

## DEMOGRAPHIC PROFILES FOR NEWGARDEN/CARLOW FAMILIES IN TRANSITION

Peter J.F. Coutts

Former Director of the Victoria Archaeological Survey  
& Hon. Sen. Research Fellow, History Dept.,  
LaTrobe University, Victoria, Australia

### ABSTRACT

This paper analyses the demographic transition of four relatively wealthy rural Quaker families from the Newgarden/Carlow Meeting, Ireland. The analysis was conducted in the context of changing socio-economic and political environments deploying the technique of family reconstitution to derive the data. The families were of similar socio-economic status, first joining Friends in the late seventeenth century and continuing an association through descendants into the 19th century. In the broadest historical sense the families experienced these events in a series of transitions: a period that was characterized by the rejection of the established church and the recruitment into and adoption of Quakerism, followed by one of consolidation and development synonymous with an increasing tendency of members to reject the faith and return to the established church.

The initial expectations, in the absence of detailed historical information, were that the demographic profiles would provide some kind of fingerprint for these changes or transitions and that the profiles would be similar. Indeed, they do have characteristics in common. Some follow patterns identified for the wider Quaker population of Ireland and for the combined population of the Meeting itself. Again temporal changes are evident in the demographic patterns that are probably reflections of the way the families used their wealth and dealt with the challenges of ongoing socio-economic, political and social events. These include an increase in the average age of males at first marriage, a reduction in family size and increasing lifespan for both males and females over time. However, when it comes down to the finer details, there is considerable evidence for variation between families, particularly in their choice of marriage and birth strategies. For example, all four families adopted reproductive strategies in what has been termed the neo-Malthusian tradition, including spacing and stopping, breast-feeding and most probably wet nursing, but these varied over time and between families. In other words, at least for these families, it is unlikely that there was a common 'Quaker' strategy that dictated how members planned their families and responded to challenging situations. There is no evidence of parity-specific fertility limitation although there are suggestions that it was on the way.

Overall the results of the analysis of the data for the four families when compared with those for the Meeting as a whole suggested, first, that their relative wealth may have given them a positive advantage in respect of mortality and reproductive manipulation; and secondly that the averaging or 'fingerprinting' process used to analyze Meeting and the National data is likely to

have masked demographic events, some of which may be significant. This is not an argument for discarding the averaging approach; it does however lead one to emphasize that profiles constructed in this way are engineered and consequently need to be interpreted with caution.

#### KEYWORDS

Demography, Newgarden, Carlow, marriage, family management, wet nursing, socio-economic status, mortality, spacing, delayed marriage, infant mortality and wealth, wealth.

#### INTRODUCTION

The basic demography of the Newgarden/Carlow Meeting, originally located in County Carlow, Ireland, has been described in detail in two previous papers (Coutts 2012, 2013) and compared with that of the wider Quaker population of Ireland for the time period (hereinafter abbreviated TP) 1650–1900 using the data published by Vann and Eversley (1992). The results of this exercise suggested that regional variations may have been masked in the course of the broader analysis. In this paper, attempts are made, first to determine whether demographic elements may have been masked in the course of the parochial analysis of the Newgarden/Carlow Meeting; secondly to explore whether all or some of the demographic events derived in the course of this exercise may be reflections or fingerprints<sup>1</sup> of a transitional process that continued unabated throughout the period of interest; thirdly to assess what role wealth may have played in shaping the demographic profiles.

The term ‘transition’ in the context of this paper is synonymous with change but taken literally it has broad implications that need to be refined for the purpose of the current study. Of interest here are the dynamics of change brought about by socio-economic and political events as they impacted on four select families over a period of about 200 years. Unfortunately their respective journeys are not well documented as is the case for most Quaker families; there is no information available from contemporary social scientists or historians collected through key-hole surveillance or otherwise, and few if any diaries, letters and other anecdotal materials. Consequently transition or change within and between family groups, where it can be identified, is portrayed with a broad sweep of the brush. Indeed the stark reality is that most families are barely visible to us in the historical sense, their presence attested only from the dry, clinical data contained in genealogical records. Thus we are constrained to identify the context and broader elements of transition or change from limited historical data and to use wherever possible the more subtle aspects of demography to map transition.

In order to tackle this task, and in an ideal world, one would like to build and compare demographic profiles for each of the constituent families. However, detailed birth, death and marriage records for members and descendants of the Newgarden/Carlow Meeting are limited, the best data often pertaining to the

members themselves, and the worst to their non-member descendants. This makes it impractical to build coherent, chronologically related demographic profiles for most families. The inconsistency of Quaker families in relation to membership is another problem that has to be taken into consideration when identifying which family profiles are suitable for comparative purposes. In this respect, what are needed are profiles for families that have had relative longevity in the Society, preferably spanning the study period 1650–1900.

