INFANT SURVIVAL CHANCES, UNMARRIED MOTHERHOOD AND DOMESTIC ARRANGEMENTS IN RURAL SCOTLAND, 1845–1945

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Introduction

This paper assesses patterns of infant mortality and childhood survival in areas of Scotland where illegitimacy was high during the later nineteenth century and earlier twentieth centuries. The focus will be on nominal record linkage based on rural parishes in north-east and south-west Scotland between 1845 and 1945.

The period chosen reflects the accessibility of sources and covers the years during which the administration of poor relief was conducted via the parochial boards.[1] During this time the growing divergence between English and infant mortality rates gave rise to new and perplexing problems that remain unsolved. While infant and child mortality are broadly regarded, as sensitive indicators of social conditions, domestic circumstances require closer specification if significant causes are to be isolated. Although at a regional level census figures and Registrar General for Scotland's *Detailed Annual Reports* allow for the establishment of age- and disease-specific causes of death, on a parish scale, the numbers are too small to be statistically viable. However, considerable insights may be gained from a detailed qualitative analysis. Thus, a micro-level approach has been developed using nominal record linkage to trace individuals across a range of sources and reconstruct biographies.

Having selected one high-illegitimacy parish from each region—Rothiemay in Banffshire in north-east Scotland and Torthorwald in Dumfriesshire in the south-west—four nominal data sets—civil birth and death certificates (1855–1955), census enumeration schedules (1861–1891), and relief applications (1845–1930)—were created. These were then merged so that, for each parish, linked details for every child were collated into biographies. In some cases, a child's birth or death may be all that was recorded, but for many children who survived an entry appeared in the following census, thus supplying details of household circumstances.[2] Such information could then be supplemented by detailed consecutive entries of applications for poor relief, thus allowing longitudinal reconstruction. This involved detailed transcription of all biographical material relating to applications for poor relief where children were ten years of age and under. The data were then filed alphabetically.

The research builds upon extant research into the family circumstances and welfare experiences of unmarried mothers in nineteenth century Scotland, the purpose being to reconstruct a biographical picture of the factors affecting the balance between collective and household support for unmarried mothers and their children at different points in their individual life courses.[3] The data from which such biographies are generated can be used to link the household and welfare circumstances of both married and single parents to the life chances of their offspring. The family arrangements of illegitimate infants and children who died can be compared with those of survivors, legitimates forming a control group. Thus the study aims to draw on and contribute to an emerging body of work on medical and social aspects of infant mortality in nineteenth-century Scotland while developing an analysis of childhood death and life chances that relies on unexploited but potentially valuable sources.[4] In Scotland, access is granted to important categories of civil registration and welfare records collected in the period after 1837 and into the present century that are not available for academic consultation in England and Wales. In the long term, and more broadly, therefore, this research is designed to stimulate awareness of the possibilities inherent in Scottish material for the study of late nineteenth- and twentieth-century social and demographic trends.

Historical background

From 1860 until 1912 the overall infant mortality rate for Scotland was lower than that south of the border. However, during the earlier twentieth century, Scotland's rate began to decline at a much slower rate than those of England and Wales. Prompted by the necessity to explain and reduce this puzzling discrepancy, the Scottish Health Department commissioned an investigation under the chairmanship of Sir John Boyd Orr.[5] The Committee's published evidence and recommendations emphasised the significance of environmental factors, indicating that death was class determined and laying stress on maternal malnutrition, overcrowding and the shortage of welfare clinics.

Although, nationally, the pattern of deaths indicated the significance of urbanisation, relatively high levels prevailed in some rural pockets. In the first month of life, babies were dying frequently because of 'congenital debility' due to causes 'operative before birth' (reflecting the poor health of the mother), while between one and twelve months it was infectious diseases attributable to 'adverse environmental conditions' that were mostly responsible. The quality of the mother's milk was also implicated. More recent studies also conclude that the standard of living was the crucial variable. The discussion of 'the urban effect' is relatively well-advanced, and it is clear that overcrowding and unemployment played a major part in sustaining the dreadfully high death rates in the single-ends of Gorbals and Govan, as intestinal and respiratory infections continued to exact a high toll.[6] In 1907, the Aberdeen Medical Officer of Health, Matthew Hay, dispensed staff armed with thirty-question schedules to visit the parents of all infants who had died under age two. The inquiry revealed the precise circumstances of some 659 deaths. Among the findings were the fact that 92.72 per cent (611) occurred in houses of three rooms or fewer, 68.13 per cent (449) in houses of two rooms of fewer, leaving just 7.28 per cent (48) in houses containing

four or more rooms. Secondly, bearing in mind that crowding tends to be greater in smaller houses, Hay found that 'the mortality rate in houses with an average of more than three persons per room was twice as high as in houses with an average of one person or under'.[7] He went on to note that: 'Generally, for every disease the mortality decreases with increase in size of house ... the death-rate from prematurity among breast-fed children distinctly lessens with increase in size of house, as it would appear to indicate that prematurity, as the single largest cause of death, might be considerably reduced if only the prematurely born child could be nurtured under better conditions'.[8] Unfortunately, I know of no comparable investigations conducted in rural environments which, despite the availability of sources, remain undocumented.[9]

