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HISTORICAL RESEARCH REPORT

Research Report TM/90/02
1990

Studies of the Scottish oil shale industry. Vol.1: A Socio – historical study of Scottish shale mining communities in Mid- and West Lothian, Final report on US Department of Energy Agreement no.DE-AC02-84ER66199

Randall SC

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STUDIES OF THE SCOTTISH OIL SHALE INDUSTRY

Volume 1:

A Socio-Historical Study of Scottish Shale Mining Communities in Mid and West Lothian

Sara C Randall

March 1990

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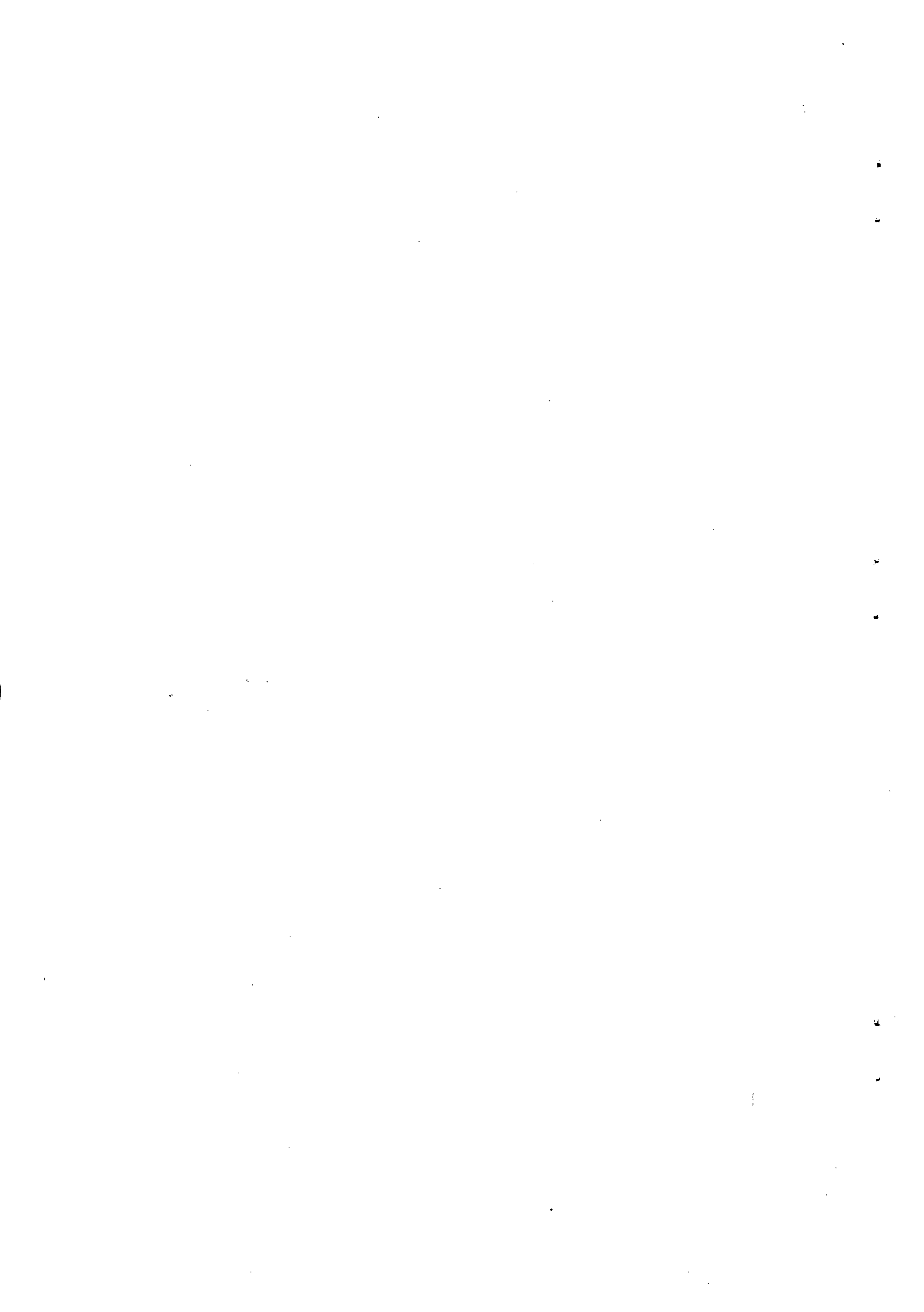

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INSTITUTE OF OCCUPATIONAL MEDICINE

STUDIES OF THE SCOTTISH OIL SHALE INDUSTRY

VOLUME 1

A SOCIO-HISTORICAL STUDY OF SCOTTISH SHALE MINING COMMUNITIES IN MID AND WEST LOTHIAN

Sara C Randall

FINAL REPORT ON AGREEMENT NO DE-AC02-84ER60199
FOR THE US DEPARTMENT OF ENERGY

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March 1990

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ABSTRACT

An oral history of life in the first half of the twentieth century in the shale mining communities of Mid and West Lothian, Scotland provided background information needed for a mortality study of these communities where the Scottish shale oil industry was located until 1963. Thirty-two semi-structured interviews with 41 old people provide a detailed socio-historical picture of life in an area dominated by this industry. Much of the information is presented using quotations from the interviews.

Housing conditions and perceptions of pollution are described. Details of working conditions, jobs and wages, focussing in particular on the shale industry, suggest that until the early 1920s shale workers were financially well off compared with workers elsewhere. Comparative wage levels then deteriorated until 1939. Women's activities, roles, domestic and work positions indicate that although women had little exposure to industrial hazards in the workplace, their standard of living was very low and they had to work extremely hard. Health and health care, diet, smoking and drinking habits, leisure and migrations are other factors which could affect mortality patterns.

Comparisons with contemporary studies show that, although the shale communities were poor with bad living conditions compared to today, there is no evidence that they were any worse off than contemporary working class communities, and thus no reason to expect that overall mortality levels should be raised.

1. SHALE COMMUNITIES: BACKGROUND TO THE INTERVIEW STUDY

1.1 Introduction

This volume presents an oral history study of the Scottish shale mining communities in Mid and West Lothian. The research, based on a series of semi-structured interviews with old people from the area, was originally undertaken as a supplement to the community mortality study (see Volumes 1 and 2) being done by the Institute of Occupational Medicine. This mortality study was one of a series of studies investigating possible environmental and occupational health hazards of the oil-shale industry. Although this socio-historical research was primarily to inform on approaches to the analysis of the mortality study and to aid in the interpretation of the results of that study, the material provided by the interviews generated a very comprehensive view of life in an area where all of life was dominated by a single industry. This way of life has now changed substantially, partly through the closure of the shale industry in 1963, but also through the general processes of twentieth century social change. This document therefore is a picture of a lifestyle which no longer exists, but was an important aspect of the whole shale mining and processing industry in Scotland.

The premise behind the shale community mortality study was that a comparison of mortality levels, patterns and causes of death between areas where shale was produced and other similar areas not exposed to shale, could identify particular hazards related to, and possibly caused by shale. However, both levels of overall mortality and patterns of particular causes of death are known to be related to social class, diet, occupation and a whole range of socio-economic factors such as housing tenure, marital status and unemployment. Although careful selection of comparison areas can to a certain extent control for these variations, it is still important to document the specific features of life in the communities under study both in order to interpret the results and also to understand how particular health consequences may be occurring in the area.

Data for such an investigation can partly be obtained from sources such as censuses, county reports and company records, but these statistical sources are necessarily very limited and geared to aspects of life which can be tabulated and quantified, with a bias towards the male dominated economic sector. Social processes, household relationships, support systems, attitudes and access to health care and attitudes to employers and the environment are all important intermediate factors intervening between the individual and mortality, and qualitative data obtained from interviews are the principal tool for understanding their importance.

1.2 Aims

This document aims to address some of these issues. As a supplement to the main mortality study, the majority of the data presented were obtained from a series of semi-structured interviews with older people resident in the shale mining communities who have spent all or most of their lives in the area. These interviews provide the basis for a limited oral history describing those particular aspects of life in the shale mining communities which are likely to have affected the health, welfare and mortality of the populations concerned. By putting these into a wider context and comparing the life history data from the shale areas with autobiographies and other oral history studies, as well as drawing on some statistical data sources, the final chapter will elucidate whether, and how, social and

economic life differed in quality and risks from other contemporary working class communities and from Scotland as a whole. This will help in understanding to what degree any mortality differentials may be due to shale or to living in the particular material and physical conditions of the shale communities, or may be just a feature of life in Scottish mining areas in general.

The study concentrates on the period before the second world war for several reasons. Although this period precedes by many years the onset of the mortality data (cancer deaths from 1953 and all deaths from 1963) it covers the period when the shale industry was most active: from 1926 onwards the industry declined in importance until its closure in 1963. It is also the period with most influence on the majority of those whose deaths form the mortality data since most deaths occur to people over the age of 50 who will have lived through the period, the hazards and the living conditions documented below. Particularly for cancer mortality, but also for other causes of death, past exposures and past environmental (in the widest sense) conditions are crucial factors in determining mortality patterns and levels.

1.3 Methodology

The interviews were undertaken in late 1984 and 1985 with each interview recorded and subsequently transcribed. The interviews were semi-structured, covering certain topics in almost all cases, although the interviewee was encouraged to talk about his or her own life and experience from which topics of particular relevance or interest to that person were followed up.

1.3.1 Selection of Interviewees

Ideally the interviewees would have been selected randomly from an age sex register, stratified by area of residence (see Thompson (1), for design of an oral history study). Practically, however, this would have provoked many problems: many of those selected would have been unwilling to be interviewed, some would not have spent their lives in the area, whilst others would not have been mentally alert enough to provide a good interview.

Instead, General Practitioners in three main shale villages (West Calder, Broxburn and Dalmeny) were contacted and agreed to help. The doctors, all of whom had worked in the area for a long time, provided me with the ages, names and addresses of old people who they thought would have useful and interesting information for me, and who would also enjoy reminiscing about their past. I wrote to each person explaining something about the project. With this letter I sent a stamped, addressed envelope asking if they would like to participate in the study; in one practice the GPs did all this preliminary procedure. Some people never replied, very few replied negatively, and over half replied positively. All these I interviewed. Two interviews were contacts obtained from earlier interviews and one couple was recommended by another researcher.

This method of selecting subjects meant that all were willing participants and also felt they had something to say to me. Despite the voluntary nature of the interviews there were people who were far more ready to talk and more articulate than others. It is tempting to use these testimonies disproportionately and, in terms of quotations, I will have to do so. However, in terms of factual information provided it must be acknowledged that the very articulate are probably those whose lives were more successful, who in their old age have family and

friends to support them, and whose experiences are not necessarily representative of the whole population. This is one problem with this research methodology, and I have tried to take it into account below.

1.3.2 The Interviews

Before starting an interview I explained in more detail the work and what I wanted, and that I wished to record the interview. The project was described as an investigation into health in shale mining communities (not a mortality study) but I stressed that for this part of the research I was particularly interested in people's lives and personal experiences.

Most of the interviews lasted between an hour and an hour and a half. In a few cases the person obviously had little to say of interest, and in these cases I abandoned the interview earlier. Others invited me back to talk again, and sometimes I took this up, although never with the tape recorder. Thus some of the information presented below cannot be backed up with quotes but comes from fieldnotes. I also spent one afternoon with an old men's reminiscence group in Blackburn - a coal mining village adjacent to the shale area - and a couple of mornings in an old people's day centre in Broxburn. These provided further supplementary data.

All the interviews were transcribed by myself and four others; some were edited whilst being transcribed. All those that were heavily edited I did myself. In all cases where editing was used the general subject being discussed was noted. The transcriptions are rather dead documents in comparison with the recordings themselves: it is impossible to convey the full expression of the West Lothian accent and humour. Despite this I will quote quite liberally from them since this conveys more accurately the attitudes and the variation that exist than would a simple synthesis of the information. Where the same opinion or piece of information was mentioned by several people, I tend to reproduce only one quotation; this may have the unfortunate effect of giving a single statement an equivalent weight to one made by many people, but I have tried to document this in the text.

1.4 Characteristics of the Interviewees

Forty-one people were interviewed in 32 interviews. Their age and sex distribution was as follows.

Table 1.1 Age-sex distribution of those interviewed.

Year of birth	<1900	1900-04	1904-09	1910-14	1915-19	>1920	NS
male	1	7	4	4	2	1	0
female	4	8	5	1	1	2	1

The villages in which they spent all or most of their life are shown in Table 1.2. '' indicates either childhood or adulthood. Thus a married woman in from outside would be allocated ''. '1' indicates that all, or most of the life was in that village.

Table 1.2 Villages lived in by the interviewees.

Broxburn	Dalmeny	W.Calder	Uphall	Addiewell	Polbeth	Newton
10 * 1	5 * 1	5 * 1	2 * 1	2 * 1	3 * ½	2 * ½
3 * ½	4 * ½	3 * ½				

Oakbank	Bridgend	Mossend	Gavieside	Tarbrax	Danderhall	Breich
2 * ½	2 * ½	2 * ½	1 * ½	1 * ½	1 * ½	1 * ½

Westerton	Winchburgh	Roman Camp	Linlithgow
1 * ½	1 * ½	1 * ½	1 * ½

1.5 Biases

Some biases in the characteristics of the interviewees should be mentioned.

(a) Those interviewed are survivors in several respects: they have not migrated, they have survived to an old age, and mentally they have remained alert. They are probably more articulate and dynamic than the average in the population from which they come, and are thus more likely to have life histories representing positive action. Although this will not prevent them from commenting on life around them, their perception of the importance of particular influences may differ from those whose lives have been less successful.

(b) There is a bias towards the working class for two reasons. My emphasis at the beginning of the study was towards people who had spent all or most of their life in the area: these tended to be working class individuals. Also I found the four interviews with people from a wealthier, more middle class background far harder to conduct; thus they were much shorter. These included a bank manager, two school teachers and the wife of a Scottish Oils manager. This reflected my own preoccupations: it was easier for me to ask questions about poverty and poor housing than about wealth and economic success. It is true, however, that the majority of people in the area were working class and will have been subject to the lifestyle talked about by most of the interviewees.

(c) I tried to avoid overrepresenting the direct influence of the shale industry, by interviewing a lot of women, as well as men from non-shale occupations. However, both in the conversation and in the stress I placed on different occupations throughout men's lives it is possible that shale appeared to be more important than it actually was.

(d) Areal representativeness was a problem. The two main areas of shale activity, Broxburn and West Calder, are well represented (see Table 1.2) but Winchburgh, which was the centre of much of the industry in its later years, is not represented at all, neither are Pumpherston, Seafield or Livingston Station (now Deans). From the little information I have, the housing in Winchburgh – which was all built in the first decade of the twentieth century – was better than elsewhere. Many of the rows still remain now, after

improvements. The working conditions, environmental pollution and family circumstances will have been much the same.

1.6 Supplementary Interviews

Another series of interviews with people from shale mining communities is held by the Livingston Oil Shale Museum. These recordings and transcripts were made available to me and are used below. They were made over the same period as my interviews, but are primarily with men who worked in the industry, documenting details of jobs and working conditions rather than general socio-economic aspects of life. Quotations from these interviews are identified by a letter and number, eg. M3. Inclusion of material from these interviews has overcome some of the biases in areas, as they include material from all the villages for which I had no interviews.

1.7 Interpreting the Information

Some topics were covered in every interview: a life history of work and residence; a description of childhood and the family; questions on pollution, wages, working conditions, health and medical services. From these core topics I generally followed the interests of the interviewee, guiding the interview towards my own interests, but also trying to find out about their own experiences and things about which I knew nothing. Thus some interviews are largely about work and working conditions, others about childhood, others housing. Some interviews of couples were very rewarding because they would confirm or contradict each other and generate their own questions. Because the interviews were voluntary, and because most people positively wanted to talk about their past, I do not think there was much actual lying or conscious distortion of the truth. However, memory is selective, and particular events, comments or experiences may colour the perception and description of the past. For this reason it is important to have a whole series of interviews rather than just one or two with apparently knowledgeable and articulate people; I have tried to draw on material from all the interviews, including those I consider to have been less successful.

The evidence generated in interviews of this kind cannot be taken simply at face value. It demands interpretation. People are constantly restructuring their memories as they try to come to terms with their lives and with events. This is particularly true with regard to recall of past attitudes, rather less so when it comes to factual descriptions of housing and numbers of rooms. Furthermore the accounts they give of their experiences and of their attitudes to their lives are highly situational. In her book on health in the East End of London (2), using material drawn entirely from series of interviews, Jocelyn Cornwell discusses the ways that interview material can be used and the different perspectives that can be gained from people's discussion of events when they are not constrained by research tools such as questionnaires. In her study she used an anthropological approach, avoiding separating out the topic of health as something isolated from the rest of life. Although it is harder to do this when using retrospective material and when depending on single interviews without direct observation of events and prolonged informal discussion, many of Cornwell's arguments are valid and important for this shale community research.

Cornwell's principal distinction is between 'public' and 'private' accounts. The public account describes the norm, an image of a way of life or type of behaviour that people want to happen or want to believe did happen. It is one way of

structuring and interpreting the past, and is very likely to provide the response to direct questioning about generalities. Private accounts tend to be anecdotal and particular, 'stories' about identifiable events rather than general statements. Frequently they contradict the public account; often they emerge in a totally different context. An example of the contrast between the two can be seen in one interviewee's response to questions on pollution. When asked about general pollution in the shale mining villages she denied that there had been any, describing Addiewell as a clean place, full of fresh air. Later when I asked about epidemics of illnesses such as scarlet fever and diptheria, she said there had been no epidemics in Addiewell because the fumes from the oilworks kept all the germs away.

Descriptions of community life are an important part of Cornwell's research, as they are in this study. Her insistence that the idea of 'community' should not be romanticised through paying overmuch attention to the public accounts is a proper one for the shale communities as well. Public accounts, in the form of responses by interviewees to general questioning about social life and relationships in the shale mining communities, presented a standard picture of a golden age of neighbourliness, equality in shared hardship, and community solidarity. The evidence suggests that these shale villages were communities in the sense of being groups of people who both lived and worked together. There was a 'community' life, with communal activities such as the gala days and the sports. But at the same time it emerges from the same interviews, in the form of private and particular accounts of experiences, that there was also domestic and public violence, hostility between neighbours, religious bigotry, neglect and avoidance of cases of failure or sickness, such as the two sisters from West Calder with TB who were shunned by everyone except one old woman who got drunk every midday. The point is not to debunk altogether the public account in order to replace it with another construction in a more cynical or pessimistic spirit, but to interpret both kinds of evidence in their context in order to evaluate the real extent and motivation of community solidarity and co-operation.

Public accounts are especially likely to be elicited in relation to certain aspects of life. In a study such as this, with only one interview with each person, there were many areas where it was almost impossible to transcend them; the whole field of family relationships and of sexual and reproductive behaviour is one such.

When trying to elucidate attitudes and behaviour rather than just describing the facts of material life, I have tended to place more emphasis on the private accounts, the stories, and the information which people came up with spontaneously, which were not just a response to probing questions. Where people's stories corroborate each other, I have tried to put more emphasis on this than on isolated incidents recounted by single individuals. However, there were topics that I felt unable to broach directly with people, or that did not lend themselves well to direct questioning with most interviewees; for example the accounts of backstreet abortions are from a single interviewee, and I have no data on contraception.

In a such a study the role of the interviewer is important and does influence the material that can be collected. The fact that I was young, female, English and middle class certainly affected the questions I felt able to ask and also the responses I got. My youth and sex were the main inhibitions to asking about contraception; my background made it easier to ask about poverty, the housing conditions and the work people did because that was so obviously removed from my experience and I was justified both in my, and in the interviewees' eyes, in asking questions about them.

A final aspect of oral history is that of the age of the persons concerned. Examining life in the period 1900–1920 through interviews done in the 1980s will provide essentially a child-centred viewpoint, with the experiences of childhood added to a synthesis of accounts given to them by their parents. Thus most of the information on working conditions will relate to those which affected young men rather than the whole workforce. As the accounts get more recent, then the picture of working lives, of women's roles, of adult behaviour becomes less vicarious and more a reflection of the interviewees as participants, as the principal actors in events and they are able to talk about their direct experience.

In the following chapters I have tried to take all these different factors into account in my interpretations of what I was told, to present a balanced, and what I feel to be the most realistic description of life in these communities before the second world war. Obviously generalisations will be made which do not apply to everyone, but nevertheless there was a style of life that affected everyone in one way or another, and a local culture which was important in modifying the wider working class society of which the shale communities were a component.

