage of wives working, by husband's occupation; Keighley, 1851-1881.

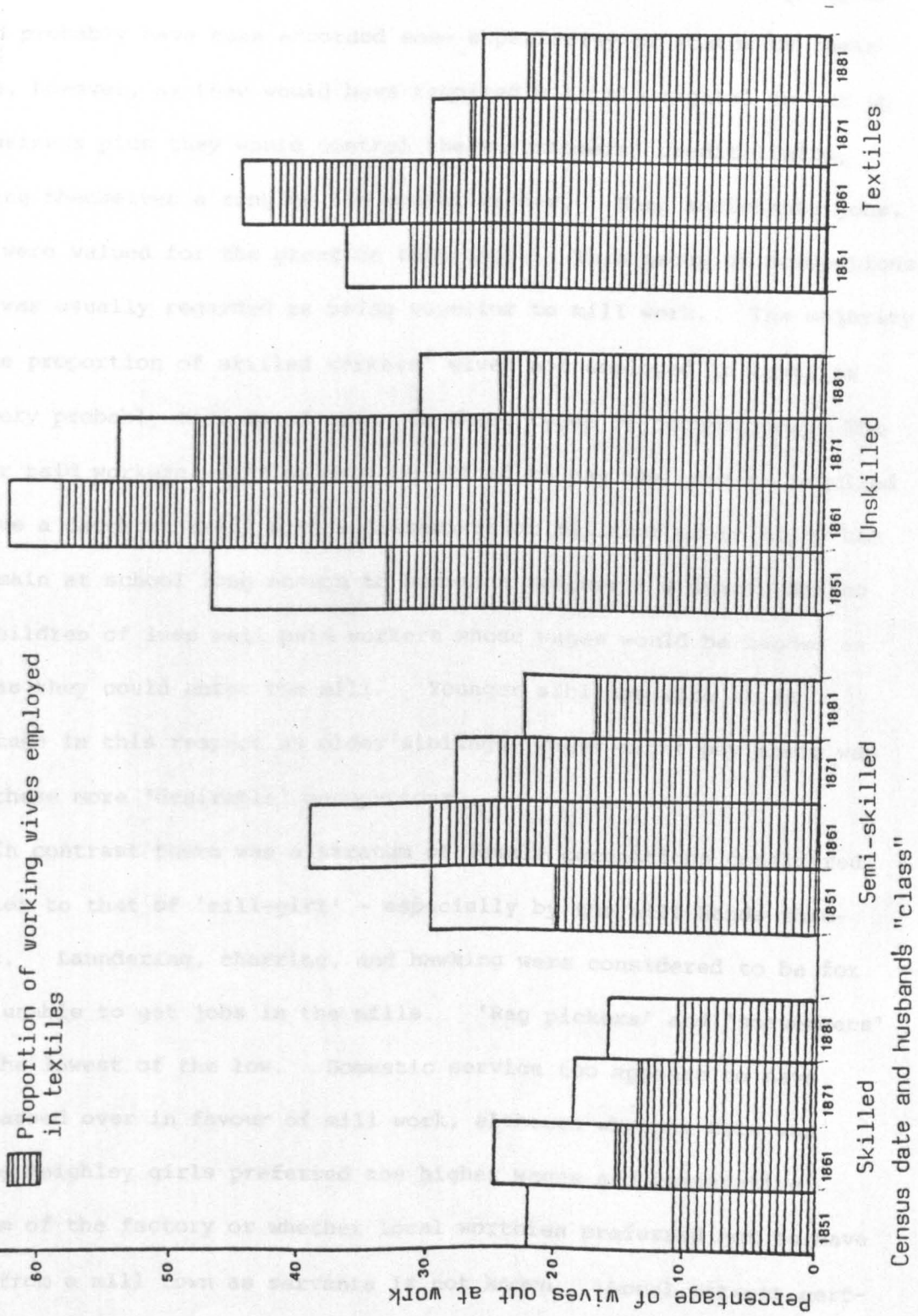


Source: Census enumerators' books.

social class the more likely his wife is to be out at work. (Figure 3.14). By this rule-of-thumb textile workers fit into a social class somewhere between classes IV and V. Indeed, if the textile workers are subdivided into their higher and lower status components it becomes clear that higher status textile workers (by the percentage of working wives standard) form a class somewhere between Social Class III and IV, while the lower status group is somewhere between Social Class IV and V (Figures 3.13 and 3.14). Unfortunately, it was not possible to discover for the two status groups what proportion of their working wives were working in textiles although, as Figure 3.14 indicates male textile workers as a whole, if they had a working wife, were more likely to have a wife working in textiles than any of the other social classes. In general an increase in social class appears to have reduced the chances of a working wife working in textiles, but this does not seem to follow the class position between IV and V assigned to textile workers previously. Perhaps when one partner was working in the mill it made it easier for the other to find or keep a job in the industry (although there is no guarantee that both were working in the same mill) or perhaps men in other occupations saw some stigma in having a wife working in the mills.

Outside of textiles female occupations in Keighley can be divided into two categories. The first includes work which requires a certain amount of training such as millinery or dressmaking plus white collar jobs such as teaching, although the latter was mainly the preserve of single women; a teacher's resignation being required on marriage in most cases. Also included in this category were 'shopkeepers'. Some women may simply have been selling goods out of their front room or helping their husband with his business. Others, such as Louisa

Figure 3.14 The percentage of wives working by husband's occupation and the proportion of working wives who were working in textiles; Keighley 1851-1881.



Source: Census enumerators' books.

Hey (Figure 3.15) owned their own shop - even if the area in which it was situated was not of the most respectable! Most women shopkeepers would probably have been accorded some superiority of status by their peers, however, as they would have required a little capital to set up in business plus they would control their customers' credit limits, placing themselves a rung up the social ladder. Shop assistants jobs, too, were valued for the prestige they gave. This group of occupations, then was usually regarded as being superior to mill work. The majority of the proportion of skilled workers' wives not employed in textiles was very probably made up of women in these types of occupation. The better paid workers might be able to afford to pay the premium required to have a daughter train with a dressmaker or milliner or to allow her to remain at school long enough to become a teacher - a luxury denied the children of less well paid workers whose wages would be needed as soon as they could enter the mill. Younger siblings were at an advantage in this respect as older siblings' wages might pay their way into these more 'desirable' occupations.

In contrast there was a stratum of female occupations considered inferior to that of 'mill-girl' - especially by the mill hands themselves. Laundering, charring, and hawking were considered to be for those unable to get jobs in the mills. 'Rag pickers' and 'scavengers' were the lowest of the low. Domestic service too appears to have been passed over in favour of mill work, although whether this was because Keighley girls preferred the higher wages and comparative freedom of the factory or whether local worthies preferred not to have girls from a mill town as servants is not known. Local matrons certainly complained that no local supply of decent servants existed. Which can, of course, be interpreted in several ways! While domestic

Figure 3.15 Baptist Square, Keighley, in 1898.



Source: Dewhirst, I (1972) Old Keighley in Photographs
(Hendon, Nelson, Lancs).

service was, primarily, a single girl's occupation the other 'low status' female jobs were open to all. Thus, widows with children to look after, the sick, the infirm, the unreliable or those laid off from work could eke out an existence outwith the mills. While many women around the country were employed in such occupations at this time the relatively high wages paid to female textile workers, coupled with the high prices of the urban area (see below) would make such jobs the provenance of those in great need of money who had no other avenues open to them.¹⁸ It is postulated that most of the non-textile working wives of social class V men would fall into this occupational category.

Thus, while women cannot be strictly defined by class in the way their menfolk have been, a woman's occupation is an indicator of the status of the household of which she is a part.

In summary, in Keighley over the study period, men in all walks of working class life took wives who had been textile workers and many of their wives worked in the mills after marriage, as the Registrar General suggested. The wives of male textile workers had, however, a greater propensity than the wives of men in other occupations to remain out at work and this appears to have been related to financial need as the wives of unskilled workers were even more likely to remain out at work after marriage. Textile workers' wives were, however, more likely to be working in the mills. There is thus little to suggest, in the figures presented so far, that textile workers were an 'industrial élite' of social climbers, cutting down their family size as their wages or status led them to aspire to middle class life and values as, Leibenstein would argue, was occurring amongst the lower ranks of white collar workers (Leibenstein, 1975). Certainly differentiation must be made by status within the industry but there is

little to suggest that textile workers' families were better off than those in other trades especially in a town where almost every child, male or female, no matter what their father's occupation, could be found work in a worsted factory. Table 3.3 certainly shows that, at least in Bradford, by the end of the study period, male textile workers' average weekly wages were little different from those of men in other occupations to be found in the town.

Section 5: The Origins of the People in Keighley 1851-1881

In the census "birthplace" is listed by county and parish if the individual was born in England or Wales and by country of birth if elsewhere, although sometimes a town or region is also included. In this study if a person was born in Yorkshire their birthplace was coded by parish, if elsewhere in England or Wales by county and if any other place by "Scotland", "Ireland" or "Foreign Parts" as appropriate; the last category including those "born at sea". Tables 3.4A & B tabulate the percentage of males and females born in various locations.

A very small proportion did not know where they were born, did not fill in the birthplace column on the census form or else filled it in illegibly. These form the "unknown" birthplace category. The "Keighley" category was intended to cover those born in the area including and immediately adjacent to the Keighley study area and to this end those born in Keighley, Bingley and Ingrow parishes are in this category. Anyone born anywhere else in Yorkshire was placed in the "Yorkshire" category. Only a few miles and a stretch of moorland separate Keighley from Lancashire and, with the textile trade there, it might be expected that there would be considerable migration across

Table 3.3 The average weekly wages paid to, and hours worked per week by, those in various trades in Bradford and District: 1835-45 compared with 1875-1885.

Occupation	1835-45		1875-85	
	Hours per Week	Average Weekly Wage ¹	Hours per Week	Average Weekly Wage
Stone masons	58.5	21s.	49.5	32s.
Building labourers	58.5	14-15s.	49.5	20s.
Carpenters	72.0	15-18s.	54.0	25-30s.
Carpentry labourers	72.0	10-12s.	54.0	20-23s.
Plumbers & glaziers	66.0	19s.	49.5	31s.
Plasterers	60.0	20s.	49.5	28s.
Painters & paperhangers	60.0	24s.	54.0	31s.6d.
Iron moulders	61.0	30s.	54.0	32s.
Engine fitters	60.0	25s.	54.0	29s.
Iron turners	60.0	24s.	54.0	28s.
Blacksmiths	60.0	35s.	54.0	35s.
		<u>1833</u> ²		<u>1877-87</u> ³
Woolsorters		27s.4d.	56.5	28s.
Weaving overlookers ⁴			56.5	30s.
Weavers (men) ⁵			56.5	15s.
Enginemen		21s.	56.5	30-36s.
(Warp)dressers			56.5	31s.6d.
Spinning overlookers		25s.	56.5	30s.
Stokers			56.5	22s.
Weavers (women) ⁵			56.5	13-15s.

Source: Dudworth, W. (1887; 1977 reprint) The Condition of the Working Classes of Bradford and District. (Mountain Press, Queensbury).

- Notes: 1. The wages quoted are per week. The rate is based on hour payment.
2. For "the rates of wages" paid to textile workers fifty years before his study Dudworth relies "for information upon the statement copied from Porter's tables, being the actual wages paid in one of the largest worsted factories in the year 1833....It was a year of unusual prosperity in the worsted trade, and wages were high." (Dudworth 1887/1977). Unfortunately changes in the industry meant that few of the rates were comparable across time.
3. Dudworth heads this column "average wages past ten years." If this is taken from the year of publication the dates are 1877-1887.
4. The rates given here are for male weaving overlookers.
5. For both male and female weavers the rates given are for tending two looms.

Table 3.4 The percentage of all males [A] and all females [B] born in various areas, Keighley 1851-1881.

A: All males					
Birthplace	1851	1861	1871	1881	
Unknown	0.7	0.2	0.5	0.4	
Keighley ¹	61.1	64.8	58.6	58.2	
Yorkshire ²	25.1	24.3	24.3	23.8	
Lancashire	4.3	4.0	5.2	3.8	
England ³	2.3	2.3	5.0	9.1	
	6.6	6.3	10.2	12.9	
Ireland ⁴	5.8	3.6	5.5	3.8	
Scotland	0.5	0.5	0.6	0.6	
Foreign Parts ⁵	0.2	0.2	0.4	0.4	
B: All females					
Birth place	1851	1861	1871	1881	
Unknown	0.5	0.2	0.3	0.4	
Keighley ¹	61.2	62.8	57.8	56.5	
Yorkshire ²	25.2	25.4	25.2	24.2	
Lancashire	4.2	4.2	5.2	4.2	
England ³	2.5	2.3	4.7	9.0	
	6.7	6.5	9.9	13.5	
Ireland ⁴	6.0	4.4	5.8	4.5	
Scotland	0.3	0.4	0.7	0.8	
Foreign Parts ⁵	0.1	0.1	0.3	0.6	

Source: Census enumerators' books, Keighley 1851-1881.

- Notes: 1. Keighley = Keighley and Bingley parishes.
 2. Yorkshire = Yorkshire excluding Keighley and Bingley
 3. England = England excluding Yorkshire and Lancashire
 4. Ireland = All Ireland
 5. Foreign Parts - includes those born at sea.

the county border.¹⁹ Here, therefore, people born in Lancashire have been categorised separately from those born in the rest of England and Wales. The other categories are self explanatory.

The great majority of both male and female populations in Keighley at each census had been born in the area immediately around the town. Approximately a further quarter of the women had been born elsewhere in Yorkshire, the majority within a radius of perhaps 25 miles of Keighley, and very few from the East or North Ridings. Between 1851 and 1861 the proportion of women born in the various places changed little, the greatest change being the decline in the percentage of Irish born. The 1850s were a period of Irish outmigration from Keighley after the original post-Potato Famine influx in the late 1840s. These Irish couples who had removed to Keighley pre-1851 and remained, would, by 1861 be reporting an increasing number of their children as born in Yorkshire and therefore the proportion of Irish would be being diluted in this way. (Table 3.5 gives absolute figures to illustrate this point). Children and parents alike, however, were collectively pointed out and looked down upon by the rest of the community as "the Irish" with the reputation of being disease ridden, immoral and ready for trouble. In a period of hard times, such as that being experienced in the worsted areas during the redundancy of the wool combers, immigrants might be viewed as competition in an already overcrowded market place and therefore made unwelcome, although during a labour squeeze they may have been deterred from coming to an area in the first place. We are, of course, only seeing the results of net migration; as we will see in future chapters the population we are dealing with in Keighley was a highly mobile one. Between 1861 and 1871 there was a considerable resurgence of Irish immigration but this was overshadowed

Table 3.5 Irish migration into Keighley, 1851 -1881.

	Date			
	1851	1861	1871	1881
Total Keighley population ¹	13378	18258	21859	28059
Irish born population in Keighley	159	896	673	1152
English born children of Irish parents	55	196	251	569
Total "Irish"	214	1072	924	1721
Percentage of Keighley's population "Irish"	2	6	4	6
Percentage of "Irish" population English born	26	16	27	33

Source: Johnstone, C. (1976) The Standard of Living of Worsted Workers in Keighley during the Nineteenth Century. (Unpublished Ph.D. thesis, University of York.)

Note: 1. Johnstone's definition of Keighley is somewhat different to that used in this study, hence the discrepancy in the population figures.

by the increase in the number of immigrants born in Lancashire and elsewhere in England. The latter category in particular doubled their proportion in the population. The new skills required by the growing industries and the redundant skills left by the old industries may well have acted as "pull" and "push" factors the combination of which served to reduce the proportion of both males and females Keighley-born. The new arrivals were not, however, always greeted with open arms. An 1866 statement described them as

"the scum of the great stream of migration between Carlise, the North, Liverpool, Ireland and America, Manchester and the upper parts of Lancashire, in one direction; and Bradford, Leeds, Wakefield, the great manufacturing towns of the West Riding, and all the Midlands, in the other."

(Dewhirst, 1974)

The influx of men and women from counties other than Lancashire or Yorkshire continued over the 1870s, outstripping that from Lancashire for the first time. The slump in the worsted trade may have discouraged Lancashire textile hands from trying their luck in the West Riding, especially as the job market would have improved in Lancashire.

If we consider now only those married couples where the wife is aged less than 50, we can see that a generally similar picture emerges. (Table 3.6). For obvious reasons the population of Keighley-born married men and women is smaller than that of the population as a whole while the proportion of those born elsewhere is greater. In Table 3.5 the categories "Keighley", "Yorkshire" and "Ireland" remain the same as in Table 3.3 but the "England", "Lancashire," "Scotland" and "Foreign Parts" categories have been amalgamated and labelled, admittedly somewhat arbitrarily, "England" !

The decline in the proportion of Keighley-born husbands and wives

Table 3.6 The percentage of all men married to women aged less than 50 [A], and the percentage of all married women aged less than 50 [B] born in various areas, Keighley 1851-1881.

A: All men married to women aged less than 50

Birthplace	1851	1861	1871	1881
Keighley ¹	52.0	50.8	45.7	44.3
Yorkshire ²	33.3	34.6	34.8	32.5
England ³	8.1	9.5	11.7	17.0
Ireland ⁴	6.5	5.1	7.7	6.1

B: All married women aged less than 50

Birth place	1851	1861	1871	1881
Keighley ¹	50.3	48.9	41.7	40.1
Yorkshire ²	33.4	35.7	36.2	34.5
England ³	9.6	9.4	13.3	18.6
Ireland ⁴	6.9	5.9	8.8	6.8

Source: Census enumerators' books: Keighley 1851-1881.

Notes: 1. Keighley = Keighley and Bingley parishes.

2. Yorkshire = Yorkshire excluding Keighley and Bingley

3. England = England and Wales except for Yorkshire and also including Scotland and Foreign Parts

4. Ireland = All Ireland

is very noticeable, especially 1861-1871; when it was offset by a marked rise in the "England" and "Ireland" proportions.

It would appear from these figures that women were more likely to move to join their husbands on marriage than vice versa; a greater proportion of married males were born in Keighley than married females. On the whole, the reverse is true for the other birthplace categories. More Keighley brides than grooms moved elsewhere to set up home while more Keighley grooms than brides "imported" their spouses from outside the area. It would be interesting to further cross-tabulate husband's place of birth by wife's in order to gauge whether or not changes in transport were affecting marriage markets and, perhaps, also to see whether the Irish population was in any way integrated into the community by inter-marriage. So far, however, these calculations have not been undertaken.

Did Keighley-born residents have different occupational experiences to those of the immigrant populations? Did the various new groups have differing work experiences?²⁰ In Table 3.7 an attempt is made to examine the occupational structure of married men and women from the four birthplace categories used in Table 3.6. Unfortunately a slight error in computing meant that in this table "Yorkshire" rather than "England" now includes "Scotland" and "Foreign Parts". As we have seen, however, the percentage from both these places are very small and will make little difference to the cell counts. Also the tables are given for all married men and women not just those couples with the wives in the fertile age group.

For each sex the rows list the percentage for each birthplace who work in the given occupational sector. All the TETMM occupations have been listed separately. The columns have been divided into four

Table 3.7.A Percentage of all married men from each birth place in given occupations at each census; Keighley 1851-1881.

Date	B	Occupation																						
		Un	Sure	Prof	W C	Shop	Iran	thes	Clo	Food	Misc	Hous	Agri	Quar	Mech	Met.	Gen.	Over	lkr	Weav	Spin	drsr	Warp	Sort
1851	K	3.6	2.8	2.8	0.7	6.9	1.5	4.6	1.0	5.4	7.2	5.0	1.9	12.2	1.8	4.1	5.8	0.6	1.5	4.5	28.9	47.2		
	Y	2.9	3.4	2.5	8.8	2.2	7.4	0.5	2.5	8.0	7.8	1.5	8.5	2.9	5.1	7.9	0.3	2.5	2.8	22.1	43.6			
	E	4.2	3.1	4.7	8.9	1.0	10.4	0.5	1.0	9.9	3.1	4.2	7.8	3.1	3.6	12.5	0.5	5.2	0.5	15.1	40.5			
	I	23.9	0.0	1.3	6.5	0.6	4.5	0.0	5.2	9.0	36.8	4.5	1.9	0.6	0.0	1.3	0.6	0.0	0.0	3.2	5.7			
1861	K	5.2	2.2	2.0	8.7	3.0	4.7	0.8	4.1	8.5	6.5	1.3	20.8	2.5	4.1	4.2	0.5	2.5	4.3	13.9	32.0			
	Y	6.0	3.9	2.2	7.9	3.3	5.6	0.9	4.3	7.5	7.9	0.9	12.9	4.3	4.6	6.5	0.5	3.7	3.3	13.3	36.2			
	E	4.5	2.3	3.0	11.3	3.4	6.4	0.8	4.9	5.3	4.9	0.8	12.4	3.8	5.3	11.3	0.8	4.5	1.1	13.5	40.3			
	I	27.5	0.0	0.7	4.9	0.7	2.1	0.0	4.9	21.1	19.0	1.4	7.0	1.4	2.1	0.0	0.0	0.0	0.0	6.3	10.5			
1871	K	9.1	2.7	2.5	9.3	2.2	4.1	0.6	3.8	11.0	3.2	1.0	32.4	3.1	3.6	1.4	0.7	2.6	3.9	2.6	17.9			
	Y	11.4	2.8	2.8	8.3	4.8	3.7	0.9	4.1	10.1	4.6	1.8	24.7	3.9	4.8	3.1	0.3	3.0	2.6	1.9	19.6			
	E	10.4	0.9	3.9	10.1	5.8	4.6	1.2	7.1	10.8	1.4	0.9	30.2	3.7	2.3	2.3	0.0	1.6	1.2	1.6	12.7			
	I	40.1	0.3	0.7	1.4	0.3	2.8	1.7	1.7	20.2	4.5	2.1	17.1	3.8	1.7	0.3	1.7	0.0	1.7	0.7	9.9			
1881	K	9.7	2.8	3.9	6.9	2.6	3.5	0.4	4.0	11.1	2.1	0.9	34.9	3.1	4.3	0.4	0.4	2.7	2.6	1.1	14.6			
	Y	12.1	3.0	5.3	8.9	6.5	3.8	0.8	5.1	8.8	2.8	1.9	24.7	6.8	5.0	0.8	0.2	2.1	2.5	1.4	18.8			
	E	13.4	2.3	4.6	7.2	9.4	2.9	1.4	4.5	9.7	2.7	6.7	25.2	3.0	1.7	0.2	0.0	1.5	0.9	2.0	9.3			
	I	33.6	0.0	0.3	3.8	0.7	3.5	0.0	5.1	17.3	2.8	1.4	24.6	3.1	1.4	0.0	0.0	0.3	1.4	1.7	7.9			

Source: Census enumerators' books, Keighley 1851-1881.