In Scotland the recording of causes of death was inadequate before the advent of civil registration in 1855 and diagnostic inaccuracies and terminological ambiguities weaken the validity of what data there are for the earlier nineteenth century. Thereafter, information from civil certificates may be linked to census figures to construct age-specific mortality rates according to particular diseases. Such statistics indicate that the positive impact of diminution in the incidence of a limited spectrum of infections was markedly uneven. Although a decline in overall death rates became apparent from around 1870 infant mortality remained high. Between 1860 and 1890 two-thirds of the reduction in mortality in Scotland occurred within the 1–9 age range, but neonatal mortality failed to decline and maternal deaths remained stable.[10] The incidence of death among illegitimate infants was far higher than among the legitimate and Scottish illegitimacy levels were consistently higher than in England and Wales. And, significantly, it was rural regions that recorded illegitimacy ratios well above the Scottish mean. Nevertheless, from 1860 until 1912 the infant mortality rate for Scotland was lower than south of the border.[11] Paradoxically, in the later nineteenth century, Scotland had the odd distinction of combining 'a relatively low infant mortality rate with high illegitimacy, which is surprising since in both countries the mortality of illegitimate infants was far higher than of legitimate'.[12] This pattern suggests that in Scotland considerable numbers of illegitimate children must have been born and survived in conditions approximating those of their legitimate counterparts, although a minority died because of comparatively poor health circumstances. In what ways, therefore, did the circumstances in which bastards were born and reared, rather than the simple fact of being born out of wedlock, contribute to the pattern of mortality decline? Clearly, both phenomena were associated with poverty, but to what extent did the character of rural poverty in particular areas shield infants from its worst effects?

Connecting mortality and motherhood

Whilst infant mortality was predominantly urban, illegitimacy was a mainly rural affair. Between the mid-nineteenth and mid-twentieth centuries patterns of illegitimate fertility in Scotland demonstrated a very marked regional persistence. The rural, farming regions of the north-east and south-west showed consistently high ratios, with many parishes returning proportions of over 25 per cent, whilst the cities and industrial areas of the Central Belt presented only average quotas of around 8 per cent. In later nineteenth-century Europe,

illegitimate fertility presents a distinctive regional distribution, with the extent of variation between localities greater in Scotland than in England although less than in Ireland and considerably less than in Portugal.[13] A space-time analysis of variance shows Scotland to have differed from England in two respects: the spatial variable was more conspicuous than the temporal and persistence values by locality were, intriguingly, higher for legitimate than illegitimate fertility. As Laslett remarks, these differences appear to reflect Scotland's overall demographic individuality.[14] A comparison of quinquennial bastardy ratios by counties between 1855 and 1939 illustrates a pronounced regional emphasis, with levels consistently highest in the north-eastern and south-western peninsular provinces. Banffshire (in the north-east), indeed, maintained its position as the county with the highest index of extramarital fertility (I_h) right through from 1861 to 1921,[15] and comparison of age-specific illegitimate fertility rates indicated that in 1855 'a teenage girl in Banff was more than twenty times as likely to have a bastard as one in Ross'.[16]

By contrast, infant mortality was traditionally highest in the big cities, especially Glasgow, where rates remained alarmingly high until World War II (at 87 per thousand in 1938, it compared with 34 for Chicago). Yet both north-east and south-west Scotland were distinctive, in that between 1861 and 1901 their infant mortality rates [hereafter IMRs] were amongst the lowest in Britain. Of the 55 British counties and regions,[17] only Strathclyde North, Dumfries and Galloway, Grampian, and Highland recorded IMRs of less than 100 prior to 1901.[18] The Grampian region (the north-east) was significant in that between 1861 and 1901 its IMR rose gradually from 86 per thousand live births to 116; Dumfries and Galloway (south-west) was marginally more consistent, fluctuating between 95 and 107. To a degree the rise in Grampian was due to the urban influence of Aberdeen, which, by 1901–5 had an IMR of 143 (worse than that of Glasgow and second only to Dundee among the Scottish cities). By 1938, with an IMR of 71 per thousand, Aberdeen fared better than Dundee (77), but markedly worse than Edinburgh (61), Greater London (50) or New York (38). The Boyd Orr Committee attributed differentials to poor housing conditions and poverty, in particular to overcrowded tenements which encouraged the spread of droplet infections and where sanitation was inadequate. Of greatest interest to us, however, is the finding that, although by 1941 all 55 areas had reduced their IMRs substantially, with IMRs of 70 and 68 respectively Dumfries and Galloway, and Grampian, now returned the fifth and sixth highest IMRs in Britain.[19] The Grampian case was unusual in that its urban illegitimacy was also comparatively high and was probably a contributory factor.[20] But if the continuing urban effect limited the decline in Grampian, this was not the case in Dumfries and Galloway which contained no cities and only one town with a population above 10,000.[21]