2. HOUSING

Housing conditions have improved enormously in the area over the last 40 years. During their childhood however, most interviewees lived in overcrowded housing, lacking in amenities and sanitation. Until the 1950s there were almost no owner occupiers; for example, in 1911 only 2.6% of oil workers were owner occupiers (John McKay: personal communication). The majority of people who worked in the shale industry, miners, oil workers and other labourers and craftsmen lived in 'rows'. These had been built by the oil companies at various times since the shale boom in the 1860s and 1870s and were either 'double rows' - two-storey buildings with a flat on the ground floor and one upstairs, with an external stair - or single rows which were single-storey houses. Most non-shale workers lived in privately rented accommodation as did some miners and oil workers. The living conditions and amenities in privately rented houses were generally similar to those in the rows, except that sometimes they had three or even four rooms and gardens.

[In Broxburn] the working men's houses had no gardens, but the private houses [did].
Mr BB

My husband worked six days a week in the mines for £2.10s [1925] that was his wage and the house - it was a good house- it was 7/6d per week.
When you say a 'good house' did it have water and a toilet?
Oh yes, but no bathroom, but there was water laid on and there was a toilet and two bedrooms and a living room..and there was a garden at the back and a back and front door. *Mrs N*

Some oil companies owned few houses with gardens, but others such as Young's provided gardens in as many as 861 out of 946 houses (John McKay: personal communication). Otherwise the conditions in the rows were more or less standard throughout the whole area, although certain rows such as the 'wee rows' in Addiewell and the Happy Land in West Calder were renowned for their poverty. Most houses had two rooms - a 'but and ben' - and sometimes there was a scullery at the back. In both the bedroom and the kitchen were built-in box beds which could sleep three or four children. Some houses only had one room, 'a single end', but these were rarely lived in by families.

You had four walls and two windows and a door and a roof. I think the house would be maybe 3/6d per week. Oh no, there was no inside water or anything. A well outside served the four houses, and there was an outside [dry] toilet at the end which served the four houses as well.
Mr O

2.1 Sanitation

The one thing that did vary between rows was the sanitation facilities. Later housing, such as Tarbrax built around 1900, was well provided for.

It was a real good place, Tarbrax. They were nae dry closets up in Tarbrax that I mind of. There would be maybe before my time. I mean, they were all toilets, in fact the way the houses were built, there were a toilet between two houses, you see, a flush toilet....outside. You had to go outside. And the new houses that were built, they all had inside toilets. No bathroom, but an inside toilet. They were great houses in Tarbrax, great houses.

Mr F

Tarbrax was exceptional though. Until the 1920s most of the Rows still had dry toilets or just communal middens.

Dalmeny

The ways and means was that we went down to the bottom of the garden, and there was a small shed, and just a bucket underneath. It opened at the back, to let the men clean it and empty it, and that was only once a week. The smell was terrible sometimes.

Mrs C

Westerton

We had no toilets or anything of course, - dry toilet outside. They were all joined...
And who emptied them?
Bucket man, we also had great big open buckets just here and there up the back way and of course we'd all coal fires and as a result there was ashes. Well the cart would come round maybe twice a week and empty some of these big buckets first into the cart so as to cover the bottom and then they just came round and emptied the pails. You couldnae do anything else.
Did it smell?
It didnae half, my, my! Well that's what I mean - hygiene was just non-existent. And then of course we'd no washing house or anything, you washed in the middle of the floor. *Mrs M*

Broxburn

All the ashes from your fire had to go somewhere - you put them in the midden; all the slops, old clothes, papers, boxes...they were all shoved in this midden. The midden would be about the length of this house, with just a big open front on it, nae door or nothing like that, but it was open on the top...and at the end was the toilet places with two doors on them and you could go in there, the seats were that long you could get four on the one seat! Well that just went down to the midden....And there was a man came round periodically: he had the contract to empty them out...they smelled to high heaven, 'cos everything was in them - excretia they were all in there. We used to play around there.
Mr Y

Addiewell

Women had just a pail in the house....you had a wee recess for it in the house. That's what men had to do, in a pail too, when you got up in the morning. Well, that was it. Women always had to carry these pails out (to the midden)...There were three (middens), mebbe, on the one side of Livingstone Street, we were 100 houses, and three, then another three. Two, then the one in the middle and these middens for the men. Ken there was just a long one, and

there was an iron rail right along the top, and a piece of wood along the bricks here which was supposed to be to sit on, but nobody could sit on that because it was dirty....They were open as far as the air's concerned. There were party walls so that people couldn't see into you...They were altered, it must have been about 1926...They put a sink in, and they put a toilet down too, they made the drains, must have been 1926. *Mr G*

Oakbank

Did the houses have water and toilets inside?
Not at first, not when I was there first. They had dry closets out in a block by itself. You had to go outside to the lavatories...but just before the first world war they started putting in water closets. That was 1914...They built sculleries jutting out...and toilets and that were there. And there was a wash boiler in the corner.

Until the mid twenties most people got their water from a 'well', a sort of standpipe in the street. The quality of the water was probably fine, it was piped from reservoirs in the Pentlands, near Airdrie and from Cobbinshaw Loch, but because all water had to be carried and stored in buckets there wasn't an abundance in the house, and it was quite likely to get polluted - fetching water was often the task of the children. In 1901 water consumption in Pumpherston was about 19 gallons per household per day. In 1971 in Lothian Region it was around 45 gallons per person per day (John McKay: personal communication).

All our water had to be carried from the well...It was a well, and it was metal, cast iron, and it stood about two feet...and on top was a lion's head. And of course the water, you turned the well, turned the handle, and the water came out of his mouth. I thought that was great!...The whole thing was you had to keep your water, like, if you had water, you can't run to the well, so they had pails of water brought in. My mother had a big shelf, we lifted the pail onto the shelf. My father made a lid for it, a wooden lid, to keep it sort of clean...I don't think, I can't remember ever seeing that sort of thing in anybody else's house.
Mrs C

Improvements in sanitation facilities occurred gradually. In Broxburn, porches with flush toilets were added around 1910 to the Greendykes Rows, and at the same time cold taps were installed either in or close to the house. These were provided by the oil companies and later improvements to sanitation were the responsibility of the Council.

2.2 Heating and Lighting

All houses were heated by coal fires, one in each room. Lighting was provided by candles and oil lamps in most houses until at least the mid 1930s. Despite working in the shale oil industry subsidised lamp oil and candles were not available although coal was provided cheaply by the companies. In many houses all the cooking was done on an open fire; others had a range. Water also had to be heated on the fire, although those rows provided with washhouses usually had a separate boiler in there. The new council houses built in the 1930s were major improvements in terms of heat and light. The majority had electricity installed from the beginning, and most had back boilers for heating up the water. All

these factors significantly reduced women's workload.

We thought we were in heaven when we came here [Loganlea 1934]...It had electricity, there was a tub and a sink, you know a tub with a board on top of it then a wash hand basin. And there was a back-to-back grate with a boiler stashed in it, an urn, and there was a wee fire there which heated through the grate.

Mrs DD

People who continued to live in the rows and in some privately rented accommodation were often less fortunate: electricity was rarely provided by landlords. Some tenants installed their own, often long after the second world war. Others waited until they were rehoused in the 1960s.

We didn't have electricity until we came up here in 1966. We still had gas until 1966. No bath. Tin bath. [Broxburn]

Mr I

2.3 Overcrowding

Overcrowding was the principal problem with the housing. Those who were interviewed were the first generation in this area to systematically practise some form of family limitation, and during their childhood families with 9 or 10 children were very common. Although in many ways the housing was not bad for the period - the oil companies maintained the houses well and always did repairs - once 8 or 10 people were living in them conditions changed. Sleeping arrangements were such that the parents had one bed, and the children divided the others between them. It was not unusual for a grandparent or lodgers to be living in the same house too.

Broxburn (about 1910)

Well, when we were young there was four girls slept in one bed. Aggie and Sally and Meg and I. The four. And my father and mother in another bed. And my Granny in the room. And my brothers (five or six) in the other bed. We had four beds, big double beds set into the wall....

When you had diptheria, did you go away?
No, I was kept at home.
So you carried on sleeping in the bed with your three sisters?
No, my father and mother. They put me in beside my father and mother.

Miss I

Such sleeping arrangements were not at all uncommon, and although cases of acutely severe infectious diseases were usually sent to hospital, TB sufferers and those with minor illnesses were often nursed at home under crowded conditions.

For much of the time until the second world war housing was scarce, which, coupled with the poverty and the arrival in the area of young single men seeking employment, meant that both young married couples and these young men went

out as lodgers; the former usually sharing a house or a room with a relative. Lodgers rarely had a room to themselves and often had to share a bed with others on different shifts. In Uphall where the majority of Irish immigrants lived, it was said that the beds never cooled down.

When I got married first, I lived with my mother-in-law...she slept in the big bed, her man was dead and she slept in the big bed and she had two sons, young 15 or 16, and they slept in the other bed. And we slept in the room..... Houses were very scarce. Some people were in rooms for years, they didn't get a house. Mrs DD

Some o'them in Dalmeny had lodgers, and they came in off the night shift and they went to the bed that the man went outae!

Mr B

2.4 Consequences of the Housing Conditions

One consequence of the cramped housing was that much of the social life went on on the streets. Children played in the streets, women did their washing outside, in summer at least, and men met for the evening on street corners. Although new council housing was much appreciated in material ways the changes for social life were not so popular.

People lived closer to each other in these days than what they do now...In the 1930s they built Parkhead Crescent and they emptied all that was left in the Happy Land, and this fellow turned round tellin' me, he says: 'All friendliness was lost when they moved us up into Parkhead.' I says: 'How do you make that out?' 'Well' he says 'we've all got our ain gates and our ain gardens and our ain doors, and when we stayed in the Happy Land, we stayed door by door and if there was anything wrong wi' your mother, the woman next door came in and saw that you got your face washed and awa' to school and she'd a bit for you at dinner time....After they shifted us up here, we've all got our ain gates - we're all separated.' Friendliness and the kind of closeness was broken by that.

Most people felt that the physical conditions they had lived in during their childhood were very poor, and many said that they were surprised how healthy they had been. Certain areas were renowned for their particular hazards and bad spots, although not all the housing was unequivocally bad.

That was Broxburn Old Town and that was the poorest bit of Broxburn. It was much poorer than the Rows. There were thatched cottages along there and it was generally pretty grotty...It's all new housing, county council housing, flats along there now, but they've been there for what, I would say about 20 years...so there's been a radical change in the whole district. Mrs T

Oh there was a drain right enough. It wasn't like what there was in West Calder, in the Happy Land, they threw them in the gutter. We were lucky in that way. Mrs J

The inhabitants were not the only ones to notice the poor and overcrowded housing. Various comments were made in official reports, and action was taken at the council level. The 1912 Annual Reports by the Bathgate burgh surveyor, the Medical Officer of Health and the Sanitary Inspector (3) comment on the scarcity of low rental housing as well as the subsidence causing damage to existing housing. This was seen as due to a lack of enterprise in constructing new buildings and the Town Council was contemplating building workmen's dwellings. By 1923 the housing problem remained, despite 136 new houses. The report says 'Houses which have ceased to be in all respects reasonably fit for human habitation are still being occupied because those living in them cannot get houses elsewhere'. Although they are referring to Bathgate burgh the problem obviously existed almost everywhere else in the county too. This preoccupation in the reports with the housing shortage continued for several years.

In 1930 The Public Health Committee of the County Council of West Lothian recommended improvement in the sanitary conditions in Kingscavil Rows, which were occupied entirely by Scottish Oils employees. A list of condemned houses was published (4). In the period 1935-38 their housing requirements were the following: a maximum of 5 persons for 2 apartment houses, 7 persons for 3 apartment houses and 9 persons for 4 apartment houses (children under 12 counted as half an adult). Most people who had been rehoused - in Addiewell, West Calder and Dalmeny probably fell within these restrictions, but families who continued to live in the 2 apartment rows were often over the limit, which itself is not very generous compared with modern housing standards.

A table is produced in the 1934 minutes (4) of the number of overcrowded houses per Civil Parish using this standard; Abercorn - 5, Bo'ness - 111, Dalmeny - 17, Ecclesmachan - 8, Kirkliston - 105 and Linlithgow 80. In the same year the MOH report (5) on Niddry Rows in Winchburgh, owned by Young's Oil Company talks about damp houses, bucket toilets, bad drains and defective roofing. Also 'the close proximity of these 40 houses to a spent shale bing, the dust from which bing is a nuisance to the tenants makes action by the local authority impracticable'. Apparently though, the Niddry Rows residents got up a petition in response to this saying: 'The houses are in good condition and only require flush lavatories.' (John McKay: personal communication).

3. POLLUTION

There was little consensus amongst the interviewees on the amount, if any, of pollution generated by the oil works and other parts of the shale processing. It is a difficult subject to gauge from retrospective memory, because widespread public awareness about the effects of atmospheric pollution is a relatively recent phenomenon. About half those interviewed said that pollution from the oil works was a problem; the other half recalled no pollution stating that it was a very healthy place to live in. Those who were aware of pollution mentioned three different sources: the oil works, the acid works at Broxburn and dust off the bings.

Roman Camp

Oh, a certain amount of pollution. But most of it was carried overhead from the boilers, the chimney was 260 foot high and it carried most of the stuff further afield, into the farmers' fields. A certain amount of dust came off the works. It was always a dusty place. As far as the spent shale was concerned...depend on which way the wind was blowing, and with dust getting blown back from the tip to you.

Broxburn

No half. Many a time my mother had the washing to take in again if it was blowing out of the east you got all the black, ken, spots of it.

Aye there were fumes came off the big chimney, there was a big chimney, it was 500 feet high, over there...and there were terrible fumes, it discoloured the brashes....

Well the chimneys used to go right enough, but you never paid any attention to them. Mrs I

Curiously enough, there weren't any belching fumes or anything like that from these oil works, nothing at all. There wasn't any pollution of the atmosphere. The only thing that caused a bit of trouble was, I remember there was an acid works. It used to have a nasty white plume going up. But nobody ever smelt anything of it.

...The acid works did [produce a lot of smoke and smell], it made you cough right enough.

Dalmeny

No, you never noticed them. They were smelly at times...but they never give off any smoke, they had the big chimneys up, and that went well away.

West Calder and Addiewell

If you lived near the works you smelled the works...I cannae explain the kind of smell it was...but it wasn't a bad smell in any way...where there werenae an oil works you didnae smell it.

An oil work cannae be nothing else but a dirty smelly place, that's about it. For when you think on it, Addiewell was in full process, there was 15 different chimney stacks belching smoke. Then when you think of the smoke that came from the retorts themselves..and there was smoke and gas. The community I don't think suffered from it and the only thing the likes of West Calder suffered was the dust blowing off the bing.

Contemporary postcards of the area suggest it was certainly polluted by modern standards. They show black smoke belching from chimneys, which although quite high, were probably not high enough to remove all the emissions from the area. According to McKay (personal communication) there were frequent complaints from farmers and landowners about damage to trees and polluted water courses.

Dust off the bings was obviously a problem in many places, especially where the houses were to the east of the bings, as in Oakbank, West Calder, Livingston Station and Winchburgh. In Winchburgh as late as the 1950s a woman who lived windward of the bing couldn't keep bees because the spent shale dust clogged them up and they were unable to fly. In Oakbank where the houses were literally in the shadow of the bing, and the mineral railway carrying the spent shale ran right by the front doors, dust was a serious problem.

In Oakbank..it was a wind off the west, it came sweeping down the side of the bing, and that gathered up spent shale, and blew it into the houses and that.
Mr A

The pollution there [Oakbank] was worse than here [W.Calder]. Dust, because they'd to tip all the spent shale on the bing. Twenty-four million tons of shale. And for years and years it just blew in the wind on everybody's washing....it blew in every direction and you went up there and you came hame and you were black.

Mr & Mrs U

But pollution was not limited to the oil works. Along with everywhere else at that time, all heating was from coal fires.

You got a lot of fog and mist. You see, all the fires were coal fires and all the chimneys were smoking and in damp weather the smoke came down.
[Broxburn]

If anything this type of pollution would probably affect the population less here than in other areas of Scotland because it is generally quite windy in the shale communities and the area is not particularly densely populated.

Polluted streams were also a feature of the area. One stream near Addiewell was known as the yellow burn, and there were no fish in it, whereas apparently nowadays fish can be caught there again. It was thought that the pollution came from a coal mine, Baads, which provided coal for the shale industry. Other streams were also polluted and in the Linlithgow Health Reports (6) there was an annual discussion of the problem of pollution of the River Almond. It is unlikely that this pollution will have affected the water supply which by this time was piped from reservoirs elsewhere although children playing by the polluted streams may have suffered some repercussions.

3.1 Pollution and Health

With respect to health people's perception of pollution shows some curious anomalies. The fumes and dust given off from the oilworks were obviously not just annoying features that dirtied the washing and gave the place a grey look: for some people they entered the body affecting their taste and their chests. This indicates that there may have been real and immediate effects on health, as well as the possibilities of long term less obvious effects.

Everything was sulphate of ammonia or petrol or crude oil and smoke, in fact a mile or so from the Philpstoun works the wind was usually west, and when you came over you'd think you'd been smoking a Woodbine or something, the taste got into your mouth.

Mr L

There was quite a bit of black smoke and that, and then the burnt shale, after it came out of the retorts and it was emptied on to the bing, if there was a wind blowing there was a lot of dust off that and it could come towards West Calder and the men that worked on the retorts, there were a lot of them affected - badly affected with their chests...I could mention quite a few whose chests were ruined working on the retorts.

One woman was advised to move away from the vicinity of West Calder gas works, the doctor saying that it was the fumes from the gas that was giving her child eczema. Those who saw pollution as harmful generally had personal experience of some kind of health problem which could conveniently and logically be blamed on such a cause..

However, the industry was not always perceived as malevolent and unhealthy. Beneficial features were also attributed to the fumes.

I remember Dr Young once saying it was the fumes of the Oil Works that kept the Addiewell bairns free from scarlet fever and diphtheria and these things.

Was there any pollution from the oilworks?
No, see what I say, when that epidemic and diphtheria came out and West Calder was rife. Well Addiewell missed it. For they said the chemicals coming from the works had killed it, and disease and had killed the germs. And Addiewell was better off that way.

Mrs DD

It seems that this piece of lore emanated from the Doctor (who after all was the person who knew about health matters), but it is clear that people did believe in the benefits of a few fumes for avoiding infectious diseases. It may well reflect the fact that after anyone was ill with diphtheria, scarlet fever or similar infectious diseases, the house was fumigated, as were all their clothes. It is a short distance from cleansing fumes to beneficial attributes of industrial pollution.

3.2 Shale Versus other Areas

Although now we might consider the shale industrial area very polluted, at the time it was probably no worse than any other industrial zone. In nearby Bathgate and Armadale there were foundries and steel works which were probably just as bad, as would have been areas such as Shotts in Lanarkshire. The shale area was not a densely populated city area nor was it in a hollow and thus any atmospheric pollution would have been unlikely to cumulate. People who came in from outside, such as a teacher from South West Scotland did not find it a 'beauty spot', but she was more impressed by the winds and the cold than by the pollution. This contrasts with more heavily industrialised and populated areas such as Sheffield in the 1930s and 1940s where even grass and trees were rarely green and more often black. Thus it is hard to judge what effect any pollution may have had on the population. Certainly Grangemouth as it is now, is considered by many interviewees to be far more polluted than West Calder and Broxburn were then.

4. WORK, WORKING CONDITIONS AND WAGES

Before the second world war employment opportunities in the shale mining communities and the surrounding areas were very limited. For men the vast majority of jobs were either in agriculture, coal mining or in the shale industry and Scottish Oils owned so much of the land around that expansion of other industries was positively discouraged for many years. For women jobs were even more limited and the vast majority went into service locally, in Edinburgh, or, more rarely elsewhere in Scotland, until they married. Very few women worked after they were married. This generalised picture of course masks a huge variety of jobs, conditions and wages within these categories. Bearing in mind the almost completely independent employment opportunities for men and women they will be considered separately below.

4.1 Men's Work

4.1.1 Overview

From the beginning of the first world war until the final closure of the shale industry in 1963, male working opportunities and conditions went through waves which applied to almost every working class man in the area whether he worked in shale or not. Until about 1918, hours were very long - up to 12 hours a day -, there were one or two days of unpaid holiday a year, and wages were low, especially for those who had to support a large family. However, employment was not hard to find; most children could get a job the day they left school. This picture of high employment changed in line with national trends, although it was also influenced by local events. In 1921 there was a lock-out in the shale industry provoked by a strike in the coal industry.

Aye, during 1921 we had soup kitchens. We were hard up in Stewartfield No 1 there. I was 19 weeks idle. The Dunnet mine just across the road was 14 month idle, the Roman Camps was 14 month idle...We werenae on strike in 1921 we were locked out. The colliers came out on strike; we had a Sankey bonus that was included in our pay during the 1914 war, and they took the Sankey bonus off in 1921 and that's what brought the coal miners out on strike - they lost the sankey bonus....We were all locked out, they couldnae get coal for the retorts, that's the reason. The only places that was working was Winchburgh, Philpstoun and Pumpherston.