Notes: B = Husband's birthplace
 K = Those born in Keighley or Bingley parishes
 Y = Those born elsewhere in Yorkshire, in Scotland or in "Foreign Parts".
 E = Those born elsewhere in England and Wales (including Lancashire).
 I = Those born in Ireland
 For note on cell size see Table 3.7.B

Unsure = occupation uncertain
 Prof = professional or manager
 W C = white collar worker
 Shopkpr = Shopkeeper
 Iran = Transport worker
 Clothes = Clothing worker
 Food = works preparing food
 Misc = Miscellaneous trades
 Hous = Housing worker
 Agri = Agricultural worker

Quar = works as quarrier, miner or navy
 Met.mech = metal or mechanical worker
 Gen.Text = all textile workers bar the following 6 categories:
 Overlkr = Overlooker
 Weav = Weaver
 Spin = Spinner
 Warpdrsr = Wardresser
 Sort = Woolsorter
 Comb = Woolcomber
 AllText = All textile workers

blocks, each representing one census. By comparing figures from block to block change over time can be gauged. Comparisons along rows within blocks shows the distribution of individuals from one birthplace across the spectrum of occupation and comparison of columns within blocks illustrates the different likelihood people from the various origins have of landing a given type of job.

The most easily distinguishable feature is the uniqueness of the Irish experience. The "unsure" category includes those whose occupational sector was unspecified or difficult to define. Thus it includes general labourers, hawkers, the unemployed, the retired and the pauperised. The very high proportion of Irishmen in this category stands out, the increase 1861-1871 being particularly steep. Between 1861 and 1881 Irish men also seem to have been over-represented in the building trade. In 1851 more than 1 in every 3 married Irish men worked in agriculture but the proportion dwindled 1851-61 and plummeted 1861-71 as the town mushroomed and agriculture, along with its workforce, were pushed out of the study area. Both agriculture and housing required 'labour' as much as 'skill'. It would appear, therefore, that the Irish were predominantly "the labouring poor". This point is further illustrated by the Irish experience in the metal-mechanical industry. In 1851 the proportion of Irish in this sector was very small. As was stated earlier, the industry at that stage was highly skilled. As it flourished, however, the industry created an ever increasing demand for semi-skilled and unskilled labour. Irish participation increased by leaps and bounds, the rate of increase outstripping that of men from other origins who were also seeing much higher rates of participation in the industry.

Over-represented in some occupations, the Irish men were very

poorly represented in others; especially textiles. This was true in both high and low status textiles. In 1851 fewer than 1 Irish man in 30 was employed in a combing shop while amongst the Yorkshire contingent the proportion was nearer 1 in 4. Those who argue that destitute Irish labour helped flood the combing market in the 1840s and early 50s thus reducing wage levels do not gain support from these figures. Between 1851 and 1861, however, while men born elsewhere were leaving the combing industry pell-mell, the proportion of Irish men engaged in combing grew. The Irish representation in textiles remained very small over the study period, although the dominance of the other groups diminished as the industry shrank. Perhaps this was indicative of just how impoverished the Irish were and it certainly cannot have endeared them to the men from elsewhere still struggling to survive in the industry. Jobs requiring education (white collar) and new technical expertise (transport) also eluded the Irish in Keighley over the study period.

The other three groups tended to be somewhat more diverse in their occupational structure. Being born in Keighley appears to have been an advantage in getting a job in the metal-mechanical industry, but at the same time the most rapid loss of textile jobs was seen amongst these men. Movement between the industries may have taken place but, equally, redundant local textile workers may have shown a greater propensity to migrate leaving an increased proportion of metal-mechanical workers behind.

The Keighley born were more likely than the Irish to be in white collar jobs but less likely than men born elsewhere to be so. Given the generally greater mobility of middle class workers this is perhaps not surprising although the uncharitable may suggest a lack of

educational opportunity in Keighley, requiring the import of those qualified to hold such posts. The increased proportion of men in certain occupations as the average distance of birthplace from Keighley increased (at least within England and Wales) e.g. amongst warpdressers and weavers 1851 and '61, may be due to those who formerly carried out their work at home moving into the study area to work in the factories as home work became less profitable; rather the opposite of what was occurring in agriculture.

Further idiosyncrasies may be weeded out of Table 3.7A. In summary, however, it can be said to show that while those born in Keighley, Yorkshire and England were mainly employed in textiles 1851 to 1861 the main focus 1871 to 1881 had shifted to the metal-mechanical industries. The Irish, however, followed a very different path being restricted, it would appear, to the lowest rungs of the occupational ladder.

Table 3.7B deals with all married women. The limited range of occupations open to such women is immediately apparent. The much smaller percentage of women in the "unsure" occupation category derives from the practice of placing all the women who did not return an occupation in the census but were listed as "wife" in the "relationship to head of household" column in the "housewife" category. Those who were in the "unsure" group did return an occupation but one which could not be neatly placed into an occupational category e.g. "char-woman" "hawker".

The large proportion of housewives from each birthplace is not unexpected, but it is interesting that Irish born wives are the most likely to be out at work; a further indication, perhaps, that their husbands were in the worst paid or least stable jobs. Wives born in

Table 3.7.B Percentage of all married women from each birthplace in given occupations at each census; Keighley 1851-1881.

Date	B	Occupation																			
		Un Sure	LMC	Shop kpr	Iran thes	Clo	Food	Misc	Hous	Agri	Quar	Met. Mech	Gen. Text	Over lkr	Weav	Spin	Warp dfsr	Sort	Comb	All Text	Hse Wife
1851	K	2.4	1.3	3.2	3.2							1.8		16.1	0.6					18.5	72.9
	Y	3.3	0.6	2.3	2.3							2.4		15.0	0.0					17.4	73.5
	E	3.9	0.0	3.1	3.1							2.2		10.1	0.0					12.3	77.2
	I	9.4	1.3	3.1	3.1							13.2		4.4	0.0					17.6	64.2
1861	K	1.3	1.4	3.0	3.0							4.5		19.0	0.7			0.0	0.0	24.2	68.7
	Y	1.7	1.1	3.1	3.1							4.3		16.1	0.0			0.0	0.0	20.4	71.1
	E	2.0	0.0	3.0	3.0							3.4		14.5	0.0			1.4	1.4	17.9	73.0
	I	2.4	0.0	2.4	2.4							21.9		8.3	7.7			3.6	3.6	37.9	52.7
1871	K	0.9	1.2	1.8	1.8							5.0		12.3	1.6					18.9	76.3
	Y	1.1	0.6	2.4	2.4							3.8		10.6	1.6					15.0	78.8
	E	3.0	0.0	3.4	3.4							3.4		7.0	1.8					12.2	78.0
	I	1.8	0.0	2.4	2.4							19.3		5.4	5.7					30.4	64.2
1881	K	1.8	0.9	2.3	2.3							4.3		8.8	1.2					14.3	79.6
	Y	2.0	0.8	2.0	2.0							3.4		6.4	0.9					10.7	82.4
	E	4.2	1.1	2.8	2.8							4.5		3.5	1.2					9.2	80.5
	I	5.1	0.3	1.8	1.8							12.1		3.3	4.2					19.6	68.6

Source: Census enumerators' books, Keighley 1851-1881

Notes: As for Table 3.7.A, with the following exceptions:

B = Wife's birthplace

LMC = Lower Middle Class; the Professional and White Collar groups combined

Hsewife = Housewife

Values are given only for those columns in which at least one cell has a value greater than 1.0.

"Yorkshire" or "England" were the least likely to go out to work. This reinforces the impression, and it can be no more than that, from Table 3.7A that Keighley men were, on average, less affluent than the incomers from elsewhere in Yorkshire and England. This, of course, presupposes that a man from one "area" will marry a woman from the same "area". Further work is necessary to ascertain the degree to which this is true but the impression gained from the enumerators' books was that a large number of husbands and wives shared a common birthplace category.

Outside the home, the dominance of textiles as an occupation for married women is obvious. Again the differing experience of the Irish is apparent. While, in 1851, the proportion of Irish women working in all textiles was not dissimilar to that of women from elsewhere, it was made up of rather different components. Irish women were more likely to be in "special textile" occupations than in weaving - in contrast to the women from elsewhere. This situation remained across the study period; a higher proportion of married Irish women being found in spinning, a job usually reserved for unmarried women. Thus, even although a much greater proportion of Irish women than Irish men worked in textiles, the women were restricted to the lower status jobs within the mills.

Of the three other groups, Keighley-born women were most likely to stay on as weavers after marriage, Yorkshire-born women not being far behind. Women born elsewhere in England were least likely to do so, which may indicate that work in the mills, and especially weaving, had some aspects of a "career", those women not "born into it" having neither the skills nor the wish to work after marriage.

Finally, to keep a proper perspective on things Table 3.8 which shows the proportion of each occupational group born in the four

Table 3.8 Percentage of all married men from each birth place in given occupations at each census; Keighley 1851-1881.

		Occupation															All Text																								
		Un			Shop			Clo			Misc			Hous					Agri			Quar			Met.			Gen. Over			Weav			Spin			Warp			Sort	
		Sure	Prof	W C	M C	kpr	Iran	thes	Food	Misc	Hous	Agri	Quar	Met.	Mech	Serv	Text	lkr	Weav	Spin	Warp	Sort	Comb	Text																	
1851																																									
B																																									
K	39.3	51.0	22.5	47.0	47.4	40.1	70.6	68.7	47.8	33.3	47.0	63.8	42.3	52.0	44.6	63.6	37.5	70.5	63.1	57.4																					
Y	20.5	39.7	50.0	38.1	44.7	40.8	23.5	20.8	33.9	32.8	23.5	28.5	75.0	44.2	40.8	38.9	18.2	41.7	28.5	30.8	34.0																				
E	7.1	8.8	22.5	9.4	5.3	14.1	5.9	2.1	10.2	3.2	15.7	6.4	25.0	11.5	7.1	15.1	5.5	20.8	1.3	5.1	7.7																				
I	33.0		5.0	5.5	2.6	4.9		8.3	7.5	30.6	13.7	1.3	1.9	1.2	5.5																										
N	112	68	40	181	38	142	17 ¹	96	185	186	51	235	4 ¹	52	98	159	11 ¹	48	78	564	1010																				
1881																																									
B																																									
K	34.1	47.5	40.8	47.4	23.7	44.6	3.8	40.0	46.8	37.8	16.8	52.7	22.2	42.7	48.9	37.5	72.7	54.9	52.9	35.8	46.9																				
Y	31.4	37.7	40.3	34.9	43.1	35.5	50.0	37.1	27.3	37.0	24.4	27.5	55.5	35.5	41.3	54.1	27.2	32.3	36.5	32.8	37.6																				
E	18.2	14.7	18.4	14.8	32.3	13.8	45.8	17.1	15.8	18.5	45.4	14.6	22.2	15.8	7.6	8.3		11.8	6.7	23.8	11.8																				
I	16.2		0.5	2.8	0.9	6.0		5.7	10.1	6.7	3.4	15.1	5.9	2.2	1.0	3.8	7.4	3.6																							
N	598	122	201	392	232	166	24	210	494	119	107	1380	9 ¹	152	184	24	11 ¹	102	104	67	635																				

Source: Census enumerators' books, Keighley 1851 & 1881

Notes: As for Table 3.7.A also;

1. N is less than 20 therefore the percentages are not considered meaningful.

In 1851 52% of the men were Keighley born, 33.3% 'Yorkshire' born, 8.1% 'English born' and 6.1% Irish born. In 1881 the equivalent figures were 44.3%, 32.5%, 17.0% and 6.1% respectively. Birthplaces can thus be seen to be over-represented amongst the workforce of some trades and very much under-represented in others.

birthplace areas in 1851 and in 1881 has been included. Thus when "wool sorters" are referred to for instance we know we are dealing with a 70% Keighley-born population. The information from only two censuses has been tabulated as no detailed discussion is necessary, the point being simply to show that, despite contrasts within occupational groups, within most occupations the majority of workers were Keighley born.

Having discussed the occupational characteristics of the study population the next section now turns attention to the conditions under which these people lived and worked and what implications these must have had for health and welfare in the study area.

Section 3.6: Health and Well-being in Keighley 1851-1881

"The unpleasant signs of bodily infirmity, caused by over-exertion, which pervaded the ranks of mill operatives in bygone days and which provided Oastler, Ashley, and Sadler (21) with such strong arguments during the 'Ten Hours' Bill agitation, have almost entirely disappeared. Physical deformity and hunger-pinched faces are now seldom seen amongst them."

(Burnley, 1871)

There is little doubt that conditions in the textile industry improved steadily over the nineteenth century even although, as Table 3.3 suggests, hours were still long at the close of the 1870s. This it was argued (Parliamentary Papers, 1873 (c754 LV, 803), was compensated for by the lightness of the work. What was not, however, mentioned was that the machines, the lightening factor, were increasing in speed requiring increased concentration and greater tolerance of mental and physical stress.

The work environment was, however, only one component of life in a textile town which might affect health and wellbeing. Let us first

discuss Keighley's environment in general.

Mawson's 1970-71 thesis, enquiring into "the public health and sanitary conditions of the inhabitants of Keighley, between the years 1850 and 1870", summed up the town as "this horrid place". Unfortunately, as Mawson points out, birth and death rate figures, let alone morbidity figures for the town at this period "are virtually nil" and thus general impressions cannot be backed up with "hard evidence". Again using data from nearby towns or villages or from small numbers of individual examples has to suffice.

In 1848 the Public Health Act instituted Local Boards of Health. In 1850 Superintending Health Inspector Babbage visited Haworth to assess its sanitary conditions. In 1854 the similarly ranked William Ranger likewise visited Keighley. Both wasted no time in setting up Boards of Health and from their reports we can glean glimpses of the conditions prevalent in mid-century Keighley.

The main problems appeared to stem from the fact that the growth of amenities had not kept pace with population expansion in the town. In his report Ranger complimented the Keighley Improvement Commissioners, a body set up in 1824 to see to "paving, lighting, cleansing, watching, regulating and otherwise improving the Town of Keighley" (Dewhirst, 1974), on their zealous implementation of the Lighting Act but found little else praiseworthy. He discovered, amongst many other things, that:

"the charge for water is the same by standpipes as if carried into the houses; but notwithstanding this fact, by far the largest number are only supplied from standpipes. The owners thereby avoid the expense of the house service."

(Ranger 1855, p.11)

"I was informed by a large number of the inhabitants of the shortness of the present supply, and that in some cases they had none at all. The evil state of things was strongly pointed out by the women in various parts, particularly in the higher portion of the town."

(ibid, p.12)

(Mawson states that in mid-century Keighley the water supply was open for only 2-4 hours a day in summer and 8-10 hours a day in winter

(Mawson, 1970-71).

"In some cases "...for want of room to erect privies the space on the ground floor of the house is set apart for the purpose, the floor immediately over being occupied as a sitting, living and sleeping room, the occupants being continually exposed to the foul air arising from the pit...

In other instances the privies are placed either in close proximity to the doors and windows of the living and sleeping rooms or by the side of the public road.

(ibid, p.17)

Ranger found 30 houses with no toilet accommodation of any kind, and instances of one such facility to 21 houses, 3 to 26 houses and 6 to 90 houses but these were in the worst slum areas (see Figure 3.16). Cellar dwellings received much contemporary condemnation. The Health Inspector discovered 47 of these in Keighley. Amongst these would have been those at Brickhouses, where the 1851 census noted 28 people living in one cellar (see Table 3.9) and several other occurrences of multiple occupation of such "dwellings". In 1851 Keighley had 5.4 persons per house (Ranger, 1855), 0.5 of a person more than Yorkshire as a whole but hardly comparable with the average for Middlesex of 7.9 persons per house (Mawson, 1970-71). Unfortunately no references were made to the comparative size of the houses.

Table 3.7. Details given in the margin of the twenty-eight photographs of the

Figure 3.16 The Ginnel, Westgate, Keighley, leading to the North Beck, with nineteenth century slum dwellings.

Surname	Forename	Marital Status	Sex	Age	Address	Occupation	Country of Birth
CONNOR	Bridget	Widowed	Head	50-2	44-2	Widow	Ireland
CONNOR	Brian	Single	Son	18	Factory	Lab	Ireland
CONNOR	Mattew	Single	Son	14	Factory	Lab	Ireland
CONNOR	Richard	Single	Son	12	Factory	Lab	Ireland
WELSH	Patrick						Ireland
WELSH	Mary						Ireland
WELSH	Mary						Ireland
WELSH	James						Ireland
WELSH	Bridget						Ireland
WELSH	Harriet						Ireland
WELSH	Patrick						Ireland
WELSH	Catherine						Ireland
WELSH	Ellen						Ireland
GOGAN	Catherine						Ireland
GILL	Jane						Ireland
GILL	Mary						Ireland
GILL	Ann						Ireland
GILL	Mary						Ireland
GOLDEN	Rose						Ireland
GOLDEN	Catherine						Ireland
GOLDEN	John						Ireland
GOLDEN	Michael						Ireland
GOLDEN	Ann						Ireland
GOLDEN	Brian						Ireland
HONLEY	Mary						Ireland
HONLEY	Harriet						Ireland
HONLEY	Jane						Ireland
HONLEY	Richard						Ireland



" There was one case of a single privy to twenty nine houses, another of three privies to sixty nine houses."

Source: Dewhirst, I. (1972) Old Keighley in Photographs. (Hendon, Nelson,Lancs.)

Table 3.9. Details given in the census of the twenty-eight inhabitants of one cellar dwelling (there were several more) in Brickhouses, Keighley 1851.

Surname	Forename	Marital Status	Status in Family	Status in Household	Age	Occupation	Birth Place
COMMON	Bridget	Widowed	Head	Head	40	X	Ireland
COMMON	Brian	Single	Son	Son	18	Factory boy	Ireland
COMMON	Matthew	Single	Son	Son	14	Factory boy	Ireland
COMMON	Michael	Single	Son	Son	10	Factory boy	Ireland
WELSH	Patrick	Married	Head	Lodger	40	Agric. lab.	Ireland
WELSH	Nancy	Married	Wife	Lodger	35	X	Ireland
WELSH	Mary	Single	Daughter	Lodger	17	Factory girl	Ireland
WELSH	James	Single	Son	Lodger	15	Factory boy	Ireland
WELSH	Bridget	Single	Daughter	Lodger	14	Factory girl	Ireland
WELSH	Harriet	Single	Daughter	Lodger	13	Factory girl	Ireland
WELSH	Patrick	Single	Son	Lodger	11	X	Ireland
WELSH	Catharine	Single	Daughter	Lodger	05	X	Ireland
WELSH	Ellen	Single	Daughter	Lodger	00	X	Keighley
DOGAN	Catharine	Single	Head	Visitor	20	X	Ireland
GILE	John	Married	Head	Visitor	40	Agric. lab.	Ireland
GILE	Mary	Married	Wife	Visitor	30	X	Ireland
GILE	Ann	Single	Daughter	Visitor	03	X	Ireland
GILE	Mary	Single	Daughter	Visitor	00	X	Keighley
GOLDEN	Rose	Widowed	Head	Visitor	44	X	Ireland
GOLDEN	Catharine	Single	Daughter	Visitor	18	Factory girl	Ireland
GOLDEN	John	Single	Son	Visitor	14	Factory boy	Ireland
GOLDEN	Michael	Single	Son	Visitor	13	Agric. lab.	Ireland
GOLDEN	Ann	Single	Daughter	Visitor	09	X	Ireland
GOLDEN	Brian	Single	Son	Visitor	07	X	Ireland
HOWLEY	Mary	Single	Head	Visitor	20	X	Ireland
HOWLEY	Harriet	Single	Sister	Visitor	18	Factory girl	Ireland
HOWLEY	James	Single	Brother	Visitor	16	Factory boy	Ireland
HOWLEY	Richard	Single	Brother	Visitor	14	Factory boy	Ireland

Source: Census enumerators' books, Keighley 1851.

The back-to-back housing, crowded together, caused Ranger to comment that "something ought to be done to secure a change of the air in these houses" (Ranger, 1855, p.23). Not only inside but out of doors refuse of all kinds lay around in midden heaps, in puddles, choking drains, and seeping into the water supplies. It was little wonder that stomach and bowel complaints abounded in urban areas. Varley, however, reports a contemporary source as ascribing these disorders in the textile districts to an improper diet and excessive exercise amongst the operatives (Varley, 1979). Other observers (e.g. McKendrick, 1974) noted how textile workers required rich or exotic food to tempt their "jaded palates". Today such symptoms would be ascribed to "stress". The strain of modern "industrial living" had begun to make itself felt amongst the textile workers over a century before it would be recognised as a source of malaise in today's frenetic world. The more one begins to look for signs of this "stress" the more evidence, even if tentative, can be found for it. In the early years of the textile industry the operatives' use of gin and ale as stimulants to "keep them going" at work had been much deplored because of the accompanying drunkenness. The enforced change to tea and coffee, however, may well have done as much harm. Operatives did not drink "cups" of tea - they drank from pint pots. While no doubt this went some way to replacing lost fluids the amount of tea thus consumed would act as a stimulant and as an appetite suppressor. Ale at least would have acted to a certain degree as "liquid food", tea had virtually no calorific value (Frisch, 1978). Milligan asserted that many female operatives existed on a diet of wheaten bread and tea - which could not have been doing their reproductive systems much good. Bridges, writing in 1862, was "convinced that the

constitutions of the (Bradford) population were damaged at or before birth by the factory system" (Thompson, 1984). Undernourished mothers overworked in the mills not only had difficulty bearing healthy children but they were unable to breast feed their offspring who were, therefore, more susceptible to or more exposed to sources of disease. This led, it was argued, to a high level of infant mortality and degeneration of the townspeople's "stature, physique and general conditions" (Thompson, 1984). Milligan, Keighley Union's surgeon, was even more positive about the link between factory work, female health and reproductive ability.