Fortunately there are such records available for four Newgarden/Carlow Quaker families, the Coopers, Watsons, Ducketts and Leckys. The data are sufficient to allow this line of enquiry to be explored, with some limitations, and to facilitate the construction and comparison of reasonably reliable demographic profiles. Although the families had quite different origins they share a number of characteristics in common: they are all of English descent, they remain in observation for similar periods of time (c. 1680–late 19th century), they were all wealthy farmers/landed gentry when they first come into observation,<sup>2</sup> all became involved with the Society of Friends about the same time, they experienced the same diversions and traumas precipitated by historical incidents outside their control, the core of each family continued to reside within the compass of County Carlow and the drift of family members away from the Society of Friends followed similar patterns. Again, as will be documented below, all four families belonged to the top socio-economic echelon of the Newgarden Meeting. Thus one might predict that their demographic profiles should be similar.

#### HISTORICAL CONTEXT

As a prelude to examining the demography of the families, it is appropriate to provide historical contexts for each of them although the dictates of space preclude doing this in detail.<sup>3</sup>

#### THE COOPER FAMILY<sup>4</sup>

Thomas Cooper joined the Newgarden/Carlow Meeting sometime before 1688 around 30 years after the first recorded Meetings in County Carlow.<sup>5</sup> By comparison with those who attended the early Meetings he was a newcomer, if not a second-generation member. Where he and his family came from has not been established, but by 1669 when his son Edward was born, he resided at Newtown, County Carlow and there is little doubt he was a member of the landed gentry. There is some evidence for the presence of an extended family in the County and it is quite possible it was his father that first settled at Newtown.

His reasons for joining Friends are not known, but one suspects he was persuaded more through religious conviction rather than by worldly considerations. For a gentleman to abandon the established church was a major decision; it had potentially serious consequences for both himself and his family, much more so than for a person from a lesser social class. Such a step would have attracted the ire and ridicule of his peers, and possibly closed a number of pathways to social

and economic progress. For example he could not be appointed a magistrate, or to any other public office, and opportunities for socializing with his peers would have been severely restricted. He would have found himself bound by Quaker tenets that regulated his behavior in social environments and imposed a strict code of ethics that in turn determined how he could conduct his business. Even though he may have managed to maintain his self-respect amongst his non-Quaker peers, many of them would have perceived him to be a leper, one of their number 'gone bad'. The redeeming feature of this situation was that he was not alone. There were other families of similar social status that had embraced the new faith and with whom he could find common ground.<sup>6</sup> These included the Watsons, Boles, Leckys and Ducketts.

According to Friends' records Thomas had a small family, just four children, quite untypical for the times. However, given that he joined with Friends some twenty years after his son Edward was born, it is possible some of his children were not registered with Friends, especially if they had chosen to reject their father's choice of religion. Thomas was not a particularly energetic member of the Meeting, though he was appointed to committees from time-to-time and he was actively involved in decision making. There is even some doubt as to whether he was still amongst Friends when he died in 1714. His sons William and Edward became increasingly active in the Meeting from the turn of the century, but William died in 1713 still a young man. By that time, however, the long, faithful and fruitful career of Edward in the service of the Meeting was well underway and continued until his death around 1744.

Edward was enrolled in every aspect of Friends' business and very quickly became an Elder of the Meeting. But then he had the leisure time to devote to Friend's business; he was a gentlemen farmer with the resources to do whatever he wished. He inherited land in Queens County from his brother William,<sup>7</sup> but from around 1710 he began to acquire further tracts of land in that County, some in partnership with Samuel Watson and Henry Ridgeway, fellow Friends. Between them they did property deals with some of the larger landowners of Queens County and County Carlow, the Hovendons, the widow of Lord Londonderry and the Bagenals of County Carlow. Around 1715 he moved his seat from Newtown in County Carlow to Shragh, located within or near to Ballickmoyler in Queens County, quite possibly leaving Newtown in the hands of another brother or his relatives. At his death he was established as a large, wealthy land holder with estates in two Counties that were to endure and support his heirs for the subsequent 150 years.<sup>8</sup>

Whilst there is no list of tenants for Edward's estates, it would appear from the information that is available that he preferred to sublease to Protestants. Certainly by end of the 18th century, the records indicate that the major tenants of the Townland of Ballickmoyler were Protestants, including a few that were Quakers. That is not to say there were no other tenants; there may have been sub-tenancies on Cooper's lessees that were not registered.