Mr BB

Apart from creating much personal hardship - some men resorted to begging - several mines and oil works never returned to pre-1921 production levels, thus reducing employment possibilities. This was when massive out-migration to America, Canada and Australia started.

During the 1920s and 1930s un- and underemployment was the trend, and men moved around between jobs, from shale to coal, from the roads to shale and in and out of farm labouring.

When I came back from the army [1919] I'd no job...and this chap and me we went to the Shotts. Well, we got a job up there. We'd ha' taken any job.
Mr G

In 1925 there was a lockout in some oil works and a strike in many mines and other works. This stoppage caused even greater long term losses than the 1921 dispute: Tarbrax mines and oilworks never opened again, neither did Broxburn and Dalmeny oilworks and various mines. Competition for jobs enabled the companies to reduce wages further (wage reductions were one of the reasons for the dispute in the first place (7)). At this time men were travelling anywhere in Scotland for work, Fort William, the Mid Lothian coalfields, Shotts and the Lanarkshire coalfield.

These were the times when you'd come up the pit, and there were five or six men standing and waiting and looking for your job. It was hard work. You couldnae leave, because if you left you were on the dole, and if you were on the dole you couldnae get off.

Mr F

When I left school [in 1926] I waited about a year to get a job. Just like this now, in my younger days, with unemployment, aye.

Mr B

The interviews convey a time of great depression and hardship, even for those who had jobs, despite the fact that working conditions were improving somewhat; hours had been reduced (although they were increased again later), miners were now on a 7-hour day and hours in the oilworks were less than previously but wages were still very low. External factors were depressing the shale industry: cheap imports of oil from the Middle East and Persia made home produced shale oil very expensive and for the industry to survive they had to obtain preferential excise tariffs. The by-product of ammonium sulphate for fertiliser was almost the only factor in the shale industry's favour.

In 1932 further manpower reductions in the shale industry were necessary due to the closure of Philpstoun works and some more mines. To avoid laying off yet more workers, a three weeks on, one week off system was introduced in most mines and oil works. Although this enabled more of the population to be working, it increased financial hardship because the week on the dole took any excess money made in the working weeks. This system continued until 1938 when the industry expanded again slightly. The threat of war and the need for a domestic oil supply increased the ecomomic security of the area enormously. So much so that in 1939 paid holidays were introduced for the first time - one week a year.

It was really during the second world war that the shale industry lost its hold upon the area. Shale miners and engineers were exempt from active service, but others enlisted and never came back to work with shale. After the war there was rapid contraction, and other industries began to open up in the area. At the same time commuting to work in Edinburgh became more frequent, and it becomes much harder to generalise about employment in the area. It seems that the shale industry became more and more an employer of older men, although I have no statistical proof of this. Practically none of the sons of those interviewed (most

of whom would have been born between 1920 and 1945) worked in the shale industry although the fathers went on working there until the 1950s and 1960s. It is true that ex-miners also tried to discourage their sons from going down the mines.

Did your son go into the shale mines?
Oh no, no. I would have rather see him go out howking turnips or something which was as bad, as go into the shale mine. No!...I wouldnae have thought of letting him....just pure slavery that's all..the conditions you were in, and the hard work. And the poor pay. What you got for it then. *Mr B*

As the industry wound to a close in the 1950s more and more men entered the labour market. Unemployment was more of a reality in this area than elsewhere in Great Britain, because the monopoly of the shale industry had inhibited development of other industries and despite active canvassing by West Lothian County Council (in handbooks published in the 1950s and 1960s), opportunities were not plentiful. When finally shale production ceased in 1963, many men had already left and found work in small engineering firms in Edinburgh, at Rosyth dockyard, in the quarries between the shale area and Edinburgh and also in the coal mines towards Whitburn and Polkemmet. Quite a few men transferred to BP Grangemouth. The new British Leyland plant at Bathgate opened at just the right time for the redundant shale miners and oil workers, and a considerable number went to work there.

In many ways we were very fortunate, because that was when the BMC came. It couldn't have been nicer. The pits closed down in 1962. I think BMC came in 1961. The build up was gradual, there were very few people unemployed for very long. It was a different type of work, but most people....well it was easier work anyway, cleaner work. F1

Since 1963 local industry has been developed around Broxburn and more recently in Livingston New Town, although many of the new jobs are traditionally seen as women's work. More people commute to work than before, and Broxburn in particular has become almost a dormitory town for Edinburgh, with people moving into the area because of cheaper housing. Probably the most significant increase in the years since 1963 has been unemployment for men rather than employment: currently some streets in West Calder are almost 100% unemployed. Bearing in mind recent literature on the psychological and physical consequences of unemployment this may have as much effect on the health of the population in the mortality study as the past history of working with shale.

4.1.2 Monopoly of Shale Industry

Locally the shale industry was the main employer until at least the 1930s. Boys leaving school automatically went down the mines, into the works or into the candle house unless they could obtain a sought-after apprenticeship, most of which were also with Scottish Oils.

Middleton [Scottish Oils HQ] was very much a workshop, engineers, plumbers, painters, builders, joiners and the administration staff was there too and the drawing office....And the wages were much better. Craftsmen you see, we were getting craftsmen wages. Whereas the workers were just the very lowest of low.
R4

If you left school, that was the - if your father was in the mine, that was your only hope of getting a job...You just took odd jobs...until you got your constant job in the mine.
Mr B

The only place where you were going to get a job [in West Calder] was in the mines or in the cooperative. Now if you got a job in the cooperative you were set for life. *Mr U*

Wages in the shale mines tended to be better than an apprentice's pay, a factor which encouraged boys to go down the mines as soon as possible. One man, who was a butcher's apprentice earned 9s a week at first, rising to 15s within 18 months. He left that job to work with ponies in the mines where he earned 23s a week and didn't have to work Saturday afternoons.

I started in the pithead at the No 40 shale mine. That was usually the style in Mossend or around here, when you were 14 your father put you down the pit.
Why did you start in butchering? Was that your father's decision or yours?
Aye, he wanted to keep somebody out of the pits I guess.
Did people really not want their sons to go down the pits?
I think that was true, only in this area there wasn't much else at the time. It was mostly pits, in fact it was pretty near taken for granted that whenever a boy was 14 or 15 his dad took him to the shale pits or the coal mines. But I got my chance and I didn't take it [to work as a butcher]. *Mr A & Mr B - brothers*

The monopoly of the shale industry as an employer operated across the whole area and thus the industry dominated all aspects of life. In Roman Camp for example with 34 houses, every employed man worked in the shale industry.

West Calder was a very happy, peaceable village...for...practically all the work people, leaving out people who were in the service, and ken, shops and things like that, all the people in the place were employed by Youngs Oil Co. Now, their wages were all much the same: there was 3/- difference between a tradesman and a labouring man, but they were all working and living under the same conditions.

Before, the Scottish Oils wouldnae let anybody in. There was nae industry here except for Scottish Oils, nobody could come in here, but after they sold out, that's when they started....they wouldnae let a business start up. Individuals could come in, but they didnae let anybody start up a business.
Mrs N

4.1.3 Working Hours

Hours and working conditions improved considerably over the period covered by the interviews. Until the second world war most boys left school at 14 and started work immediately. Some got exemptions on grounds of poverty, enabling them to leave school at 13 or even 12 to start work. For all boys and men the hours were long and the pay low. Those who worked before the first world war in the oil works had 12-hour shifts and 7-day weeks. Eight-hour shifts came in around 1916 or 1917. *Mr G*

Well, it was working in the stills that was a 12-hour job...In fact it was a 14-hour shift on the night shift. It was 14 hours, you went down at 4 o'clock in the afternoon and you was on until 6 o'clock the next morning. Well when I went over to the retorts, I was on to an 8-hour shift. There was three shifts, you had day shift, afternoon shift and then night shift; three of 8 hours. So that made a difference.
When you were on the stills, how many days a week did you work?
Seven days a week, seven days a week.
Did you get any holiday?
Oh yes. If you took them! You didnae get them...No paid holidays in these days. On the Saturday, your day shift, you went out on the Saturday morning at 6 o'clock, and you was there until Sunday morning at 6 o'clock...every second week...Now, on your night shift you came off on the Saturday morning, you came off at 6 o'clock and you went off till Sunday morning at 6 o'clock...and that allowed a man on day shift to get away, to get to a football match.
Mr A born 1889

When you first started work what sort of hours did you work?
Well, you walked from Bridgend to Philpstoun - about a mile and a half or so - and be there at six....and you got away at five at night again....You were off an hour in the middle of the day.
And how many days a week?
You were there six.
And you got Sunday off?
In that job, but later on this job I took filling the railway tanks I had to be out on a Sunday because the receivers in the retorts couldn't hold two days output and they had to be emptied into a stock tank...I was out, it'd be just about half a day...I usually got away about 12 o'clock in the middle of the day.
Mr L born 1902 started work aged 13

Seven days, 8-hour shifts and a 16-hour shift every 3rd Saturday. I was out 7 days 56 hours, you only got 6 days shift away back in the 60s or early 50s. We always had, on the 3-shift jobs, that's the men that work on the tips, and the 'gullers' when I worked in the gas pipes cleaning the droppers that was the men that took the shale from the bottom of the retort, the burnt shale coming out.
D5

The oilworks had the longest hours and the worst conditions for the lowest pay. Miners were already on an 8-hour day 6-day week before the 1920s. But other occupations also worked very long hours. An apprentice butcher starting work in 1916 worked from 8 in the morning to 6 at night on weekdays and 8 till 8 on

Saturdays. In the candle works workers were paid piece rates for a 60-hour week, 6 days a week.

There were the two shifts [in the candle works], the day shift and the night shift. The night shift - it was a 60-hour week - the night shift was 5 o'clock at night to 5 in the morning - 12 hours, and you worked 5 nights, so that was 60 hours. The day shift was 11 hours a day, 6 in the morning till 5 at night. And of course on
the day shift you worked on a Saturday.

How many weeks would you do on the night shift and how many on the day shift?
Oh, a week about. Well I worked a constant night shift when the women were working there because they werenae allowed to work night shifts at that time - the First World War. I was about a year on constant night shift!

When did the hours get reduced?
Well, gradually, as time went on. We got a meal hour, three quarters of an hour for breakfast and three quarters of an hour for dinner, so that made a difference...of course we didn't go home, we took it with us.
Mr P Broxburn born 1900

Some people had shorter hours: an apprentice painter in Broxburn who started work around 1919 only worked a 48 hour week, but he admitted that he was lucky because his '*wasnae a hard job*'.

4.1.4 Working Conditions

Apart from the hours, the physical conditions and amenities provided also varied considerably from job to job. Those working in shops and as cooperative apprentices had the best conditions just by the nature of the job. Those in the shale industry were worse off despite the theoretical paternalism of some of the oil companies.

Shale mines: Down the shale mines, although it was less dirty than down coal mines, the work was heavy, hard and often damp, dusty and very hot.

The shale mines were very dirty too if you landed in the right place. The coal mines certainly were a wee bit dirtier, I'll admit that.

Mr BB

It was quite heavy work [surface work]. But nothing to what it was down the mine. Down in Duddingston it was just white slavery... It was hot! Yes, very hot [down a shale mine]... the sweat was running off you the whole day.
Mr B

Many a time the men, they would come home soaked, just crawling. They would be having to crawl and use a pick and shovel.

Mrs M

He was years with sciatica and couldn't work. Of course, that was the mine, working down below, getting wet. But he had sciatica for years and had to give up work. *Mrs H*

When you're working with old ratchets (hand operated) you know ... Four holes a day and you can blow as much stuff as you need, with four holes a day. But when this came in, this general (electric) machine, it was murder, we were firing at all hours! You know, you could bore your holes in half the time, but you were firing at all hours of the day, and it was continually smokey and things.
C1

Dust was bad, and more especially when it came to use them electric machines. You used to hold the roller in your mouth, but the old ratchet machine, it wasn't dust that was coming out of it, it was the wee bitty flakes, just where you would knock in a nail you know, with ordinary drills, whereas with these electric machines going that fast, it was just dirt that was breaking off. Oh aye, that was in 1935–36 they came into vogue. *C1*

One of the major discomforts down the mines was the smoke from the explosives.

When I was in the drawing it was electric drills.
Was it quite dusty?
Yes, working in all that fine dust, as well as the conditions you had anyway, because you were a long way from the shaft.
What about smoke from the explosive?
It was always there but some areas the air system was better than others, it depends on the distance you were away and if you had a good flow of air then it cleared the smoke and dust a bit. It didn't clear it entirely but it cleared it, and in others [places] it would hang for quite a bit. After the shot firing you were supposed to wait a certain time, you usually did of course, but there were certain areas that it did not matter how long you waited, you always got smoke.
McK1

When you were blasting, did you not get a lot of fumes and that?
Your aircourse took it away from you, although sometimes we had bad air, for reek came off the powder that was used, sometimes you had to get a fan in. I remember one day I was working, I was in the drawing, I said 'it is awfully thick. Follow the wind for a mile I am getting poisoned, I better hurry up and get this hutch filled and get out....', well I was standing there, the legs ran out on me, there was no air in that place. What a state I was in, if I stayed there any longer I wouldn't be talking to you now.
B2

The huge fans put a volume of air down that whole mine, actually when they blasted it was about 12 feet wide and 7 feet high and in the middle of that tunnel you put in just single pit props and to keep the air going one way and getting rid of gas or any dangerous residue you used to say 'oh gosh, it is getting that you can hardly breathe in here' well if you had driven in maybe 25 to 30 yards in at the face the air was thick and it was hard to breathe...off the residue of the gelignite. *M1*

The majority of the men worked in teams of two up to six (often father and son or two brothers); a faceman and drawers, although there were a whole range of jobs down the mines.

[the oncost] was repairing, putting up timbers and that you see, in different places. Sometimes you maybe had to lay a set of rails for a man, or plates or something like that, you know, for their braes and so on. Well these things were all under what they call oncost worker you see, and then you had your drawer and then you had your faceman, and that. The faceman he produces the stuff, he bores the holes, stems the shots, fires the shots, and then the drawer and them fill them, then they draw them out to the main haulage and as the chain runner, the chain runner comes down with the empties, puts the empties into the top road you see, then he takes the chain and puts it on and sends away the full ones, sends them to the top.

T1

The faceman was a contractor and was paid by the ton, out of which he paid the drawers a fixed wage.

At one time, the contractor employed men, maybe six men, well he used to draw the wages and there was a certain sum that he could pay you, you had a sum that was approved by the company, what they call the drawer, we were called drawers and the man who had the place, he was called the faceman.
H1

My father had the contract, he was the faceman, they took contracts at that time and two men, sometimes four working as drawers. Now the faceman at that time he bought all the gelignite he needed to blast down the shale and when he got it down, normally it was three or four hundred tons in a day. You broke it up and sometimes you had to blast it again, the roof came down in solid blocks about the size of a house. At that time the faceman employed the men under him, he had a contract with the company. M1

This system meant that, in order to make sufficient wages for the team, safety precautions might at times be ignored: for instance they would return as quickly as possible to the face after the firing, before the dust and fumes had cleared.

It was very heavy work [down the shale mines].
It was varied, like you could get some sections of the mine where it was kind of wet possibly, and then when you was using explosives and that – now that caused a lot of dust you see when you was blasting the shale and so forth, and then if you was boring holes...ratchet sort of style, and then we came on to the electric drill and you had to hold this on your shoulder and there was always a certain amount of dust...we used to get a lot of dust, of course there was a lot of water you see, you were spittin up black...[It wasn't very pleasant working] especially after you had used the explosives and that, and you had to go back into your working face and start working, and the atmosphere was nae what you would say clear. Then being anxious to make a wage and that you were inclined to go in too quick before it was really clear. Mr & Mr EE

You were blundering around in powder smoke, there was not enough wind down the mine for it to blow, so it went away gradually, but men working below you, you got their smoke coming up....There was no sanitation...there was no pit bath, there was nothing like that.

Mr L

There were of course some safety and health regulations for the mines. 'Firemen' in charge of safety had to pass exams before graduating to this post, and then they were employed by the company. They went down each day before the first shift to inspect the mine for gas and other hazards. A rule forbade boys under 16 to work as drawers, but before that age they could work down the mines with the pit ponies – a much lighter job than drawing. Some young boys managed to get jobs at the face despite the regulations.

What made you go down the mine?
Well I'd no other option, I had to go down. I was forced to. I didn't want to go, but I had to go...There was a big family of us, there was about 12 or 13 in the family and my father was the only one who was bringing in wages. So I had to leave school and start straight away. I couldn't go to another job. I didn't want to go down the mine you see, but it was the only thing that was for me. There was nothing else in these days you know. They couldn't afford to put me to a trade. ...When I started first I was boring holes at the face, and then I started filling, as I got older I started drawing.

K1

Despite precautions, individual accidents were quite common – often caused by falling lumps of shale (the height of the workings made this more of a hazard than in coal) or related to the explosives.

The helmets came out later on. That was a safety helmet. After the war you needed it. There was no security or anything, you could go down the mine naked if you liked, as long as you were sending up the shale or coal. The manager didn't worry on how you got down as long as you were sending the stuff up. Many a sore head and blood running down until these helmets came out, till we got the helmets. It must have been because you were stooping all the time and the work down the mine and pits. They worked down the mines stripped to the waist. In other places you were soaking wet, boots like sponges working in water. It was dropping off the roof. You've no idea, nobody knows.
McL4

What were the dangers down the pit?
Ropes could break, something knocking the hutches off the road, trees depending on how they were put in, there was always the danger areas where you were taking out the shale, of the roof falling in on you. You do get warning when a place is going to close but you also got large stones coming away from the roof, 8, 9 or 10 feet long, with no warning. There were people killed with something coming away with no warning or very little warning.....there was always gas in the waste areas but if the air system was kept right then it was not dangerous.

McK1

There were few major disasters. A fire at Newliston mine in 1919 caused no deaths among the work force, but three of the firemen who came from Coatbridge to fight the fire got lost in the mine and died. This incident provoked better training of the men in the mine and the creation of a safety team who knew the mines and who were also trained in safety precautions. The only major catastrophe this century happened in Burngrange mine in 1947 when 14 men were asphyxiated by gas after an explosion which had killed one man. Nevertheless, most of those interviewed who had worked down the mines could give examples of deaths to men they had worked with or fatal accidents they had seen. These accidents were often due to ignoring the safety procedures; such as entering too soon after firing, or lighting a match in a gassy area. Many other accidents were connected with hutches running wild or derailed.

My brother was killed in the mine at that time...1930. His head was crushed between two trains of hutches, he was only a boy, he had just started work on the Friday and was killed on the Monday. It was a case of he tried to do what he saw experienced men doing.

M1

Oh yes. I had a brother killed, who was B. I had one crushed between hutches, R, and he was crushed between hutches at the bottom of a haulage, and then I had another brother lost an eye at number 26 mine in an explosion and J, another brother, he was injured by a runaway pony down the pit and got his leg badly torn.

G2

Oil works and shale bings: Miners did have the advantages of shorter hours than those in the oil works or on the bings partly because, unlike the retorting, mining was not a continuous process. Most of the time miners had better pay as well, although the work was physically very hard.

Anything [filling hutches] was slightly better than what you had been in the oilworks and you had a shorter day in the mines, but 9 or 10 shillings a day was the usual pay. [1920s] Mr L

There wasn't many left the mines, I may say, to go to the works. Because any man that had worked underground didn't like the outside work, in the oil works, up on the top of the bings, never mind what kind of weather it was, so any miner...there was one or two miners that tried it, but they didn't stay long. Two or three weeks did them. Then they went back to the mines.
R5

The jobs in the oilworks and on the bings were generally less skilled than mining. Possibly one of the worst jobs was on top of the bings emptying the spent shale....

You see these great big red bings that you see about this district, burnt shale, well that was always Irish people that were sentenced for half a dozen retort men or tip men....They were out in all weathers on these tips. There was a chain or

steel rope that took the wagon loads of burnt shale up and then the chain run on to a high thing and the hutch went off the shale and the man got it there and he had some trek away along the bing somewhere....The tip man had a great lump of cotton waste in the front of his cap and he got the two trams and his head against it and up...and you heaved it, emptied it and took it back. They were issued with oil skins and sou'westers but it didn't matter what kind of night it was it was 24 hours a day because these retorts couldn't stop. Mr L

....although maybe the dust wasn't so bad up there as elsewhere,

He left the mine to go up above, up to the top of the tip...and I always remember him saying that, the men said to William surely enough there is a lot of dust up there, but he says there is a lot more down below.
Mrs X

....and some men actually liked the job!