"...a great number of female factory workers have...swollen feet or ankles...other complaints from which they frequently suffer ... (are)...congestion of the liver... relaxation of the ligaments of the uterus, prolapses of that organ, abortion and haemorrhage...

The motion of our large workhouses (factories) ...produces in females premature labour".

(Milligan, 1847)

He noted with some concern that he had seen proplapses in women under 25 years of age.

In Figure 3.17A the number of deaths attributed to "premature birth" and "weak from birth" might certainly give cause for concern. This graph illustrates figures given by Ranger concerning causes of death in Keighley in the five years prior to his visit. Infants and young children, especially underfed ones, would be less able to combat today's "childhood" ailments; measles, scarlatina, whooping cough and croup. Why "teething" should be so dangerous to infants in the nineteenth century has not been satisfactorily explained. No doubt many of the deaths from convulsions were to young children and infants.

Figure 3.17 A: Causes of death in Keighley 1849-1853

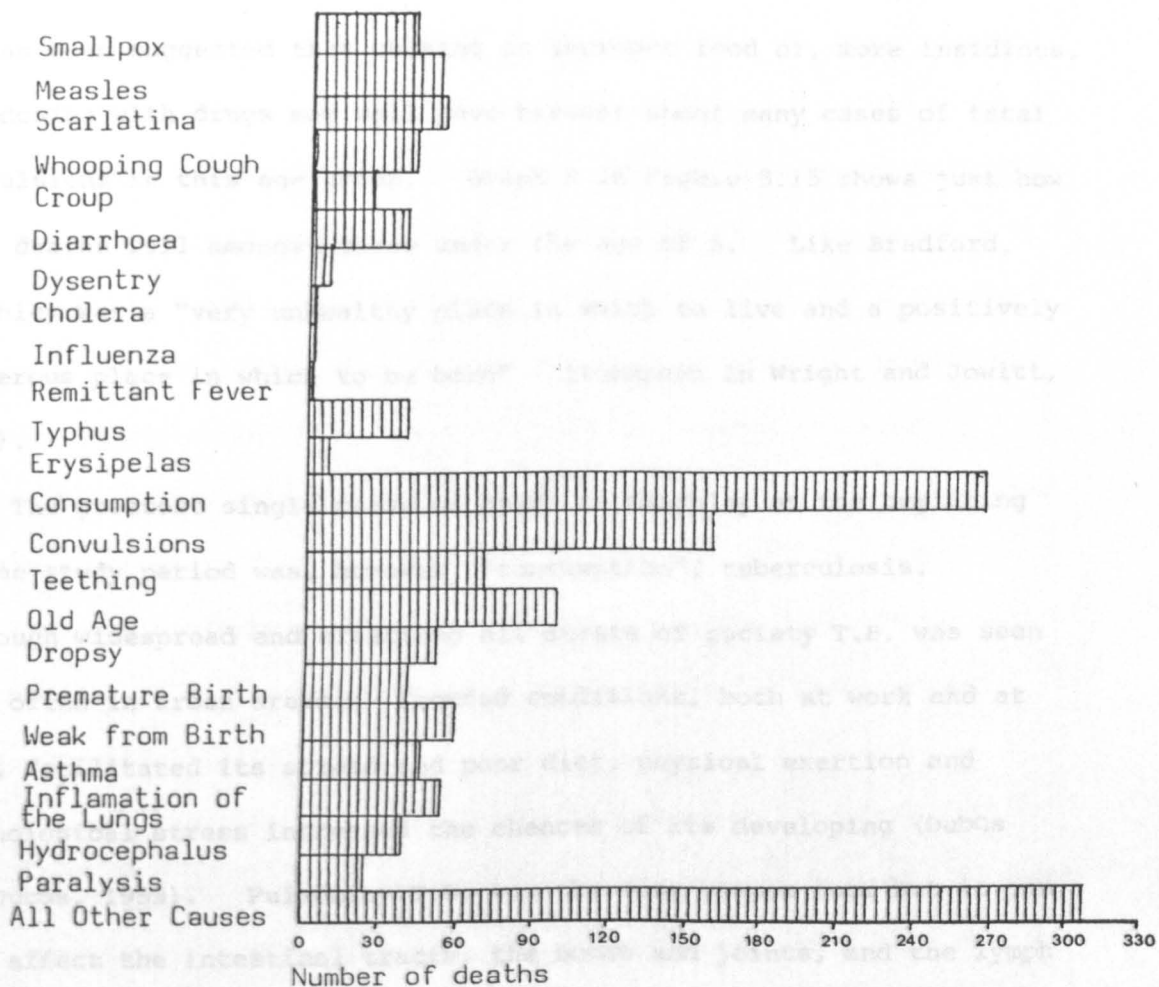
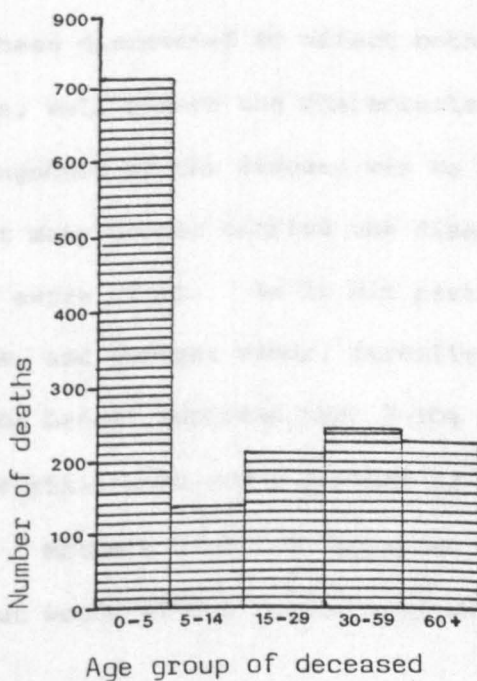


Figure 3.17 B: Age of death in Keighley 1849-1853



Source: Ranger, W. (1855) Report to the General Board of Health... (Eyre & Spottiswoode, London)

It has been suggested that choking on improper food or, more insidious, overdosing with drugs may well have brought about many cases of fatal convulsions in this age group. Graph B in Figure 3.15 shows just how many deaths fell amongst those under the age of 5. Like Bradford, Keighley was a "very unhealthy place in which to live and a positively dangerous place in which to be born" (Thompson in Wright and Jowitt, 1982).

The greatest single cause of death in Keighley at the beginning of the study period was, however, "consumption"; tuberculosis. Although widespread and affecting all strata of society T.B. was seen most often in urban areas. Crowded conditions, both at work and at home, facilitated its spread and poor diet, physical exertion and psychological stress increased the chances of its developing (Dubos and Dubos, 1953). Pulmonary T.B. was the most common form but it can also affect the intestinal tracts, the bones and joints, and the lymph nodes (Cronje, 1984). In this last form it was known as scrofula - a disease to which, it was reported, the impoverished woolcombers and their families in Keighley were particularly susceptible (Varley, 1979). T.B. has also been discovered to affect both the male and female reproductive systems, well before the characteristic "decline" sets in. The fact that diagnosis of the disease was so difficult until the final stages meant that many people carried the disease for some time before becoming fully aware of it. As it hit particularly hard amongst the 15-34 year olds, and amongst women, fertility may well have been affected. In 1926 the Lancet reported that 7-10% of babies born to tuberculous mothers were still born and a further 12-15% died in the six weeks following birth. Mothers with T.B. appeared to do well with the first pregnancy but worse with a second one, while a third

would be very dangerous to attempt. A year later the same journal reported that 89 per cent of "phthisical" patients were made worse by pregnancy and 58% died after one or two years. "There was no better criterion of cure in a treated tuberculous woman than the ability to bear a child without mishap" (Lancet, Aug. 20th, 1927). A further article, some 15 years later pointed to the fact that as industrialisation helped spread T.B. through increased contact, so women's increasing participation in the workforce had accompanied an increase in their mortality from respiratory T.B. (Lancet, 4th May, 1960). Cronjé lists Lancashire, the West Riding, Northumberland, South and North Wales as having very high T.B. death rates for both men and women (Cronjé, 1984).

Between 1861 and 1871, of all the Registration Districts in Lancashire and the West Riding, Keighley R.D. had the highest (39.3 per 1000) female death rate from phthisis; a rate even higher than that of Liverpool (39.1 per 1000), Manchester (32.8 per 1000) or Bradford (30.9 per 1000). For males over the same period Keighley R.D. also had the highest phthisis death rate (32.3 per 1000) of all the West Riding (Registrar General, 1873). Unfortunately, classification of cause of death was not always consistent, individual doctors favouring their own pet diagnosis. Thus while Keighley had 32.3 per 1000 men dying of phthisis and 38.8 per 1000 dying from disease of the lung, Bradford R.D. had 27.8 per 1000 men dying from phthisis and 43.7 per 1000 dying from diseases of the lung. Keighley's top place in the phthisis league may not, therefore, be deserved.

Table 3.10 compares Ranger's death rate statistics at the beginning of the study period with the next set of comparable records which fall just after the end of the study period, being published by the Medical

Table 3.10 Death rates in Keighley as reported by William Ranger for 1849-1853 compared with those reported by the Medical Officer of Health for the Borough of Keighley for 1883-1885 and 1887.¹

Date	Death rate per 1000	% of deaths to those in the 5 and under age-group	% of deaths due due to phthisis ²	% of deaths due to lung disease ³
1849	19.4	53.0	19.4	4.7
1850	19.6	43.0	22.6	3.1
1851	27.2	51.4	15.8	3.6
1852	24.0	42.2	15.8	2.9
1853	26.2	46.4	16.1	3.7
1883	20.3	36.2	13.6	23.1
1884	22.1	41.1	12.1	22.2
1885	20.6	42.1	9.8	23.2
1887	23.9	39.5	10.2	20.4

Sources: Ranger, W. (1855) Report to the General Board of Health on a Preliminary Enquiry into the Sewerage, Drainage, Supply of Water and Sanitary Condition of the Inhabitants of the Town of Keighley. (Eyre & Spottiswoode, London).

Annual Reports of the Medical Officer of Health for the Borough of Keighley. (Held in Keighley Public Library).

- Notes: 1. Data for 1886 was missing from the Medical Officer's Reports.
2. 1849-1853; pulmonary tuberculosis came under the label "consumption". This term could also include those who went into "a decline" for other reasons.
3. 1849-1853; this cause of death was headed "inflammation of the lungs". In the later set of data it was, more specifically, "bronchitis, pneumonia and pleurisy."

Officer of Health for the Borough of Keighley. Broadly speaking there appears to have been a slight improvement in the death rate over the study period. It certainly appears to experience less drastic fluctuations. The under 5 age group exhibits a more definite improvement. Table 3.11 indicates a more positive improvement. Unfortunately no average age at death figures exist for Keighley at the earlier period so those for the village of Haworth have been used as surrogates. Mawson (1970-71) reports, however, that in 1849 the average age at death in Keighley was 19 - almost 10 years lower than that in Haworth. We might expect the more urban area to be somewhat less healthy but this gap seems very large. Looking back at Table 3.10, however, we see that 1849 was a year of very high infant and child mortality in Keighley so it is probable that this substantially reduced the average age at death for that year. Even if Keighley had an average age at death some 5 years lower than that of Haworth then Table 3.11 represents a gain of 15-20 years on the average life span over the 30 year study period - a figure which seems somewhat over-optimistic.

Returning once more to Table 3.10, the comparison between phthisis deaths and those from lung disease is hampered. In Ranger's report pulmonary T.B. came under the label "consumption", but this latter term could also include those who simply went into "a decline". In the 1880s Ranger's "inflammation of the lung" had been replaced by the more specific "bronchitis, pneumonia and pleurisy". Nevertheless in the early 1850s "consumption" accounted for almost 1 in 5 deaths while lung disease contributed about 1 in 30 deaths. By the 1880s, however, the latter was causing just under 1 in 4 deaths while phthisis now only accounted for about 1 in 10 deaths. Does this reversal indicate new, or better, diagnoses or does it indeed indicate that T.B.

Table 3.11 The average age at death: Haworth, 1841-1849, compared with Keighley 1877-1883

<u>Haworth</u>		<u>Keighley</u>	
Date	Average age at death	Date	Average age at death
1841	28.4		
1842	27.0		
1843	23.8	1877	39.0
1844	25.5	1878	39.8
1845	26.5	1879	42.3
1846	30.8	1880	45.0
1847	29.8	1881	41.6
1848	21.7	1882	45.6
1849	29.8	1883	49.2

Sources: The Haworth figures were taken from Mawson, P. (1970-1) This Horrid Place; an Inquiry into the Public Health and Sanitary Conditions of the Inhabitants of Keighley between the Years of 1850 and 1870. (Unpublished B.Ed. dissertation, Westminster College, Oxford.)

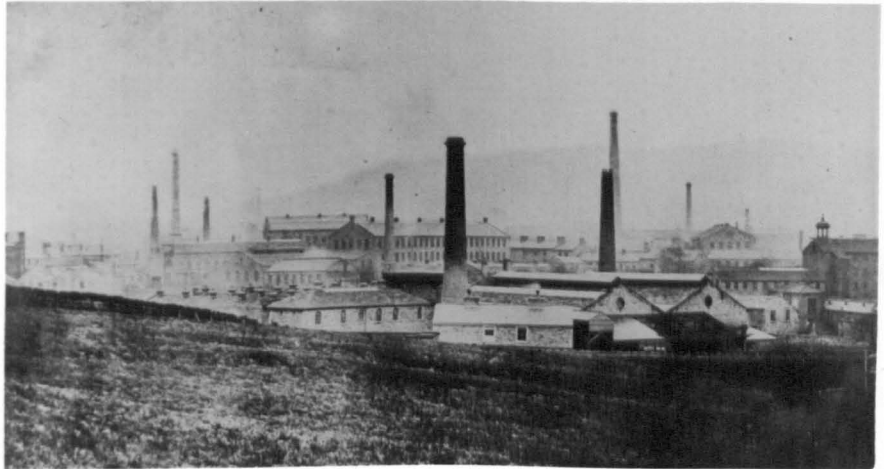
They came originally from the report by Babbage which was Haworth's equivalent of the Ranger Report on Keighley.

The Keighley figures came from Berry, P. (1985) Keighley Catholic Church 150 Years Anniversary Celebrations. (publisher and place of publication not given).

was on the wane and lung disease gaining hold? Interestingly, while noxious smells and gases resulting from the crudity, or lack, of waste disposal systems were much complained about, little was said about air pollution. Even by 1850, when the town had 39 mills with a combined strength of 632 horse power, 65 per cent of which was steam driven (James, 1857/1968), smoke pollution must have been quite serious. Local scandal certainly told of one local dignitary in the mid-1850s who had kept three white fowls in the workhouse for a few days in order "to keep them from the dirt and smoke of the town previous to a Poultry Show." (Dewhirst, 1974). By the 1870s photographs recorded the pall of smoke hanging over the town's chimneys (Figure 3.18). Perhaps, while other environmental improvements were slowly but steadily taking place, smoke pollution was on the increase adding to the problems of change of temperature and susceptibility to chills which were said to plague the textile populations (e.g. Milligan, 1847).

The improvement in life expectancy (whatever its magnitude) would mean that fewer couples would see their fertility truncated by the death of one or other partner. However, in the calculations of marital fertility which follow only these couples with both spouses surviving at census are considered. Admittedly some occupational or class groups may be more susceptible to disease and, therefore, we might find that the age structure of the couples classified under such occupations is altered, affecting fertility. Without far more extensive work with the parish registers, however, which time and the non-availability of non-conformist registers does not permit, the occupational differentials in death rates are not calculable. It has therefore been assumed that infant, child and adult death rates are

Figure 3.18 Keighley in the 1870s.
(Viewed from the East - from much the same spot
as Figure 3.1)



Source: Dewhirst, I. (1972) Old Keighley in Photographs.
(Hendon, Nelson, Lancs.)

uniform throughout the population.

One group known to have defied this assumption are the woolcombers. Their mortality and morbidity rates were very high in the 1840s and 50s. In 1842 the Clerk of Bradford Poor Law Union reported to Chadwick, the great sanitary reformer, that the average age of death amongst woolcombers and their families was 16 years. For the rest of the working class it was 18.4 years... (Thompson, 1984).

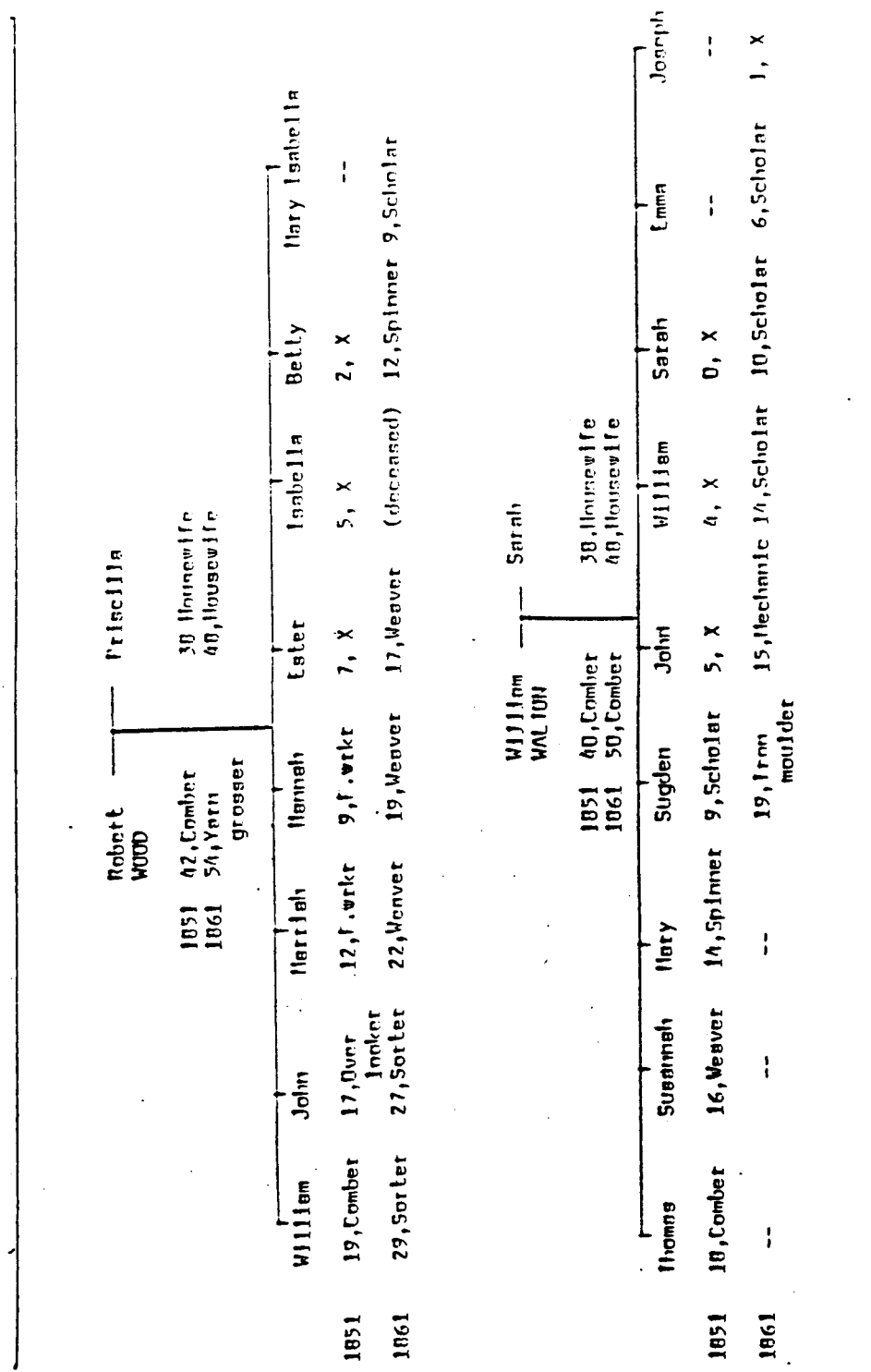
Enquiries into the living conditions of the combers were set up. For instance Ranger's report of 1855 listed a "Return of the Earnings, Family, Rent etc. of Woolcombers, with their Consumption of Animal Food, etc." This is reproduced in Table 3.12. As the note at the head of the table suggest these were the best-off combers with all earning members contributing to the family budget. Accompanying Table 3.12, Figure 3.19 depicts two families, the heads of which can be traced from the list to the 1851 and 1861 censuses. It is not certain that the two families are those represented in Ranger's table, as neither census exactly matches the figures for the number of family members given by the Health Inspector. However, the heads of the families are the only two men matching the name and occupational descriptions. The Wood family was the best off earning 30s 4d. a week between them, of which the father contributed 6s. 4d. It is likely at this time, returning to Figure 3.2B that Susannah and Mary (who by 1855 would have been 18 and therefore most likely a weaver), would each have been earning as much as 2s. 6d. more per week than their father. Again the implications for parental authority, individual self-esteem and attitudes towards women and their work must be pondered upon. Even this family could only afford 2 lbs. of meat a week - a luxurious amount by other standards - but hardly sufficient

Table 3.12 "Return of the Earnings, Family, Rent, &c. of Woolcombers, with their Consumption of Animal food, &c." In the cases listed below the entire family earnings went to one fund and were spent under the direction and control of the heads of the family, an arrangement which meant they were, in fact, better off than the truly "pauperised".