Edward had nine children and of the five that survived to adulthood three were amongst Friends. All three chose partners from within the Friends'

community, linking the Coopers with wealthy and successful merchant and manufacturing families (Strettels and Penroses). Two sons, Edward and John, appear to have rejected Friends and gone their own way. William, Edward's heir, kept the family seat at Shragh in Queen's County, and appears to have remained a Friend throughout his life. He and most of his children married spouses from Quaker families but it can be inferred from Friends' records that his children strayed from the path of truth. His son and heir Edward may have continued some kind of relationship with Friends but all connections with them were well and truly forgotten by the next generation by which time its members had rejoined the Church of Ireland and actively pursued posts in the military. When William Cope Cooper inherited the Cooper estates c. 1830 he was already a respected and influential member of the rural gentry of County Carlow and Queens County, just as his ancestor Thomas Cooper had been 150 years beforehand. Eighty years later the estates passed from the Coopers to others and today the family name is all that remains.

The Cooper family maintained a relationship with Friends for five consecutive generations, until the late 18th century after which the remaining family members faltered in various ways and were removed or resigned.

#### THE WATSON FAMILY

The Watson family, English farmers, first settled in County Carlow c. 1660 from the border area of North-West Shropshire. At first they leased land at Kilconner but over the next century acquired considerable estates in the vicinity of Kilconner as well as in neighboring Queens County. The family first became involved with Friends in 1673<sup>9</sup> when John Watson, son of the original settler joined the Society. Fifty years after their arrival they were well-entrenched members of the landed gentry and essentially lived off the proceeds of their estates. Members of the family moved to County Tipperary where they again took up land but diversified into banking, and others to Waterford and Dublin where some entered trades, commerce and the professions such as law.<sup>10</sup> A number of family members were extremely active and influential in Friends' affairs during the course of several generations, but many also left the Society of Friends, joined the Anglican Church and re-entered mainstream society. Some members served in the army, some became Ministers of the Church or magistrates and others indulged themselves by adopting exotic sports such as fox-hunting and polo. John Lecky Watson was the last of the Quaker Watsons when he resigned from membership in 1835.<sup>11</sup> Money difficulties, the Irish famine and poor investments in the context of changing land tenure laws and political landscapes conspired to deplete the fortunes of the Carlow families but not its formidable reputation. The core families stumbled into the 20th century managing to survive with social status intact but, in Ireland at least, with tempered local influence. Within Ireland their main seats were Clonbrogan, Ballingarrane, Summerville and Glenconner in County Tipperary, Kilconner, Ballydarton, Rathrush, and Lumclone in County Carlow, in the 19th century Ballyroan in County Dublin

and Bective in County Meath,<sup>12</sup> and in the 20th century Altamont in County Carlow.

#### THE LECKY FAMILY

The Lecky family was closely associated with the Watsons and intermarriage at the beginning of the 18th century between the two families served to bind them to a common destiny.<sup>13</sup> The family, originally from Scotland, headed by Robert Lecky, moved to County Carlow from County Donegal in the late 17th century. According to O'Toole (1993: 152) it was his wife Mary Watson who persuaded Robert to join the Society of Friends. Unlike the Watsons, the Lecky's were comparatively wealthy and accepted as members of the gentry from the time they took up residence in the County. The family acquired tracts of land in County Carlow and Queens County and over the next two centuries its members dispersed into Counties Cork, Dublin, Waterford and Tipperary where they established important industrial, shipping and commercial enterprises. The core of the family, however, remained entrenched for a long time in County Carlow at Ballykealey, Kilnock and Kilmeany. Like the Watsons, many members of the family took an active role in administering Friends' affairs during the following decades.<sup>14</sup> Desertion from Friends was gradual but continuous. After seven generations of participation within the Society, the last members were William Robert Lecky, who was disowned in 1854,<sup>15</sup> and Mary James Lecky who died a spinster in 1873.

The family's fortunes waxed and waned but eventually they followed the same path as the Watsons; as family members disengaged from Friends, some served as Justices of the Peace and High Sheriffs and from the late 19th century others entered into military service. Over time their various estates dissipated and the family moved away from County Carlow. Rupert Beauchamp Lecky was declared bankrupt in 1953 and Ballykealey was acquired by the Irish Land Commission. Kilnock passed out of the Lecky family with the death in 1828 of Robert Lecky, unmarried at the time, to Robert Lecky Pike, one of his mother's relatives.