It [in the oil works] was one of the greatest jobs I ever had, nobody bothers you, as long as you are doing your work. I started on the retorts with a wage of about 8 a week [1950] and if you worked up the tip you got the biggest wage, so I decided to have a go at the tip, which in the winter was a very hard job and a dangerous job as well, because there was always a chance of you getting blown over. The rails at the head of the tip they were white hot, and you used to have an old cap on and an old piece of duster tucked in, so you bent forward and you lifted the hutch at the same time so that the stuff went down the tip.
P1

The jobs in the oil works varied considerably with skilled men and engineers as well as manual labourers and men were also moved around from job to job. Mr P whose main work was in the candle house, ended up doing a lot of cleaning jobs around the oil works in slack periods; jobs such as shovelling the oily muck out of the bottom of the oil tanks. Generally it seems that working on the retorts did not entail particularly bad conditions, but the still work (where the oil was distilled) involved an unpleasant exposure to gases. Several men commented on this.

You hadna so many gases there, at the retorts. At the stills you had a lot o' heavy gases and that coming off...You felt the effects of the gases.
Mr A

Health and safety measures at work: A job that was known to be hazardous was working in the paraffin sheds cleaning the wax off the presses. The link between this job and developing skin cancer was established by Scott in the early 1920s (8), after which protective measures were introduced: apart from this though, few health and safety measures were offered to workers. Pit baths were not introduced in most mines until after the second world war, although they were built in Broxburn candle works earlier.

Were there any baths up at the Candle Works?
Yes, but they were showers. They put these in lately, before they shut down. It was handy too, because you could go up and have a shower whenever you wanted to. *Mr P*

There were other general hazards around in the different workplaces, but these were probably no more than occurred in any other heavy industry at that time, and were not specific to shale oil extracting or refining.

When I was there [in the oil works] I was out for the count for two years one time, for gas, and of course we worked a lot, being engineers and that, we worked among a lot of asbestos and that, winding round steam pipes, insulation on steam pipes. That was all asbestos...asbestos was there along with what they call rock wool.

Mr Q

It does seem however that in terms of protecting its workers and offering them good working hours and conditions, the shale industry was not at the forefront. In a factory at Camilty, which produced explosives, mainly for the shale industry, by the beginning of the first world war special clothing and baths were already provided.

Quite good wages you had [at Camilty]. And we wore their clothing. We were the first to wear trousers. We were made trousers and a jacket and your head was covered to keep it clean and boots with galoshes at top if you went outside...There was a room that you went to for your lunch and a room where you washed and changed. It was kinda dirty work. Dust off it. It was constant work but you didnae mind. [about 1916]
Mrs J

This contrasts with the shale industry where the men had to provide their own clothing, tools and explosives from their wages.

Shale versus coal: One way of evaluating the working conditions of shale workers, particularly the miners, is to compare them and their conditions with coal miners. Many of those interviewed said that the shale miners considered themselves superior, partly because they didn't get dirty, and partly because, for much of the time the shale miners' wages were slightly higher.

There was quite a difference between being a coal miner and being a shale miner. If you were a shale miner you were kind of up market. Certainly there were a political background to the shale workers totally different from the coal workers....They were Tory, I don't think by choice...It was said quite conclusively in this area if a manager ever found out they voted the wrong side they didn't need to bother turning up for work in the morning. *Mr U*

On average shale mining was harder but cleaner, the conditions were better. The coal pit some jobs were very hard but other jobs it was the conditions that made it hard. The way I describe them is you're a coal miner and I'm a shale miner, you're a tramp, and I'm a toff.

B2

It was claimed that you could recognise a coal miner, first by his posture 'like a closed up knife' (a reference to his stoop like a penknife), and secondly by his boots which were always holed and worn compared to the shale miner's.

Despite general claims that men did not move from one industry to the other, the interviews show this to be untrue. During the 1920s and 1930s when opportunities in shale were restricted and unemployment was rife, many men either went to work in the Midlothian coalfield over at Newtongrange or in West Lothian around Whitburn and Blackburn. Others emigrated to America and worked in coal mines there; some of these returned to Scotland in the American slump of the 1930s. Many men living in Addiewell worked at the Loganlea pits, and others worked in the two coal mines owned by the oil companies. On contraction of the shale industry in the 1950s and closure in the 1960s some miners went into coal.

Quite a lot worked in the mines, but most of them in the houses [Addiewell] - not all mind you - ...worked in the [oil] works; a lot of the men worked in the pits. Coal pits. ...went up to Loganlea... and there were some of them in the mine that belonged to the company, West Mains you see and Baads mine.

Mr G

We had the coal mines beside us because Youngs Oil Co had a coal mine themselves up at West Mains. Then the United Collieries had a pit at Loganlea, at Stoneyburn and at Breich Terrace and there was a good number would cycle each way to these places.

Mr O

I was 34 years with the Scottish Oils in the shale mines ...And I left there and I went to the coal, as a deputy and I worked the coal for 16 year....In the shale it's about 10 feet high, well 8 to 10 feet, you know, you can walk around and...you know what I went into in the coal? Two feet! Murder, it was just about murder. All the flesh just about dropped off me. *Mr F*

Certainly in people's minds shale and coal miners were distinct, and shale miners imbued with different personal characteristics from coal miners. The alleged superiority of the former seems to have been due almost entirely to the fact that they generally came up clean at the end of the day rather than that their work conditions or social status were obviously superior. Neither group were particularly well cared for by their employers until after the second world war.

4.2 Wages

It is difficult to judge the scale of wages without doing a comprehensive study of prices. However, people's descriptions of their lives, the lack of luxuries, the lack of spare clothes and other items today considered to be essential, indicate that, given the average family size, wages had far less purchasing power than today.

We were well fed in our days. But we'd nothing else...wages were enough to feed you but not to get you very much clothes.

Mrs K

Certainly the wages of young boys, apprentices, or those starting out in the mines were extremely low. Inevitably all they earned would be given straight to their mother who would return 3d or 6d as pocket money. There was no question that the money might be the property of he who earned it; it was needed for the family food and the common purse.

She [mother] had to at one time, make things go an awful long way. There werena the money then. There were very few families with big wages you know, in those days....but then we gradually, each of us started to work.
You all contributed your money to your parents.?
Oh, in these days yes. No case of saying "there's 5 shillings for my digs". It was a case of handing it over and you got back what little they could afford.

There was obviously a lot of variation around in earnings and a few people managed to make a lot of money.

My father [a builder] took a job with the Scottish Oil Works all over Scotland, on contract, and he made good money, he made a lot of money. I've seen my mother between the wars having 30 a week.

Mrs DD

4.2.1 Wages in the Shale Industry

The bulk of the population lived off the piece work wages paid in the mines and the candle works or the fixed wages in the oil works. Even there, the Irish, it is said, were always prepared to work for a few pence a day less than the fixed wage. In almost all cases, equipment, explosives and clothing had to be paid for out of the man's wages.

You had to make wages for two; it was all piece work, and you made wages for two men...when you went into a place that was 5 feet high, naturally you only got the shale level with the top of the hutch. And you had to try and get more hutches then, to try and make up a wage...you'd put up high shale on the sides when you were in a higher place, and when you'd got a bigger hutch you'd mebbe get 18 cwt in it. And if you were in a close, what they termed a close place, that was just a solid face and two solid sides in front of you, you were paid - the faceman was paid 2/4 a ton...and if you were in what they termed

stooping, that was when you were bringing it back out with an open side, and it was easier to get you went down to 2/2 a ton.[1930]...You had to go at it to make a wage for two of you. But I didn't get the same as the faceman because he had all his graith...his old rickety machine and the drills and pick and shovels to buy. So, the drawer had a set wage....When I first went onto the drawing, I had 8/3 a day, and then we got an increase and it went to 8/9 a day, that's when I finished up [1936]. Mr B

This wage for a six-day week, 52-week year comes to about 132 per annum which compares unfavourably with the average annual earnings for manual workers throughout the British Isles (see Table 4.1).

Table 4.1 Average British wages in 1906, 1924 and 1935.

Skilled:	1906	1924	1935
coal face	112	180	149
fitters	90	157	212
engine drivers	119	276	258
compositors	91	209	218
Semi skilled & unskilled:			
pottery workers	77	171	173
bus & tram drivers	107	190	218
agricultural labourers	48	82	89

Source: Stevenson, Table 6, page 121 (9).

Part of the differential between the shale industry wages and Britain in general may have been due to the depressed wages both in Scotland and in extractive industries generally, although then, as now, it is unlikely that prices were lower in Scotland despite the lower wages.

Mrs R moved to Breich in the 1930s from her job as a machinist in Macclesfield; she was horrified at the level of the wages in Breich, which although a coal mining village, was equivalent to the shale industry.

When I got married I gave up a job [in Macclesfield], 3.50 a week I got. When I got married, my husband [a coal miner] only got 39/- a week. Mrs R

Bearing in mind that at this time women generally earned only about half the wages of men (see page 54) one can see that wage levels really were very low in the area compared with elsewhere. At the other end of the scale a chemist with a university degree would not seem particularly affluent at today's prices, although then his salary bought a lot.

When we got married his salary was 400 a year. That was in 1933. Now that was quite good. When we started it was quite a lot. But I could afford to keep a living-in maid - with a cap and apron.
[Chemist with Scottish Oils] *Mrs T*

A few shale industry workers managed to build their own houses out of their earnings, but they were unlikely to be drawers or oil workers, although some contractor facemen did very well for themselves, owning several houses.

My father was the boss of one of the departments out there [Àddiewell Oil Works] the boiler making department...there was one street we stayed in - Faraday Place. That was the toff's house and that was where I was born. Then we built our own house here [W.Calder]...three downstairs and two bedrooms upstairs...we had a bathroom! I have heard my father say I think we were about the first to get electricity in the new house that we built up here. [around 1917] *Miss V*

Qualifications and training (to be a fireman for example) generally meant higher wages, although often the man had to pay for the classes himself to get such qualifications and follow them in his spare time. Tradesmen had fixed wages which were sometimes a disadvantage compared to the casual labourer and piece worker.

When my time [as an apprentice] was finished I was actually, got what they call a journeyman's wage. I was back at Roman Camp...I had labourers working to me who were earning more than what I was doing serving as a tradesman just because I was a journeyman. It wasn't till I moved to Pumpherston that I got up to the full wage. At the beginning of the war the tradesman's wage was only up to three guineas [equivalent of 164 per annum]. *Mr Q*

A problem with piece work wages was that, as well as getting no paid holiday, men were not paid for time off sick. Such periods caused substantial hardship because even though many were insured with Friendly Societies these paid out scarcely enough to live on. Promotion to staff wages overcame this problem but it did create other problems in its stead.

I started getting paid holiday when I was promoted to the staff in 1939...wages for the staff. Whether I was off sick or not I got my wages. As far as I was concerned I lost in the thing, because sometimes I be out three days, and as many nights out at the works in wintertime, and I would have been in bed, you know what I mean, and it was unpaid overtime too...There again it was the same thing, you sometimes had men out, working or labouring, earning far more than you were. *Mr Q*

4.2.2 Non Shale Wages

Agricultural workers had always been the worst off, despite their few perks such as housing and some vegetables.

My father [a farm worker] worked and there were seven of us in the house and he would work for a pound a week [around 1914]. We'd no rent to pay though. We got potatoes, but that was all, we got nothing else.
Mrs L

Apart from agricultural work, coal mining which was similar to the shale, and shale itself, there were other employment possibilities. Some were better paid than the shale, and others worse. Working on the roads and railways was quite common: the former was less well paid even than in the oil works. Mrs J's husband had to leave his job on the roads for a job in Addiewell Oil Works so that they could afford the higher rents in the new Polbeth housing in the late 1930s. The railways seem to have paid comparable wages to the shale industry with similar working conditions. Skilled craftsmen were generally considered to be above the miners and oilworkers. They were better paid and also occupied a different social niche.

My wife was a wee bit better off than me, she was born with a silver spoon in her mouth.
My father was an upholsterer, he had a shop on the Main Street. And I don't actually know very much about mineworkers because we never had anything to do with them although we were all living together....
At that particular time I couldna say there were mineworkers who could use your father's skill [as an upholsterer] in any o' these, because they couldna afford it.
Mr & Mrs U

Before the second world war few children remained at school after age 14 and got out of the poor tradesman/labourer cycle. It was generally the children of the better paid professionals (who constituted a very small middle class) who stayed on after the minimum school leaving age, although there were some families where either the parents or the children themselves had ambitions to leave the shale dominated cycle.

My father was most ambitious as far as his family was concerned [4 children out of 7 went to college]...if you were a teacher in those days you were somebody.
Miss V

For the majority of households the low wages and large family sizes created a vicious circle which effectively prevented even bright and ambitious children from achieving much. Large poor families could not afford to support children at school after age 14 and so they had to leave without qualifications and get jobs to help with the household. In later life, their lack of training tended to disadvantage them, and they themselves were poorer than the average.

By the time the second world war was over, legislation on working conditions, coupled with a general decrease in family size enabling wages to go further as well as general increases in wages in relation to the cost of living, meant that this vicious circle ceased to play such a large role in the area. Families became materially richer in relation to their pre-war state, with children being given toys, people having several sets of clothes and also better housing conditions. However, the wages in the shale mining areas have probably remained below the national average and although materially much better off compared to earlier years,

in relation to other parts of the country, such as sout-east England, the area is still poor overall.

4.3 Women's Work

An account of women's work, both domestic and outside the home, in the shale communities in the first half of this century provides a picture, which more than that of the men demonstrates exploitation, restriction and hardship. In Britain as a whole, in the first 30 years of the twentieth century women earned only about half the wages that men earned:

Table 4.2 Male and female wages.

	1924	1931	1935
Men and boys	58.9	57.3	56.6
Women and girls	28.4	28.0	27.2
		(shillings per week)	

Source: Stevenson, Table 7, page 121 (9).

The shale communities were no exception to this general British picture, and as 'service' was generally the only possibility for girls consequently their wages were even lower than this national average. The other main work for girls and women was in shops which was considered to be much up market from service but there were few such jobs.

4.3.1 Service

The vast majority of women became domestic servants either locally, in Edinburgh or occasionally elsewhere in Scotland.

There was only service for a girl in these days. You know, you never got the schooling to do anything different like shorthand or typing or anything like that. It was out of the question. The money wasn't there.
Mrs C

Most girls left school at 14 although until the 1920s some from large, poor families could gain exemption and leave at 12. Those who went away to service could find themselves working a 16-hour day for little wages and a half day off a week. Often they were too far from home to go for a visit on that half day, or the fares were too expensive.

6.00 in the morning till 10.00 at night. I was used to it and that was all. You see I was the kitchen maid so I had to get up and scrub the front door step first thing in the morning and give the cook her cup of tea in bed and get the breakfast prepared and then she got up and cooked it. And then of course the

dinner was always at night you see, 8.00 at night for upstairs - so you had the dishes to wash after that and then the maids had their supper after that so I'd still to wash up after them so it was about 10.00 at night before I'd finished.
Miss I

Wages might be about £20 a year, although girls were generally boarded and fed on top of that which removed them from being a burden on their families. This was at the time when a young apprentice boy starting would get 10/- a week (£26 a year) although he had the prospects of a substantial rise in wages quite rapidly, which the girl in service didn't.

I went to service when I was 15...then I was 60 years in service...I started on £20 a year, that was my wage...we had to buy our own [uniforms]. We had to buy wrappers...and white aprons.

Miss I

The main problem with service as a career was that it had no prospects, and generally provided little stimulation for the girl in terms of new surroundings and occupations. Most girls had grown up doing housework, and when they left service - to get married or to look after ageing parents - there would only be more housework.

4.3.2 Shop Work

The advantages of the more desirable shop jobs were better pay, prospects of promotion, especially in the cooperative and shorter hours; from 8 in the morning until 6 at night and until 8 or 9 at night on Saturdays with no tea or coffee breaks - just dinner. Those girls who went to work in shops were considered superior to those who went to service.

Did most girls of your age go into service?
Aye, all my sisters went to service.
Except me. I was a lady, I went to the shop.
No - she was the lady. *Miss & Mrs I*

Some girls who joined local shops when they left school never married and carried on working their way up the hierarchy until retirement, although the top places in the shops were generally reserved for men.

4.3.3 Other Women's Work

As most girls were forced by poverty at home to leave school as soon as possible with no qualifications, shops and service were the only openings for unskilled labour. The industrial situation of the shale area did not encourage the employment of unskilled female labour in industry, unlike areas in Northern England with cotton and wool industries. There were few factories in the area apart from a distillery and bottling plant in South Queensferry which did employ local girls and women; that was probably the only place where a large group of women could be found working together. The explosives factory at Camilty (Mid

Calder) employed women and men but the labour force was only 20 of whom five were from one family.

There were a few situations where women were employed in the shale industry. During the first world war at some oil works and pitheads women were recruited to tip the hutches and do some of the lighter work.

But women took over lots of the jobs [in the 1st ww]..emptying the wagons and pulling the hutches and doing lots of odd jobs up at the....on the bing and up at the works...Married women whose men were away in the Army. And younger women, between 18 and suchlike used to be on top of the wagons, emptying them with the shovels and pulling the hutches into the hopper and suchlike.
Mrs C

The first world war taught the nation to respect women, because they discovered that women could work - they worked at what the men were doing and they did their own work as well. There was one young woman from Westerton and one from Broxburn...started on the pithead...along with the miners, and I'm afraid they didn't have a very easy passage because the men resented them because they showed that they could do it. *Mrs M*

There used to be women working the shale mining...emptying shale...just before the works [Dalmeny] shut down...they used to empty it into the big hoppers.
Mr Z

This was not the case throughout the area. Women worked at the pitheads in Dalmeny, Broxburn and Tarbrax, but not in West Calder and Addiewell. They also worked in the sulphate house, filling and sewing up the bags with ammonium sulphate, and in the candle house, where they had less machines to operate than the men and were not allowed to work night shifts. Apart from the special situation of those employed at the pithead during the first world war, none of the working women were married.

Then I got a job up at the works....in the sulphate house...sewing up the bags. Two hundredweight bags. I sewed them by hand.
Mrs A

There were more women then...they used to fill up the sulphate of ammonia for the farms...Well they used to be the women that were there...that filled up these bags and sewed them up, and put them into the wagon that took them away.
Mr Z

Not employing women actually in the shale production process may have been due to the fact that the work was heavier than that in coal. It may also have been due to resistence from men. However in the neighbouring coal mining areas women were employed in some of the most unpleasant jobs.

I think the worst job of the lot was working at the tables. There were women folk. When the coal come off there it was put on a conveyor belt and pulled through this shed, and then picked all the stanes out...It was a most hellish job. It was just corrugated iron up either side and the coal came in at one end and out the other end. And the rain and snow all blew through.
Mr U

At the colliery there were women always employed on the tables, they cried them, where the coal was coming down here to the wagons...Well they were there, by the side, they were picking the stones out...That's when I was a young lad...They got into the oil works...none of the heavy work. Then there were some of the girls in what we cried the barrel sheds... and these women were rolling the barrels, they weren't hard to roll. And different things like that. Some of them was filling the oil...oh and there was the candle house, there was a few of them in the candle house. Mr G

Because, to a large degree women avoided the hazardous and unpleasant working conditions of the shale mines and oilworks were they fortunate compared with the men? Probably not. Although there was a feeling that heavy industry was the man's domain and women should be protected from it, the main reason that married women at least, did not work was that they were considered essential to the home - where the work they did, the hours they worked and the conditions they worked in were probably as bad if not worse than those of the men. On top of that, it was the women who had all the domestic worries bred out of low salaries and large families, and it was they who bore the children. It really was not considered proper by women or men for women to work after they were married.

Never worked since [I got married]. Just didn't work. I don't think it would have been suitable for my husband, him being a miner and being down below. They needed me to be at home. I think it was my place to be in the house and not work. I must say I never needed to go to work, I never was that hard up.
Mrs H [childless]

Although in many cases this was because someone had to look after the children - there were no child care facilities - the same attitudes held for married women before they had children or those that were childless. When one considers the domestic duties deemed essential one can see why.

That was never heard of your mother going out to work....None of your neighbours ever - not a married woman ever worked. No.
Too much work to do inside, what with your range to black, and you had to wash outside with all the long time that took. Then you'd the clothes to mend and patch, they knitted their socks, everybody knitted their socks...they didn't have time for anything.
And different shifts...You had mebbe two coming in at 3 o'clock in the afternoon, and another two was away out to start at half past, and they were coming in at eleven at night.
They always had their dinner at that time, their dinner had to be ready for them.
Mr & Mrs B p14

Of those women interviewed, only four worked outside the house after they were married and each had exceptional circumstances. A woman who did part time cleaning work, had a sister next door who looked after her children, and she always finished before her husband came home. Another worked in a hospital, although not when her two children were very small. She was an exceptional woman, proud of her individuality and power to ignore conventional restraints, but she was not condemned for working because her mother-in-law was around to look after the children. The third worked in a telephone exchange, again part-time. They lived in the flat over the exchange and her mother was there to help her with the children. A fourth woman worked in Queensferry distillery but only once her children were quite old. Thus in most cases the working woman was protected from criticisms of neglecting their children and their home by the presence of a female relative.