Name of Individual	No. of Family	Earnings of Heads of Family (s. d.)	Earnings of Family (l. s. d.)	Total Earnings (l. s. d.)	Rent per Week (s. d.)	Consumption of Animal Food and its General Character.
John Smith	8	7 9	0 7 0	0 14 9	1 6	Sheep's heads or liver occasionally
Robert Wood	10	6 4	1 4 0	1 10 4	2 0	2lbs. of meat per week.
William Hall	6	6 10	0 6 9	0 13 7	1 9	Not 1lb. in a year.
John Silly	8	7 6		0 7 6	1 6	No meat, but a sheep's head occasionally.
William Wade	7	7 6	0 6 0	0 13 6	2 0	1lb. per month
Benj. Hey	9	7 0	0 14 0	1 1 0	1 9	Has not had 6lbs. of meat for the last 18 months.
E. Ray	8	7 9	0 1 6	0 9 3	2 3	Not more than 1lb. per week
Luke Smith	8	7 6	0 1 6	0 9 0	1 6	1/2lb per week.
A. Smith	6	7 3	0 0 0	0 7 3	1 9	1lb per week.
S. Midgley	3	7 0	0 1 0	0 8 0	1 3	Not 1lb per week.
G. Horn	4	7 9	0 4 0	0 11 9	1 9	1lb per week.
David Haggas	7	7 9	0 3 0	0 12 9	1 5	1lb per week.
John Milner	6	7 6	0 0 0	0 7 6	1 9	Not 1/2lb per week.
George Crowther	8	6 6	0 10 0	0 16 6	1 6	Not more than 1lb per week for the last 12 months.
Joseph Meud	5	7 9	0 2 0	0 9 9	1 6	Not 2s. worth for the last 12 months.
Cyrus Binns	5	6 4	0 7 0	0 13 4	1 8	Not 1lb per week.
Thomas Binns	6	8 0	0 0 0	0 8 0	1 1	Only 2lbs of meat this last 6 months, cost 8d.
James Wildman	4	6 0	0 1 4	0 7 4	1 3	1lb for the last 12 months.
John Hudson	5	8 0	0 1 6	0 9 6	0 10	A sheep's head occasionally
J. Murgetroyd	6	10 0	0 0 0	0 10 0	1 9	2lbs per week
Thomas Ramsden	5	8 0	0 1 6	0 9 6	1 6	1 sheep's head once per month.
William Smith	5	8 6	0 10 0	0 18 6	2 0	2 1/2lbs per week.
J. Sunderland	6	4 6	0 2 0	0 6 6	1 2	None.
H. Townend	4	7 0	0 5 0	0 12 0	1 1	None.
Thos. Moor	5	5 0	0 0 0	0 5 0	2 0	Not 1lb per week.
John Hunter	2	6 0	0 0 0	0 6 0	1 3	1lb occasionally.
Thos. Suttle	1	6 0	0 0 0	0 6 0	1 4	Not 4oz. for the last 12 months
Joseph Barwick	5	8 0	0 5 0	0 13 0	1 1	1 1/2 lbs per week.
Geo. Cliffe	2	8 0	0 0 0	0 8 0	2 3	2 1/2 lbs per week.
William Walton	11	8 6	0 18 6	1 6 6	2 2	5lbs per week.
E. Bearlard	3	6 0	0 0 0	0 6 0	1 4	1lb of meat since last November.
David Hudson	7	7 0	0 3 0	0 10 0	1 4	Not 1lb per week.
Wm. Shackleton	3	7 6	0 4 0	0 11 6	1 7	1lb per week.
Samuel Stowe	3	7 6	0 0 0	0 7 6	1 1	Not any for many months.
John Midgley	10	7 0	0 12 0	0 19 0	1 10	Not 2lbs per week.
James Green	5	10 0	0 2 0	0 12 0	1 2	None.
James Houlden	5	7 0	0 7 0	0 14 0	2 0	2lbs per week.

Source: Ranger, W. (1855) Report to the General Board of Health on a Preliminary Inquiry into the Sewerage, Drainage, Supply of Water and Sanitary Condition of the Inhabitants of the Town of Keighley. (Eyre & Spottiswoode, London)

Figure 3.19 The families of two of the wool combers listed in Table 3.12 and their occupations 1851 and 1861.



Source: Nominal record linkage of census enumerators' books.

to give each of the 10 members of the household more than a taste. Some must have gone short.

Cudworth (1887/1977) lists the Bradford prices of "an order of groceries" in both 1861 and 1887 (Table 3.13). Although he assures us all the articles are "in general consumption by the working classes" it must be admitted that the groceries look destined for a middle class kitchen, and do not include the meat, potatoes and bread which, the menus given in Maud Pember Reeves' Round About a Pound a Week (1913/1979) suggest formed the staples of the mainly carbohydrate, working class diet even in the 1900s. Admittedly "factory folk" in periods of good trade would, between them, be earning considerably more than a pound a week and were renowned for their love of "fancy foods" so perhaps nutmegs and caraway seeds did find their way into the shopping baskets of Keighley housewives, but the point remains that in 1861 prices were considerably higher than those of the later period. Dewhirst (1974) notes that in the early 1850s "provisions were dear"; 16 lbs. of potatoes cost 1s. 2d., meat 4s. 4d. for 28 lbs., butter 13½d. per lb., milk 1½d. per quart and eggs 1s. for 16.

Johnstone (1976) suggests that rents in Keighley during the 1850s and 60s stayed static at a relatively high level and then dropped in the 1870s although she gives no actual figures. Only the figures given in Ranger's table have been found and therefore we cannot tell whether these combers were paying average rents or were staying in the cheapest areas of the town. The high incidence of lodgers in the census returns suggest that rents were high enough for it to be worth while to sublet a room or even parts of a room. Some factory owners provided housing for their workers, deducting the rent directly from their wages. Such houses were usually of a higher standard than the

Table 3.13 "Prices of articles in general consumption by the working classes", Bradford 1861 & 1887.

Grocery Items	Prices in	Prices in
	1861 (£. s. d.)	1887 (£. s. d.)
2 stones flour, at 2s.10d.	0 5 8	0 2 10
4lb oatmeal, 2d.	0 0 7 1/2	0 0 7 1/2
4lb lump sugar, 6 1/2d.	0 2 2	0 1 0
4lb moist sugar, 5 1/2d.	0 1 10	0 0 8
2lb yellow sugar, 5d.	0 0 10	0 0 3
4lb best soap, 4 1/2d	0 1 6	0 0 11
1/2doz. packets Borwick's baking powder, 10d	0 0 5	0 0 4
1lb box starch	0 0 6	0 0 4
1/2lb tin mustard, 1s.	0 0 10	0 0 9
1/4lb white pepper, 1s.6d.	0 0 4 1/2	0 0 4
loz. nutmegs	0 0 4	0 0 4
2lb. currants, 5d.	0 0 10	0 0 10
loz. ground mace	0 0 6	0 0 4
1lb. sultana raisins	0 0 7	0 0 5
2lb. pure lard, 8d.	0 1 4	0 0 10
1lb. sago	0 0 4	0 0 3
1lb. tea	0 4 0	0 2 8
2lb. rice, 3d.	0 0 5 1/2	0 0 5 1/2
1lb. coffee	0 1 6	0 1 6
1/4 carraway seeds, 10d.	0 0 2 1/2	0 0 2
4lb. soda	0 0 3 1/2	0 0 2 1/2
1lb. candles	0 0 7	0 0 4 1/2
1lb. Irish butter	0 1 2	0 1 2
1lb. print butter	0 1 4	0 1 1
1lb. Cheshire cheese	0 0 9	0 0 8
1/4lb powder blue, 1s. 6d.	0 0 4 1/2	0 0 3 1/2
1/4lb lemon peel, 10d.	0 0 3	0 0 2 1/2
1lb. tapioca, 10d.	0 0 10	0 0 4
Total	1 10 9	1 0 2

Source: Cudworth, W. (1887, 1977 reprint) The Condition of the Working Classes of Bradford and District. (Mountain Press, Queensbury).

general run of accommodation and much better than the jerrybuilt buildings crowded into courts and alleyways. Cloughs of Grove Mill for instance built New Road Side, Ingrow in the early decades of the nineteenth century to house some of their workers (Hodgson, 1879). The higher status, longer serving workers probably obtained such housing more readily than others.

Wages were paid either on a weekly rate or by piece rate. They were only paid out, however, once a fortnight. On looking through the records from Clough's Grove Mill certain of the wages books record the weekly rate received by each worker and note how much they actually received each fortnight. The variety in the amount paid to different individuals and the variety in the fortnightly sum received by each individual is quite eye opening. In 1871 some millhands were receiving 2s 6d. per week while others were being paid 52s. per week (see Table 3.14). Age and status no doubt contributed to these differences. Fines, overtime, and time off could make substantial swings occur in an individual's fortnightly income. John Jackson, for instance, in Table 3.14 had 3d. knocked off his 5s. one fortnight and 8d. off the next pay day. If budgeting was at all tight, unexpected decreases of even a few pence must have created considerable difficulty. We can only wonder how David Spencer (Table 3.14) managed the fortnight he was paid no wages at all. Milligan (1847) was of the opinion that many good factory wages were spent unwisely. Certainly the practice of paying them out in a local hostelry could not have helped. This practice was amended by some millowners, but the 46 beer shops and inns in Keighley in 1853 (Dewhirst, 1974) must have been strong temptation, especially when one's "local" was literally "next door" (Figure 3.20). By 1884 their number had grown to 64.

Table 3.14 Millhands' wages for the four weeks before and after the date of the 1871 Census, at Robert Clough's, Ltd., Ingrow. Wage rates per week and sums paid on pay day each fortnight.

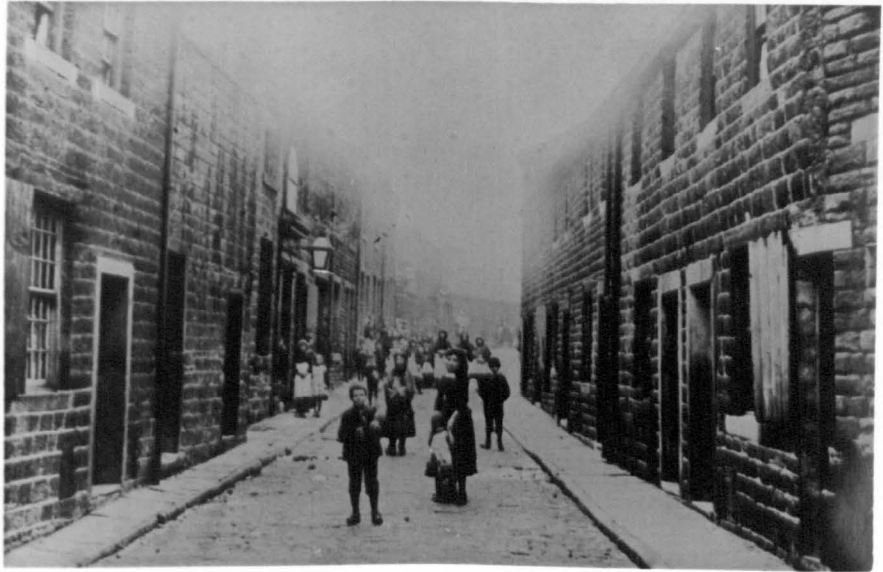
Surname	Forename	Amount payed on pay day				Wage Rate per Week
		16th March	30th March	13th April	27th April	
		(s. d.)	(s. d.)	(s. d.)	(s. d.)	(s. d.)
Rushworth	Holmes/Esther	6 8	8 0	7 0	7 4	4 0
Sunderland	Enoch	97 4	101 7	91 9	91 6	52 0
Redcliffe	John/Emily	13 6	13 6	11 9	13 6	6 9
Mitchell	John	60 2	63 2	60 0	65 4	26 0
Waugh	Robert	46 9	48 4	40 0	43 4	20 0
Summersgill	William	46 0	46 7	40 3	46 0	23 0
Wignall	Thomas S.	8 0	8 0	7 0	8 0	4 0
Harrison	Priscilla	19 3	20 0	18 4	20 0	10 0/10 6
Turner	John	25 0	29 6	25 9	28 6	12 6
Pickering	Thompson	24 3	22 9	20 0	23 9	4 0 *
Wright	Hannah	32 9	30 0	28 9	34 2	2 6 *
Addyman	Charles	45 3	56 0	43 9	34 1	28 0
Wright	Joseph	24 8	25 1	20 5	26 0	12 0
Atkinson	Thomas	65 6	68 9	59 6	70 1	32 3/33 9
Binns	Benjamin	26 0	25 4	22 1	24 9	13 0
Cull	S.J.	45 1	37 3	22 7	22 6	7 9 *
Edson	Jane	42 6	41 8	36 7	40 4	8 6 *
Terry	Starkey	29 6	29 6	25 2	27 4	14 9
Waller	Martha	45 0	17 6	18 4	19 9	22 6/10 6
Waddington	Sarah Maria	18 9	20 0	17 6	21 7	10 0/11 3
Thompson	James	33 0	00 0	00 0	00 0	10 6
Sunderland	William	00 0	34 0	32 7	34 0	17 0
Jackson	John	5 0	4 9	4 2	5 0	2 6
Spencer	David	27 0	23 7	00 0	25 8	13 6
Sunderland	Emma	43 4	54 0	43 5	48 9	10 3/10 9 *
Mitchell	Daniel	49 0	52 0	56 0	53 0	24 0
Midgley	Joseph	36 0	35 8	31 6	36 0	18 0
Waddington	M.A.	7 6	7 6	5 4	7 6	3 9
Holdsworth	Wade	8 0	8 0	6 4	7 9	4 0
Wright	Amy	36 3	38 0	34 1	37 7	19 0

Source: Book 48, Clough Collection, Brotherton Library, University of Leeds.

Notes: In some cases individuals would receive the wages for all the members of their family working in the mill. Those cases marked with an asterisk above are examples of this practice, thus the individual's wage rates bear no relation to the amount actually received on pay day.

Where an individual's wage rate changed over the eight week period observed both rates are shown, in chronological order and separated by a slash, in the final column.

Figure 3.20 The notorious Westgate, Keighley.
(The lamp on the left signals the entrance
to the Bay Horse Inn)



Source: Dewhirst , I. (1973) More Old Keighley in Photographs.
(Hendon, Nelson,Lancs.)

Thompson (1984) certainly believes that alcoholism was rife amongst the industrial population of Britain and Varley (1979) notes the problems Keighley had with vagrants and drunks. Less well publicised but of pertinence to a study concerned with fertility was the V.D. rate. Thompson (1984) reports the rates in Bradford as being very high, and V.D. a major factor in the high level of infant mortality in the area, as it no doubt was in Keighley too. Figures on this subject are very unlikely to ever be forthcoming.

Section 3.7: Summary

The study period, 1851-1881, has been shown to cover a period of great change in the worsted industry, the technological redundancy of a major proportion of the male workforce had many repercussions. In Keighley the blow was partially softened by the growth of another industry. This cushion, however, benefited the town's economy more than it probably did individual families. The occupational opportunities offered to women in the town must also have helped families through the upheavals of the transition period to total mechanisation. It is postulated that during that period, and through the very large numbers of women working, new attitudes and beliefs, particularly pertaining to women's roles and status, were forged. This process was probably helped by the prevalence of non-conformist beliefs in the area plus the new stringent routines imposed on the workforce which led them to shrug off fatalistic resignation and passive acceptance of their lot. The political bargaining and power they had experienced in the fight against mechanisation had also probably contributed to this remoulding. Textile workers, being in the vanguard of the Industrial Revolution, were ahead of their peers in experiencing

the effects of these and other changes which had followed in the wake of industrialisation.

Within Keighley, changes within occupational categories over time seem to be as great as differences between classes at any one time. Textile workers, as a group, do not appear to have been particularly well off compared with other groups although some individuals were no doubt comfortably placed. The hand combers were notably badly off for a time but then other strata of Keighley society probably lived permanently in such a state, although Mawson (1970-71) notes that by 1875 only about 10 in every 1000 persons in the town was classified as "poor" while in the country as a whole this figure was 29 per 1000. There is little doubt that multiple earning households meant a sharing of the economic burden. This arrangement was a boon when various sectors of the worsted industry had "slumps" at different times or with varying degrees of severity; a point untouched by Johnstone who deals with each occupation in isolation.

Environmental conditions, with the possible exception of air pollution, and living standards improved over the study period, but we have little information about how this affected "general health" - we only have information on the death rates. Even although improvements were occurring the British Medical Journal of 1882 still carried an article referring to the very high infant mortality rates in the Keighley area. If fertility rates were falling it was not in reply to drastic improvements in infant life chances.

Having considered factors which may have been at work to affect fertility in the textile districts and having investigated the situation in Keighley let us now look at the fertility behaviour patterns in evidence within the town between 1851 and 1881 before returning to reassess our interpretations so far.

Notes for Chapter 3

1. Thomas Durham Whitaker. "History and Antiquities of the Deanery of Craven", 1805, quoted by Dewhurst (1974.)
2. "Shalloon" - "a closely woven woollen material chiefly used for linings", Oxford English Dictionary (1933).
3. The softness of woollen fibres and the relatively loose twist put into the finished yarns meant that spinning and weaving of woollens, by machine at any rate, had to be a more delicate process than those which the more robust cotton fibres could stand. Also between the worsted and woollen industries differences in material affected the rates of mechanisation and adaptation of innovation. For instance woollen textiles utilise the short fibres from a fleece whereas worsteds make use of the long ones. The worsted industry combs the wool while the woollen industry cards it to obtain the fibres they need. The problems of combing the long worsted fibres delayed the coming of machine combs until well after the carding process had been mechanised. On the other hand the worsted industry's conversion from water to steam power preceded that of the woollen industry as the mills in the worsted areas tended to be larger than those in woollen ones, and therefore required more power - they were also more favourably placed for access to coal supplies.
4. The word "combing" indicates that worsteds are being discussed, no other textile underwent this process.
5. Throughout this thesis currency has been left in the form of sterling, it being believed that this form conveys more accurately the amounts involved. For those requiring metric equivalents:
 - 6d. = 2½p.
 - 12d. = 1s. = 5p.
 - 10s. = 50p.
6. Wool combs, reads (or reeds), healds, rollers, spindles and fliers were all equipment or components of machines required by the worsted manufacturers.
7. Pahl, R.E. (1984) Divisions of Labour (Blackwell, Oxford.)
8. Johnstone, in her thesis used decimalised forms of all her wages data. Here the sums have been converted back into the contemporary coinage as much of the other monetary data is given in L.S.D. form (see note 5 above).
9. D.J. Oddy states (1983) that the "Cotton Famine" lasted from the spring of 1862 to the summer of 1863. Certainly "John Ward" noted in his diary in December 1861 (Burnett, 1974) that he was "not so well off" as he "had been for several years" owing to much short time and the prospect of "war with the United States". When he was working the cotton he was having to weave was of a very inferior quality.

10. Bradford and Keighley produced dress goods for women's wear, while Halifax produced the weights for men's wear. Keighley and Halifax produced heavier, coarser worsteds while Bradford produced finer, more expensive cloth (Jenkins, 1972).
11. Hartley and Inglesby (1976) describe how the woolsorters only worked in daylight, presumably as artificial or poor light hampered their judgement. Thus while others worked a twelve hour day the sorters, in midwinter, came in at 9 a.m. and returned home again at 3 p.m. Their high status allowed them "to go to work in top hats".
It is also noted how the floor of the sorting room was swept and the sorters' clothes picked clean of any fibres as "wool was dearer than sugar".
12. The Rev. John Room describes the process of warp dressing in his 1882 Notes from the Log Book of a Late Worsted Inspector. An extract is given in Figure 3.21.
13. In his description of hand combing, Room (1882) shows how the system of "taking in" could be abused by combers, Figure 3.22.
14. Verbal observation from a gentleman at the IBG Conference 1986 has spent several years studying Oxenhope and surrounding districts.
15. Carol Adams (1982) notes that "most Board Schools were mixed, with the same basic lessons for girls and boys. These were the "Three R's ...". However, she continues, later schools had to introduce additional subjects to qualify for a government grant, and for these subjects girls and boys were taught separately.

For girls 1862 saw the introduction of needlework, 1877 "domestic economy", 1882 "practical cookery" and 1890 "practical laundry". (Roberts, 1984).
16. Whenever this group is mentioned, unless otherwise stated, only those women whose husband was present on census night are included in the figures. See Chapter 5 for a discussion of the numbers of married women debarred from inclusion because of their husband's absence.
17. This proportion was rather less than amongst single women where between 7.5% and 8.2% were employed in occupations other than textiles (see Table 3.15). Very, very few married women were employed as servants, however, and this may go some way to explaining the difference.
18. Although there may be some merit in the argument that as these jobs were lowly paid some women took them simply to add to an income that was already adequate for the family's needs rather than out of dire financial necessity, the general impression from contemporary sources is that this was not the case.

Figure 3.21 Notes from the logbook of a late worsted inspector - on warpdressing.