There were occasional transactions between the Cooper and Lecky families. For example Edward Cooper was, together with John Duckett, an executor of the will of John Lecky of Staplestown and Edward Cooper held a mortgage of lands held by James Lecky in County Carlow.<sup>16</sup>

#### THE DUCKETT FAMILY

The Duckett family came from Grayrigg and nearby Heversham, Westmoreland in England.<sup>17</sup> Comparatively wealthy, Thomas Duckett purchased estates in County Carlow in 1696 and his son purchased Philipstown in 1708.<sup>18</sup> The family went on to become large landholders in both County Carlow and Queens County, gentry from their arrival in the area. They first become visible in the records of the Newgarden Meeting in 1692<sup>19</sup> and their association with the Society of Friends continued throughout the 18th century though with considerable attrition. Thomas (1715–1796) and his brother William (1716–1784) Duckett of Philipstown were the most consistent contributing members of the

family, held in high regard by the Meeting. Brother Jonas (1720–1792) of Newtown was also active in the affairs of the Society until the late 18th century when he and his sons John and Jonas became embroiled in a family dispute over land and ownership of weapons which eventually led to their expulsion from the Society.<sup>20</sup> Indeed after five generations of involvement, by 1830 the Ducketts and the Society finally parted company.<sup>21</sup>

The usual strategic alliances through marriage helped to maintain the social and economic status of the family and throughout the 19th century it was a well-respected wealthy family with seats at Newtown in County Kildare and Duckett's Grove in County Carlow. During that period, with William Duckett (1822–1908) as family head, some of its members served the community in various ways, as Justices of the Peace and High Sheriffs, and others entered the military. The family was immensely wealthy, holding some 12,000 acres of estate in six counties yielding about £10,000 annually from tenants. The major residence of the family was Duckett's Grove, near Carlow, featuring an opulent mansion and beautiful gardens. William was well connected and socially popular. Following his death, whilst the estate remained intact, his second wife's mental state deteriorated, and after her death in 1937 nearly all the estate, estimated to have been worth around £97,000, went to charities.<sup>22</sup>

#### DEMOGRAPHIC PROFILING

In the remainder of this paper an attempt is made to view the four families from a purely demographic perspective with the object of establishing period-related profiles for comparative purposes. The major sources used for this study are the registers of births, deaths and marriages of Quaker families currently housed at the Religious Society of Friends in Ireland Historical Library in Dublin. The data in the registers and from other sources are, in general, sufficiently complete to enable some family reconstitution and demographic analysis to be undertaken, although with reservations (Coutts 2012: 53ff.; see also Eversley 1981: 60 and Vann and Eversley 1992: 11ff). The detailed methodology and the limitations of the data have been described in the context of a much broader demographic analysis of the Newgarden/Carlow Meeting (Coutts 2012). It will suffice to say here that the methodology of family reconstruction and analysis pursued by Vann and Eversley (1992) and Wrigley *et al.* (1997) have been followed.

#### STRATEGY

The analysis has not focused on male descendants as is often the case in genealogical studies. It incorporates their female counterparts and their offspring. Moreover it is not restricted to residents of the Newgarden/Carlow Meeting although its members are the prime focus of this study. Female descendants for example often moved away when they married and joined the Meetings of their husbands. Males sometimes moved away to set up in business in other places or migrated to other countries. Whenever descendants could be tracked they were incorporated into the analysis.

Since all four families chosen for this study have similar time frames, one of the objects of the analysis was to identify trends in demographic parameters over time, first in arbitrary 50 year intervals or TPs, and secondly by generation. As one might expect, the quality of the data in relation to the various demographic markers varied from family to family and from time-to-time so that it is not always possible to assemble a full range for each chronological TP or generation for each family. For example data for the Cooper and Duckett families are not as comprehensive as those available for the other two families, which in turn can dilute some aspects of their 'fingerprints'. Where specific information for one or more families was limited, data from all four families combined were used for comparative purposes.

The markers selected for this study included age-specific marriage, fertility and mortality rates, average age at marriage for each sex, age differences at marriage and average family sizes. A number of markers could not be calculated by generation because of poor sample numbers.

Selective results of the in-depth study of the Newgarden/Carlow Quaker Meeting (herein after described as the 'Carlow Meeting', 'Carlow' or 'Meeting') have been cited wherever appropriate for comparative purposes.

## RESULTS

Despite being a study of a relatively small population, the analysis generated a huge quantity of data which for practical reasons cannot be reproduced *per se* in an article such as this. Consequently in the interests of conserving space, most results have been summarized graphically exclusive of sample numbers, which may cause frustration to readers who wish to reuse or engage in more incisive assessments of the data.<sup>23</sup>

*Data Sample.* A total of around 3000 individuals, male and female, have been identified as members and descendants of the four families, but there are wide discrepancies in the degree of representation. Only 189 individuals represent 8 generations of the Cooper family compared with 492 for 12 generations of the Duckett family, 758 persons for 11 generations of the Lecky family and 1684 for 13 generations of the Watson family. There is of course some degree of overlap between families because of intermarriage. The numbers of individual reconstituted families represented are depicted in graphical form below (Figs. 1-2).