Elsewhere in Britain married women did work, and were beginning to do so more and more during the inter-war period. It does seem that the shale area was particularly conservative in this respect, continuing to send a large proportion of girls out to service, where in other areas working in industry was beginning to predominate. The poor housing and lack of labour saving amenities, the monopoly of the shale industry and the consequent lack of work opportunities for women combined to keep them at home after other areas had changed. A woman who arrived in the area from Derbyshire was horrified.

What did I think about Breich? Oh I thought it was terrible. You see I left a town and I came to a small, small village. And I thought I could have got a job you see, when I got married - I was a machinist - but no-one had heard of a machinist up here then. So I couldn't get a job anywhere. But even if I had've got a job there was no travel, so I just contented myself in Breich to be a housewife...[In Breich] the women, the girls never worked. And if they did work they went into service in the town...Their [married women] job was really to look after the house and the men.

There were probably several consequences of this lack of organised female labour. Stevenson (9) discusses the rapid reductions in family size which occurred in this period and how the knowledge and information about family planning was disseminated. His thesis is that much information travelled and change was instigated through women working together in factories, exchanging ideas and concepts about women's roles. Such working women were non-existent in the shale communities, and it is true that fertility fell much later in West Lothian than in areas with a substantial female labour force (10).

5. WOMEN'S LIVES

5.1 Domestic Work

It would of course be wrong to imply that women did not work in this period. With the poor housing, lack of amenities, as well as having husbands in occupations which demanded a lot of clothes washing and meals and for different shifts, women had plenty of work.

I found the worst was when you were washing - you see you had one of these old fashioned chairs with a wringer on the back of it and a great big tub. Well you'd also a great big pot and you filled that with water, you'd to carry the water, you had to lift it up on to the fire to heat, then you'd to lift it down again and wash your white things, put them back into the pot, lift them up onto the hob and get them to boil - whether you were expecting or not - and this was my difficulty. You see it was hard on you, and it was even worse: there was only a year and eight months between my first two sons and it was even worse when you had one at your foot and you were expecting another, because you were responsible for that child.

Mrs M

Some women were lucky enough to have washhouses with boilers and taps in place, so that the principal work was only the lifting and pouring the buckets into the boiler. Others had to carry all their water from the standpipe in the street, and often had to build a fire in the street to heat up the water, if there were no wash house. Although most people only had one or two sets of clothes, the man's workclothes always had to be washed as did linen. Oily shale miners' moleskins or worse, oilworkers' clothes were the most difficult.

Inside the houses again everything had to be scrubbed by hand, and conventional standards meant that a lot of probably unnecessary cosmetic cleaning was considered compulsory. Much of the cooking was done over an open fire - until the 1920s few people had proper stoves, although some houses had built-in ranges. At the same time women had to balance the budget, look after the children, and often earn a bit on the side, or increase their own and their children's wardrobes by knitting and sewing. For those whose husbands were out of work, or who didn't hand over all their wages, domestic work and worries were far worse than the men's working conditions. As one interviewee said: the men could leave all their worries behind them when they went to work - the women had their's all the time. Not only that, there were certain tasks that women knew how to do, and therefore they did them.

The beds in those days were only the boxed in beds... with these palliases with straw sometimes, packed tight round, very, very firm....Then there was maybe a woollen tyke, a woollen mattress you see? It would only be sewn, by the wives you see, it was a thing a woman would know very much what to do. Taking these things out mebbe every year, spreading it out, washing the tykes, washing. That every woman I know had to carry her water, and you'd only a thing to boil it, a boiler. It was very hard work for the women, the women were just pure slaves in these days, just slaves. When I look back on it now, nothing else.
Do you think it was harder for the women than it was for the men who were

working down the mines and in the oil works?
Much harder, much worse for the women. *Mr G*

Men rarely helped around the house. A man might have one particular (usually minor) task that was his, such as laying the fires or, in one case, cooking cakes as a treat. In most households though the roles were clearly defined: women did everything in the house with the help of the children, and men brought in the money from outside to pay for it. Even if the man brought in little or no money the woman still had to keep her part of the contract. Within the household women's power appears to have been strong. Men were proud of the fact that in their lives they had never opened their pay packet before handing it over to first their mother and then their wife. Many interviewees praised their mothers, their strengths and their abilities to cope and make ends meet. Few praised their fathers in the same way, even though men's working lives were also very difficult.

5.2 Women's Life Cycle

Probably the most profitable way of considering the different roles of women in the shale communities is through the concept of life cycle. Through this means one can begin to appreciate how women were imprisoned in both their own, men's and society's attitudes, and also by the economic circumstances of the area. This cycle refers chiefly to the generation of those interviewed, although the comments are certainly applicable to previous generations and to a certain degree to the subsequent generation.

Most girls were born into large, impoverished families living in cramped housing. From an early age they were expected to help their mothers with domestic work in the house: cleaning brasses, cleaning boots, raking out the fire and other light labour as well as looking after younger children. Boys were generally exempt from these tasks, although they often had other heavier tasks such as fetching water from the well and bringing in the coal: boys too sometimes had part-time jobs, usually as delivery boys or messenger boys at the pithead or oil works. For the latter boys would earn money and obviously contribute to the household economy, whereas the girls' contribution was less materially visible and possibly less valued.

On a Saturday morning we used to have to oil their pit boots and polish them up ready for the Monday morning for work. The men never did anything.
Miss B

And did the daughters help the mother?
Oh they had to...they had to do something at that time to help.
Did the boys help with the cooking as well?
Oh no, I don't think so....No. And then especially in your kitchen... it was bare boards that had to be scrubbed. And they made their rugs, the rag rugs, and they had a rag rug at the fireplace, and it was bare boards; your table was bare boards and had to be scrubbed, and the chairs for sitting on were white wood and we'd to scrub those. And you'd all your big meat covers and candle sticks, the brasses had to be done, and there was a lot of work.
Mrs B

When you were girls, did you have to help your mother a lot?
Oh yes we all had our set work.... Friday was the day that everything was done: black leading and polish and scrubbing the floor. Scrubbing out the steps... we had a washhouse outside and we were supposed to get one day in it a week. It was hard work. You double washed them and you boiled them and you washed them twice.

Mrs I

In terms of play, boys went and played football and other sports, whereas the games that most interviewees associated with girls were playing house, with bits of broken china as plates, and shops - predestined domesticity. Both boys and girls tended to leave school at 14 without qualifications, but whereas boys at least went into jobs which differed from their childhood occupations, girls went into service: domestic work, low status, low pay and no prospects. By leaving home and living in where they worked, the family resources and space were less stretched; again large family size and inadequate housing reaped their consequences and helped determine the fate of women. In service the girls learned the domestic skills which would serve them in their next role, that of wife or parent carer. Once married, women were expected to manage the whole household: the majority of husbands gave their wives all the wages, but this did not absolve all worries.

My father went out to his work and left all his worries at hame - my mother had to struggle with all the worries and bring up the family as well. I quite believe that the woman had the hardest struggle of the lot.
Mr O

For women whose husbands did not hand over the wages life was extremely hard. Mr C's mother was so surprised when her (heavy drinking) husband handed her a pound note that:

..she says 'Andrey, what am I to do with this?' And he says 'I don't know what the hell you're going to do with it, but I'm not going to give you another.'
Mr C

In a similar case, a husband had gambled away all his wages save £1.00 which he handed over. When his wife asked what she could do with £1.00 he took it back saying he could think of a thousand ways of spending it (Simone Braithwaite, personal communication).

Once a woman had children, it then became impossible for her to leave the home and the domestic cycle, because of the social expectations of her role. Childbearing was prolonged and thus poverty and overcrowding led to a repetition of the cycle for her daughters.

Women in those days followed what their mothers did, thought it was their duty.
Mr G

Various factors combined to maintain this *status quo*. Attitudes of men, older women and the oil companies played an important role. Married women were not expected to live any of their life outside the domestic cycle: few facilities were provided for them and opportunities for widening their horizons were rare and not taken up.

The end house in the middle row [at Westerton] was made into a small hall for the men, a billiard table, a reading room, dominoes and that sort of thing, but there was nothing for the women, the women were expected to stay at home.
Mrs M

I told her that the day she went out to work I stayed in. That was in the 1940s, the war years....I married her that she would live in the house: that was a man's thought at the time.
Mr O

And women never went into pubs then.
Did women go out much at all?
No, never.
They never had anything to go out... *Mr & Mrs B*

The minutes of the Bellsquarry reading room (11) show that it was a place entirely for men, with occasional entertainments put on for women and children. The women were not entitled to go in and read the books and magazines, nor use the sports facilities, whereas men were expected to participate and not 'hold aloof'.

These attitudes were often maintained long after the demand for them had passed. Old women, the mothers of those interviewed, whose lives had been spent cooking, washing, cleaning and childbearing never managed or even wanted to break out of the cycle of domesticity.

I'd say to my mother, you know when you had a wee bit of money about, I said 'Come on I'll take you to the pictures the night'. 'Oh no'. And I said 'my goodness, are you just wanting to be in the family?'. She says 'well that's my life'. And she accepted that and was happy to accept that. Didna take it as a terrible tragedy that she had to stay in the house with her family.
Miss CC

5.3 Women as Carers

Perhaps to a greater extent even than today, women were the carers of society. However, it was not just the old and infirm that they had to care for, but men of all ages, brothers, fathers and sons. There was a concept of 'duty' from which it was very hard to escape, even if it meant having to rearrange their lives for it. After her marriage Mrs Z had to look after her parents three miles away, live with them and just have a visiting relationship with her husband. When her mother died and her brother and sister-in-law took the responsibility of her father, she had to move in with her parents-in-law.

When you came up here were your parents-in-law still here? Did you have to share the house with them?
Oh, I'd to share the house with them. I stayed with my own parents, down on R's [Estate] and he [her husband] stayed here, for the sake of his work you see, near hand.
So it wasn't much of a married life?
No it wasn't, not for a wee while, not until my mother died.
Mrs Z

Obviously much of this caring for old people was necessary because of the lack of state provision and the small pensions. It was hard on women though, because it always devolved onto them. It was not just old people who had to be cared for: it seems that most men were pretty hopeless domestically.

My mother died in 1954 [when Mr Q was 41] and I lived by myself for five years. My sister who was married, she'd come over the weekends and she'd give me a Sunday lunch and did my washing and all this sort of stuff.
Mr Q

Of course, because women and girls had had domestic responsibilities from an early age, they were proficient and able managers and through their capabilities and lack of demand for different roles, the whole cycle continued.

5.4 Childbearing

On top of all this domestic work and managing was childbearing. Although most of those women interviewed were part of the generation with smaller families, several had five or more children, most had their children at home and until the 1930s were not guaranteed a trained midwife to attend them. Problems during birth were still quite common. Four couples interviewed had had at least one still birth and many talked about deaths in childbirth as being quite common. This was apparent when death data for 1911 to 1931 were extracted from the registers. Deaths from sequelae of child birth were still frequent and often the child died too. There were tragic death register entries where a husband went to register two deaths on adjacent days, and sometimes even three deaths - first one twin, then another and then the mother. All this just confirms the picture of women with their own health at risk and few opportunites to recover. The generation before - the parents of those interviewed were of course far worse off; for them there were few trained midwives and family sizes were even larger.

Marriage was the goal of the majority of girls, and as within marriage childbearing was the norm, this perpetuated women's domestic role. There were no child care facilities, and even had there been few could have afforded them.

You got married to have a family. If you had a family you had to look after them. There was none of this 'Oh my mum'll look after', and you go out to work. That wasn't done then. If you had babies, well you looked after them. You just had to. Mrs J

Not only did women have to look after their babies, childbearing itself was a continuous burden particularly in the generation of the interviewees parents when any form of family limitation was rare. Some interviewees did come from small families: not only were these the exception, but they also tended to be those who had had, and had taken up better chances in life, not being held back by too many mouths to feed. Others were from small families of origin not because of contraception and innovation but due to the mother's poor health. Mr BB was an only child because his mother had TB and was ill throughout his childhood; she died when he was 10. In another case:

You were a very unusual family were you, in just being two children?
Well I was 14 pound when I was born and that took my mother as far as...she had her internals taken away. *Mr Q*

Apart from these cases, big families were the norm: some people felt that this was due to ignorance of family limitation methods, or their unacceptability, others the selfishness of men.

She had a child every two or three years [his mother], everybody had that, there was nothing else to do. *Mr Y*

The Simpsons, there were 16 or 18 of the Simpsons. She was having yun every dividend we would say. She lost a lot, but there was about 10 of them grew up too. *Miss I*

I said to my mother 'Why did you have a big family?' She said, 'Well I just thought you had to'. *Miss I*

I used to hear my mother saying there was nae any need for big families, it was the lack of consideration - she blamed the men. She said it was their fault, she said it was their lack of consideration and how could they love anybody when they wanted to see them having a youngster every 18 months or 2 years.
Mrs N

I know ever so many that was in these days, and they'd all big families. Now they don't. You see I don't think they had the knowledge that they have now. You know, how to avoid having a family. I think that was, to tell you the truth, I think that was their pastime. Well, mind you, they'd no money to go any place.
Miss CC

One miner said in an interview that if ever his wife had tried to prevent him from having sex with her he'd have beaten her (Simone Braithwaite, personal communication).

The larger families tended to be the poorer ones, simply because of the economics of having more mouths to feed.

They had big families then in Breich. There was a lot of big families. They had problems. They wasn't too well off the big families. They was very poor in fact at one time. I'd hear some of them'd go to their work with a bit of raw turnip between and a slice of bread for their piece. So they must've been hard up.

Mrs R

For a child, position in the family was important. The eldest children of large families suffered most: they were the ones who got exemptions to leave school early and go out to work. Younger ones benefitted from the fact that there were less people in the house - older sisters having gone away to service - and more money brought in by working siblings. In the case of Mr D he considers that he was able to stay on at school after 14 because his older brother was prepared to finance him through. There were other material benefits to being the youngest.

I had three sisters below me and we were all well dressed then because the older ones were all away in service and whatnot.

Mrs BB

Large family size not only increased the hardship of the children but also the mothers. By the time the interviewees were having children most births were attended to by a trained midwife and often a doctor. But women got little help or guidance outside informal aid from relatives. In Broxburn in 1951 there was still one untrained midwife or 'hoodywife' left but all the others were trained. The stories about the trained midwives do not always conjure up a picture of reliability....

There was a midwife just, until the last one, that was the nurse...Well the head doctor in West Calder trained her [the midwife] and he always used to say she was very safe...When I look back, she - it was an honour for her every one she had that she didn't call the doctor. And in the latter end, you'd to plead with her to get the doctor. *Mrs DD*

...although they were certainly more skilled than the earlier untrained women.

I know when my brother was born [1914], it wasn't a case of going for the nurse, the neighbour across the way came in.

Mrs C

One woman described how when her first child was born in the 1920s the (untrained) midwife just finished scrubbing out the school and then turned up to deliver the child with her hands all covered in caustic soda and wearing her dirty cleaning clothes.

Of course, it is true that for the majority of births there are no problems and a midwife or doctor is really not essential. However, the fall in perinatal, neonatal and maternal mortality rates in the inter-war year does lend credence to the fact that attended births were advantageous.

The information on post natal care of women is conflicting. It was probably closely linked to the economic and kinship circumstances of the family. Those women with their mothers close at hand will have been more likely to be able to rest and care for the child without the burdens of the rest of the household.

We took care of ourselves. You had to stay in bed until the 9th day, there wasn't so much getting up then. Now I mean they get up the next day and everything. See, we had to have that rest.
Mrs X

This contrasts with the experience of Mrs M:

Rest! [after childbirth] You never rested, you had to get on with it. Even since I came up here and some of the young mothers would say to me 'oh could you do such and such a thing for me I'm going into Bangour for a week's rest'. Och, they don't know they're born. I'm afraid I have no patience for that kind of thing. I wish I'd seen them lifting some of the tubs we had to lift. I was washing the day before my youngest was born...you just had to get on with it, there was nothing else for it. *Mrs M*

It is certain that the combined effects of poverty, large families and either lack of knowledge about contraception or lack of motivation amongst men, led in some cases to more drastic solutions.

For a while, years after of course, they tried the abortions. Ken the women in the house, that's a lot of women died...My auntie died, one of my aunties...and there was another three women. All just, all about the same time.
Were they having abortions because they were not married?
No, they were married and they'd a family and they didna want to have any more - so they were stopping them. *Miss I*

What is interesting here is that it is not young unmarried girls who were seeking abortions (although they probably were) but older women searching for a means of family limitation. That such drastic, and apparently fatal means were being used demonstrates the extent to which women felt they were suffering from the sequelae of large families.

5.5 Changes in Attitudes towards Women

Interviewees, particularly men, tended to look back and talk about the harshness of life for their mothers, their wives, and women in general. But my impression is that these are retrospective reasonings in the light of more modern ideas about roles of women, which were often mentioned because I, the interviewer, was young, female and successfully working. I doubt whether many, if any, of those interviewed had actually challenged the predetermined roles of men and women, despite their current attempts to condemn them. In many of the couples interviewed the man obviously did do some housework and cooking, and some of the widowers were obviously domestically very competent. This seemed generally to be because of necessity, once the wife had died the man was forced to look

after himself, or the woman was physically less able than her husband. These behavioural changes in old age do not necessarily signify changes in attitudes. One woman admitted that she found it difficult to accept her son sharing domestic duties with his wife, and cleaning out the bath, and many interviewees criticised strongly the current tendency for married women with children to work, saying that their place is with their children.

6. HEALTH AND WELFARE

Many of the factors which were instrumental in determining the levels of health in the shale communities have already been discussed and it is clear that there was, and is, a high degree of interrelatedness of all the different aspects of life; housing, poverty, women's status, working conditions etc., although as poverty is an underlying theme, poverty related health problems should be expected.

6.1 Medical Services in the Shale Communities

From the late nineteenth century the oil companies had been concerned with the welfare both of their employees and their families, although to some degree this concern just reflected new legislation about health care provision. The National Health Insurance Act which was in full operation by 1913 provided a free general practitioner service and sickness benefit to many workers although generally their families were not covered (Stevenson p212 (9)). Oil company employees had better benefits than this legal minimum, as the larger oil companies employed a doctor who attended to both workers and their families.

Youngs Oil Co, they brought Dr Young to West Calder. Now married men put 2d a week and that covered their family, single men paid 1d you see, and between that and the private patients he had, he had quite a good practice.
Mr O

The works had this scheme that every man got a penny a week deducted and that insured that if anybody were ill, or their family, that the doctor was free. And they'd an ambulance when they wanted anything.
Miss W

Obligatory deductions from a man's wages entitled both him and all his family to free medical care and visits from the doctor whenever necessary. Childbirth was not included in this and an extra payment had to be made for the doctor's attendance. The contributions did cover hospital care in either the local fever hospitals, Edinburgh Infirmary or the Hospital for Sick Children. People who did not work for the oil companies used the same doctor but paid a private patient's fee,

The doctor as far as my mother was concerned, that was a private patient. If you were working in the oil work you were paying through your wages.
Mr AA

although, apparently the doctors in both West Calder and Broxburn often waived these fees in cases of hardship.

In Broxburn there were two doctors, the 'toff's doctor', Dr Scott who worked for the oil company and was the man who investigated the links between working in the paraffin sheds and skin cancer, and the 'people's' doctor, Dr Kelso who was

much loved by everyone. It may be significant however that Dr Kelso was remembered far more for the things he did for the community, like starting the 'Kelso' sports and setting up a brass band for the young men, than he was for his medical activities and provision of health care.

It is possible, but unlikely, that the oil companies' health care provisions did compensate for the poor quality housing, food and other health hazards and that the population was comparatively healthy and well cared for, in line with the image provided by most of the interviewees. It should be remembered that, first of all, those interviewed are the survivors, and therefore unlikely to be those who suffered the worst in either childhood or during their working lives, and secondly that in terms of illness, memory can be extremely selective. Because illness is not, or is rarely, a continuous event like housing or work, the frequency and severity of episodes may be subject to a memory bias to a greater degree than for other topics.

6.2 Common Illnesses

Many of the determinants of health at that time were really just reflections of the material standards of living.

There was a good deal of sickness among the children [in Gavieside]. I wouldn't think it was so much from hunger - it may be that they didn't get the right kind of food - rather than the conditions in which they lived. All the kinds of children's illnesses that they had at that time - measles, diphtheria and chickenpox, all these kind of things - seemed to be quite rampant. Now, oddly enough, probably because I was brought up on the farm, I seemed to escape all these things. *Mr D*

Poor housing and overcrowding meant that other infectious diseases were a big problem as well as TB. Lack of sanitation led to a lot of gastro-intestinal illnesses (at least according to the death registers) and poor nutrition probably also contributed to ill health. Many of the deaths recorded in the registers are from illnesses that rarely cause death in this country now, although most still scourge the less developed countries: causes of death such as marasmus, diarrhoea, measles, whooping cough, diptheria, scarlet fever and of course TB. Deaths from the sequelae of accidents were also very common: partly because safety precautions were less in both work places and the home but also because sterile and antiseptic treatment was less available.