"In the manufacture of pieces the first process is the preparation of the warp. This is done in this way. A given number of full warp bobbins is placed on a 'creel', the ends of the threads are gathered and attached to a machine called a warping mill. This machine is circular, after the shape of a cylinder: and, as it revolves, it draws the thread from the bobbins, which are collected by an ingenious apparatus through which they are made to pass, and laid in a spiral form around the machine. When the requisite length which corresponds to the length of the intended piece, has been obtained the motion of the mill is reversed. This process is repeated till the proper number of threads has been laid on. When the warp is completed it is drawn from the mill, and wound up into the shape of a ball. It is now ready for the merchant, who sells it to the piece manufacturer. The manufacturer then has them 'dressed' - that is, prepared for the loom. If he has convenience on his own premises, the warps are dressed there. And this is by far the safer plan, for it gives less opportunity to the warpdresser for dishonest appropriation. But more commonly the warps are given out to what are known as 'out dressers'. These workmen take the warps and the 'beams' upon which they are wound to their own homes. They are provided with a warp dressing frame either in their bed chambers or a large hired room. A portion of the warp is laid upon the 'reddle', a lay rods and a lay, through the teeth and reeds of which the warp is made to pass. The warpdresser moves these implements backwards and forwards till the threads are freed from all entanglements and lie straight and even, picks from them all woolly excrescences, takes up all broken threads, and adjuncts and cleans the whole, and then winds the dressed portion of the warp lightly round the beam.... When the whole warp has been dressed and wound on the beam it is ready for the weaver. The warp-dresser then takes the warp or warps back to the manufacturer; and receives his wages. I may add that warp-dressing is regarded as a superior branch of the worsted industry; and that the workman who is handy at his job can earn a respectable livelihood.

Source: Room, J. (1882) Notes from the logbook of a late Worsted Inspector.
 (Keighley Herald Newspaper Co., Keighley)

Figure 3.22 Notes from the Logbook of a late worsted inspector - on hand wool combing.

"In hand combing days it was customary for spinners to weigh out parcels of wool of sixteen or twenty pounds each, and hand them over to the combers. The combers would then take them to their own homes for the purpose of making the wool into 'tops'. The parcels of wool were commonly called 'lathers', and in 'slack' times, fortunate was the poor comber who could get his 'lather'; for it represented so much employment for him, and so much in the shape of wages. Usually the spinners provided the combs. These the comber kept at his own home; but was obliged to return them whenever he ceased to work for the spinner to whom they belonged, or whenever the master might demand them. In such cases they would work for only one master; though some would have combs from more masters than one; and in some cases, independent or unattached combers would provide their own combs, and would take 'lathers' where ever they could get them. Sometimes the combing would be performed in the workman's own sleeping room, but more usually in a kind of outhouse. Some two or three or more combers would join to rent one, and fit it up with posts, benches, fireplaces, tubs and whatever might be necessary for their craft. The posts were rough pieces of timber some 8 or 10 inches thick, the lower end of which was firmly embedded in the ground, and the upper end fastened by nails or wedges to the rafters. These posts were called 'pad posts'; because they held the 'pad' in which the comb was fixed. At the 'pad posts' the processes of 'jigging' or 'straightening' were carried on. The fire places were named 'pots'. They were formed of baked clay in the shape of a hollow conical vessel, built in by rough brick-work and surmounted by two iron plates with a space between so that combs might be 'slotted in' and heated to the necessary temperature. The benches were used to lay the slivers of wool upon preparatory to a second process of combing. The tubs were for the purpose of 'chittling'. In this process the wool, having been drawn from the comb a second time, and gathered up in the hand into a kind of ball, was deposited in the 'chittling tub'. When the whole 'lather' had been thus treated and the 'slips' had been ranged in layers in the tub moisture was sometimes added, and a circular stone flag was put on the top and the whole mass pressed down. The moisture and pressure had the effect of giving the 'tops' a beautiful lustre....

But this property of wool to absorb moisture placed a sore temptation in the way of the poor comber. It was found that a 'lather' of wool would absorb from a pint to a quart of water, according to quality - the finer sorts absorbing more than the coarser ones. This enabled dishonest workpeople to cheat their masters with but a slight chance of detection. They could keep back a pound or so of tops from each 'lather', and the takers in, without knowing it, would themselves be taken in.

Source: Room, J. (1882) Notes from the Logbook of a Late Worsted Inspector.

(Keighley Herald Newspaper Co., Keighley.)

Table 3.15 The number and percentage of all single women in various occupations, Keighley 1851-1881.

Occupation	1851		1861		1871		1881	
	N	%	N	%	N	%	N	%
Textile work	2102	44.3	2364	45.6	3030	45.6	3143	36.6
White Collar/Shopkeeping	44	0.9	72	1.4	93	1.4	149	1.7
Clothing	178	3.7	131	2.5	164	2.5	223	2.4
Domestic Service	173	3.6	188	3.6	241	3.6	328	3.8
Scholars	677	14.3	824	15.8	1092	16.4	2239	26.0
Undefined	1566	33.0	1604	31.0	2026	30.5	2515	29.2

Source: Census enumerators' books, Keighley 1851-1881.

Note: The "undefined" category is comprised mainly of girls too young to be out at work.

19. Over the course of the 19th century there were a few instances of county boundary changes, parishes changing from Lancashire to Yorkshire and vice versa. When this happened the entry in the census was retained even although this meant that people born in one parish could appear in more than one "county" category. As the number of cases were very small this method avoided delving into boundary history and juggling with a person's age to allocate them to a contemporary county whose borders may well have changed since.
20. Obviously immigrants arrived at different times and after different lengths of stay in their place of origin and "stop overs" on the way to Keighley. Only with detailed work on the birth-places of the children of married couples can we be more certain of their approximate arrival time in, and route to, Keighley. Because of this problem all persons born outside of Keighley have been designated "immigrants" even although some may have been resident in the town for over 50 years!
21. Oastler's arguments can be found in the Parliamentary Papers 1831-32, Vol. XV, Ashley's in P.P. 1833, Vol. XX. Keighley was specially mentioned in the Sadler report as having "exceedingly numerous" cases of deformity "there being not another town worse, in proportion, to the size of it".- Gillett Sharpe, Overseer of the Poor in Keighley giving evidence to the Sadler Committee, 6th June 1832. (Wing, 1965).

CHAPTER 4.

SourcesSection 1: Introduction

In the following chapters the issues raised in Chapters 2 and 3 will be further explored using contemporary records relevant to Keighley in the mid- to late-nineteenth century. Some records have been used to calculate measurements of fertility (Chapter 5), others to supply data for nominal-record-linkage exercises (Chapter 6) and others simply to further illustrate the conditions experienced by those living in the town during the study period. The census records were especially plundered, being used in all three capacities.

Each set of records has its own advantages and crop of problems for the researcher. Rather than detail these in the course of future chapters this chapter discusses each source in turn, listing the pros and cons of its use.

Section 4.2: The Census Enumerators' Books, 1851-1881

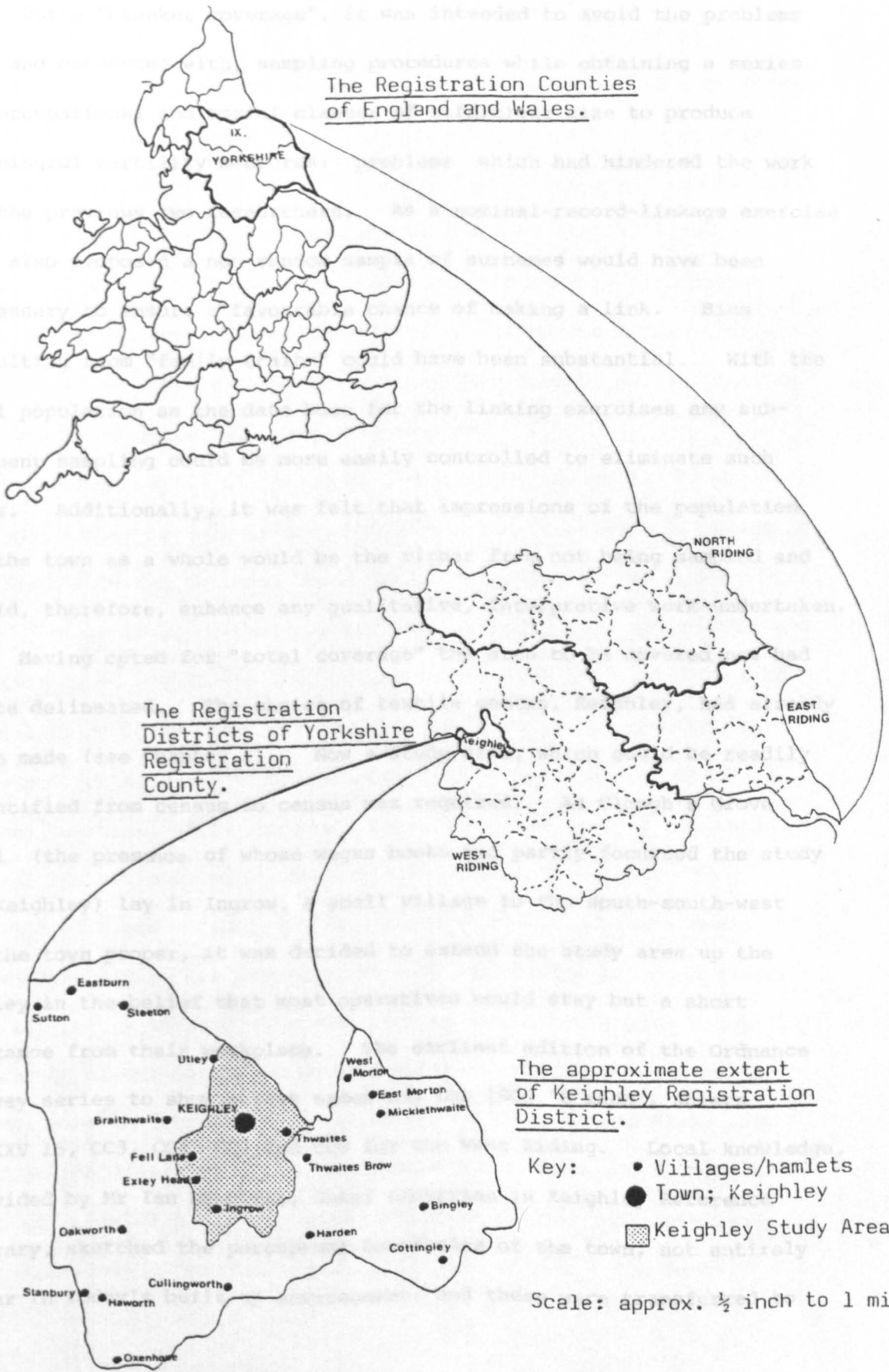
A census has been taken, in England and Wales, every decade (bar one¹) since 1801. The nature of the returns pre-1841 are such that they can contribute little towards the calculation of fertility measures. The 1841 census itself was only a partial step towards "the more comprehensive professional censuses of 1851 onwards" (Mills, 1982).² Most studies involving investigations of the family as a series of individuals, rather than as a unit, therefore, utilise the censuses from 1851.

Availability of census material varies with scale. Published

material is available for all censuses at the national level, the Registration County level, the Registration District (R.D.) level, and occasionally at the Registration Sub-District level. Figure 4.1 shows how this hierarchy focusses down to the town of Keighley. The published tables are compiled from the census enumerators' books; manuscript copies of the forms returned from each household. For the sake of confidentiality these books are not released to public scrutiny for one hundred years, thus, at present, the latest enumerators' books available are those for the 1881 census. The thirty year period 1851-1881 was therefore taken as the period of this study. As the mid 1870's saw the beginning of the fertility decline in England and Wales as a whole it would, perhaps have been useful to incorporate the 1891 census into the study as by then any movement in fertility levels might have been more pronounced than in 1881. However, as textile workers' fertility may have begun to decline well before that of the population in general, the study may also have benefited if it had been extended back before 1851.

Previous work at Sheffield had used enumerators' books as a prime source of data in the study of late nineteenth century fertility decline. Smith (1982) had taken a ten per cent sample of the 1851, 1861 and 1871 books for Sheffield, Sunderland and Cheltenham.³ Hinde (1985) had covered four, relatively small, agricultural communities in Shropshire, Derbyshire, North Yorkshire and Norfolk taking the whole population in each case. On the basis of this experience it was felt that a one hundred per cent coverage of a medium size urban settlement for the census years 1851, 1861, 1871, 1881 was possible. Ideally, and had initial plans been followed, two towns would have been covered for the sake of comparison but time

Figure 4.1 "Focussing in" - several scales of investigation.



constraints proved too stringent.

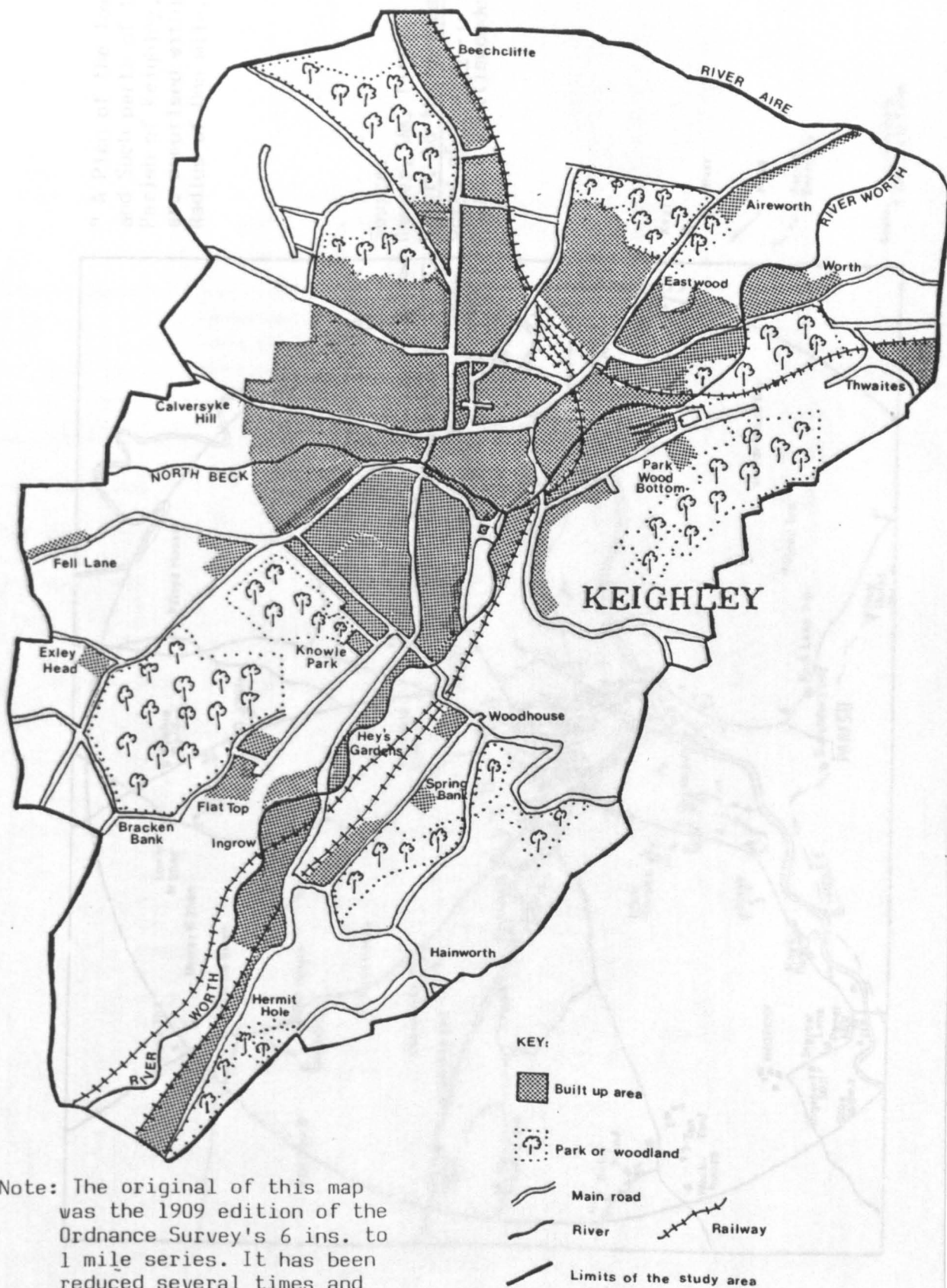
Using "blanket coverage", it was intended to avoid the problems of, and connected with, sampling procedures while obtaining a series of occupational and social classes of sufficient size to produce meaningful fertility measures: problems which had hindered the work of the previous two researchers. As a nominal-record-linkage exercise was also proposed a non-random sample of surnames would have been necessary to ensure a favourable chance of making a link. Bias resulting from "family traits" could have been substantial. With the full population as the data base for the linking exercises any subsequent sampling could be more easily controlled to eliminate such bias. Additionally, it was felt that impressions of the population of the town as a whole would be the richer from not being sampled and would, therefore, enhance any qualitative, interpretive work undertaken.

Having opted for "total coverage" the area to be covered now had to be delineated. The choice of textile centre, Keighley, had already been made (see Chapter 1). Now a study area, which could be readily identified from census to census was required. As Clough's Grove Mill (the presence of whose wages books had partly focussed the study on Keighley) lay in Ingrow, a small village to the south-south-west of the town proper, it was decided to extend the study area up the valley in the belief that most operatives would stay but a short distance from their workplace. The earliest edition of the Ordnance Survey series to show street names was the 1909 "6 inch", sheets CLXXXV 16, CC3, CC4, CC7 and CC8 for the West Riding. Local knowledge, provided by Mr Ian Dewhirst, Chief Librarian in Keighley Reference Library, sketched the perceptual boundaries of the town, not entirely clear in today's built up environment, and these were transferred to

physical boundaries or landmarks on the map. Where a boundary was not obvious or there were no intervening settlements a straight line was used to join points. Figure 4.2 shows the final area delineated. Comparison with Figure 4.3 shows that the "study" area did not differ drastically from the area under the jurisdiction of the Improvements Board and William Ranger, Superintending Health Inspector who included a map in his 1855 report to the General Board of Health. (Ranger, 1855). The growth of the town over a half century is obvious and is mirrored in the population rise evinced by the census figures 1851-1881, given in Table 4.1. Thus a total data base of 80,271 individuals had to be collected, coded and analysed.

Microfilm copies of the census enumerators' books can be purchased from the Public Records Office, but most main libraries hold copies of the reels relevant to their local area. Keighley Public Library stock all the reels covering the town and its environs from 1841 to 1881 but for reasons of access (to the library rather than the microfilm reader) those held by Leeds City Library were consulted. The information contained in the books for each individual enumerated includes: address, surname, christian name, relationship to head of household, marital status, sex, age, occupation and birthplace. With the addition of items to indicate the year of the census, the location of a household within the enumerators' book and whether or not a family were lodging or in some other way sharing a household, plus a numerical indication of occupation, this data set was coded directly from the microfilm on to computer data coding sheets ready for punching into the computer filestore.⁴ With practice and stamina one enumerator's book, which covered, on average, 150-300 households and anything up to 1200 individuals, could be coded per 8-10 hour day. The number of

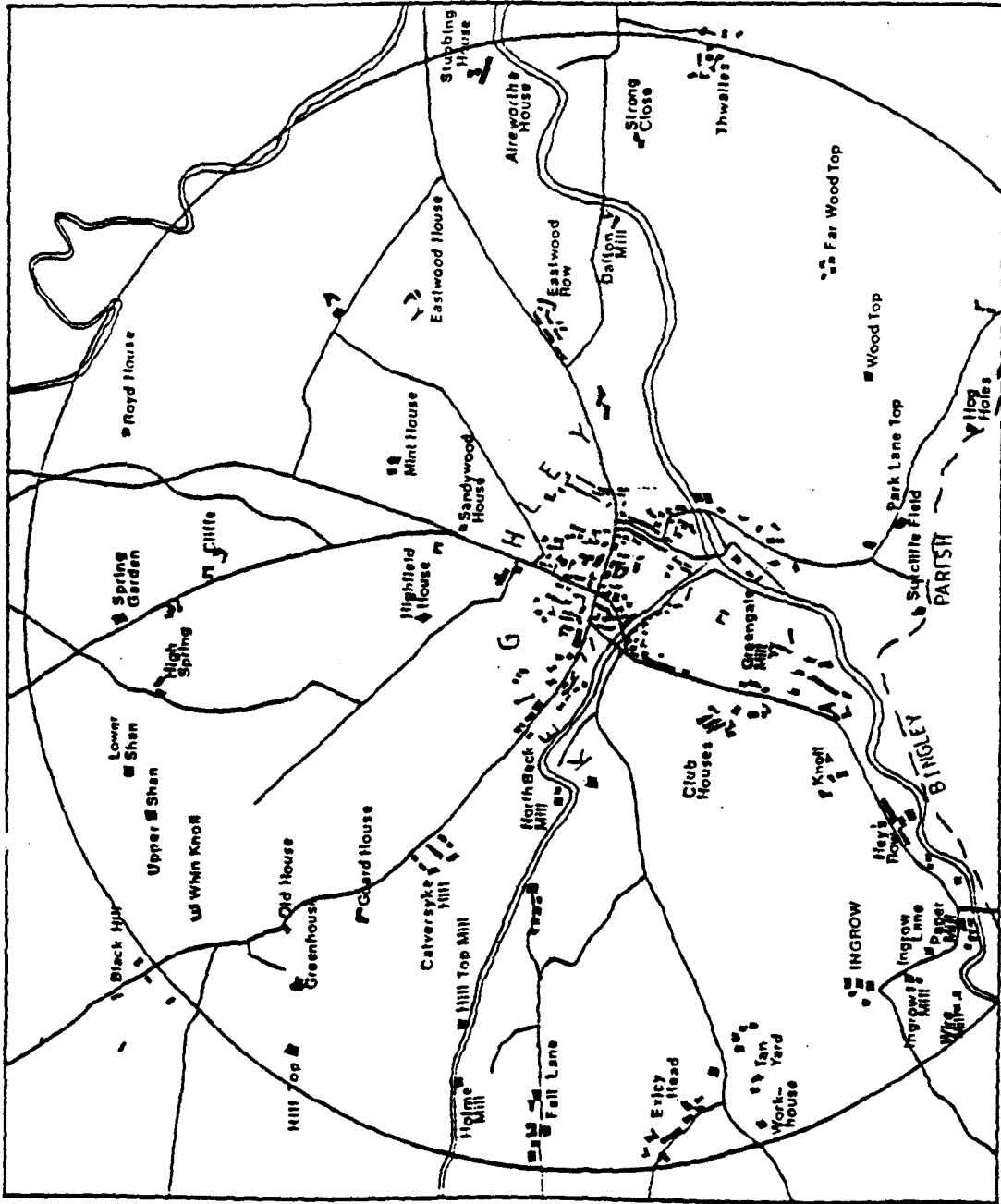
Figure 4.2 The Keighley Study Area.