Notably the individuals comprising these four families form a significant percentage of the total population studied in the broader sample of around 5420 individuals.

The data in these figures emphasize the comparatively poor representation of the Coopers and of the four data sets one would expect the Cooper data to produce the least reliable statistical results. Notably all four graphs have strong descending tails representing failing representation in the latter TPs and generations concurrent with an accelerating rate of disappearance of families from observation.



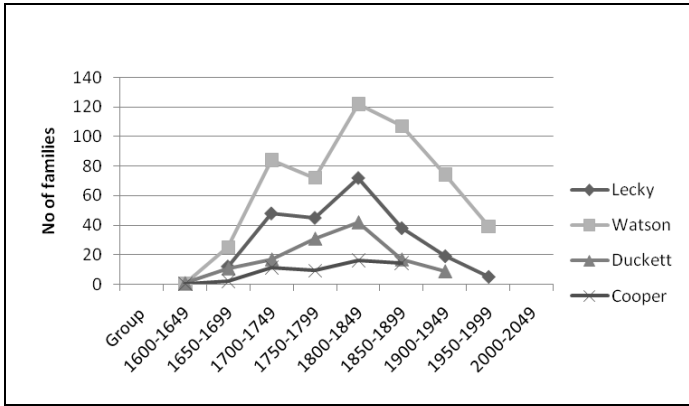


Fig. 1. No. of families analyzed in 50 year TPs

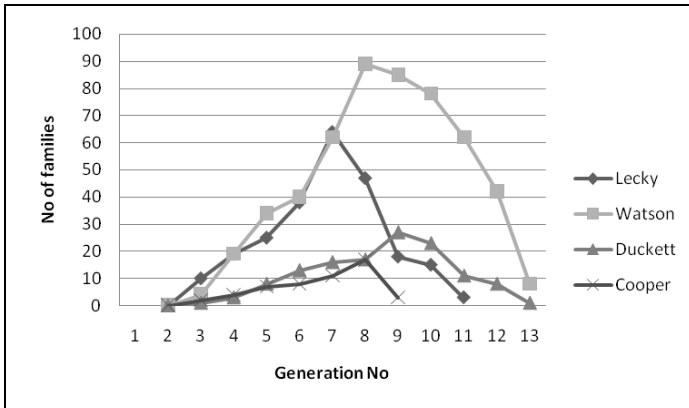


Fig. 2. No. of families analyzed by generation

*Data Quality.* All data were screened using tests similar to those deployed by Wrigley *et al.* (1997, Appendix 4), but in addition a quantitative measure of the utility of data, called here a Data Integrity Index (DII), was devised for each generation and for each TP. The index is derived by assigning scores to individuals according to the availability of data. For example for a married person five dates are important: dates of birth and death for each marriage partner and the date of marriage. When a date is available it scores 1, so that the DII for a person with all data would be 5/5 or 1. If the person married twice the index is calculated using an 8 point denominator. The DII for any generation or TP is calculated as the sum of the points scored for each person in the generation or TP, and divided by the total possible number of points. Ideally the DII should be 1.

The DII's for the four families by TP and generation are summarized in Figs. 3-4.