In the countryside, as elsewhere, illegitimate children were proportionately more prone to early death than the legitimate. However, considerable variation existed between one area and another. Our two study parishes present a case in point. Rothiemay in Banffshire and Torthorwald in Dumfriesshire were both farming parishes. Between 1855 and 1900, Rothiemay had an illegitimacy ratio of 24 per cent while Torthorwald's was 29 per cent—both high. Furthermore, the proportion of illegitimate to total infant deaths was disproportionately (and

Table 1 Distribution of infant deaths, 1855–1900

	Rothiemay (n=106)		
Lifespan	Legitimate	Illegitimate	% Illegitimate
0–1 day	8	3	27.3
7 days	7	4	36.4
29 days	17	12	41.4
6 months	21	13	38.2
1 year	16	5	23.8
0–1 year	69	37	34.9

	Torthorwald (n=205)		
Lifespan	Legitimate	Illegitimate	% Illegitimate
0–1 day	17	4	19.0
7 days	10	7	41.2
29 days	27	28	50.9
6 months	36	26	41.9
1 year	34	16	31.4
0–1 year	124	81	39.5

Source: Civil Registration Certificates, New Register House, Edinburgh.

expectedly) high in both cases (35 per cent in Rothiemay and 40 per cent in Torthorwald). Nevertheless, as Table 1 indicates, there was a remarkable divergence in infant mortality rates.

In comparison with a national IMR of between 118 and 127 over the period,[22] Rothiemay's rates were low, both generally (60 per thousand—less than half the Scottish mean) and for illegitimates (96 per thousand); but in Torthorwald rates were far higher (143 per thousand and 190 per thousand respectively). The discrepancy was particularly marked amongst infants dying in the first month, with Rothiemay's very low overall rate (29 per thousand) complementing the figure for illegitimates (49 per thousand) while Torthorwald's 62 per thousand matched a rate of 87 for illegitimates. In Rothiemay, the ratio of illegitimate deaths to total deaths falls appreciably after the first year of life, with just 21.1 per cent of deaths of children between 1 and 5 years being bastards, a proportion 3 per cent below the illegitimacy ratio over the period. For Torthorwald, however, the respective proportion rises to 31.0 per cent, a ratio that exceeds the illegitimacy ratio by some 2 per cent. Since the pattern of disease incidence was similar in both areas, we have to conclude that these divergences must largely be explained by environmental causes. Other things being equal, the inference to be drawn is that perinatal domestic circumstances contributed to better health and survival potential in Rothiemay than Torthorwald.

Rory Paddock finds similar correlation's between high illegitimacy and high infant mortality in his comparative study of two Dumfriesshire parishes, both of which are adjacent to Torthorwald. In Dryfesdale (illegitimacy ratio 10 per cent) and Lochmaben (22 per cent), legitimate infant mortality rates were respectively 72 and 97 in the five years to 1881 (well below the national average of 127), while illegitimate IMRs were between 168 and 222 (well above the Scottish mean). In Lochmaben, the illegitimate birth cohort demonstrated an IMR double that of their legitimate peers, whilst in Dryfesdale—with a lower overall incidence of bastardy—the proportion was over three times greater.[23] Compared to the impact of illegitimacy on life expectancy in these southwest parishes, Rothiemay clearly emerges as a decidedly healthy place to be born, legitimate or otherwise. Whereas high illegitimacy appeared to lead to high infant mortality in Dumfriesshire, in Banffshire the marital status of the mother appears to have had a far less significant effect.

Unregistered infanticide?