There was an unfortunate accident just before he was three. Mother was in the wash place where she did her washing, in the court of the farm and she had left Sandy with her mother who was staying with us by this time. And he ran away and followed mother, and slipped and fell down to a pail of boiling water and burnt his arm. And in those days of course [c1916] - it was the only part that was burned - they hadn't the medicine that they have now to treat shock and things like that, so he died. *Mr D*

It is unlikely that the shale area was worse off regarding infectious diseases than anywhere else at the time; they were just a part of life throughout Britain before inoculation became widespread.

In terms of morbidity and general ill health the shale communities were probably towards the bottom of the national scale simply because of the poor housing and poverty. Against this theory run the accounts given by the interviewees, most of whom recall an illness free childhood, and feel that the area was a healthy place to be brought up in. Plenty of fresh air (compulsory as there was no space to be inside the houses) and a good pot of nourishing soup were regularly cited as factors leading to good health in the area.

TB was prevalent, although interviewees' recall of it is interestingly varied, from those who said there was virtually no TB to those who felt it was a big problem. This variation almost certainly reflects individuals' own personal experience rather than the reality of the area. If by chance someone in their family, or a close neighbour suffered from TB it would be remembered although it wasn't a subject for open discussion.

One family I can remember, there was four of them died, you know, the mother - I don't remember much about the Dad and what happened to him, but there was three of the family died. Oh there was an awful lot of TB here.
Mrs N

There was a high rate of consumption, but folk wouldnae speak about it. They were into a 'decline' that was their words, but, oh no, I've seen families wiped out with it. And you know, half the trouble or half of the cause of it was the living conditions... overcrowding in the houses... very specially among the Irish immigrants, the Irish incomers that came into Addiewell - sometimes the beds were never cold. Mr O

You know, all the years I was in Addiewell, only twice in our youth did we know people with TB....you never heard of TB.
Mrs DD

There was a lot of that, TB, consumption, and diphtheria and other things.
People who had consumption, were they sent off to a sanatorium, or did they just live at home?
No, they were the very, very fortunate ones. I tell you what I mind, they were left there to die in the house ... just across from us, when I stayed in Livingstone Street, were two young women ... but everyone shunned them you see. We were afraid to go near these people, most people were afraid to go there in case they started with this. But there was one woman, and she wasnae a Catholic, but she would take a wee drink in the middle of the day, a terrible thing for a woman to do...but that old woman was the only woman that would talk to, that would attend to them two lassies ... TB. Two fairly young girls.
Mr G

TB was particularly associated with poverty because in those households where people had the disease, their inability to work meant that they didn't receive the sickness benefit and medical services that working families got, thus suffering further. In 1924 a sanatorium opened in East Fortune in East Lothian, with 56 beds for West Lothian (West Lothian MOH report 1924 (5)) and quite a number of people from the shale communities went there. From 1925-1931, between 1 and 13 deaths a year in the sanatorium were of people from the shale area.

Other hospital care was provided locally for infectious diseases such as diphtheria and scarlet fever. These were isolation hospitals, more to prevent epidemics from spreading than for the provision of specialised care, but, bearing in mind the overcrowded housing, this isolation of patients was essential. For serious illnesses, accidents and operations, sick people were sent to Edinburgh – to the Infirmary or to the Sick Children's hospital.

The nearest hospital [to West Calder] was Edinburgh Infirmary, and it was a horse drawn ambulance at that time [1921] which took about two hours to travel from here to the Infirmary. *Mr O*

The Infirmary was the principal hospital until after the second world war when the Bangour war hospital was converted into a general hospital and since then has served all the shale communities.

6.3 Occupational Illness

Work related illness does not figure largely in people's accounts. Work was felt to be hard and the conditions poor but apart from accidents, few people related work and illhealth. The exception was paraffin cancer which became a compensatable disease in the first decade of this century and about which everyone was aware.

He was the first man that I knew that had paraffin cancer. Otherwise I never minded any diseases in the work. Although that green gas that came off the retorts, the heavy stuff, that was certainly no good for anybody's lungs, that I ken.

Mr G

Occasionally people did associate work with illnesses. Mrs L attributed her husband's sciatica to the damp working conditions down the mines, and other jobs were seen to affect individuals in different ways. These were however perceived as individual reactions rather than generalised health hazards to all workers.

If they found gas they would pull you out, you couldn't work in gas. It was bad enough working in the powder reek, because it was quite hard, I developed bronchitis. *H1*

Were there any hazards as far as the still cleaning?
...Well I'll tell you, I got dermatitis off it, from the coke dust, I got allergic to the coke dust. *F3*

6.4 Alternative Health Care

There is evidence that the conventional health care system was not the only system used; apart from backstreet practitioners of abortions, people also used traditional cures as well as being influenced by sayings such as 'feed a cold and starve a fever'. Medicine in general was rather an *ad hoc* affair with patent cures playing a big role.

They came down to see if we could give them any buttermilk. They took it to see if it could kill the blood poisoning.

Mr Z

...Scarlet fever, of course measles, whooping cough was another thing.
How were they treated?
Poultice...anything. Usually bran or porridge.... Gregory's mixture was another [medicine as well as sulphur and treacle]....I think it was ground rhubarb root. It was a Dr Gregory produced this, it was for anybody with a bad stomach was prescribed Gregory's Own mixture. It was horrible stuff to take. Horrible taste. There were some crude cures. *R4*

8d for insurance covered everything in the chemist's shop. Whatever he had. It wasn't much. You didn't have the costly stuff you have now. A brown bottle for a cough, a white bottle for a sore stomach. There was stuff called 'chili paste', we called it Hell's Fire Grease. The doctor used to give it to you for a sore, and it's like chili paste. It would burn the arm off you.
D6

6.5 Diet

The dietary images promoted by those interviewed are of a good healthy soup, lots of fresh vegetables, no tinned food and plenty of bread. This is at odds with the general picture of ill-fed inter-war populations, especially from poor industrial areas, described by Stevenson (9) who draws his data from a variety of sources. Further questioning revealed that these generalities about a 'good healthy diet' reflect the interviewees' feelings that today's food is less nourishing than theirs was, because it is pre-packed, pre-prepared and therefore less healthy. This is probably true, but they fail to take into account the quantity variables.

It was mostly soup, and porridge, and potatoes done in their skin. And turnips from the field. And plenty cabbage from the garden...we didn't have meat every day. But there was mince and if the soup was made the soup was always made with a bit of meat...Not much, don't kid yourself that we got much! We didn't.

Mrs C

I've always made good meals...porridge for breakfast. [At dinnertime] We'd always stew and mince, or chops, or sausages, vegetables, potatoes, milk...Teatime? Well we'd maybe fish or..we could always manage. There was not much to spare but we could always manage.
McI

Fruit, generally oranges and apples, was a treat for Saturdays or at Christmas. Most families had one meal a day with other eating times being filled with a 'piece' - bread and jam or bread and marg. For the majority of families most of the week's wages was spent on foodstuffs and when this was the case then nobody went hungry, although there might be worries towards the end of the week. Another feature of meals was that the large family size meant that not everyone was able to sit down and eat together. Whether this meant that those who ate last got a smaller share is difficult to find out, but it does seem very likely:

How did you manage meals, if there were 8 or 9 of you in the house?
The older ones got a sitting first. And then the young ones came forward. No the oldest, your mother and father and the oldest. No that your mother sat down much because she was that busy attending.

Miss CC

During the strikes in 1921 and 1925/6 there was much more hardship, and children in particular were really hungry and would get food from a variety of sources.

My mother used to say to me, you used to go and say 'Mother, can I go and get a piece?' She says 'well, do you want margarine or jam?' Not both, oh no. And I've seen my mother saying to me 'away doon to your granny's, tell her I sent you doon.' Another thing my mother used to do 'away up and meet your father coming doon from the pit'. And West Mains was what, two miles away 'and if he's got a pit piece he'll give you it'. My father used to save a slice of bread from his piece...oh it was a great thing getting a pit piece. I used to race up that road for half a slice each. *Mr U*

Soup kitchens were set up, with food donated by various local farmers and other richer people; having to use the soup kitchens was somewhat shameful even though it was known that all the men were on strike.

My mother used to say, she used a pitcher, a metal pitcher, and she used to say 'away doon and get some soup, and go doon the back way so's naebody'll see you.'

Families who were completely desperate could 'go on the parish', but this was the absolute last resort. Even on the parish, food was only provided for the children, and certainly not for able-bodied men. In general then, although some people recalled times of real hardship and of hunger, these were almost invariably during those strike periods. Otherwise it was felt that although they never went hungry, a large proportion of the family budget was spent on food, and the results were not exciting, although nourishing.

In the food line, we didn't go hungry, but we never got anything in the fancy line. For instance, you never got cake or biscuits... In fact I would be about 11 years old before I had even tasted cake.

Mrs L

I would say that truly we always had enough [to eat] even though it was plain.
Mr L

Outsiders, such as teachers, had a different perception of the nutritional state of some children from that described by most interviewees.

I remember one [pupil] came from Kirknewton, and her mother was a janitor in a school and pretty poor... those children walked daily from Oakbank along a disused line, they left at 7 in the morning; now that Isa fainted every day or every other day... she got no help – that was malnutrition and exhaustion.
Miss S

6.6 Smoking and Drinking

Those families where food was particularly short were frequently those where the father drank heavily. Attitudes to drink appear to have been quite extreme, from teetotal families, often who had taken 'the pledge', to families such as that of Mr D where his father's drink absorbed the greater part of the weekly wage. Many people talked of drink problems and the poverty that ensued, although only one interviewee admitted having experienced this in his childhood. This either means that the problem was less widespread than was talked about, or that those families of heavy drinkers were less likely to survive, either physically, or in the area, having migrated away and thus I didn't come across any in the interviews. A third explanation is that in the course of a single interview people did not want to expose the private and somewhat shameful parts of their family history.

Drink was a burden, more because the wages were not sufficient to support even one binge a week, rather than in terms of alcoholism and violence.

The men brought in the money and that was their duty done as far as they were concerned. There was quite a lot of drinking in those days – more drinking than what there is now. *Miss V*

Poverty turned drinking into a problem because money was removed from what otherwise could be spent on food and clothes. The way women interviewees talked about their husbands and fathers drinking indicates that it was considered to be a problem to the family rather than to the individual drinker himself. They would say 'I never had any trouble that way' or 'my mother was lucky with my father, he didn't drink'.

Smoking was not seen as a problem, probably because it was so cheap, and also because nobody was aware of the health hazards at that time. It was expected that men would keep back some of their wages for Woodbine. Smoking was not really acceptable for women, although in the previous generation old women used to smoke clay pipes. Drinking too was less acceptable for women, although a lot, particularly old women did drink. Men had stories of how, as young boys they were sent down to the bars to get alcohol for their grannies.

But other women didn't smoke or drink did they?
They drunk. Oh yes. I can see folk beside us and did they drink - oh aye. Mind the smoke wasna so much. If you smoked and drank you werena just the top drawer as it were.... I wouldna say they were drunk but you knew they took a drink. You knew they were drinking.

Many men were heavy smokers although smoking was not permitted down most of the shale mines. There are stories though of men smuggling tobacco and cigarettes down in their piece boxes at risk of quite heavy fines, indicating its importance to them.

6.7 Clothing

Another symbol of welfare is the availablility of clothes and shoes. The majority of interviewees had been brought up with just two sets of clothes, one of which was for Sundays only. Some only had one set which had to last a long time.

When we went to Rosewell we started with nothing and we left with nothing.... and I had a pair o' brown trousers that I wore, you know. And I had no other pair o' trousers, I can tell you. And we were four year in Rosewell, and I wore these trousers for four years, they must have been good stuff! But Robert my brother went back, and some of the pals were there, and it was 'Is Tam through there?' and he says 'Aye, Tam's through', and this fellow says 'Has he his brown breeks on?' So they were noticed. *Mr D*

It is likely that in winter, which can be quite cold in West Lothian, that many children and probably adults too were insufficiently clothed.

Oh we didn't get clothes. I used to feel a bit... that's when I began to realise that life wasn't very fair, how you saw Christmas time would come and someone would get a lovely new coat or something and you knew that...
Mrs L

Certainly in summer many children went barefoot. For some this was because they genuinely could not afford the boots, although for many it was out of choice, and often against their mother's will.

You had bare feet the whole time. Up to school wi' your bare feet... You cast your shoes off in April and that was you till October.
Mr B

The usual footwear for children in the winter was tackety boots - big boots with tackets or studs round the soles to slow down the wearing out process.

Both clothes and shoes were passed down from child to child, and parents' clothes were also cut down and sewn up again for the children.

[My neighbour] said to me one day 'Fanny'll have to go to school and I don't know what I'm going to put on her'. Well she had eight daughters and three sons. The older daughters were in service by that time you see, and in those days they wore costumes more than dresses: skirts and jackets. Well the skirts inevitably wore down and the jackets were left ...and I thought 'I'll make an effort to make a frock for Fanny from this jacket' and I did... That was in September and by the time the New Year came, I had made 17!
Mrs M

Men tended to have more clothes than the rest of the family because they had to have a set of working clothes. For the miners these were moleskin trousers and heavy cotton shirts. Often they arrived home from work soaked through and they had to be dried in front of the fire before the next morning. Interviewees recorded shivering in the back of the room unable to get near the fire because of all the clothes drying there or sneaking in front of the clothes horse to try and get some heat.

6.8 Washing

It was impossible to wash clothes more than once a week, because there was no spare set, because washing was such hard work and for those who were lucky enough to have a washhouse, access was only weekly, or fortnightly, and for those without a washhouse the washing had to be done outside.

You only had a turn in the washhouse every fortnight. Every fortnight!
Did you have enough clothes to keep you going for a fortnight?
Well no. Well we used to get in behind somebody, at the back of somebody, if somebody was out early, well we'd say, 'put a shovel of dross on that fire and keep the water hot'. *Mrs R*

Before you went to school, you put the bricks outside, set the bricks and the washing pot on it for your mother. No washhouse..A fire underneath the bricks outside..There was no room for it inside, the wash was too big.
Mrs B

Personal washing too was limited by both space and water supply. Most people had a bath once a week on a Friday night. Often the tub was not large and the water had to be shared between several people.

There were no place to put your water – you'd to carry your dirty water down – what we cried a gutter it was you see, along the side of the streets.
Just open?
Just open. Just a wee ...and the water went off down there.
So you had no sink in the house to throw it down?
No water at all...Not a sink, not a sink to wash yourself in or anything. No water there at all. You'd wash yourself in a basin you see in the mornings....You never got a hot bath, but you used a tin, a zinc bath as we termed it...But of course whoever was getting washed, all the others had to clear out, or maybe you went into the room by yourself. And you boiled the water for yourself and put it in there, but you couldn't sit down in this bath, you

could only stand in it you see, and maybe you could kneel in the bath.
Mr G

How often did you get a bath when you were a kid?
Once a week.
And did you all have the same water?
The weekend. Well there was so many got it and then it was tipped up with some hot water. It was all right. We got that on I think it was a Friday night we all got our baths...That's all you could get.. You see it took a bit of doing, heating all that water.
Miss CC

My father would come home and wash himself in the sink. We never had any toilets in the house, we never had a bath till after I came back from the army – 46. Previous to that, previous to the war, there was a Friday night. The tub was brought in from the washhouse outside and filled up. This was the night we washed, so everybody was plonked in.
Mr U

Thus it is likely that illnesses, especially skin problems were transmitted through physical contact and exacerbated by lack of hygiene and the damp conditions. Certainly fleas and ticks were a problem; they were generally acquired from the mattresses filled with chaff from the fields or from down the pits. One man said that you didn't complain because you all had them. 'You always had a few bites on your chest when you got up in the morning. Then you'd go to the cinema and swap them with other peoples'!

6.9 Work, Poverty and Health

Throughout the above discussion an emphasis has been placed on possible deprivation and effects on health due to poverty. There was another aspect to poverty and health; if the main earner of the household, almost invariably the man, were ill, there was a major drop in income since there was little provision for the payment of sick pay. Many people contributed to a Friendly Society who would pay out a limited amount of sick pay, with various conditions attached to ensure that the system was not abused.

If you were only off sick, say you were damaged, but not too badly and you were maybe off your work say six weeks, at that time the Forresters and the Rechabites and all those Friendly Societies they ran clubs and you paid so much. At that time in the 20s you got maybe 16/– a week if you were off ill and that had to do you until you were fit to work again. If a man was badly damaged, maybe slightly crippled he got compensation then but he had to sue for it and take them to court. At the finish up the Unions began to step in and fight for that they employed lawyers that went and put your case.
M1

If you were in the Friendly Societies, if you were off sick you had to be at the house by 8.00 at night, because if anybody saw you out you got your benefit stopped.
H1

Injury at work was a different matter. Here the oil companies legally had to pay compensation until the man was fit to work again although, as mentioned above, this payment did not occur automatically. This compensation was barely enough to live on, and thus it was at times like this when families really experienced poverty and hardship.

Yes, you did get compensated, if you got your hand cut or fingers and you were not fit to continue your job you reported it to the fireman and he took a report. You got compensation right enough but it was very little. You only got £1 or 30/- in old money at that time.

H1

This hardship was recognised and workmates rallied round in an institutionalised manner; yet another example of the working community providing self support where one might well consider it to be the responsibility of the employer or the state.

If a man happened to get injured and was laid off it was a standing thing that if you were off 16 weeks you got what was called a gathering, which meant that every man contributed so much to give you a collection. You maybe got in the region of, well there were a good two or three hundred men and if everyone contributed 1/- or 2/- you got that. It helped you till you got better, but you had to be off 16 weeks before you qualified....the company I'm afraid did not contribute anything at all. *H1*

Even with these community aids, any reduction in income was a severe blow because every penny of the wage was already predestined for food, clothes and rent.

I think that most of it [weekly wage] was spent on food, for how I got things, shoes and clothes, I always had a club in the cooperative, and I always paid the cooperative, paid maybe about 10/- a club a week to the cooperative, and if you got a £10 club - and I always had a club for buying boots and underwear. So that really most of it went on food. You got everything on the cooperative book, and when you got your dividend you could square up.

Mc1 (married 1942)

Inevitably clothes went first when there was injury or sickness, but if it lasted any length of time then food consumption was bound to diminish and the whole family would suffer. Thus there was a synergistic relationship between poverty and health and the majority of families probably went through some very hard times.

7. LEISURE

Like most other aspects of life in the shale communities, leisure activity was quite strictly divided between the sexes, although few people had much leisure time at all.

7.1 Men's Leisure Activities

The oil companies provided for men through the Institutes which existed in most of the villages.

Most of the shale oil companies used to provide reading rooms. The houses at that time were all built by the shale oil companies. The men were permanently in their houses the same as the agricultural labourers were until a couple of years ago and it was a case of..... you read books or you went to the reading room. The company provided books....You had maybe a couple of miles to get to the nearest reading room and sometimes they had older men there that could not read. It was a case that maybe a lot of them would sit down at a long table and play dominoes and other ones later on had small billiard tables made.
M1

Well, I was 21...and the bowling green was there, I couldn't afford bowls in these days, but the Institute supplied them, I took it up and I liked it. It was the Scottish Oils that started a lot of bowlers away in the whole of the West Lothian area. I used to pay 2d a week for the green and the Scottish Oils again, they supplied the green keeper and the stuff to look after the green, as I say it was a great company. *P1*

These institutes generally had a reading room, provided dominoes and carpet bowls and often had outside facilities for bowls and quoits.

What did the Institute comprise of? What did it supply? Library or?
No, there was nothing like that. Billiards and carpet bowls, dominoes and cards, and maybe...I think that was most of it. The bowling green came in with it as well. *Mc1*

It seems that most men made good use of these facilities. When the Bellsquarry reading room was set up in 1903 the minutes document that they wanted all (men) in the village to join (11). 'The committee decided that all men holding aloof and not joining in July' would have to pay 6d monthly contributions from July even if they joined later. The institutes were surrounded by quite strict rules and regulations about use of bad language and abstinence from gambling. In the Bellsquarry minutes for 1905 it was mooted 'that the secretary post a notice in the hall warning the members that such [gambling] would not be allowed and anyone caught at the practice would be expelled from the hall'.

Some villages had football pitches and some teams had a very good reputation – Mossend Swifts of West Calder was the best known. Even in small villages like

Roman Camp which didn't have pitches, football was [still played, and there were local leagues.

Particular sports and activities that were popular with men were pastimes that took them outside and away from their industrial working life – pigeons, whippets, quoits and bowls.