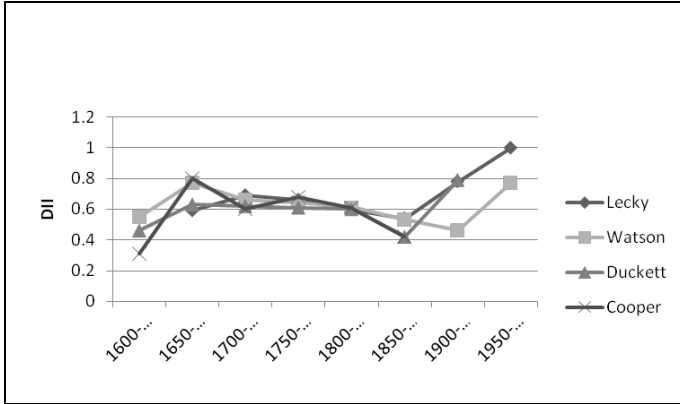


Fig. 3. Data Quality Index (DII) by family

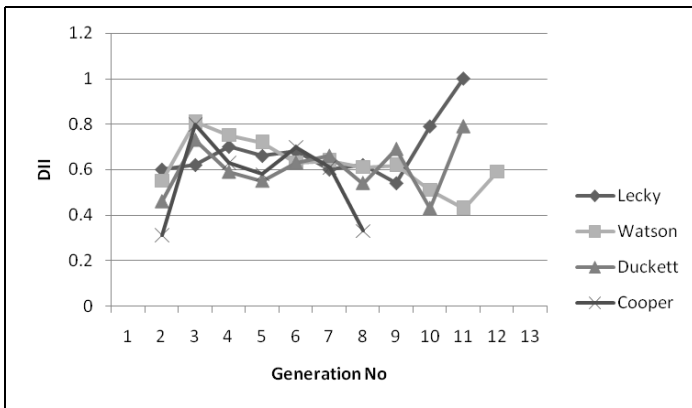


Fig. 4. Data Quality Index (DII) by generation and family

The results indicate that the DII's are far from ideal for all four families. Moreover the Index tends to deteriorate over time because as members of the family left the Society of Friends they disappeared or partially disappeared from observation, though sometimes reappearing in other sources such as the Burke pedigrees. Notably the DII is the most erratic for the Cooper family and there are no data available for the family beyond the 8th generation.

*Family size.* Two measures of family size have been used in this study. The first of these is what demographers refer to as 'completed family size', that is, the number of 'live births that took place in unions where the mother remained married (and in observation) until her 45th birthday' (Vann and Eversley 1992: 130). For the purposes of the current study some latitude has been taken by ignoring the requirement that the mother remain in observation until she was 45 years old. In some instances mothers died before they turned 45, in others there were no demographic events available to document the ages of mothers. The argument for

adopting this approach hinges on the fact that the intent is to produce family-specific demographic profiles. Thus events such as premature deaths caused by disease or childbirth, events that effect family sizes in the real world, will be reflected in estimates of family sizes. Estimated average family sizes by TP and generation are shown in Figs. 5-6 for each of the four families together with those for the Meeting. Although not strictly compatible, family size data compiled by Vann and Eversley (1992: 137) for the wider Quaker population of Ireland have been included in Fig. 6.<sup>24</sup>

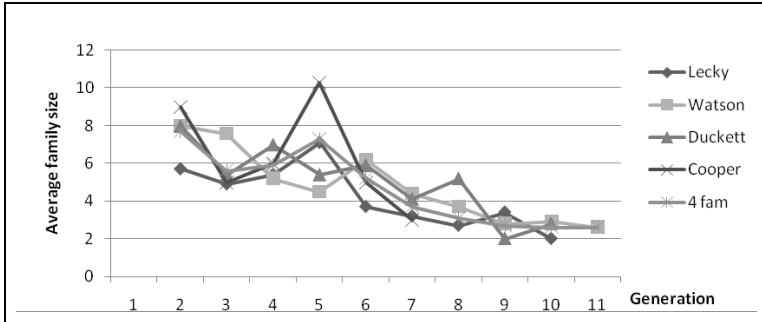


Fig. 5. Average family size by generation

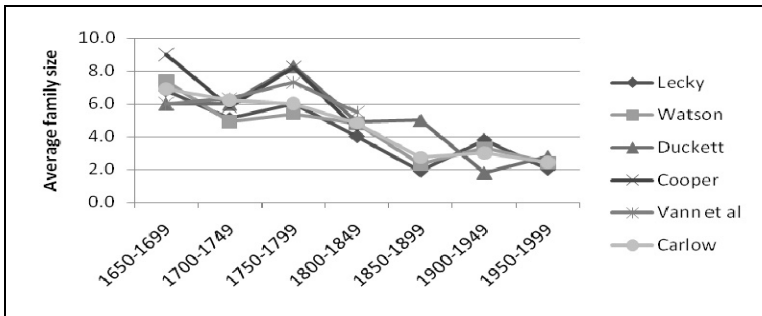


Fig. 6. Average family size (in 50-year time periods)

The results indicate a strong and relatively consistent tendency, whether by generation or TP, for a reduction in average family size over time for all four families and the Carlow population. Fluctuations do occur, such as the strong peak of 8.3 for the Cooper family in the TP 1750–1799, but because of the small sample numbers it is difficult to know whether these are attributable to sampling error or behavioral factors. Nevertheless there appears to be peaks in family size in the 5th generation and in the 1650–1699 and 1750–1799 TP for some of the families, not inconsistent with the results of Vann and Eversley, who have also documented higher fertility rates for the period 1750–1799.<sup>25</sup>

An obvious question of interest at this point in the analysis is whether socio-economic status played some role in determining family size, assuming that wealth gave a family more scope to either restrict or propagate children more freely. The average numbers of children for each TP and for each family have been compared with those for the Meeting in Table 1.<sup>26</sup> Significant differences (at least 0.5 of a year or greater) have been denoted by 'L' if the average is much larger, 'S' if much smaller and 'N' for no or little difference.