Against this, however, one must set the lack of professional monitoring regarding the deaths of illegitimates. For 10 out of 19 bastards who died within a month of birth in Rothiemay no qualified medical attendant had been present to certify the cause of death; amongst legitimate infants this was so in just 3 out of 32 instances. In three cases of uncertified death amongst illegitimates (and one legitimate case) the probable cause was given as 'asphyxia from being overlain in bed'.[24] Although such isolated instances far from guarantee even the occasional instance of infanticide, the fact that post-mortems were carried out on three illegitimate infants, but none otherwise, does suggest an element of official suspicion.[25]

It has been argued that pre-Victorian infanticide probably followed the birth of a bastard in fewer than 1 per cent of cases.[26] However, in the absence of medical attendance, death by overlaying, supposedly accidental, was said to have been communicated to local registrars in the 1860s by 'elderly women of suspicious appearance and character ... who can scarcely tell their errand ... without betraying a guilty blush'.[27] This comment relates to urban Dundee, where different circumstances may be said to have prevailed. Nevertheless, an anonymous pamphleteer, styling her [or him?]–self 'A North-Country Woman', maintained that in the northeast countryside the main cause of infanticide was the refusal of alimony to desperate unmarried mothers by fathers who had deserted.[28] Such a contention forces us to look to Poor Law records for corroboration.

The onset of motherhood without a source of regular financial support was frequently crippling, but it was considered 'better for the parish to support the family, than incur the expense of prosecuting the parent who deserts his offspring'.[29] Where fathers who had deserted were run to ground, non-payment continued to be a common cause of distress. Money did arrive for some mothers, though seldom from every father responsible and in varying amounts. There are instances where one from two fathers contributed, where neither contributed, or where one from three did so. Moreover, payment was sometimes forestalled.[30] In

the event of one two-week old child dying in destitute circumstances; the father was prosecuted for non-payment. However, such a case was rare, as was the single instance of relief being discontinued because the father of a child had reclaimed it.[31]

The precarious position in which some women found themselves, particularly after the punitive recommendations of the 1870s, caused some official disquiet. After 1868, the Board of Supervision urged parochial boards to offer only indoor relief to unmarried mothers. Pressure continued throughout the 1870s as 'a distinctive ideology of pauperism—adequate but discriminatory relief—was created'.[32] And in 1877 the Sheriff-Substitute for Aberdeenshire remarked on the close correlation between illegitimacy and infanticide, a link which it is impossible to verify. By refusing to enter or remain in the poorhouse, mothers not only deprived themselves of all formal support, but, as an earlier Sheriff-Substitute commented, putative fathers were 'enabled with impunity to neglect their children' because Parochial Boards would not now prosecute them in terms of the Poor Law Act.[33] Many, however, succeeded in qualifying for interim outdoor relief if, like one woman, they were 'far advanced in pregnancy with no likelihood of establishing who the father was'. But, although only one instance of concealed pregnancy occurs in the records studied, cases of infants being overlain or asphyxiated are less scarce and malnutrition cannot be discounted as a cause of death.[34] In 1876, an official remarked that one local parochial board (Old Deer) 'had been assured again and again by the Medical Officer that refusal to afford outdoor relief in such cases led almost inevitably to the death of the children, from inattention and starvation', since it was impossible 'to induce mothers to go to the Poorhouse, and the children are farmed out with the too well-known result of baby-farming'. The Board of Supervision investigated, finding that the deaths of 24 children, where no application had been made to the parish, were due to insufficient food, yet they were 'quite satisfied' to find that among seven fatalities where applications had been made, malnutrition was the cause in only two instances. Nevertheless, when women complained of inadequate relief, claims were not generally upheld and the poorhouse was offered.[35]

Forms of support

Earlier analysis has revealed the crucial role played by grandparents as sources of support. Further research should therefore consider the degree to which cross-generational interdependence acted both as a form of insurance for unmarried mothers, and, in terms of the support subsequently offered by their offspring, as a source of care-giving for ageing grandparents. Whilst infant and child mortality are broadly regarded as sensitive indicators of social conditions, specific domestic circumstances require closer inspection if significant causes are to be isolated. Indeed, recent Swedish work indicates that the household and welfare arrangements pursued by individual families are most significant.[36]