Note: The original of this map was the 1909 edition of the Ordnance Survey's 6 ins. to 1 mile series. It has been reduced several times and the map above has a scale of approximately 3 ins. to 1 mile.

Figure 4.2 Keighley in 1855

Figure 4.3 Keighley in 1855



" A Plan of the Town and Such parts of the Parish of Keighley, as are comprised within a Radius of One mile...."

Source:
Ranger, Wm. (1855)
Report to the General
Board of Health....
(Eyre & Spottiswoode,
London)

Key:
River
Road
Parish Boundary

Scale, Approximately
2.5 inches to 1 mile

Table 4.1 Enumeration of the population of the study area and comparison with the population figures for Keighley Registration District.

1. Date of Census ¹	2. Number of enumerator's books covering the study area	3. Population of the study area	4. Population of Keighley R.D.	3 as % of 4
31st March 1851	25	14,587	45,885	31.8
8th April 1861	22	16,403	43,122	38.0
3rd April 1871	24	21,660	52,119	41.6
3rd April 1881	29	27,631	62,121	45.2

Sources: Census enumerators' books, Keighley 1851-1881

Reports on the Population Censuses of England and Wales for 1851, 1861, 1871, 1881.

Note: 1. The four dates given all fell on a Monday. Those enumerated in a house hold were spending Sunday night there. The Victorian Sabbath would probably find the greatest number of each family at home. It would have been interesting to compare weekday sleeping arrangements with those listed in the census to see whether work practice affected household organisation. Working mothers may, for instance have sent their children to spend the week with their grandparents or other near-by relatives. Some sources (e.g. Penn, 1982) suggest that "farming out" of children was more often a response to overcrowding or family tensions than to a direct need for a "baby-sitter".

books utilised is shown in Table 4.1. In general, as population density increased the enumerators could visit more households in the same amount of time and therefore the numbers included in each book grew.

The manuscript nature of the enumerators' books led to several problems of decipherment. Handwriting, some of it somewhat the worse for liquid refreshment from all appearances, was occasionally hard to read, especially where old conventions such as "ff" for "ss" had been applied. Capital Ts, Ls, and Ss were often difficult to differentiate as were lower case "ls" and "es". "Latham" might be read instead of "Tatham" and Steel for Stell or vice versa. The spelling in the enumerator's book itself was often "wrong". When illiteracy was not at all uncommon the owner of a surname might spell it several ways in his lifetime dropping or picking up "e's", "s's" and "h's" especially, or doubling letters previously single. Thus Cook became Cooke; Brigg, Briggs; Basset, Bassett and Oldsworth, Houldsworth. Sometimes spelling altered drastically: Haigh becoming Hey. Enumerators might be called upon to fill in the census forms for those respondents who were illiterate and thus phonetic spellings appear. In Keighley the newly arrived, thickly accented Irish show up in the entries for Golliker (Gallacher) and "Reeday", "Reddy" or "Roddy". Such spelling anomalies are a nuisance but not an insurmountable difficulty, although a standard spelling system might have allowed nominal-record-linkage to be done exclusively by computer (see Chapter 6, Section 2).

Relationship to the head of household was usually explicitly stated although care had to be taken to interpret "son-" or "daughter-in-law" as nineteenth century usage included step-children under these terms. Age and marital status usually aided differentiation of the

terms. With fertility indices in view, "grandchildren" of the same name as the head of the household were a problem, it being difficult to decide whether they were the illegitimate children of a daughter, present or absent, or the legitimate offspring of a married son not living with his parents on census night. Illegitimate grandchildren were quite often enumerated as a "child" of the household head, this fact being identified by the supposed "mother" being menopausal at the birth of the child.⁵ Without baptismal records it is difficult to assign true maternity and, of course, adoption cannot be ruled out although only one such case was categorically stated out of all the households coded. If the "mother" was under 50 years old at the child's birth the latter had to be considered as her offspring unless proven otherwise.

The allocation of sex was easy, despite the muddling by the enumerators of the columns into which the ages of the two sexes were divided. The only "serious" question which arose was that concerning an inmate of the Workhouse in 1851 who was listed as being a 10 year old hermaphrodite!

Ages were occasionally difficult to decipher not so much due to the manuscript as to the enumerators' practice, when totalling the numbers enumerated on each page, of crossing through the age columns as a tally. Nominal-record-linkage showed that people did not always age exactly ten years between censuses but only a very small minority, perhaps 1-2%, differed by more than three years either side of this amount.⁶

The coding of occupational data was problematic in itself (see Appendix B) but interpretation of the information in the original returns also provided snares. Old or local job names such as "pinder"⁷

or "balm seller",⁸ specialised jobs within a larger industry such as "sliverer", "warpslayer", "yarn picker",⁹ those jobs titles meaning different things in different industries or across time such as "mechanic",¹⁰ all had to be identified and classified by industry or level of skill. Another problem of occupational title was that of degree. "Spinner" most often referred to a young, relatively poorly paid adolescent, usually female, but occasionally it referred to the owner of a worsted spinning mill. Most local large employers or land holders have a note to the extent of their workforce or the size of their holdings; for example:

William Lund	Farmer of 50 acres employing 4 labourers Worsted Spinner & Manufacturer employing 71 girls, 62 boys, 346 women and 290 men.
W. Sugden, Eastwood House,	Worsted Spinner employing 185 men, 62 women, 70 boys and 94 girls.
John Craven, Low Mill	Worsted Manufacturer employing 1350 hands; 480 men, 610 women, 80 boys and 180 girls.

but a few let their capitalism go unacknowledged. The same held true for the term "weaver" and "machine maker". Particularly difficult in this respect was the term "dealer" or "shopkeeper". In some cases these terms could represent the owners of large concerns. However, street sellers who vended one particular item might be given the title "dealer" instead of "hawker".

There is little that can be done about information not supplied. Keighley was notorious for the number of its half-timers (Dewhirst 1974) yet only a small proportion of "scholars" had "half-timer" added in the occupation columns nor indeed was it noted if some of the younger factory hands attended school part time. Only linking

with wages books might possibly show how accurately the census represented the extent of the half-time system. The term "housewife" may also hide a certain amount of part-time or "home-work" such as taking in washing, baking or baby-minding as well as those jobs recognised as "industrial": artificial flower making, match box making, brush making etc. It is also quite likely that some women who were working returned themselves as "housewives", or left their occupational column blank. In the latter case they were coded as "housewives" if returned in the relationship column as "wife of head of household". On the other hand women who viewed themselves as having "a trade", as a weaver say, may have returned themselves as belonging to that occupation even although they had left the mill for a period. The extent to which the true amount of women's paid work is observed cannot be judged, although work on the Clough's wages books might have given some clue had they proved more suitable for nominal-record-linkage (see Section 4.4 below). In the work reported in the succeeding chapters it has been assumed that the number of women reporting their occupations inaccurately was small and that the inaccuracies cancelled each other out.

It had been thought that birthplace would be a constant by which individuals could be identified from census to census. This, however, proved a false hope; requested to give the information by county and parish of birth, people gave the former but substituted small, unidentifiable hamlets in the place of the latter in one census and the nearest large town the next. This information did, however, allow the identification of various broad immigrant groups such as "the Irish".

Little information given in the enumerators' books was, therefore,

always consistent in the replies. This did not show up when "point-in-time" measurements were taken from each set of census data but with the longitudinal study it became more obvious and raised several questions as to the causal reasons behind such discrepancies. One result of the doubt concerning the accuracy of the data was the difficulty of linking individuals between censuses in a settlement as large as Keighley. Unless a most unusual surname and forename occurred in combination, it was far easier to link family groups or couples; their "togetherness" being more durable than other characteristics. The intricacies of the linking process are discussed in Chapter 6.

The census, therefore, offers what is probably the broadest spectrum of information about a large number of individuals to the nineteenth century historian. The accuracy of certain items of data may be questionable either through original misinformation or via the several copies which have taken the information from census return to computer terminal but at the general scale it is unlikely that gross mis-representations will occur. The enumerators' books were, therefore, to form the basic data source for this study, providing quantitative and qualitative information at individual, familial and community levels for four separate points in time. By the use of nominal-record-linkage techniques these four cross-sectional "snapshots" were to be connected to form a "longitudinal" record of certain elements within the community. From the two bodies of information measurements of fertility behaviour were taken. Further sources were then tapped in an attempt to fit the patterns disclosed into their contemporary context; and to fill in some of the happenings during the decade-long gaps left by the census.

Section 4.3: The Parish Registers

One such "in-fill" source, especially of demographic events, is the Parish Registers. Often made the subject of intensive study, especially by those engaged in reconstitution studies (e.g. Wrigley 1966) and those for whom no other source of "vital events" is available (e.g. Wilson, 1984) they were to play a secondary role in this study. It had been hoped by their use to augment the work done on the census data with such information as date of marriage, bride's occupation before marriage, the dates of births of enumerated children and references to those who were born and died before they could be enumerated. Sadly, this hope was only partially fulfilled.

The art of parish register demography is well established. Exponents such as Wrigley, Schofield and Levine have honed techniques to enable them to build up population profiles from the basic vital statistics. Such work has, however, been, for the most part confined to small populations over large time periods.¹¹ This study on the other hand was concerned with a large population over a relatively short, thirty year period. In a community such as Keighley with a high degree of religious diversity, a mobile population and the opportunity for the duplication of names to occur quite frequently the job of matching registered events with individual census entries was further compounded by the sheer volume of information.

In 1851 there were only two Anglican churches in the Keighley study area: St. Andrews Parish Church, Keighley, whose records go back into the mid 16th century and beyond; and St. John's Parish Church, Ingrow-cum-Halwath, opened in 1843. During the following decade two more churches opened: St. Mary's, Eastwood and St. Matthew's, Braithwaite. The latter lies just outside the study area

but close enough to attract a congregation from within it. St. Mary's baptismal register (1855-1956) and its marriage register (1856 onwards) are kept, with those of St. Andrews in Bradford Central Library, Local Studies Department. From the "Religious Census"¹² of 1851 it is clear, however, that the Church of England was not the dominant religious force, at least in terms of numbers of worshippers or places of worship. Table 4.2 shows the relative strengths of the various denominations for the Keighley Registration District as a whole. The Church of England is conspicuous by its dearth of attendants compared with its seating capacity. Certainly Adams, among others, suggests that church going as opposed to Chapel going was not an urban working class phenomenon and comparing attendance with population, religion does not appear to have touched a large majority of the workfolk, possibly because Sunday was the only day of rest in the week - or because it was the only day household chores could be done (Adams, 1982). By 1877 the town had seven non-conformist denominations represented by sixteen chapels plus the well-established St. Ann's Roman Catholic Chapel, as shown by Table 4.3.

Is it possible to say how many vital events occurring in Keighley go unrecorded in the Anglican registers over the 30 year period? If we consider marriage, the only one of the three main events in life which are recorded in the ecclesiastical records as an event per se and not by surrogate (baptisms for birth and burial for death) we can gain some impression of the number which escaped the Anglican registers. Although Hardwick's Marriage Act of 1753, designed to curb the rise in clandestine marriages, effectively confined almost all marriage services to the "premises of the Church

Table 4.2 Religious affiliation and attendance on March 30th., 1851,
Keighley Registration District (total population 45,903).

Denomination	Number of places of worship	Number of sittings	Proportion per cent of sittings to population in Keighley R.D.	Total number of of attend- ances on March 30th ¹
Church of England	14	6333	13.8	133
Scottish Presbyterian				
Independents	5	1984	4.3	255
Baptists	9	3575	7.8	1173
Weslyan Methodists	23	8172	17.8	4316
Calvanistic Methodists				
Roman Catholic	1	300	0.6	100
Society of Friends	1	50	0.1	
Methodist New Connexion	10			
Primitive Methodists	10	2636	5.7	1604
Weslyan Association	2	416	0.9	103
New Church	1	191	0.4	
Undefined	2	330	0.7	250
Total				7934

Source: Census of Religious Worship, England and Wales.
Parliamentary Papers (1852-3 LXXXIX, 494)

Note: 1. The numbers include attendances at any afternoon and evening services as well as at morning ones.

Table 4.3 The chapels of Keighley.

Address	Denomination	Date of opening
Devonshire St.	Congregational	1856
Upper Green	Congregational	pre 1856
Utley ¹	Congregational	1871-2
	Society of Friends	
Temple St.	Weslyan	1846
Wesley Place	Weslyan	1864
Eastwood	Weslyan	1872
Heber St.	Weslyan	1872
Sun St.	Weslyan	1873
Worth Village	Weslyan	1875
	Swedborgians	
Albert St.	Baptist	1865
Marlow St., Worth	Baptist	1874
Cavendish St.	United Methodist	1868
Holy Croft	United Methodist	1870
Queen St.	Primitive Methodist	1837
Worth Village	Primitive Methodist	1874
Mount St.	Primitive Methodist	1870
St. Anne's	Roman Catholic	1835

Source: Keighley Yearbook, First Edition, 1877.

Published by Keighley Herald Newspapers.

Note: 1. Lies outside the study area.

of England" (Drake, 1982), the advent of civil registration, in 1837, meant that a wider range of venues was possible with "civil ceremonies". Not only could a couple be married at "the Registry Office", but representatives of a denomination could be licensed to perform marriage ceremonies. In order to estimate the extent to which this happened the indexes of Marriage Certificates held at the office of Keighley's Superintendent Registrar were consulted. Although the Registrar does hold copies of the old civil records of births, marriages and deaths, these on the orders of the Registrar-General in 1974, are completely inaccessible to researchers (Schofield, 1978). On the payment of a £10 search fee, however, an individual may peruse the indexes which have been compiled for the registers. These are of varying degrees of use depending on one's topic of research. The indexes to the marriage registers in Keighley are divided by place of ceremony: one for each Anglican Church and one for the "Registry Office" which in fact covers all weddings not held in the Church of England. Inspection of Table 4.4 indicates that over the 30 year study period the majority of weddings still took place in the Church of England - once it is understood that the Registrar's indexes contain the entries for only 200 events whereas Church Registers have places for 500 entries. The "Registry Office" index also covers the whole of the Keighley Sub-Registration District (Haworth and Bingley have their own indexes) while St. Andrews and St. Johns are only two out of several churches; the difference in rates at which churches filled their registers is also obvious from the table. We are left to guess at the proportion of couples living together without a marriage ceremony of any kind - the census seldom acknowledges this possibility.

Table 4.4 The marriage registers and indexes to the marriage registers available for Keighley covering the 1851-1881 period

Indexes to the marriage registers containing "Registry Office" ¹ ceremonies. ²	Marriage registers for St. Andrew's Church, Keighley	Marriage registers for St. John's Church, Ingrow-cum-Hainworth.
Aug 1848 - May 1852	Sep 1847 - Feb 1852	Apr 1845 - Jul 1887
May 1852 - May 1855	Feb 1852 - Feb 1858	
May 1855 - Dec 1857	Feb 1858 - Jul 1864	
Dec 1857 - Nov 1860	Jul 1864 - Aug 1870	
Nov 1860 - Jan 1864	Mar 1875 - Jan 1880	
Nov 1866 - Apr 1869	Jan 1880 - Dec 1884	
Apr 1869 - Sep 1871		
Oct 1871 - Jun 1873		
Jun 1873 - Mar 1875		
Feb 1875 - Oct 1876		
Oct 1876 - Feb 1878		
Feb 1878 - Sep 1879		
Sep 1879 - ? 1881		
(approx. 2600 entries in 30 years) ³	(approx. 3000 entries in 30 years) ³	(rather less than 500 entries in 30 years) ³

Sources: The indexes to all the registers of marriage for Keighley Registration District are held in the Superintending Registrar's Office, Keighley.

The St. Andrew's and St. John's marriage registers are held in the Local History section of Bradford's City Library.

- Notes: 1. "Registry Office" weddings cover all weddings not solemnised in a Church of England. The two sets of registers, and their indexes, are kept separately by the Registrar.
2. The indexes listed cover marriages from Keighley Sub-Registration only. The Superintending Registrar also holds the marriage registers for Bingley and Haworth Sub-Registration Districts.
3. The registers for "Registry Office" weddings hold only 200 entries whereas the marriage registers used by Churches contain room for 500 ceremonies to be recorded.

In the case of births such comparisons are not so easy. In an era of very high infant mortality (see Chapters 3 and 5) many infants would die unbaptised. Also, as Levine (1977) suggests, in an area where Non-Conformity is strong even the Church of England may conduct non-infant or "mass"-family baptisms. This certainly appears true of Keighley where the church official, more often than not, notes date of birth as well as that of baptism in the register. For (a rather extreme) example from the register of St. John's, Ingrow;

Bapt(ised) 1st Feb. 1846 Isabella daughter of Sarah and
James Smith, Oakworth Weaver
born 7th Jan. 1799.

and from that of St. Andrew's, Keighley:

born 12.04.45 Joseph son of Mary and John Greenwood,
Wellington Street, Comber.

" 17.09.46 Samuel, do.

" 25.11.48 John do.

(All three were baptised on the same day early in April 1850).

Thus a person's baptism, were it to take place at all, might occur several years after they were born making comparison of the civil birth registers and the church baptismal registers a highly dubious process. There were 10 indexes to the civil birth registers held in the Registry Office covering the period August 1850-July 1881. The first of these, running from August 1850 to March 1851, listed 473 names. In St. Andrews register only 100 children with their dates of birth falling in that eight month period had been baptised by the end of 1853. Despite their more comprehensive coverage of vital events¹³ the Registrar's indexes are not an ideal source for an exercise in record linkage. They list only the name or names of the individuals and the page number of the register on which the relevant birth certificate appears. No more accurate date for the event

can be ascertained than that of the period which the index covers; usually a minimum of several months, and not of regular duration. Were linkage to other records considered a useful exercise, the indexes of births are not really suitable, as with only a name to link, the likelihood is high of there being several candidates for ownership in a town the size of Keighley. Also as these births cover the whole Sub-Registration District¹⁴ the odds against a correct match mount even higher. The marriage indexes are of rather more use. Each page in the register has two marriages entered on it - therefore four individuals have the same number against their names in the pertinent index. If the computer sorts the register by these page numbers there is then a fifty per cent chance of identifying the bride of any given groom. By searching through the census listings, sorted into alphabetical order, it is possible to identify a couple in the register via the groom's surname and the combination of their forenames. As this exercise is only carried out on the indexes for the "Registry Office" weddings, there is again the chance that the relevant couple may in fact stay elsewhere in the sub-registration district and have their names duplicated by a couple within the study area thus resulting in a "wrong" link being made. Without further information this is difficult to avoid. This problem is discussed more fully in Chapter 6.

If the registration of baptisms, births and marriages is a tangled web to unweave, then that of deaths and burials is even more complex. St. Andrews Parish Church burial records culminate in a register which runs from May 1853 - January 1936. This was the result of the opening of Utley Cemetery in 1857 after dire warnings concerning overcrowded graveyards.¹⁵ Only those who had previously

purchased graves could subsequently be buried in the Parish churchyard. As new churches were opened they no longer required burial-grounds and therefore no records exist. According to the Registrar¹⁶ several of the older non-conformist chapels had their own private burial grounds but the records of these do not appear to have been deposited in any of the local libraries. However, some additional features in the Utley Cemetery Records, held in the Cemetery Office, Skipton Road, Keighley, make them of particular interest. Firstly, they list still births, not usually found in church registers and note the age at death of children under one year old to within hours rather than the entry "infant" most common in parish registers which could indicate a child up to five years old: secondly, the cemetery was divided into two with a "consecrated" part and an "unconsecrated" part for those who "had not been blessed" or baptised by the Church of England and therefore including Non-Conformists and those of other religions. While the signature of the presiding official is most often that of the "Rector" or "Curate" in the records of the consecrated ground, those of the unconsecrated ground show a wide range of signatures. Presumably, could the denomination of the official be identified, so could that of the deceased. Roman Catholic burials are easily picked out; they are entered in the register in red ink.

Between the beginning of April 1857 and the end of March 1861 there were 768 burials in Utley Cemetery's unconsecrated ground (in 123 cases the deceased was Catholic.) Of these 35 were still births and 151 were of infants born alive but dying before their first birthday. In all 356 burials (i.e. 41,20) were these of live-born children dying before their 5th birthday. In the consecrated

ground for the same period, there were 538 burials; 43 of which were still births, 89 children dying within their first year of life and 281 live-born children dying before their 5th birthdays (i.e. 44.2%). The relative preponderance of non-consecrated burials backs up previous opinion that Keighley was rather more a chapel going community than a church going one.

The parish registers, and to a rather lesser extent, the registers' indexes, are therefore a considerable source of information concerning both individuals and families. A synopsis of the information they contain and where they may be found is given in Table 4.5. The problems of volume and complexity were, in the case of Keighley, more than could be fully dealt with in the time allotted. The relatively small amount of work which has been carried out using these sources simply underscores their potential and a more detailed investigation of their contents would be unlikely to go unrewarded (see Chapter 6).

Having looked at the principal sources of demographic data employed, it is now time to turn to the sources which were to throw light on the economic, social and environmental conditions evident in Keighley in the third quarter of the last century.

Section 4.4: The Wages Books of Robert Clough & Sons, Ltd.

To do this source justice would demand a whole thesis and C. Johnstone (1976) has provided this with her Ph.D. thesis "The Standard of Living of Worsted Workers in Keighley during the Nineteenth Century". Whereas Johnstone's aim was to depict the situation of different sets of workers in general, this study wanted to be able to identify individual workers and their wages to gauge the specific

Table 4.5 Information directly available from the various registers of vital events which cover the study area for some or all of the study period, 1851-1881, and where the registers can be found.