Table 1. Comparison of average family size for four families with those for the Newgarden/Carlow Meeting

<i>TP</i>	<i>Carlow</i>	<i>4 families</i>	<i>Watson</i>	<i>Lecky</i>	<i>Duckett</i>	<i>Cooper</i>
1650–1699	6.9	7.3	L	N	S	L
1700–1749	6.2	5.5	S	S	N	N
1750–1799	6.0	6.5	S	N	L	L
1800–1849	4.8	4.5	N	S	N	N
1850–1899	2.7	3.1	N	S	L	

Key: L = large; S = Small; N= No difference

A direct comparison between Carlow and the four families reveals little difference between the two data sets except perhaps for the 1750–1799 TP. Likewise there is some consistency in the figures for the individual families where there are eight instances of a direct correlation between the data sets. However there are differences for the 1700–1749 and 1750–1799 TPs which cannot be explained at this time. Thus there is nothing in these data that would support an hypothesis that wealth played a role in determining the anomalous reproductive behavior of members of the four families (although it was one factor that set them apart from their contemporaries).

Figure 7 shows a comparison of the cumulative data for the four families rearranged according to the age of mothers at marriage (AMM) by TP with those for all members of the Meeting.<sup>27</sup> These data support the contention that family size reduced over time, but there are variations. For example there appears to be a trend towards increased fecundity for younger wives during the period 1750–1799 that in turn suggests couples were marrying earlier than in previous generations.

*Age at Marriage.* The average age at marriage by TP and generation are shown in Figs. 8–11 and for both males and females. These results indicate that the average age of females at first marriage varied between 23 and 27 with a very slight tendency to increase over time. On average however the female members of the Cooper family seem to have married slightly earlier than their counterparts in the other families. There is no evidence that females married any earlier on average during the period 1750–1799 than in previous TPs and consequently one can cautiously conclude that the noted tendency towards larger families during that TP can probably be attributed to a comparatively faster pace of childbearing.

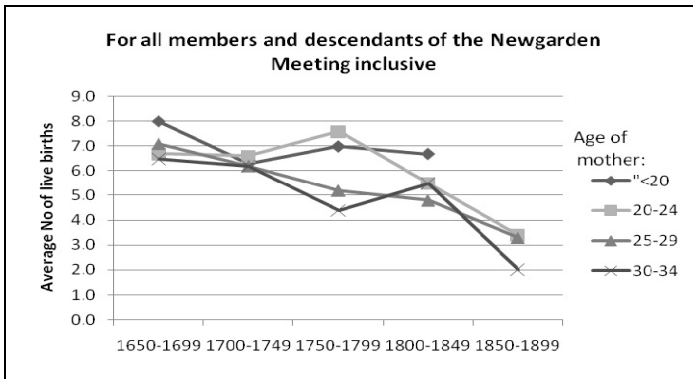
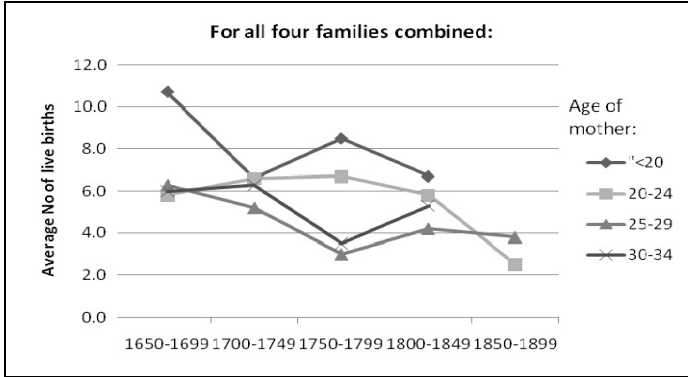