In Scotland unmarried motherhood was very highly concentrated amongst farm and domestic servants,[37] and the cushioning provided by grandparents and extended family was crucial: a common experience involved becoming pregnant

while in service locally, 'losing' the father sometime during gestation when he removed to another area, moving to her parents during confinement, then returning to work after a short weaning spell to leave the infant in the care of its grandparents. If the woman bore further children, then she may, as she grew older and her parents became frail or died, become a lone parent, now co-residing with her offspring and temporarily relying on outdoor relief payments to see her through. Different coping strategies probably operated elsewhere, although for both areas cross-matching between family reconstitution forms and census enumeration schedules indicates that a close correlation existed between parishes where considerable numbers of children lived in households with their grandparents and high illegitimacy. In Paddock's study parishes of south-west Scotland, over 96 per cent of legitimate children lived in households headed by a parent (and less than 3 per cent in grandparent-headed homes) in 1881, but nearly 80 per cent of illegitimate children lived in households headed by a grandparent.[38] In the same census year, 80.5 per cent of Rothiemay households containing grandchildren also contained bastards (mostly the grandchildren themselves), whereas only 10.8 per cent of households without grandchildren included illegitimates.[39] The grandparents were not the cause of these children being born, but their existence, and relative willingness to accept babies into their care, helps to account for survival of infants who might otherwise have been aborted, adopted or become dependent upon the Poor Law. Indeed, collective welfare support, arranged by the parish either to supplement extended household care, or to aid lone unmarried mothers, was an important prop. Could it be, perhaps, that differences in the level and type of poor relief, together with differing household arrangements, explain the variation in infant life chances between the two parishes? How might we investigate such a supposition?

Vocabularies of causation

As C. Wright Mills once remarked, actors seek to persuade others of the acceptability of their actions and to justify their motives, by employing particular terminologies and classifications. These he termed 'vocabularies of motive'. By extension, Prior has coined the phrase 'vocabulary of causation' to refer to the ways in which a pathological model of disease frames and fragments the categorisation of deaths while extinguishing social motives: death certificates record proximate medical causes, far more readily than underlying social reasons.[40] In this way, the model of classification renders environmental conditions difficult to discern. While the nosology of different illnesses allows for some measure of inference, the fact that, say, a 5 month-old illegitimate child named John Brown, whose mother was a domestic servant, died from 'broncho-pneumonia' after an 8-day period of illness tells us nothing directly about the social context of his death, save the occupation and marital status of his mother.

However, cross-reference to applications for poor relief can provide considerable circumstantial detail. These folios possess superlative biographical coverage of paupers chargeable to each parish (whether resident or not) since, once admitted, a person retained the same folio despite being struck off for long periods or moving elsewhere. Surprisingly, nevertheless, the source remains unresearched.

The case notes detail income, cause and level of disability, household relationships and changes in circumstances—both immediate and long-term—for unmarried mothers and their children, as well as orphaned, deserted and boarded-out children and the aged poor. Significantly, too, they record pregnant and nursing women who were refused relief and the comments of local inspectors. These latter reflect a 'language of deservingness', evidenced in the differential treatments meted out locally to different individuals and categories of pauper. Moral presuppositions affected treatment and subsequent life chances. Thus, the death of John Brown can be linked to the fact that he was living apart from his mother, who worked in another parish, but paid partially for his upkeep by an aunt, herself a pauper, 'vacuous' and suffering from 'chronic rheumatism'. Relief sums granted to his aunt for his maintenance had been reduced following information as to his mother's earnings and promises from the absent father to pay alimony.

There are a good many criteria on which one might judge the attitudes and influence of local Poor Law inspectors,[41] but the key point to note is that, despite national directives as to treatment, there existed considerable variation between one parish and the next, often within the same region as regards the appropriateness of granting relief to this class of pauper. In Rothiemay, the system was hardly generous, but it did recognise desperation: although sometimes refusing claims from women whose children were over a month old, when a nursing mother with an 18-day old infant turned up in the parish 'homeless and penniless', but with a settlement in another parish, she was instantly relieved.[42] In Torthorwald, case details confirm that relief was similarly given to mothers nursing infants. And women claiming to have been deserted by absconding suitors and children deserted by both parents were always aided. Indeed, the relative leniency of both parochial boards helps to explain the high incidence of bastardy—both were relatively sympathetic places if you were confined with a child and destitute. In 1878, however, the central Board of Supervision stipulated that: 'No outdoor relief whatever should be given to mothers of illegitimate children if disability arises from the fact of having such children; and where health may admit of their removal to the Poorhouse'. Thereafter, the ruling was steadfastly applied by some local parochial boards, but stoically, though rarely successfully, resisted by others, including both our parishes.

The influence of baby-farming

When pregnant or nursing mothers were refused relief, they often in turn refused the poorhouse, and the mechanism through which they continued to earn a living was baby-farming, a practice whereby local women (mostly impoverished) were paid to wetnurse and wean other women's infants. As noted above, since the 1860s the evil results of this system had been amply demonstrated throughout Britain, with many shocking stories of malnutrition, starvation, strangling and exposure. Although far from absent from the north-east, as we have seen, there exists no evidence of such a practice in Rothiemay, but, crucially perhaps, baby-farmers were abundant in Torthorwald. By the turn of the century three such women were regularly being named in applications.