Registrar's Indexes: held in Keighley Superintending Registrar's Office.
viewing by previous appointment.
£10 search fee

Births: Name of child (ordered by surname initial only)
Page number of entry in register

Marriages: Names of bride and groom (ordered as above)
Page number of entry in register

Deaths: Name of deceased (ordered as above)
Page number of entry in the register

**St. Andrew's
Parish Church
Registers**

: held Bradford Central Library, Local Studies Dept.

Baptisms: Date of baptism ; date of birth (some omissions)
forename(s) and surname of child
forenames and surname of child's parents
father's occupation ; family address
child's legitimacy

Marriages: Date of ceremony
Groom's forename(s) and surname
Bride's forename(s) and maiden surname
Names of the fathers of the couple
Occupation of groom, bride¹ and both fathers
Age² of bride and groom
Previous marital status of bride and groom
Names of the witnesses
Who in the party signed the register by mark

Burials: Date of burial ; Name of deceased
Last address ; Age at death

**St. John's
Parish Church
Registers**

: held in Keighley Public Library, Reference Section.

Baptisms:

Marriages: as St. Andrew's.

Burials:

**Utley Cemetery
Registers**

: held in the Cemetery Office.
viewing by prior arrangement
no search fee

Burials: Date of burial ; Name of deceased
Age at death (that of infants given in weeks/months)
Rank or profession ; Last address
Whether buried in consecrated or unconsecrated ground
Notes stillbirths
Parents of young children named

Notes: 1. The occupation of the bride was given with increasing regularity as the century progressed, in the 1850s the allotted space was almost always left blank.

2. Age may be stated as "full", i.e. over 21, or as "minor", if the person is under 21, rather than in years.

economic conditions under which fertility behaviour occurred. In the upshot these aims proved too ambitious and recourse had to be made to Johnstone's more generalised statements.

It had proven very difficult to track down wages books, manufacturers being more concerned, it seemed, with their machinery and stock rather than with their workforce. Records of the cotton industry in Lancashire yielded no wages records despite an extensive search. The records of Robert Clough & Sons Ltd., Grove Mills, Keighley, were identified from Patricia Hudson's (1975) The West Riding Wool Textile Industry - A Catalogue of Business Records from the 16th to the 20th Century. Several other sets of records were considered but were discarded as being inferior to the "Clough" records on one or more points; some did not cover the 1851-1881 period, others were illegible or badly organised or failed to list the operatives by name.

Hudson lists the Clough wages books as items 24-87 out of the 323 in the Clough Collection held in the Special Collections Section of the Brotherton Library, at the University of Leeds. They include hand loom weavers wages books for 1815-1833, power loom weavers wages books for 1842-1870, mill hands wages books covering 1824-1872 and hand combers wages books for 1842-1862. Item 228 in the collection, which covers all types of business records and some personal ones as well, is a Register of Young Persons. Not exactly a wages book it nevertheless lists, by name, all 13-18 year olds applying to work for the firm between 1840 and 1855. This too was included in the study.

As stated above the original hope had been to identify Clough mill workers in the census, follow them through the work cycle and attempt to gauge the effect of wage-fluctuations on behaviour, especially that pertaining to fertility. From breaks or declines in

the wages it was thought that the health of the workers, especially that of women and including childbearing, might be monitored using time taken off work as a measure. With much time and effort, it is still contended, such goals could be achieved with the Clough data set. However, it soon became clear that without information on addresses and age it was impossible to tie any of the workers in the wages books to an entry in the census with any certainty; the number of possible choices was just too great. Before this had been determined, however, data from certain of the wages books had already been transferred to data coding sheets. Wages in Keighley, and in most other textile towns of the period apparently, were paid fortnightly. Some of Clough's workers remained for many years with their firm and thus large amounts of wages data were available. It seemed self-defeating however, given the study's original intentions, to copy out all this data if it could not be linked to an individual in the census. Thus, in order to have as many names as possible available for nominal-record-linkage, wage data was sacrificed, with the intention that once individuals had been traced more extensive examination of their pay records would be made. This, however, did not take place. As it was the names of those who received wages from Clough's in the March and April of each census year were noted along with the sums they had earned. Where the wages books had indexes the names contained in these were also noted in toto. As the books themselves figure little in the discussions of the following chapters it was thought to give here a short collection of the type of information which they convey in their lists of names and wages, much of which adds to the picture being formed of contemporary mill work in a worsted town.

A summary of the books consulted and the information contained is then given in Table 4.6. The hand loom weavers' wages books were not used as they came to an end almost two decades before the first census of the study period.

The power loom weavers' wages books for August 1847-January 1854 (Book 31) indicates the predominantly female nature of the weaving labour force in worsteds after the advent of power looms. Of the 343 names in the index only 60 are male. At the census period there were only 187 weavers listed suggesting that the turnover of workers was quite rapid. This book lists only workers' wages and their names, therefore their occupation is their only other means of identification. Even though they would have had to walk to work each day, and therefore most probably would have lived in close proximity to Grove Mills, with several other mills in the vicinity vying for labour the chance of identifying the wrong individual in the census as the worker in the wages books was high. There did appear, however, to be several cases where siblings were working in Clough's mill. In an era where employment was often by hearsay or kinship recommendation this is highly probable. The groups of siblings could be identified with more certainty in the census but identifying them as siblings from the wages book was by no means foolproof. Book 47, the mill-hands wages book April 1850-December 1867, was of interest in that it showed when a father or mother brought their children to help with the work and were paid as a family group. Unfortunately the individuals were seldom listed, the entry simply being for "Brayshaws - Family", presumably this could also indicate a group of siblings working without parental supervision. Another feature was the inclusion of weekly wage rates. All mill workers being paid by the fortnight, if

Table 4.6 Wages books for Robert Clough, Ltd., Ingrow which cover the period March-April in a census year or years, 1851-1881.

Number of book ¹	Census year(s) covered	Type of worker	Information given (X = yes)			Number of workers included ⁹
			Worker's name	Wages earned	Worker's address	
31	51	PL ⁶ weavers	X	X		187
31 I ²	51	PL weavers	X			343
47	51	Millhands	X	X	Weekly wage rate ⁸	60
					Specific job done	
47 I	51 61	Millhands	X	X	Rates paid for family work	360
57	51	Millhands	X	X		406
62 ³	51	Hand combers	X	X	X	94
62 I	51 61	Hand Combers	X		X	205
33 ⁴	61	PL Weavers	X	X		78
33 I	61 71	PL Weavers	X			280
34	61	PL Weavers	X	X		80
47	61	Millhands	X	X	Family groups noted	99
63 ⁵	61	Millhands	X	X	Notes combers	109
35	71	PL Weavers	X	X		164
48 ⁴	71	Millhands	X	X	Weekly wage rates ⁸	188
					Specific job done	
48 I	71	Millhands	X			323
60	71	Millhands	X	X		214
37	81	Millhands	X	X	Notes weavers	153
66	81	"Old Mill" ⁷	X	X	Which room in mill	137
					Type of job	
75	81	"New Mill" ⁷	X	X	As for "Old Mill"	375
					Wage rate per week	
86	81	"Alexandra" ⁷	X	X	As for "Old Mill"	90

Notes:

1. The book numbers indicate their item-number in the Clough Collection in the Brotherton Library, University of Leeds.
2. Where an 'I' accompanies the book number this indicates that the book in question had an index of the workers with whom it was concerned.
3. Book 62 runs as far as June, 1861 but by this date the number of combers left was so small that the 1861 entries have not been included here.
4. Books 33 and 48 duplicate books 34 and 60 to a considerable degree.
5. Book 63 claims to cover "combers wages", however only four individuals are so noted as having this occupation. The rest appear to have been millhands.
6. PL = power loom
7. Robert Clough & Sons expanded in 1872 with the building of a new weaving shed housing 1000 looms; hence the "Old" and "New" mills. In 1876 the expansion continued with the lease of Alexandra Mill, Low St. (Hodgson, 1879)
8. Wages were paid fortnightly, but offered at a weekly rate. By doubling the weekly rate it is possible to compare how much an operative should have received on pay day with the amount he was actually paid. Unfortunately the reasons behind the disparities are not noted.
9. The number of workers covered is the number of workers receiving payment over the census period except in the case of the "indexes" where the number given is all the workers listed over the period covered by that book. Book 31 runs from Aug 1847 - Jan 1854; Book 47, Apr 1850 - Dec 1867; Book 62, Sep 1850 - Jun 1861; Book 33, May 1859 - Jun 1870; Book 48, Mar 1866 - Dec 1871.

the weekly rate was doubled it was possible to calculate what a "hand" should have earned which made interesting reading when compared with what they actually received on pay day. Regular deductions from the weekly rate appear to indicate rent payments¹⁷, but it is interesting that workers seldom earned their full fortnightly amount but no reason for this is noted. In the records of William Ackroyd, Ltd., Otley Mills, Otley, also held at the Brotherton Library, notes were made in red ink next to the wages received where an operative had taken days or hours off or had worked overtime and the amount deducted or augmented as required; the Clough records had no similar annotations.

The range in wages is also telling. In 1851 William Dickinson was the highest paid mill hand, earning 34 shillings and 3 pence per week, while Elizabeth Midgeley earning 2s. weekly and Michael Sunderland earning 1s 6d. were amongst the lowest paid. There are 360 names in the index of this book but only 60 hands were listed as receiving wages March-April 1851. Ten years later this figure had risen to 99. Some operatives had remained in the mill for the ten years and for the most part these had experienced a wage rise e.g. David Spencer was on 21s 3d. per week in 1851 but was on 36s. 9d. by 1861. Henry Milton had more than doubled his wage from 16s. to 37s. 3d. per week. In contrast the highest female wage was 19s. 9d. in 1851 (paid to Ann Hay, a drawer) and 17s. 3d. in 1861 (paid to Elizabeth Hudson, mill hand). Occasional note was made of the type of job which a hand undertook such as drawing, reeling, warping or twisting but we can only assume the most well rewarded workers were overlookers or mechanics as no such notes adjoin their wages.

A final point of interest in Book 47 are the entries such as those for payment to Wm. Branter (7s. 10d.) and Jno. Dickinson (9s. 4d.)

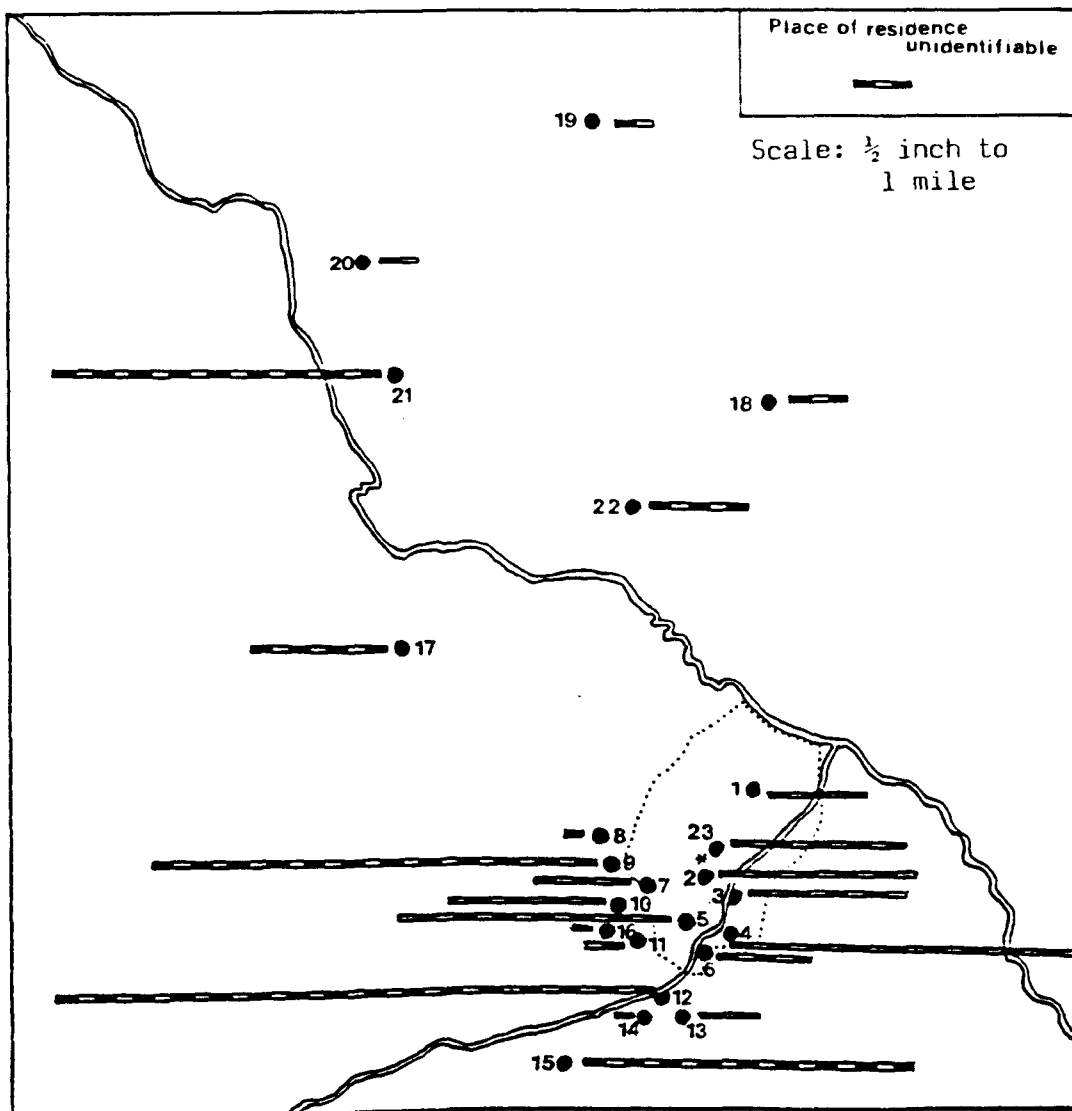
"for shorttimes instruction" i.e. for the schooling, demanded of every factory owner by an Act of 1833, of all those children too young to work full time.¹⁸





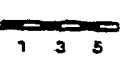
The hand-combers' wages book, Sept. 1850-June 1861 (Book 62) lists only men. As combers worked in "shops" either close to or in their own homes rather than in the mills the home address of each man is given. The distribution of Clough's hand-combers is shown in Figure 4.4. and it is obvious that the study area was not drawn wide enough to encompass the majority of the combing shops. As most other workers would work in the factory at Ingrow, to which they would walk daily, it is unlikely that they would be spread so far afield increasing the likelihood of their being found within the study area.

The 1850s was a dismal period for the combing fraternity as they became "technologically redundant" (Smith, G.M., 1982). Most would have gone by the mid 1850s although it appears that Cloughs retained a few "for old times sake" until 1861. There are 205 workers in all listed in the book's index, 92 of them plying their combs during March-April 1851. According to G.M.Smith (1982) Cloughs bought their first combing machine in 1857 and within months over 100 combers had been replaced. By 1861 there were only 4 combers on the firm's books. The massive displacement of hand combers throughout the worsted area (Johnstone (1976) estimates that over 20,000 men were laid off in the Bradford area alone) is notorious and well documented. In Keighley the blow was softened by the presence of alternative employment in the worsted machine building works and in the iron foundries, but the social effects of the demise of a once staple interest must still have been substantial.

The examples above have been drawn as representative of the different "types" of wages book available in the Clough collection.

Fig: 4.4 The home addresses of hand wool combs working for Robert Clough and Sons Ltd., Grove Mill, Keighley 1850-1861.



Key:  River
 Hamlet
 Site of Clough's Grove Mill
 Keighley study area
 Number of combs at a given address
 1 3 5

addresses:

- | | |
|-------------------|--------------------|
| 1. Keighley | 16. Sykes Top |
| 2. Ingrow | 17. Sutton |
| 3. Hermit hole | 18. Addingham Moor |
| 4. Hainworth | 19. Draughton |
| 5. Demens | 20. Snaygill |
| 6. New Road Side | 21. Bradley |
| 7. Bracken Bank | 22. Siladen |
| 8. Laycock | 23. Inghead. |
| 9. Road Side | |
| 10. Boghorn | |
| 11. Harewood Hill | |
| 12. Boeking | |
| 13. Bercroft | |
| 14. Cross Road | |
| 15. Haworth | |

Source of addresses:
 Wages books of Robert
 Clough and Sons, Ltd.,
 Keighley; 1850-61.

Slight differences in the information given are appended to Table 4.6. A note should be made, however, about the Register of Young Persons as it is in a class of its own. At the front of the soft-bound register is a pointed statement about its function:

"The Register shall contain the Names of every Young Person employed in the factory to be entered successively when engaged to work, whether for the first time, or having left when re-engaged to work... Insert either the number of the Certificate in the Age Certificate Book as soon as obtained or the word "refused" if the Surgeon refuses to grant a certificate¹⁹ or the letter XVI if the Young Persons be above 16 years of age".

This was another aspect of the 1833 Factory Act which

"applied to all textile factories except silk mills, and limited hours (of working) to eight between the ages of nine and twelve (half- or "short" timers) and 12 hours between the age of 13 and 18. There was to be no night work under the age of 18 and children (i.e. those under the age of 13) were to receive two hours of education daily..."

(Hopkins, 1979)

Children under the age of 9 were, in fact, prohibited from working in the worsted industry until 1844 when a further Factory Act reduced this limit by one year and the "12 hour working day" maximum was extended to women (Johnstone, 1976). There were 402 young persons listed in the register with the date on which they were employed (or re-employed), whether they did not need an age certificate as they were aged 16 or over, whether they were refused a certificate (12 were) and their eventual fate. 100 (24.9%) completed their 18th year and became "adult" workers for Clough. 246 (ie. 61.2%) left the firm before reaching "adult" status and 44 (10.9%) were still with the firm but had not reached 18 by the time the register was closed. Again,

therefore, there appears to be evidence for a high turnover in the workforce, people not staying long in one job.

With the names of the young persons and a rough indication of their age, matching the register with the census data was made somewhat simpler but there was still a large element of doubt about the links, there being several incidences of name duplication.

The Clough wages records, therefore, list a relatively large number of mill operatives with diverse types of employment. They enable quite a lot to be learnt about the life of mill workers during the study period although, unfortunately, they are not ideally suited for nominal record linkage. This is a great pity as being able to match family circumstances with income data would be a valuable contribution to the understanding of people's behaviour.

Section 4.5: Miscellany

Historical "scene-setting" is an ideal occupation for those possessed of serendipity. Aplethora of information exists about nineteenth century local history; but surprising snippets come to light by dint of rooting amongst various sources, while specific facts can be elucidated by a more systematic search. The sources consulted, which are resumed below, were gathered by the former method of collection and should, therefore, not be considered in any way a comprehensive list of available material.

Firstly, when considering some of the broader issues with which the study was concerned, it was found that various, interested contemporaneous or near contemporaneous parties had compiled reports on these subjects. For instance, certain Parliamentary Papers of 1833-34 (for references see Sources section of the bibliography) deal with

a "Report from the Royal Commission on the Employment of Children in Factories" and a Report to Parliament by Bridges & Holmes (1873) expounds On the death of women, children and young persons engaged in textile manufactures with special reference to hours and ages of employment. Being in the vanguard of industrial legislation and the trade union movement the textile industry received considerable Parliamentary attention (see for example: Wing, 1967, Fielden, 1836/1969, Neff, 1929/1966, Parliamentary Papers). However, unless one has access to actual volumes of these papers research can be time consuming and frustrating as cross referencing and checking is essential but next to impossible when working with micro-cards or even microfiche. Nevertheless for the wealth of detail, including eye-witness accounts and "expert opinions", the trouble is worth it.

Other government bodies also produced reports. In 1894 the Board of Trade commissioned Miss Collet to collect and collate Statistics of Employment of Women and Children. Although her final report (Collet, 1894) takes the form of a comparison between 1881 and 1891, the contrasts it draws between the woollen, worsted and cotton areas have relevance for the interpretation of earlier works referring to "the textile areas" in general.

Turning to the question of fertility decline, the National Council of Public Morals set the National Birth Rate Commission to investigate the Declining Birth Rate: its Causes and Effects (National Birth Rate Commission, 1916). Four years later a second report was forthcoming from the same body: Problems of Population and Parenthood (N.B.C., 1920). The Commission sought to ascertain the reasons behind the decline in fertility, the methods used to achieve it and who was using them. Also perturbed by the declining birth rate were the members of

the Eugenic movement who deplored the increasing proportion of the population born to the "poorer" classes. In 1914 Elderton published the first part of her Report on the English Birth Rate; England North of the Humber (Elderton 1914); the second volume was never published. Each town included in the report was described and local doctors' thoughts, opinions and observations were noted on the reasons contributing to the fertility decline amongst "the poorer classes". Some denied the use of birth control in their areas while others freely admitted that there was "an extensive trade in rubber preventatives" (Wilmslow) or that "appliances for the limitation of the family are displayed in the most barefaced manner on the counter of local chemists' shops so that no one can miss seeing them" (Accrington). In view of the era in which it was written Elderton's work is remarkably frank in its discussion of the subject of birth control. It is also interesting in its discussion of a general problem at the local level.

Turning from the general aspects of the thesis to the more specific aspects of Keighley there are several categories of data available. These will be dealt with in turn. Firstly, four particular maps were consulted;

- 1775 Jeffrey's Map of Yorkshire, Sheet covering environs of Bradford, Halifax, Harewood etc.... (facsimile) scale 1:63360, Sheffield University Map Library.
- 1851 Ordnance Survey Map 6", Sheets 185 and 200.
- 1855 adaption of the 1851 O.S. Map for inclusion in William Ranger's report to the General Board of Health, Figure 4.3 (Ranger, 1855)
- 1909 Ordnance Survey Map Sheets 185 SE and 200 N.E.