Well, my hobbies were pigeons, pigeon flying and cricket and singing in choirs and singing at concerts....
Oh when he had the pigeons he spent all his time there! He lifted that many prizes! That was his hobby!
I was never away from the foot of that garden.
We couldn't get a holiday for pigeons. *Mc1*

About one of the most popular games with the miners at that time was quoits, you used to have them in every village and every village would challenge each other for prizes and cups. *M1*

Apparently there was also a lot of gambling, although this was frowned on by the oil companies and banned inside the Institutes. It used to take place behind secure corners:

There were characters in those days. As I said to one boy, 'there are no characters now'. He says, 'John, but there are no corners now'. See what we call corners. Up at the Tally Ho...at the corner just opposite the Tally Ho, it used to come up the road and then go like this round it and then down, well the men used to meet there at nights after the backshifts, anything from 6 o'clock onwards, and there was always some humourists there – talking about comedians – no comedians now would stand in that corner. The same at Niddry. At the end of Niddry at the top of the brae, they all met at the end house, they maybe played pontoon, they talked, some great characters....There's no corners to hear them at now.

D6

They always had card schools, it (gambling) wasn't as bad here as it was say in Broxburn or Bathgate, you know, where they had the pitch and toss schools, with hundreds turning up on a Sunday.

F1

Despite their long working hours men had more leisure time than women because time not at work was generally their own. For women, tied to the house by children, domestic labour and no obvious end to the day there were less activities available and less excuse to participate. For them 'entertainment' was laid on more as a treat rather than being a daily or weekly activity.

7.2 Women

The halls and Institutes were not open to women. Whether this was because it was felt that women had their own forms of entertainment, did not need organised leisure places, or should better be in the house working, it is not clear. Whatever the theory, effectively in practice, leisure time was quite sex segregated. The Institutes did have family events, but they were occasional events rather than everyday occurrences. Again from the Bellsquarry Hall minutes there was a 'concert for wifes [sic] and families of members to be given in the hall on Monday 21st'. The exclusion of women did not extend to patronesses, of whom there were two, one of whom donated many magazines to the hall (for the men to read).

As time went on, there were more opportunities for women to participate in more generally available facilities. In the 1930s though, one family had to go from Broxburn to Bathgate to find a swimming pool for family swimming. The Institute in Livingston appears to have opened its portals to women by the 1950s.

In Livingston Station we had every conceivable organisation (in 1950s) that you want to mention, you know, women and men...we had first class hall accommodation, which we've still got now. It was provided by the oil company....The Hall was the centre of the Community. They had billiards and everything, the bowling green in summer, the reading room in the library.....anybody that wasn't behaving as they should be, they were barred from using the facilities, depending on the offence, for maybe weeks to months or to years, and it was quite a thing if you were barred from the Hall, because where else did you go in those days? *F1*

Of women, young working women probably had most leisure opportunities, being the ones most likely to have some money to spare for them. Their jobs too, particularly if they worked in a shop, actually gave them time off:

We had the Wednesday half day. I used to go to Edinburgh every Wednesday and get your tea and finish up at the pictures.

Miss W

Married women with children had few opportunities to leave the house and their 'leisure' was largely oriented around household and childcare activities.

I really wasn't away from Breich that much you know. Just always in Breich. Take my children up into the hills at night, and sit and do your knitting. All this sort of thing. There was no television then.
So what did women do all the time?
H1 used to knit a lot...Do you know what I did? Sent away to the ready cut firm - I made rugs, those wall rugs, that's what I did.

Married women didn't have the financial resources for treats like going out, and social conventions were closely bound for them. They were supposed to think first of their families and home, and the majority did. This was reflected in their leisure activities: knitting, sewing, rug making and walks with the children.

What about women? Was first footing (at Hogmanay) for men only?
They never went, women then were under the thumb. They didn't have money to do anything like that. D6

What about women in those days, what did they do?
One or two older women used to go out, and they were looked down on. People thought it was terrible, to see them going in and coming out of the pub. Nowadays it's wrong if you don't go to the pub!
How did you entertain yourselves as women?
Just sitting reading, or we used to make rugs in those days. John's mother used to be very good at it. We'd just sit blethering.
D6

7.3 **Family Activities**

There were forms of more general family entertainment less dominated by men and not just linked to the oil companies.

One of the aspects of living in that period of time, from the beginning of the century right up until 1935 was that we made all our own social activities. It was quite dramatic that, in as much as here we have a kinderspiel (photographs)... we booked the picture house for three nights every year, and my father had, I think, nine of these things from say 1922-29. But that's very descriptive of the social life, of the effort that was made in these days....And then there was the church, and then there were the Band o' Hope. Now all these different activities was the means of getting to a soiree, you know what a soiree is, a party, we call it a soiree in this area; you were always sure of getting some kind of entertainment. Mr U

There were also spontaneous dances in the streets and it seems that for young people there probably was plenty to do.

Formal leisure activities and entertainment ranged from the cinema, of which there was at least one in most villages, the Band of Hope and other religious meetings and for men, the Free Masons and the Orange Lodge, the pub, which was a male domain and sport. Much of the leisure time, however, was spent in informal activity which didn't involve any expenditure, a function of the generally poor wages.

In the afternoon [on Sundays] we were all dressed up, maybe a great big silk hat...well you'll never guess where we went. Up to the cemetery! Well that's up at Uphall. Well the cemetery was packed with people and the seats, you couldn't get a seat. The people were all there, all dressed up.
Miss W

We were happy though [in Winchburgh in 1950s], we used to go for a walk in the summer, you didn't have any money and you could not go out drinking the way people do in modern days, we were happy...Mind it was hard, but I would go back to these days to be honest, because, as I say you were a community and

if you wanted some sugar you came and chapped on the door and you got some sugar, we were all definitely a community, although we didn't have any money.
PI

This also reflects the much greater proportion of life spent on the streets rather than behind doors in people's houses.

The men used to gather on the corner... a lot of the husbands used to gather on the corner for a blether and maybe have a game of pitch and toss, and all this, you know. But at that time if anyone could play the accordion, well they'd come to the corner and play the accordion and that was the fun they had.
Mrs R

The church was important both in organising leisure time and providing activities:

As young men we made our own entertainment. We went to the church you know, maybe two nights a week or that, and choirs and such like that you know. Male voice and mixed voice in the church so that's - we made our own entertainment.
McI

Children's leisure and entertainment was very low technology and self sufficient. Few had toys, apart from footballs for the boys, until the second world war, again because they could not afford them. Their play basically involved creative use of things lying around. They certainly had plenty of contact with shale and shale products, playing and swimming in the streams was common as was playing on and sliding down the bings. More adventurous children used to explore old mine entrances, despite the discouragement they received from adults.

7.4 Holidays

Holidays, such as a week or two away from home, were almost unheard of until after the second world war. Before 1939 there were no paid holidays, and unless a family had won some money somewhere, they couldn't afford to take time off work. During the 1930s when men were working three weeks on and a week off some families started to take holidays because there was at last time available - the problem then was lack of money. Before then a few families managed to take holidays by the same means as they managed to afford clothes and shoes - by saving up a limited amount each week in a club.

They took so much off your pay 5/- or so off your pay and you got that at the end of the year...no, it wasn't compulsory. That was to try and give you maybe - because when you got a holiday you didn't get paid for it. It wasn't a holiday like now, a holiday with pay. We had no holiday with pay then. But I used always to be in the yearly, and it was Jim McArthur, it was him that run it.
McI

In some oil works and mines New Year's day and a sports day were compulsory, but unpaid, days off. The sports day and gala day were the big events of the year. Children would get new rubbers (plimsolls) and a 'tinnie' to hang round their neck for a drink. The whole village participated and the gala day had a queen, arches decorated with flowers and all sorts of celebrations. In West Calder the sports day was followed by the annual holiday - a day trip to Portobello. Most interviewees remembered these days and could give detailed descriptions of what were obviously the high points of their childhood.

...if you could cry them holidays, what we got over the summertime. Calder Sports, used to be, West Calder Sports...We stopped work on Thursday afternoon at 2.00..and we started on Monday morning. So we'd Thursday afternoon for the sports, Friday, and then we were all into Portobello the Saturday.

There were other day trips for the children, usually organised by the Sunday School or the Band o'Hope - these involved such pleasures as a day on the canal or a trip and picnic on a hay cart.

Thus, in general, there was not a great deal of leisure time for recuperation from the arduous working conditions, and certainly very few holidays. All this was largely a function of the long working hours, low pay, and also the national climate of legislation and expectations: the majority of working class people in Britain had few or no paid holidays until the 1930s and the shale areas were no exception. There was also quite a strong division between men and women's leisure, both in the time they were able to set apart for leisure activities, and the possibilities open to them partly with the resources available.

As with everything else things began to change during the 1930s. Those interviewed were able to afford toys for their children though they had had none themselves; people started to go on holidays: better housing and smaller family sizes reduced some of the burdens on women that had earlier effectively inhibited the development of leisure activities, giving them both the time and energy for getting out of the house and away from domestic affairs.

8. MIGRATION

Although one problem with the quantitative mortality study is the lack of migration data, unfortunately this is one gap that is difficult to fill with information from the interviews. Those interviewed are a biased sample because they were chosen for their long term residence in the area rather than as a random sample. Despite this their migration histories do indicate the major migratory patterns in the area, and show that although the assumption in the study - that the majority of people dying in a civil parish were subject to that area's shale levels all their lives - is not really true, that nevertheless there was a large core of relatively stable people.

In general people migrate for economic reasons, and the shale area is no exception. Theories about migration discuss two main effects - the push and the pull. The push operates when an area can no longer support its population economically, and in order to survive they have to move out; pull areas are particularly desirable either in terms of services or jobs. Usually a combination of push and pull factors determine the main patterns of migration. For the shale study, although migration is an important unknown factor, it will only lead to substantial biases in the results if many people have moved into the area from other hazardous zones or if there is substantial movement between the different civil parishes in the area. If the principal migration factor is out-migration then the effects on the results are less severe provided one can assume that those who move are not significantly healthier or less healthy than those who stay.

8.1 Migration Patterns in the Shale Study Area

Table 8.1 shows, for those interviewed, the numbers who have always lived in the same civil parish (for women a temporary migration away for domestic service is discounted), and the numbers following specific migration patterns.

Table 8.1 Lifetime migration patterns of those interviewed
(CP = Civil Parish, SSA = shale study area)

		Men	Women
Always lived in same CP		8	8
Moved from 1 SSA CP to another		2	2
Moved away from SSA temporarily	same CP	2	0
for work (<5 years away)	> 1 CP	1	0
Born in SSA but away for >5 years	same CP	2	2
Moved to SSA in childhood	same CP	1	1
	> 1 CP	4	2
Moved to SSA on marriage		0	5

(Of the women, 5 of those born in the SSA had been away temporarily for domestic service)

The main migration trends were for women to move on marriage and for men to move whilst young and when seeking work. The majority of the men's moves were during the slump in the 1920s when many shale mines and oilworks were closing down and little work was available locally. That was a period of substantial out-migration with hundreds of young people leaving for America,

Canada and Australia. Cheap fares were available, and interviewees told of busloads of young people going off to Glasgow, with all the older women in the street weeping to see them leave.

When the strike started and the shale mine wasnae right, the one brother and my sister and her family went away to Australia. And another brother-in-law and sister and my brother went to Canada. And they lived there and finished there.
Miss I

Newtongrange...I was away twice, I was away 26 to the railway job, the place was being emptied of people - they'd all gone over to America and all these places....because of the strike, and I've friends that went away to Australia, America and Canada, they went away in boatloads in those days.
Mr Y

Some of the interviewees had over half their siblings living in these countries; for most at least one member of the family had left, and few migrants ever returned. Exceptions were Mr EE and his brother who both went to the United States to work in the coal mines there, although eventually the unemployment there got so bad that they came back to work in the shale mines.

The men who migrated within Scotland, both those who stayed and those who returned, went to areas where there was either heavy or extractive industry - areas which required manual labour - and quite a few worked in the coal mines in Midlothian or in the Shotts.

That's when Broxburn got desolated in 1921 - they all went away to Fife and Newtongrange to the coal pits, aye....they never came back.
Mr BB

There was unemployment for a while. There was a lot of [people] went away and never come back again...At Newtongrange where I went coal mining - there was a lot of Broxburn people went there. They never came back again.
Mr Y

Women's temporary migration tended to be to rural areas or to Edinburgh - to work as domestic servants. They either married there, or returned to the shale study area to marry back home. Others never married; amongst those spinsters who were interviewed the majority had never lived outside their civil parish of birth.

The migration patterns of siblings of those interviewed, (a less biased sample than the interviewees themselves) seem to follow two main patterns: either they went overseas or they lived locally, with a proportion moving to Edinburgh. Many interviewees still had two or three siblings living in the area, indicating a reasonable stability of population.

From the interviews and from census data on population growth, it is apparent that although there was major out-migration in the 1920s and 1930s there was really little in-migration at all whilst the shale industry was still operating. The Irish

migrants had arrived mainly before 1910. In the early days of the shale industry in the late nineteenth century a great many Irish came to stay; those who came during the period of interest here were generally seasonal labourers and short term migrants. The only group of people who did come in were women who married into the area; these were a minority, and anyway will still have been exposed to any hazards of life in a shale area since their marriage. The low level of in-migration reflects the lack of 'pull' factors, ie jobs, in the area. Many people did move house in this period, but these moves were usually local into better housing rather than stimulated by job changes. Few of them moved from one civil parish to another.

The children of those interviewed are the contemporaries of the younger adults whose deaths were recorded in the community study. This generation is more mobile than their parents', reflecting their greater educational opportunities, different patterns of employment, and improved communications. Nevertheless, a large proportion still live in the shale study area, although they are far more dispersed among the different civil parishes than the previous generation. A typical mother in West Calder, who has spent all her life there, has daughters in Glenrothes, West Calder, Fauldhouse, Blackburn and Ratho. The last four of these will appear in the denominators of various of the study civil parishes; one in her civil parish of birth, one in a different high shale parish, one in a no shale rural area and one in a coal area. Far more of this generation commute to work and thus their place of residence is little guide to exposures to hazards at work.

Until the shale industry closed in 1963 there really were very few 'pull' factors into the area, because the jobs were being reduced rather than created. Although one might expect the demise of the industry to have led to quite rapid out-migration, the start of the British Leyland plant at Bathgate, and the fact that a substantial proportion of workers transferred to BP Grangemouth, just meant that a greater percentage of people were commuting longer distances, but the majority continued to live where they always had.

It was in the mid 1960s that 'pull' factors began to operate in the whole area, largely stimulated by the demise of the shale industry and the need to create jobs. This was particularly true around Broxburn and Uphall, but the major influence on movement in the past 20 years has been the creation of Livingston New Town with widespread availability of housing along with new industry. At the same time there was a lot of new housing built in the villages, both council housing and private, and people who could no longer afford Edinburgh prices chose to live in West Lothian.

Practically all the people, leaving out the people who were in the service and ken, shops and things like that, all the people in the place [West Calder] were employed by Youngs Oil Co...Whereas now you see, all the new houses that have been built in West Calder this last 10, 15 years say, they've all been bought by incomers and you find that this man's working here and the other man's working there...It's only a dormitory village now. *Mr O*

Many of those interviewed complained that the majority of people in their street were now newcomers, both from other villages in the area and from the towns. This in-migration would probably influence substantially the mortality study except that the majority of incomers are young, and thus do not contribute greatly to the mortality rates. It is true though that many of them seem to come from

deprived and otherwise high mortality areas, such as parts of Glasgow, and this might artificially raise the mortality rates.

Livingston's full of Glasgow people, Livingston is populated with Glasgow people...they are the overspill of Glasgow, and as many of them have gone back to Glasgow because they don't like Livingston.

Mr BB

In general, the migration information from the interviews is relatively encouraging for the validity of the community study. Although it is apparent that the shale areas were subject to a substantial amount of population movement in the first half of this century, the majority of that migration was either temporary, due to young women going away for domestic service and young men seeking temporary jobs elsewhere, or permanent out-migration. The only section of the population likely to include a sizeable proportion of in-migrants, are married women, and even there most marriages appear to have been local. Obviously it is possible that in terms of health those who left differed from those who stayed - certainly migrants in general, tend to differ in a whole lot of personal and socio-economic factors from non-migrants, but this is unlikely to significantly affect the results of the community study. On the other hand, for those aged under 40 by 1960, the dilution effect of in-migrants from outside probably has changed first of all the patterns of health, and secondly the assumptions that can be made about life time exposure to shale activity. The levels and patterns of mortality in this group should probably be excluded from the study, because they are unlikely to be reflecting shale effects. Luckily it is the older and more stable population who, firstly have been exposed to more shale, secondly are least mobile, and thirdly, form the largest majority of the deaths in the study.

9. SHALE COMMUNITIES: BETTER OR WORSE?

Two main purposes stimulated the undertaking of this qualitative part of the shale community study. First was the collection of information on factors other than shale which were likely to affect both health and mortality patterns in the communities; such information was generally unavailable from published sources. Secondly I attempt to evaluate the effects of these factors on the shale communities and compare their consequences to those in other local communities, elsewhere in Scotland and in Britain. This latter is important because, in the mortality study, a comparative methodology is really the only way of quantifying excess risk due to shale. Such analysis could equally well be quantifying excess risks due to poor housing, poverty, diet or other factors known to be related to levels of mortality and thus it is important to have a perspective on the standard of living to which the majority of people were exposed. A third motive behind the interview study was derived from the assumption that the mortality study was a 'community' study. Only by talking to people about their lives can one begin to appreciate whether such a community concept is a valid one, and whether, in this case, shale was a unifying feature to which all were exposed in some way or another. External comparisons are essential to separate out both the physical and social features that are particular to that community and to determine what is part of wider society.

The previous chapters have documented aspects of life at the community level which are likely to influence population measures of mortality. The interviews concentrate on the period before the second world war as these were the major influences on most of those deaths reported in the mortality data - cancer deaths 1953-62 and all deaths 1963-81. Those interviewed are not only the survivors who were contemporary with those whose deaths are analysed, they are also those who experienced life in the shale communities whilst shale was still an active and important industry, and thus, more than younger individuals, they are able to provide accounts of the degree to which shale and the shale industry impinged on their lives.

One problem with presenting oral history data as has been done above is that, although a fairly comprehensive and coherent picture can be provided of the daily working and non-working lives of the population and the factors which affect their health, the principal comparison which the reader is likely to make is between the past and the present. In terms of material and physical conditions it is almost inevitable that the past will appear less safe, poorer, less healthy and less sanitary, although the latest OPCS occupational mortality supplement (12), suggests that a reverse trend may now be occurring. Indeed the principal impression from the interviews was of an overriding poverty, life dominated by work and continuous heavy domestic labour and inadequate housing. At times it seems that the only mitigating factor to pre-second world war life in these communities was the companionship and sense of community and support provided by friends and neighbours. All those interviewed complained that this neighbourliness had gone; the majority without articulating to what extent it had been a function of necessity where most of life had to be led on the streets because of cramped housing, where poverty and temporary indebtedness meant that occasional borrowing and lending from neighbours made day to day survival much easier, and where support provided by the state was minimal.

In this chapter I draw on material from autobiographies, contemporary accounts and statistical documentation to put the shale communities' environment, hazards and living standards into a wider context.

9.1 Poverty

9.1.1 Contemporary Measures of Poverty

An underlying theme throughout the interviewees' lives was an experience of poverty that all felt was now left behind, but which had dominated their childhoods and early adult life. Various contemporary studies outlined measures of absolute poverty, below which it was felt that the bare necessities of life could not be met; i.e. this was the amount of money available for family expenditure which would provide the minimum of food, clothing, housing and heat. Roberts (13) quotes Rowntree's study in York in 1901 which pronounced 21/8d to be the minimum required for a family of five. This was the amount to be spent on the family and excluded the wage earner's pocket money to him or herself. Maud Pember Reeves' study in Lambeth, London, from 1909-1913 (14) looked at the 'respectable poor', those 'respectable persons whose work is permanent, as permanency goes in Lambeth', with a steady income and a home rather than the poorest 'the river-side casual, the workhouse in-and-out, the bar-room loafer' (Reeves page 2). She considered that 'round about a pound a week' was the minimum required and families in her study had incomes of 18/- to 28/- a week (later raised to 30/-). Her detailed breakdown of family budgets as well as precise descriptions of the circumstances in which they lived provides a good contrast for the shale communities. Later estimates of the wage level which provided minimum subsistance for a family of five were in 1925, 37/6d (Bowley and Hogg) and in 1935, 53/-, from Rowntree's later study in York (both quoted by Roberts (13).

9.1.2 Poverty in the Shale Communities

Despite fluctuations, wages in the shale industry were generally well above these minima, although family sizes tended to be rather larger than the five individuals on which the figures were based. It has been suggested that regional variations in the cost of living were fairly minimal (Hunt in Church (15)) up until at least 1914, apart from rents which were higher in urban areas, and were certainly much higher in Pember Reeves' study of Lambeth than they were in the shale villages. She quotes rents of 4/- for a single room and up to 8/- for two or three rooms, whereas even in the 1930s most shale community houses cost less than 5/- a week. In Uphall in 1924 Mrs N was paying 7/6 for a house with two bedrooms, running water, an inside toilet and a garden, which was considered to be very luxurious and expensive accommodation and much better than anything in Pember Reeves' study.