Payments were not being received and the baby-farmers themselves were having recourse to the parish. The local board, noting that they had 'numerous requests from baby-farmers to collect for them', ordered the inspector to 'tell her to return the child where she got it'. (The mother was eventually traced in Glasgow, some 75 miles distant.) Bessie Lockerbie took in several infants named in the applications while she herself bore several bastards. Meanwhile, the most eloquent testimony lies in the record of Agnes Murray, a farmworker in her thirties who claimed poor relief 'owing to destitution and starvation'. The inspector remarked: 'Applicant lives with her mother who keeps a baby-farm. She has been out of work for some weeks, and seems completely destitute. Her own child, and one of the baby-farm children have a pinched and hungry look'. Agnes Murray was granted five shillings temporary relief, and the children survived. But given the clear connection between the practice and high mortality, it is not surprising that one means used by medical officers to track down baby-farms was to ask registrars to locate houses from which unusual numbers of death certificate applications for infants were emanating.[43]

With such information to hand, there is less danger of making spurious correlations between possibly unrelated factors. Certainly, the gross assumption that illegitimacy *per se* led to a greater risk of infant death becomes questionable, whereas the translation of moral indignation into policies of material discrimination begins to look more culpable and the resultant response of farming out babies appears decidedly so. Yet the one big fly in the ointment is that if one actually examines the households in which infant deaths occur, very few are baby-farms. A further common factor revealed in studies of both illegitimacy and infant mortality is that neither is capable of explanation by a single cause. Indeed, both appear to be determined by a highly complex amalgam of factors. One might hypothesize that working conditions were critical in that where women were allowed time to breastfeed while at work, babies had a greater chance of survival; alternatively, women would be able to remain in work longer when high mortality left them with fewer offspring to care for. Or again, if a woman resorted to farming out her child, would the infant be wetnursed at the breast or did it perish because it was fed cow's milk or weaned too soon? And what about those women who left their infant in the care of their mothers? Medical Officers of Health and registrars frequently made spurious links between women's employment outside the home and high levels of infant mortality, but how can we test the validity of their conjectures?

A multi-source approach

To date most researchers have considered the English experience, where because of the inaccessibility of original birth and death certificates they have had to rely on correlations between aggregate death statistics and other variables. Without micro-level studies that can capture longitudinally the demographic behaviour of individual mothers over their reproductive lifespans, connections between period fertility, occupation and mortality can only be guessed at. The 'freeze frame' of the census can be positively misleading. Moreover, in England no case-history material exists, comparable with the Scottish Poor Law. The present study is unprecedented, therefore, in assessing patterns of mortality and

childhood survival by using detailed nominative linkage (i.e., tracing the same named individual within and across sources) based on civil registration certificates, census enumerators' books, applications for poor relief and the General Register of Poor in the two parishes. The object of the exercise was to reconstruct a longitudinal picture of the factors affecting the balance between collective and household support for unmarried mothers and their children at different points in their individual life courses. It also considers the degree to which cross-generational interdependence acted as a form of insurance for unmarried mothers. The following example testifies to the fine complexity of detail that can be reconstructed.

William Mitchel and Anne Hay married in Rothiemay in 1827 having already had a bastard two years earlier when she lived on a small farm in the parish but he was a servant in nearby Grange. They went on to have a total of 13 children whilst at the farm of Backdykes. Two of the children sired and bore bastards and subsequently married, although not to the same respective partners, whilst two other sisters also bore illegitimates. The 1851 census shows eight children in the household plus one very young grandchild, who was daughter Jane's illegitimate daughter. By 1871, the household had dwindled in size to five. William and Anne, working still, but now into their sixties and seventies, again provided shelter for an errant daughter, this time Elizabeth, who had been a domestic servant, but was now partially reliant upon out-relief supplement to aid in supporting (financially) her two bastards, each sired by a different man.[44] Meanwhile, her sister Anne had given birth to three bastards between 1864 and 1867, the Register of Poor noting in November 1870 that:

> This Pauper's child, Elizabeth Anne (whose father is now dead) is boarded with her maternal aunt, Widow Simpson, who receives direct from the Inspector 2s. 6d. weekly ....The mother is in service and pays for the upkeep of the child Jane. The other is kept by the paternal grandfather in the parish of Skene—the father is now in America.[45]

Personal motives and survival strategies can only be gleaned, or inferred, from close biographical observation, and this is a microdemographic and largely qualitative undertaking. In this family there were no infant deaths recorded, and we might plausibly assume that the finely tuned balance of community and kin support provided something like a safety net. In what circumstances, therefore, did infants die? What domestic patterns created conditions of highest vulnerability? Furnished with an heuristic model that may be applied to a good number of Scottish parishes, the first task will be to recover some of the richness and depth of family patterning that existed in those places, like Torthorwald, where infants were rather less fortunate than in Rothiemay.