Jeffrey's map showed many of the hamlets which were later incorporated into the Town of Keighley as separate entities before the area was

really touched by industrialisation. It aided identification of local place names. The 1851 O.S. Map delineated the extent of Keighley at the beginning of the study period but, unfortunately, did not include street names. In order to identify the streets covered by each enumeration district given in hand-lists prepared by the staff of Keighley Public Library, the 1909 edition of the 6 inch map was required. The Ranger map, meanwhile, had on it place names which had disappeared between 1851 and 1909 and thus provided a more precise picture of the whereabouts of a census address.

Secondly, there were Newspapers, Directories and what might be termed "commemorative" or "celebratory" publications for the study area. Unfortunately, few of Keighley's local papers enjoyed long unbroken runs during 1851-1881 and the local libraries tend to keep example copies rather than complete collections, even so those available yield considerable amounts of information. Those available and their whereabouts are listed in Table 4.7. Several had "births, marriages and death" columns, although little information was given other than the names of those involved. At least two of the papers regularly published "Reward" notices for information leading to the conviction of "absconded husbands" who had left their families chargeable to Keighley Union under the Poor Law. If the information is sufficient to link these men to families in the appropriate census a new event could be inserted in that family life cycle. As Figure 4.5B shows, such advertisements could be quite detailed in their description of offenders.

More commercially orientated advertisements carried by the press are also noteworthy. The problem mentioned in Section 2 above concerning the status of shopkeepers etc. can be partially solved by

Table 4.7 Keighley's local press, 1851-1881

The Keighley Advertiser and Airedale Courant.

(later known as The Airedale Courant and Keighley and Bingley Advertiser.)

examples from the 1850s,
1860s, 1870s held at
Bradford Central Library
(Local History Section)

Keighley and Haworth Argus

examples from the mid-1850s
held at Bradford Central
Library (LHS)

Keighley Visitor and General Advertiser

examples from the mid-1850s
to 1860s at Keighley Public
Public Library (Reference
Section)

further examples from the
mid-1860s held at Bradford
Central Library (LHS)

Keighley News and Bingley Chronicle

1862 - present; held at
Keighley Public Library
(RS)

Figure 4.5.A Advertisements from the Keighley Press.

R. CONSTANTINE

SELLING HIS BONNETS

From £10 to 12 per cent. Cheaper this Year than last, in consequence of his having engaged a resident Buyer in Luton.
High Street Keighley.

Only the more well-to-do would be likely to frequent a shop which sold hats for several months-worth of an average textile wage....

Airedale Courant & Keighley & Bingley
Advertiser; June, 1856.

Established nearly Fifteen Years

MR. RAMSDEN, Surgeon Dentist, Bradford, begs to announce his professional attendance Daily, at 28, Darley Street. A large Stock of the finest Mineral TEETH always ready, and none but the most experienced mechanical assistants being employed, Mr. R. is enabled to ensure a speedy and satisfactory accomplishment of orders.
N.B. attendance at North street, Keighley
Mondays and Thursdays reserved for Country Patients.

False teeth appear to have been in great demand and several advertisements appear in most papers.

Keighley Advertiser & Airedale
Courant; Jan., 1856.

One of many advertisements for "patent" medicines. Note the range of ailments supposedly cured.

KA&AC; Jan., 1856

KAYE'S WORSDELL'S PILLS.

THESE PILLS are prepared only by JOHN KAYE, Esquire, of Dalton Hall, Yorkshire, and have, for upwards of twenty years, maintained their reputation as **The Best Family Medicine.**

During the whole of that time they have commanded a large and constantly increasing sale, and have been used with the best effect by all classes, from the Families of the Nobility to those of the humblest Artizans and Labourers. They are entirely **Free from Mercurial, Antimonial, and other Mineral Substances,** and are composed of the purest and most carefully selected Vegetable Ingredients. Unlike some other Medicines, they are harmless in their nature, while powerful in operation. They act in harmony with the human system—correcting the morbid state of the liver and organs of digestion, the fruitful source of many lingering and fatal diseases.

They Purify the Blood.

promote a due secretion of bile and healthy circulation of all the fluids, restore the lost balance of all the bodily powers, and thereby tend to **Secure robust Health and Strength.**

They are especially efficacious in the cure of

Ague	Gout	Piles
Asthma	Headache	Rheumatism
Bilious Attacks	Hartburn	Stomach Complaints
Costiveness	Indigestion	Scrofula
Debility	Influenza	Spasms
Diarrhoea	Jaundice	Sore Legs
Dizziness	Liver Complaints	Ulcers
Eruptions	Loss of Appetite	Worms, &c.
Flatulency	Nervousness	

Numerous and Striking Cases of Cure accompany each Box.

AC&K&BA;
June 1856.

Riding boots and slippers for the gentry - an advert. aimed at Keighley's affluent.



THE LARGEST, BEST AND CHEAPEST
STOCK OF BOOTS AND SHOES,
AT WILLIAM THOMPSON'S,
Market Place, Bingley.

Figure 4.5.B Reward notices, published in the Keighley Press, offering £1 for information leading to the conviction of absconded husbands.

ONE POUND REWARD.

WHEREAS the undermentioned persons have been resident in the parishes of Keighley or Bingley, or the Township of Haworth, in the Keighley Union, but have absconded, leaving their families in the said Union, and chargeable thereto; NOTICE IS HEREBY GIVEN, that the above REWARD will be given to any person who will give such information to the Guardians as will lead to the conviction of any one of such offenders.

NAME,	Age.	Height.	Complexion.	TRADE
		ft. in.		
KEIGHLEY.				
William Hindle	56	5 7	Dark Hair	Labourer
George Crowder	37	5 6	Light do	Do
Benj. Hudson	53	5 8	Grey do	Comber
Thomas Lund	32	5 6	Light do	Cart-wright
Jacob Harrig	45	5 8	Dark do	Toy dealer
William Hird	43	5 7	Do do	Labourer
James Speak	24	5 6	Light do	do
Stephen Thornton	41	5 6	Do do	Slater
Wm. Dewhirst	37	5 6	Dark do	Tailor
Fredk. Crossley	34	5 6	Do do	Labourer
Isaac Dobson	40	5 6	Light do	Weaver
Thomas Sidney	32	5 9	Do do	Shoe Maker
HAWORTH.				
Geo. Rushworth	38	5 7	Light do	Clogger

BY ORDER,
 BERNARD GREEN,
 WILLIAM RAMSBOTTOM,
 JOHN BINNS,
Relieving Officers

ONE POUND REWARD.

WHEREAS the undermentioned persons have been resident in the parishes of Keighley or Bingley, or the Township of Haworth, in the Keighley Union, but have absconded, leaving their families in the said Union, and chargeable thereto; NOTICE IS HEREBY GIVEN, that the above REWARD will be given to any person who will give such information to the Guardians as will lead to the conviction of any one of such offenders.

NAME,	Age.	Height.	Complexion.	TRADE.
		ft. in.		
KEIGHLEY				
Benja. Hudson	54	5 8	Grey do.	Comber
William Hird	44	5 7	Dark do	Labourer
Stephen Thornton	43	5 6	Light do	Slater
James Speak	27	5 6	Light do	Weaver
George Feather	36	5 6		Comber
BINGLEY.				
Stephen Briggs	36	5 4	Dark do.	Weaver
Rbt Wm. Briggs	37	5 4	Dark do.	Sweep
John Bailey,	25	5 6½	Dark do.	Weaver
Thomas Wate,	30	5 7	Dark do.	Weaver
James Whitaker,	30	5 8	Light do.	Labourer
HAWORTH.				
Geo. Rushworth	38	5 7	Light do	Clogger
Isaac Overend,	34	5 8	Dark do	Woolsorter

BY ORDER,
 BERNARD GREEN,
 WILLIAM RAMSBOTTOM,
 JOHN GREENWOOD,
Relieving Officer.

Source: Keighley Advertiser and Airedale Courant.

Top - January 1856

Bottom - February 1858

discovering whether or not they can afford to advertise and/or wish to draw their clientele from the newspaper reading public (Figure 4.5A). The Victorians' demand for patent medicine is well catered for in the advertising columns. Such compounds as Sharp's Tic Powders, Dr. Torrens Herbal Pills and Kay's Worsdell's Pills could between them, it appears, cure every ailment from jaundice to cholera, asthma to sight defects (Figures 2.8 & 4.5.A) Each compound, no matter for what else it was a remedy, was most efficacious in "female irregularities" (Sharpe's), serviceable to females "under all circumstances" (Kaye's) or "a certain specific in all female complaints" (Dr. Torren's). Knight (1977) suggests that such adverts in fact refer to the abortifacient properties of the drugs. It is suggested here that they point instead to the prevalence of feminine "aches and pains" (period pains, the symptoms of pregnancy, menopausal upsets) which before the advent of modern pharmaceuticals must have gone, for the most part, unrelieved. Certainly the wording could hide a message for those seeking to terminate a pregnancy but, in an era of poor nutrition, worry and hard work amongst the less well off and repression, frustration and boredom amongst the rich, late or absent periods must have been common and as much a source of worry as they are today. A fuller discussion of this point can be found in Chapter 2. A further aspect of Victorian health disclosed by the pages of the Keighley Press was the apparently great demand for false teeth.

Another useful source of advertisements, citizen status and addresses are Directories. Keighley Public Library stocks several, providing a range across the study period.

<u>West Riding District</u>	Collinson, Barton & Co. 1851.
<u>West Riding Woollen & Worsted District</u>	Collinson & Co. 1852.
<u>Directory and Gazetteer of Leeds, Bradford & the West Riding of Yorkshire</u>	Wm. White 1853.
<u>Directory & Topography of Leeds, Bradford, Keighley etc.</u>	Wm. White 1861.
<u>Directory of Leeds, Bradford & Populous District of the West Riding</u>	Wm. White 1870.
<u>Commercial & General Directory of Keighley, Bradford & Skipton</u> (which includes an alphabetical street directory)	A. Craven 1884.

Falling somewhere between the newspapers and the directories are the Keighley Yearbooks, first published by Keighley Herald Newspapers in 1877 and later taken over by the Borough Council, which contain many useful snippets of information, often written retrospectively (see Figure 3.1).

Books or pamphlets published to mark anniversaries often go into great detail on their particular subject but also offer information about the broader aspects of the contemporary community. Such are The Jubilee Book of Keighley, published by the Borough Council in 1932 to mark 50 years as a corporate borough, the self-explanatory The Half Century of Co-operation in Keighley (1860-1910, (The Co-operative Society, 1910), Keighley Catholic Church 150 Years Anniversary Celebrations (Berry, 1985), Keighley Baptist History 1810-1910 (Rhodes, 1910) and One Hundred Years 1848-1948. The last by Bancroft et al (1948) was to mark the centenary of the rebuilding of St. Andrews Parish Church. It includes a poignant comment on the state of infant mortality and female fecundity in Keighley during the second quarter of the 19th century:

"In memory of Grace the daughter of Benjamin and Rebecca Town of Keighley, who died Dec. 23rd 1831, age 6 weeks also of Jane their daughter who died Feb. 18th 1832 in the third year of her age.

Also of thirteen of their children who died in their infancy.

Also of fifteen of their children who died in their infancy.

Also of Rebecca wife of the above said Benjamin Town who died August 23rd 1851, in the 44th year of her age".

Whether this tombstone inscription is to be literally believed or interpreted as meaning the Towns had fifteen children in total is up to the individual reader until a search of the parish registers is made to ascertain if the Towns had any of their offspring baptised. Even if the "infants" were, in fact, miscarriages and Rebecca married at 16 it is difficult to imagine, unless she had several multiple births, that she could produce 30 children in 28 years. In the 1851 census Benjamin Town, butcher, and his wife Rebecca are enumerated in Church Street. There are no other entries at their address.

The Baptist History gives lists of "Church Members" from 1840. Presumably this means those joining the Church as the number fluctuates wildly each year but there is no indication if it means joining by baptism and if so at what age this occurred, Baptists being opposed to infant baptism. However, in a multi-denominational community such as Keighley, such lists are useful indicators as to which family names might represent a Baptist household and therefore the beliefs and values probably operating within that family unit.

Public interest, especially public concern, usually results in bodies of literature on a particular topic. In Victorian times there was a good deal of concern over the health, sanitary condition and

moral welfare of the populace, and most towns came under the scrutiny of health officials or sanitary reformers who, in turn, reported their findings; vying, it almost seemed, to find the most loathsome living conditions possible. Keighley was no exception.

In 1855 Wm. Ranger, Superintendent Health Inspector, produced his Report to the General Board of Health on a Preliminary Inquiry into the Sewerage, Drainage, Supply of Water and Sanitary Conditions of the Inhabitants of the Town of Keighley. (Ranger, 1855, will be much referred to in Chapters 5 and 6). This has much of interest to demographers, such as population counts and ages at death for the 5 years ending 1853 for 21 districts within Keighley, as well as a wealth of detail for social historians, such as the state of nutrition of the "impoverished wool-combers". The findings of the report were so negative that the Local Improvements Board was replaced by a Local Board of Health within a year of its publication. This Board kept a manuscript Minute Book two volumes of which, along with a copy of Ranger's report, are kept in Keighley Public Library. Between them the two volumes cover 27th November 1855 - 9 Dec. 1862. They are hard work to read through but give accounts of the state of lighting, sewerage, drainage, street maintenance, etc. as well as the investigation of "nuisances" and the prosecution of their perpetrators. For instance, April 2nd 1861:

"Mr Atkinson on behalf of the Board of Guardians, called the attention of this Board to the filthy state of the Lodging houses occupied by Wm. Hargreaves and Thomas Carr. He stated that in the consequence of vagrants staying at these houses before they obtain admission into the Workhouse the Workhouse Master was put to the greatest trouble before they could be freed from the filth and disease

"they had caught at such lodging houses".

Minutes of the Local Board of Health,
Keighley, 1859-1862.

From the 1861 census we learn that 72 year old William Hargreaves was a blacksmith and a lodging house keeper. He and his wife Mary, aged 64 ran their house in Brunswick Street. On census night they had 25 lodgers including 3 family groups; one newly arrived from Ireland, the other two just come from Lancashire according to the birth places of their infant children. The other 14 residents were an assortment of labourers and textile workers with a bellows maker and a shoe-maker representing the more skilled trades. All but one were male.

Thomas Carr aged 41 and single had 27 lodgers at his house in Leeds Street on census night 1861. There were seven couples, one family group, an unmarried mother and her child and again a varied assortment of individuals. Only 5 lodgers were from Yorkshire. Irish and Lancashire would have been the predominant accents to be heard with one or two Scottish voices intermingled.

The census gives little hint, apart from the numbers involved, of the squalor in which these people existed. Charges must have been minimal if newly arrived immigrants and "vagrants" could afford them and therefore facilities must have been at a minimum.

Examples such as this illustrate the benefit of melding contemporary records. Between 1862 and the 1880's a Medical Officer of Health was appointed (probably in 1870 as this was when the Local Board of Health became defunct (Varley, 1979), and in 1883 the first of his annual reports was published. These and other reports such as the "Report on the Medical Inspection of School Children in the Borough of Keighley" (Scatterley, 1908) during 1908 can be used as a

retrospective yardstick, presuming that conditions had in fact improved over time.

As well as written records researchers can often find pictorial, and occasionally oral records of their study period or area. Photographs of mill operatives at work in the mills, or even posing beside their machines, are, as far as could be ascertained, a scarce commodity. Keighley Library holds a large collection of Victorian and Edwardian "groups" but none actually depict "work at t'mill". The few relevant pictures that could be found were either artists' impressions (see Figures 2.11 and 2.12) or from later time periods and different areas.

Increasing interest in oral history has meant the setting up of many local scale projects and it is often worthwhile enquiring about the existence of such work. For Keighley the ESRC Data Archive at the Department of Sociology, University of Essex holds the manuscripts of several interviews conducted with people born around the beginning of the present century. These provide an interesting insight into Edwardian life, again a yardstick against which to compare modern ideas and ideals and these of over a century ago. Reminiscences about parents and grandparents can even carry "folk memories" back to the early decades of the last century. The problem with this source is that, if carried out by a previous researcher, the area of the present interest may not be covered in the interview. Also, in view of the present research topic, interviewees may have little if any knowledge of their parents' decisions regarding, say, birth control, such matters being considered "unfit" for children's ears, if they were discussed at all. However, even just noting the number of siblings each respondent had was of interest, most being one of five or more children although they themselves all had very small families.

Those daunted by the number and scope of the sources which could be consulted, or under pressure of time and resources, will often find that persons or societies have already published "local history" volumes. Unfortunately, these may cover the "wrong" period or not go into sufficient depth on particular topics. However, they can lead quickly to the relevant primary sources. For Keighley the prime example of such a work is Ian Dewhirst's A History of Keighley (Dewhirst, 1974). This informative and often amusing book has had to be selective in its choice of material but acts almost as a catalogue to the Keighley Library Local History Archives. It is complemented by Old Keighley in Photographs (Dewhirst, 1972) and More Old Keighley in Photographs (Dewhirst, 1973). Mr Dewhirst himself as Chief Librarian in Keighley Public Library's Reference Section is probably one of the main sources of historic information about the town and every researcher would benefit by consulting him, or his equivalent elsewhere, before diving head first into their project.

Section 4.6: Summary

This chapter has tried to show the range of historical sources available to a researcher attempting an interdisciplinary study of questions set in a historical context. The sources are, for the most part, highly place specific and even for that one small area can not be considered comprehensive. Little attempt has been made to illustrate the uses to which the information from these sources has been put, as these are demonstrated throughout the remainder of the thesis.

Two main problems were encountered. Firstly, the lack of time, within the confines of a research time-table, to do full justice to

particular sources and secondly, the sometimes meagre nature of data concerning individuals which hindered the use of linkage techniques. With hindsight such problems could have been avoided.

The aim of this piece of research is to build a quantitative picture of fertility in Keighley between 1851 and 1881 and to try and explain the patterns derived in the quantitative context of a contemporary worsted town.

This chapter has discussed the various sources used to this end. A further list of sources precedes the bibliography at the end of the thesis. In the next chapter we turn more specifically to the census enumerators' books to begin a quantitative assessment of fertility behaviour in Keighley over the study period.

Notes for Chapter 4

1. The 1941 census was not taken because of the Second World War.
2. The 1801-1831 censuses were enumerated by Overlookers of the Poor. The 1841 census was the first to be taken by recruited enumerators.
3. The bulk of Smith's work was completed before the release of the 1881 census enumerators' books, under the "hundred year rule", on Jan. 1st. 1982.
4. The coding system is outlined in Appendix A.
5. The age at menopause has been taken, conventionally, to be a woman's 50th birthday. There are indications (discussed in Chapter 6) that even 45 was, at this time and place, a generous estimate of the mean age at menopause. Often a very long gap in childbearing when their daughters in their late teens or early twenties were present, is sufficient to indicate an illegitimate grandchild. There is, however, the possibility that the child represents a slip in contraception by a mother erroneously believing herself to have reached menopause.
6. One to two percent of a population badly mis-reporting their ages seems a very low proportion in comparison to the findings of Pouyex *et al* (1983) who showed that 20 per cent of their couples had age deviations of greater than 10[±]3 years. However, as is explained in Chapter 6, the linking process was least likely to be successful when there was a large intercensal discrepancy in age, and therefore the figure of 1-2 per cent is without doubt a great underestimation of the true scale of the phenomenon in Keighley.
7. "Pinder" - a man who keeps animals, especially stray ones penned up.
8. "Balm" or "barm" was a colloquial term for yeast.
9. Sliverers, warpslayers and yarn pickers were all to be found in the textile factories.
10. A mechanic in Keighley could be either a machine maker working in a machine building works or an individual employed in a textile mill to keep the factory machines running and in good repair. The latter was a well paid and highly respected textile job. Usually in the census little indication is given as to the man's workplace. Here, unless the enumerator made a note to the contrary, the mechanic has been assumed to work in a machine shop.
11. Wrigley's study of Colyton in Devon, for example, spanned 300 years of the parish records (Wrigley, 1966) and to reconstitute a parish of 1000 persons over that length of time is estimated to take approximately 1500 hours (MacFarlane, 1977).

12. The Census of Religious Worship (England and Wales) was taken on Sunday, March 30th, 1851. The report came out as a Parliamentary Paper (P.P. 1852-3 LXXXIX) and covered: 1) a history and description of the various churches, 2) spiritual provision and destitution, 3) and the table of results (Drake, 1972). The tables pertaining to Keighley can be found under Div. IX, Yorkshire, 494.
13. After 1837 all births had to be registered, by law. In spite of this edict some individuals still managed to slip through. However, the civil registers contain, or should contain, all births registered in that district, rather than only those of children whose parents decide to have them baptised or otherwise acknowledged by the church to which they belong.
14. The Registration District of Keighley actually comprises three sub-registration districts viz: those of Keighley, Bingley and Haworth.
15. The worst condemnation had come in B.H. Babbage's (1850) Report to the General Board of Health on a Preliminary Inquiry into the Sewerage, Drainage, Supply of Water, and Sanitary Conditions of the Inhabitants of Haworth. (n.p., London) who reported that Haworth's graveyard, which was "less than an acre in extent, had received 1,344 burials during the previous ten years". (Dewhurst, 1974).
16. Personal communication during a visit to the Registry Office in Keighley.
17. New Road Side just to the south of Ingrow was built by Cloughs in the 1820s to house some of their workers. Comparison of the wages books and the census would indicate that several of the workers still stayed there and it was probably for these houses that rent was deducted. It would appear, however, that other deductions occurred as the sum deducted from the total fortnightly rate was seldom the same from one pay-day to the next.
18. From 1833 all children under the age of 14 working in textile mills had to attend school for two hours daily, at the manufacturers' expense (Neff, 1929/1966).
19. The surgeon was to withhold a certificate if he did not believe the child he examined was at least 13 years old or that they were too sickly to undertake the work that would be demanded of them in the mill. Much debate went on in medical circles as to the most accurate way of gauging a child's age, stunted growth and malnutrition often confusing the issue (Wing, 1967).