Until 1919 shale miners' wages were regulated according to those of coal miners, and although Church's evidence puts these at about 20% lower in Scotland than in the rest of the UK for the period 1900-1913, a hewer's wages were still well above the weekly earnings necessary to cover the cost of living in comfort (Church, Fig 7.2 (15)). This seems inconsistent with the interviewees' descriptions of poverty, but it must be remembered that hewers, or facemen, were the wealthiest of all the workers. Drawers already earned less than facemen and those who worked in the oil works were even less well paid. After 1919 the oil companies decided that shale workers must be paid in line with the economic state of the industry and wages fell rapidly. According to the 'Report of a court of

investigation concerning the wages position in the Scottish shale oil industry' (7), the highest point in the nominal shift rate for face workers was 19s (at an average five shifts a week this would bring in £5/4/6 a week) in 1920. In 1921 successive reductions of 2s, 4s and 3s brought this down to 10s a shift (57/6 a week), still above Bowley and Hogg's minimum of 37/6 for 1925. The actual average wages for facemen, drawers and oncost men for 1925 show that drawers and oil workers earned about .69 of facemen's wages whereas oncost men earned about .62 of facemen's wages, putting their weekly wages in 1921 at an estimated 40/6 and 35/6 respectively, much closer to the poverty level. By 1923 oilworkers had a minimum wage of 7/- a shift; as they worked continuously and averaged over six shifts a week this meant a wage of about 45/6 a week.

Thus in the early 1920s although the oil shale workers had started the decade in relative comfort with wages well above the poverty line, problems within the industry and successive wage cuts meant that those interviewees who reported poverty were really not exaggerating. Also the poverty levels outlined above were the absolute minimum, allowing for no saving, no holidays, no drink and few clothes. The table below, reproduced from the above 1925 report shows the numbers employed and the actual wage levels for the four weeks ending 3rd November 1925. This was the week before a 10% cut in wages was proposed in order that the companies could guarantee that all mines and works would remain open until March 1926; the men refused these reductions and a complete stoppage of all mines and works occurred. The dispute was finally resolved on 21 December after six weeks, and a 5 percent wage reduction agreed. It was during this dispute that many people remembered terrible hardship and hunger, with soup kitchens and fathers going away to busk and to beg.

Table 9.1 Numbers employed in the shale industry, wages before, and estimated wages after the 1925 dispute.

	Number employed	average earnings 1925	estimated av.earnings 1926
miners - facemen	1201	£3.19.3	£3.15.3
drawers	1233	2.15.0	2.12.3
youths	60	1.11.6	1. 9.11
oncost below - men	832	2.13.0	2.10.4
- boys	269	1. 6.10	1. 5.6
oncost above men	658	2. 9.5	2. 6.11
Oil works, candle house and acid works			
Men	2360	2.15.3	2.12.4
boys	196	16.11	16.1
women	11	1. 4.11	1. 3.8

Source: 1925 Report of a Court of Investigation (7).

From this table it can be seen that even after the reduction in wages, shale workers' earnings were still higher than the base poverty line. Average wages however conceal much variation and, particularly among the oncost men and the oilworkers, there were probably many earning well below the average. Also a far

higher proportion of the workers were in the lower paid oilworks jobs rather than being highly paid facemen.

After all the disputes and closures in the 1920s wages increased little until the beginning of the second world war when the shale industry hit a slight boom and the whole material standard of living began to change. For much of the 1930s the majority of miners and oilworkers only worked three weeks out of four, in an attempt to preserve jobs after the closure of other mines and works. During this time Mr L was getting £2/15/- for his three weeks of work and 26/- for his week on the dole. Even in the weeks of work this is extremely close to Rowntree's 1935 poverty level of 53/- in York and when the weeks of dole are taken into account, well below that level. At this time Mrs M said her husband was lucky if he was earning £3 a week as a faceman and Mr U working in the cooperative (much better paid than the oilworks) got £3/5/3 in 1938. The shale workers were not the only ones with very low wages; Mrs R's husband, a coal miner in Breich earned 39/- a week in 1935 which was way below Rowntree's poverty minimum. They were not too hard up because they had no children and their rent was only 3/9, but others with large families had similar incomes.

Thus it seems that, on average, the oil shale workers were well above the poverty line throughout the first two and a half decades of the century, but then their wage levels began to slip compared with price rises and wages elsewhere, and from the mid 1920s up to the beginning of the second world war there were probably more people closer to recognised poverty than before. By then the area may well have been poorer than many other communities.

Average wages are not an ideal way of considering poverty levels however, because they do not give (a) a measure of the amount of money available for the household or (b) an indication of the variability involved. They mask the contributions provided by children who are old enough to work. Most started work at 14 and in 1925 there were 587 boys under 18 in the shale industry alone (see Table 9.1). Most children contributed the majority of their wages to their parental household until marriage, which was, on average, in the late 20s in these areas. There were other households where children's earnings were an essential factor in combatting poverty. The Pumpherston school minutes (15) record that in 1916, 'applications for exemption [leaving school before 14] are more common than in previous conditions'.

Compared with the families of five for whom the poverty levels were outlined, many shale families, at least up until the mid thirties were much larger. Newell (10), in a study of the fertility transition in Britain, shows that of all British counties, in 1861 West Lothian had the highest overall fertility and the second highest marital fertility. In 1931 West Lothian was again top of the 73 counties in overall fertility and was the 8th highest county for marital fertility, with the highest index of married women in all the Scottish counties. This high level of fertility was not maintained and by 1981 Lothian Region ranked amongst the regions with the lowest fertilty. The consequences of continued high fertility in West Lothian, were greater pressure on more families' resources than in other places; thus higher incomes were needed to bring families above the minimum poverty levels.

Another problem in using average wages to measure poverty is that, in the shale area as elsewhere in Britain, those who really suffered were the sick, the widowed and the unemployed as well as those who only had an irregular wage. Pember Reeves' (14) shows this in the family budgets provided; those with irregular wages, or workers who were paid daily, could not plan ahead, were even more susceptible

to particular crises and ended up more frequently in debt with the extra problems that that entailed. Until the 1920s there were few problems with irregular employment in the shale communities and in fact they were probably more secure than the majority of working areas in Britain, partly because retorting was a continuous process and thus work was more guaranteed than in, say, coal mining, where there were frequent idle days (16), or ship building. In their article on marriage and domestic violence in Liverpool in the inter-war years, Ayers and Lambertz (17) make it clear that one of the main causes of both poverty and marital stress was the insecurity and temporary nature of work available; compared with this the shale areas were well off.

After 1925 when 30% mines and oilworks shut, the shale areas became as vulnerable as other parts of Britain, and it is mainly in these periods of lockouts and unemployment that the interviewees describe the terrible poverty that was around. The Pumpherston school logbook (15) notes for 1926 that 'the attendance is much affected by the absence of certain children who plead that, having poor footwear they cannot attend school in wet weather'. Mr D mentions the six men waiting at the pithead for your job, and though few of those interviewed experienced the dole directly except for the one week out of four in the 1930s, many other families were dependent on this as their only source of income, and their poverty was as bad as that found anywhere else in the country. Although the wages had been relatively good, few people had ever managed to save anything out of them and no-one had any reserves. Teachers at school used to make requests for children to bring in clothes for those who didn't have any, a humiliating experience for any child. The 'parish' only gave money and food in cases of desperate need, and they provided nothing for any men in the family.

Other groups who suffered were the sick and the widowed. In case of injury the oil companies paid some compensation. Mr B who in 1935 was earning as a drawer 8/9d a day, would for a five and a half shift week have earned about 48/1d (below the poverty line). He was injured by a rock fall and spent 13 months off work during which time he received 22/9d a week compensation. Out of this rent was 3/2d and he and his wife lived off 19/7d. They never drank, never smoked, never went to the pictures and:

You didny get any clothes, and.... you just lived. It just went on foodstuffs, because that was the rent paid. *Mrs B*

An example of the poverty caused by the death of the main breadwinner was Mr L whose father died in 1915 when he was 13, the oldest of seven children. His mother went 'on the parish' and got 10/- a week; he got an exemption from school and started to work 11 hours a day at the oil works for 9/- a week, and his sister, aged 12, got an exemption to go into service. His younger sister recalls having no shoes, few clothes, nothing at Christmas and an unjust world. The problems of women left without a breadwinner in an area where there were few opportunities for women to work, were probably similar to those elsewhere in Britain. None of the interviewees had as harrowing a story as the autobiography of Kathleen Dayus (18), which charts poverty for a widow with four children in Birmingham in the 1920s and 1930s, but mentions of other people and families indicate that similar life stories were quite frequent.

So the shale communities had their share of abject poverty as documented in other areas of Britain, but for those in work, wages were sufficient, though not permitting luxuries or savings. Autobiographies of life in the Northumberland coal mining communities (16,19) describe more wealth, material possessions and larger houses than in West and Mid Lothian; by comparison Scottish shale miners and probably Scottish coal miners too, were much poorer.

9.2 Housing

The housing provided by the oil companies, was, when it was built, considered to be of better quality than contemporary working men's housing elsewhere in Scotland. Kennedy states in his thesis (20) that 'settlements in oil shale fields were comparatively better off in relation to the areas to the west of them.... the coalfields. Unlike the coal mining towns the shale oil towns were generally not developed until after 1860 by which time several Reform Laws ensured that their houses would reach at least minimum standards of comfort. The pollution, both visual and physical, from the shale oil industry was seldom as severe as that experienced in the coal mining towns.' This improvement over most Scottish coal miners' houses did not necessarily imply luxury; Church says of the latter: 'Colliery housing in Scotland was almost universally inferior [to that in other coal mining areas] and there can be little doubt that throughout the period [1840-1913] conditions were worse than any other region' (15).

In the construction of Addiewell, James Young insisted that slates be used for the roofs rather than the roofing felt which was desired by other directors on the grounds of cost (20). By the standards of housing elsewhere in Britain however, the shale workers' housing was very cramped, with the vast majority of houses having only two rooms rather than the two up, two down, or at least two down with an attic found in Northumberland coal miners' rows. Although Pember Reeves (14) complains about the families forced to live in two rooms with no separate bedroom, practically no oil shale workers had such luxuries until the 1930s and many, in Broxburn, not until the 1960s. Added to this the larger families, housing was certainly worse than in England.

Scottish housing, however, and not just that of the coal miners, was reputed for its poor quality, and urban housing in Glasgow and Edinburgh was probably even more cramped and less hygienic than in the shale communities which at least were not four- or five-storey tenements separated by alleyways. Scottish national mortality levels which have been used for comparison with shale areas are heavily weighted by people living in other deprived areas, particularly Glasgow and Clydeside, and it is probably true to say that, compared with contemporary Scottish housing, the housing available in the shale communities was generally around or above average in quality. Complaints about the lack of hygiene of box beds were applicable to most oil company housing, but equally to most tenement and coal miners' housing too. Coal miners' houses in the adjacent civil parishes, used as comparison areas in the mortality study were no less crowded. E.A.Wilson's autobiography (21) notes that on her marriage they went to Bents, a coal mining village in Whitburn Civil Parish: 'We went to stay in one room as there were no houses to let, nearly everyone had their room let to help with the rent'.

Armadale, one of the small burghs in the 'no shale - industrial' comparison area was picked out in both the 1911 and 1921 Scottish censuses (22,23). All the small burghs in Scotland with a population of more than 2000 were ranked for a range of indices such as overcrowding, people per room, number of families in single roomed houses etc. and for the vast majority of these measures Armadale

ranked as amongst the worst in Scotland. In 1911, 31.7% of its houses were single rooms (second highest percentage in Scotland), 27.1% of the population lived in single roomed houses (highest percentage in Scotland) and 55.7 % lived in two-roomed houses (8th highest percentage in Scotland). Consequently only 17.2% lived in more than two rooms (lowest percentage in Scotland) and over 50% of the population lived more than three to a room.

9.3 Health and Health Services

Those who worked in the shale industry had easier access to better health services than many of those outlined in autobiographies or Pember Reeves' study. The system whereby every man contributed a penny a week out of his wages, or two pence if married, meant that worry about doctors' bills was not something that troubled people. Crises about paying the doctor, which could be particularly severe if it was the wage earner who was sick, was one of the major troubles for Pember Reeves' families, and probably for the majority of workers at this time. Here the paternalistic attitude of the shale industry paid off, and probably meant that people had more, better and earlier health care than elsewhere. They were also covered for hospital treatment. Many people contributed to Friendly Societies for payment whilst off sick, which, when they were earning they could afford to do, and probably rendered the sick periods slightly less traumatic than in areas where working people couldn't afford the contributions.

Another major expenditure in Pember Reeves' study, which she particularly condemns, is the weekly contribution for burial insurance. Although the oil companies gave their workers few actual perks, cheap coffins were one thing that was provided; both for children and for adults. Apparently these were a considerable saving on those provided by undertakers.

9.4 Women and their Role

Chapter 5 discussed women and the apparent hard life they had, with few opportunities outside domesticity, heavy labour and much childbearing, and how their role was perceived basically in the context of the family and the home. 'Labour and Love' (24) and the autobiographies (16,18,19,21) put this into perspective. The shale areas were typical of most contemporary working class areas, where marriage was perceived in terms of a contract where the husband's role was to provide the income, and the wife's to manage it. Where it was insufficient, she had to supplement it, as in Ayers and Lambertz's study in Liverpool (17), usually without her husband being aware that she was usurping his role. They say: 'good management was crucial to married women's self respect and identity', and this was equally true in the shale area. The majority of interviewees talked with great pride of their mother's ability to manage, to feed them despite a lack of money, to keep the house clean under all circumstances.

Even in areas where women did work outside the home, as in the textile towns of north west England, according to Roberts (13) they were 'motivated to work by economic necessity and not by desire for liberation'. In these towns men's wages were so low that women had to work in factories and mills; in fact it was the expectation that households would have two wage earners that maintained the low wages for men. The jobs that women did do in the shale areas were identical with those available in coal mining villages in Scotland and England: Mary Wade (16) states that the only opportunities in Northumberland were domestic, 'in service', and Linda McCullough Thew's job in the store (19) was regarded as one

worthy of much envy although there, as in the shale areas, shop jobs were the only alternative to service. The lack of opportunities for women in the shale areas was repeated throughout working class communities.

Women who were forced to work, such as Kathleen Dayus in Birmingham (18), had a terrible struggle because of the low wages, and the lack of respite in the domestic expectations from them. In terms of actual daily comfort it was probably those women with narrow domestic horizons, such as those in the shale communities who had the easier lives. Throughout the country women were struggling with tin baths, washing outdoors, endless mangling, and standards of cleanliness and scrubbing to which they had to conform. It was only middle class women who had the luxury concepts of job satisfaction, of getting out of the house and broadening their horizons, because they could afford to apportion out some of their domestic duties. Even for them in the 1920s and 1930s marriage and domesticity were considered to be a full time career, and married women had to give up teaching or work in the civil service.

9.5 The Cooperative

One institution which may have rendered life easier in the shale communities, and in many coal mining areas too, was the cooperative. Not only did this provide locally food, clothing, shoes, hats, and almost everything else, the dividend was one form of saving that enabled everyone to pay off a few debts and buy clothes without having to go without food. Pember Reeves pitied the women who had to buy a little at a time from the corner shops; women in all the shale mining villages had access to the cooperative, which also ran vans to the more remote communities, and they always had the benefit of the dividend.

9.6 Conclusions

Were the shale communities better or worse off than other contemporary working class communities? were the levels of poverty particularly high? is their health likely to have suffered and brought with it higher levels of mortality? The answer is probably not, at least in relation to contemporary communities, particularly in Scotland. Had they been compared with industrial communities in England the answer might be different, but in Scotland, housing, standards of living, security of wages were probably worse elsewhere, even in the slump years of the thirties. Although shale workers then were working only three weeks out of four, the majority did have three weeks of adequate wages, unavailable in many other industrial areas, and also, for the first time in their history men had time for leisure - some people really appreciated this time despite the financial hardships.

The health of people did suffer from the physical and material hardships; the high levels of infant and child mortality and of maternal mortality, as well as the causes of death in the 1911-31 period demonstrate this. But other areas had the same problems, and it is really only in comparison with modern mortality levels that we can detect the differences, or by comparisons with contemporary middle class communities. This had nothing to do with shale but was part of the general inequalities of life which persist today and emerge in each new OPCS report on occupational and social class mortality differences (12). If anything, the slightly paternalistic attitude of the oil companies, may have rendered life in the shale communities better than in neighbouring coal mining areas. Housing was better, medical care was better, and for some of the time wages were better too.

In all cases men worked long hours in a rather unpleasant job, the managers and land owners made plenty of money, women had a hard life with little more than domesticity and until the second world war came there was little change. It is likely that the mortality levels measured from 1953-1981 to some degree reflect the hardships that people went through, but as most working class communities had the same experiences, identification of what was due to living in the shale communities in particular, and what was a function of general poor standard of living will be difficult.

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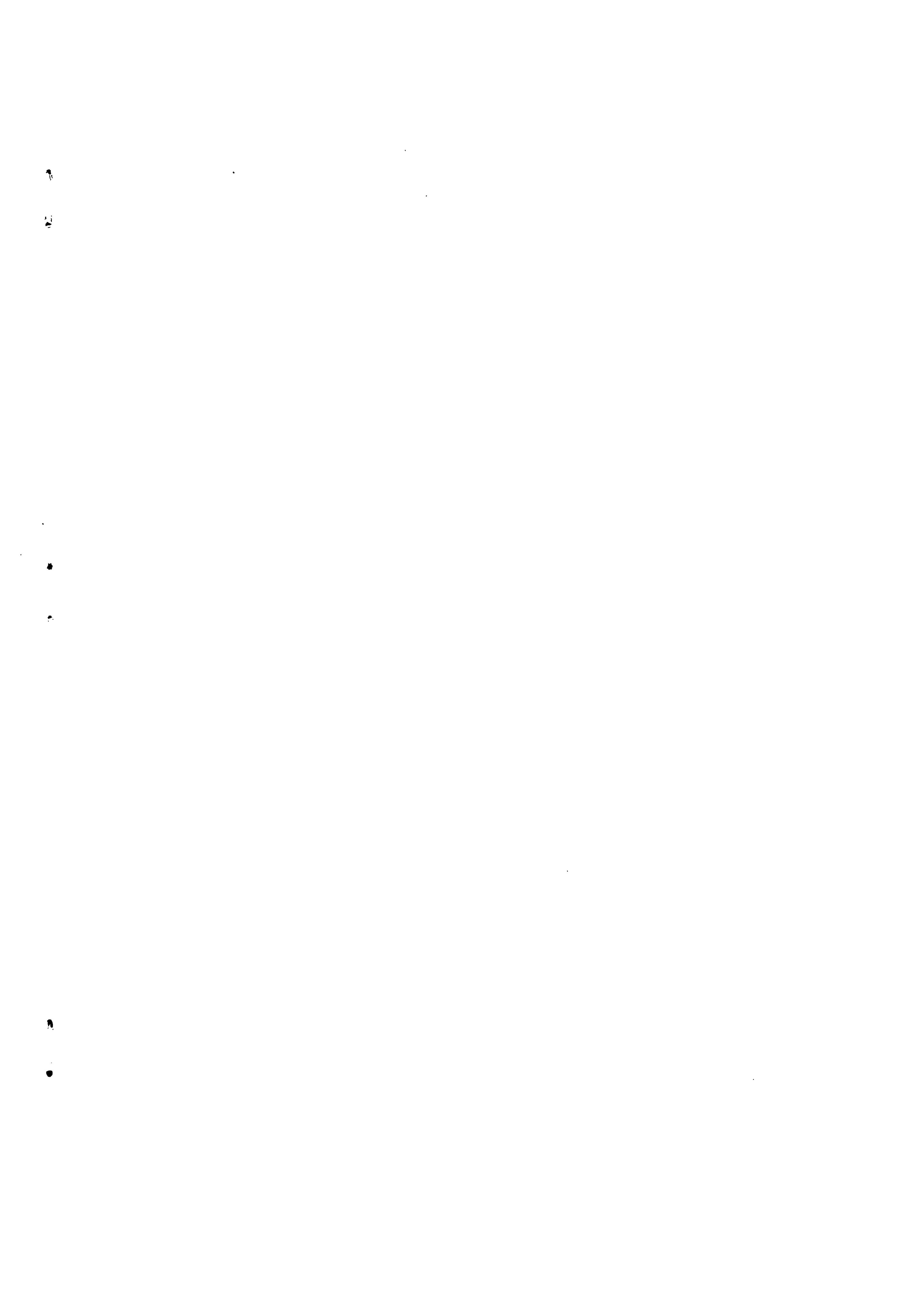

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