NOTES

1. No continuous runs of birth (as distinct from baptism) and death records exist for Scottish parishes prior to the advent of Civil Registration in 1855.
2. In Rothiemay, 106 infants died within 12 months of birth between 1855 and 1900. Of these, 37 (35 per cent) were illegitimate, whilst in the Rothiemay General Register of Poor (1845–1900), 185 children under 9 years are mentioned by name, 62 (33.5 per cent) being known bastards.
3. A. Blaikie, *Illegitimacy, sex, and society: Northeast Scotland, 1750–1900* (Oxford, 1993), chapters 5 and 6.
4. See C. H. Lee, 'Regional infant mortality in Britain, 1861–1971: patterns and hypotheses', *Population Studies*, **45** (1991), 55–65; R. A. Cage, 'Infant mortality rates and housing: twentieth century Glasgow', *Scottish Economic and Social History*, **14** (1994), 77–92; D. Kemmer, 'Infant mortality in early twentieth century Scotland using the civil registers: Aberdeen and Dundee compared', *Scottish Economic and Social History*, **17** (1997), 1–19. Eilidh Garrett and Alice Reid of the Cambridge Group are researching age-specific patterns in textile towns, including Dundee, and Elspeth Graham (St Andrews) is investigating smallpox in Fife, 1750–1830. Apart from Rory Paddock's unpublished Ph.D. thesis, 'Aspects of illegitimacy in Victorian Dumfriesshire' (University of Edinburgh, 1990), relevant demographic research on southwest Scotland is singularly lacking.
5. The Scottish Health Department, *Infant mortality in Scotland: the report of a sub-committee of the Scientific Advisory Committee* (Edinburgh, 1943).
6. R. I. Woods, P. A. Watterson and J. H. Woodward, 'The causes of rapid infant mortality decline in England and Wales, 1861–1921', *Population Studies*, **42** (1988), 343–66 and **43** (1989), 113–32. Recent research suggests that density per room was the crucial component in Glasgow (Cage, 'Infant mortality rates').
7. MOH Report, *Aberdeen, 1907*, (1908), 55 (Table C), 59.
8. MOH Report, *Aberdeen, 1907*, (1908), 60.
9. The census enumerators' books allow, at least, for the calculation of numbers of persons per windowed room.
10. R. Mitchison, *British population change since 1860*, (London, 1977), 49.
11. W. Flinn et al, *Scottish population history*, (Cambridge, 1977), 418.
12. Mitchison, *British population change*, 49.
13. P. Laslett, 'Introduction', in P. Laslett, K. Oosterveen and R. M. Smith eds, *Bastardy and its comparative history*, (London, 1980), 1–68 (p. 41).
14. Laslett, 'Introduction', 41–47.
15. M.S. Teitelbaum, *The British fertility decline: demographic transition in the crucible of the industrial revolution*, (Princeton, 1984), 149; Table 6.10b (p. 152).
16. Flinn et al, *Scottish population history*, 353.
17. Lee, 'Regional infant mortality', Table 1, 57. English counties, Welsh and Scottish regions.
18. Westmorland achieved 88 in 1881, and Devon managed 99 in 1891, but in all other years both recorded higher rates.
19. Lee, 'Regional infant mortality', 58.
20. Although low compared to its hinterland, the level of illegitimacy in Aberdeen has long been higher than other Scottish towns. In the later 1850s its rate stood at 15.2 per cent, some 4.8 per cent higher than the next highest city, Dundee. After the 1850s illegitimacy maintained its relatively high level, falling below 10 per cent for the first time in 1883 and ranging between 8 and 12 per cent, with occasional exceptions, until the 1930s. These data from Registrar General for Scotland's *Detailed Annual Reports*.
21. The constructs of rural and urban are possibly deceptive in that a number of micro-level studies have shown that within country parishes bastardy appears to have been lower in the purely rural districts than in the more densely populated village streets (see Blaikie, *Illegitimacy*, 130–33, on sharp distinctions in Marnoch (Banffshire); J. Robin, 'Illegitimacy in Colyton, 1851–1881', *Continuity and Change*, **2** (1987), 307–42 (p. 335); Paddock, 'Illegitimacy in Victorian Dumfriesshire', 127–29; J. M. Phayer, 'Subcommunal bastardy and rural religion: micro and macro aspects of the debate on the sexual revolution', *Journal of Sex Research*, **17** (1981), 74–95). If it can be demonstrated that infant

mortality is also (as we would expect) concentrated in the more densely populated parts of rural parishes, then an hypothesis emphasising the role of housing density, and proximity between persons—such as that advocated by Cage ('Infant Mortality Rates') for earlier twentieth-century Glasgow—would appear plausible, although, of course, significant differentials in household circumstances between illegitimate and other children would also have to be evident.

22. Mitchison, *British population change*, 50.
23. Paddock, 'Illegitimacy in Victorian Dumfriesshire', 124, 139–40.
24. Another post-mortem revealed 'suffocation, the result of natural causes'.
25. Of the 51 infants dying within one month, 23 appear to have died from endogenous causes (10, all legitimate were premature). Of these, 18 were illegitimate and 5 illegitimate. The comparatively low ratio for illegitimates here has to be seen in the context of the 8 bastard deaths in the first month for which no medical details were forthcoming.
26. L. Leneman and R. Mitchison, 'Girls in trouble: the social and geographical setting of illegitimacy in early modern Scotland', *Journal of Social History*, **22**, 483–97 (p. 495).
27. Seton, *The causes of illegitimacy particularly in Scotland*, (Edinburgh, 1860), Appendix V.
28. 'A North-Country Woman', *Infanticide and its cause*, (London, 1862).
29. *Report of the Royal Commission on the Poor Law*, (Scotland), PP 1844 , Appendix, Pt. III, p. 102, Qs. 631–2.
30. Rothiemay Parochial Board, Record of Applications, 1855–69 (hereafter Rothiemay Apps.), 62 (16/1/64); Marnoch General Register of Poor (hereafter GRP), 14 (12/1/80); Rothiemay Apps., 19 (15/4/58); Marnoch GRP, 99 (15/2/86).
31. Rothiemay Apps., 37 (21/3/61); Rothiemay GRP, 112 (6/5/82).
32. I. Levitt, *Poverty and welfare in Scotland*, 1890–1948 (Edinburgh, 1988), 7.
33. W. Watson, 'The Poor Law from the Poor Man's Standpoint', in T. Ivory ed., *Pauperism and the Poor Laws*, (Edinburgh, 1870), 13.
34. Rothiemay Apps., 83 (4/6/67); see J. D. Wilson et al, 'Law of infanticide', *Transactions of National Association for the Promotion of Social Science*, (1877), 284–312 (p. 307): 'There could not be a greater temptation to infanticide than the workhouse [meaning poorhouse] treatment of women in Scotland. A woman with one child is refused entry but when qualified by having two she is admitted.' Foundling hospitals were subsequently advocated. 'A North-Country Woman' ('Infanticide') claimed that infanticide and abortion were 'unknown in the countryside', but, as with rape and incest, the threat of capital punishment meant that cases very rarely came to light although they doubtless occurred. The fact that 'general debility' was sometimes given as the cause of death for illegitimates would tend to strengthen the malnutrition hypothesis.
35. T. Ferguson, *Scottish social welfare, 1864–1914*, (London, 1958), 260–61; 49th Report of the Board of Supervision for the Relief of the Poor and Public Health in Scotland, 1893–94, PP 1894 (C7515), xli, Appendix (B), No.2, p. 84.
36. M. Bengstsson, *Det hotade barnet: tre generationers spädbarns—och barnadödlighet i 1800-talets Linköping*, (Linköping, 1996).
37. Blaikie, *Illegitimacy*, 125.
38. Paddock, 'Illegitimacy in Victorian Dumfriesshire', 297–303.
39. A. Blaikie, 'A kind of loving: illegitimacy, grandparents and the rural economy of NorthEast Scotland, 1750–1900', *Scottish Economic and Social History*, **14** (1994), 41–57.
40. C. W. Mills, 'Situated actions and vocabularies of motive', *American Sociological Review*, **5** (1940), 904–13; L. Prior, The social organisation of death (London, 1989); I. Loudon, 'Maternal mortality, 1880–1950: some regional and international comparisons', *Social History of Medicine*, **1** (1988), 183–228.
41. Blaikie, *Illegitimacy*, 158–84.
42. Rothiemay Apps., 34 (3/12/60).
43. Above details from Torthorwald Parochial Board/ Local Government Board, Register of Applications for Poor Relief, 1891–1916.
44. Details from family reconstitution forms—see Blaikie, *Illegitimacy*, 149.
45. Rothiemay GRP, 69 (8/11/70).