Fig. 7. Average numbers of live births by age of mother at marriage

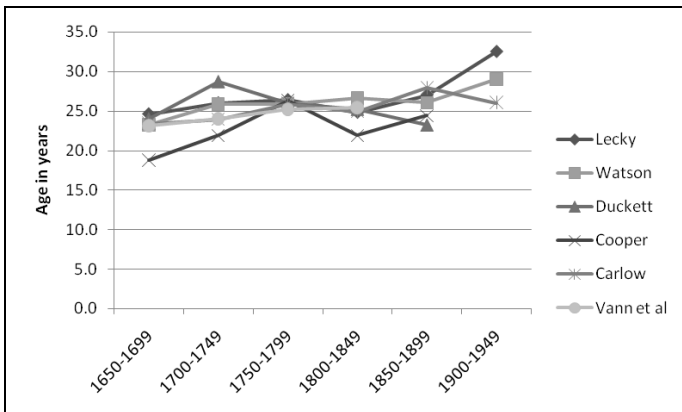


Fig. 8. Average age at first marriage, females

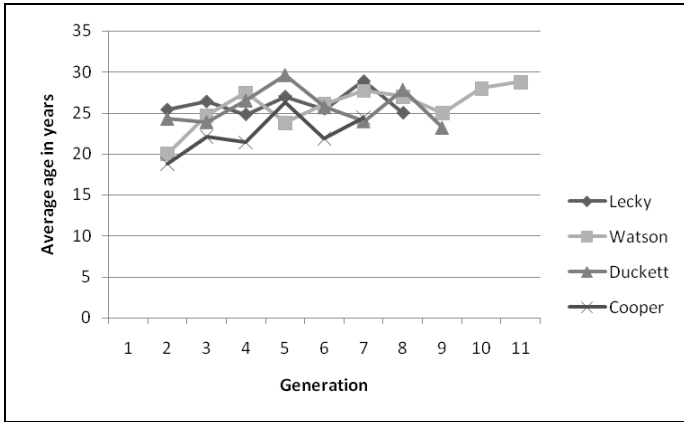


Fig. 9. Average age at first marriage by generation & family, females

The average age for males at first marriage was higher than for their female counterparts. It varied from around 25 to 35 and there was a more pronounced tendency for males to marry later over time than for females. However, towards the end of the 19th century this trend reversed and men began marrying at a younger age on average in the first half of the 20th century. Notably male members of the Cooper family tended to delay marriage more than their counterparts in the other families, whilst females tended to marry at younger ages.

In broader context these results are consistent with those for the Meeting (Table 18, Coutts 2012: 76) and with those published by Vann and Eversley (1992: Tables 3.2 & 3.3, 88-89) for the Irish Quaker population.<sup>28</sup>

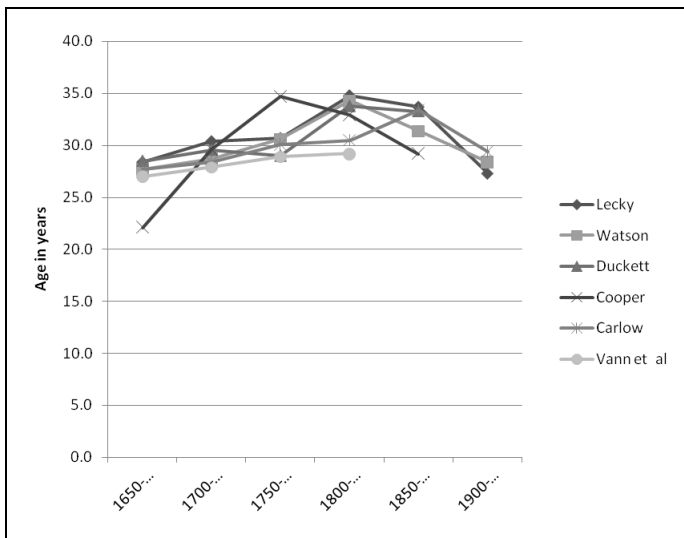


Fig. 10. Average age at first marriage in 50 year TPs by family, males

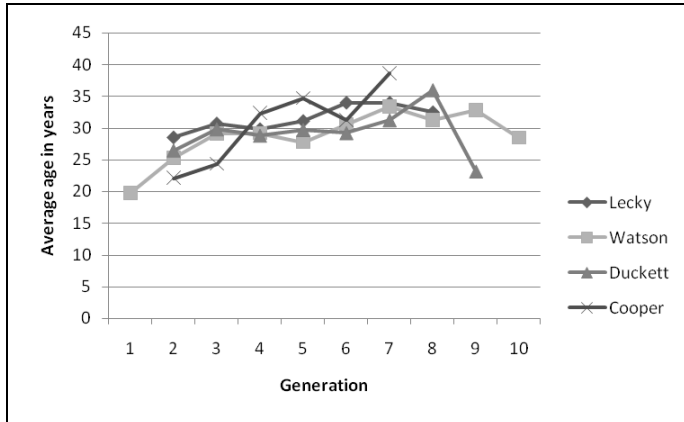


Fig. 11. Average age at first marriage by generation, males

The data can be interpreted in different ways. Delayed marriage could traditionally be effectively used as a way of controlling fertility and family size.<sup>29</sup> Thus in Britain during the first half of the 19th century a 30% reduction in fertility was achieved by deferred marriage alone (Szreter and Garrett 2000: 57). However, in respect of the four families, there is no evidence that it was used deliberately for the purpose of restricting fertility.

Again marriages were delayed (particularly during the 19th century) because of the costs associated with marriage and the need for grooms to have acquired an appropriate level of income before marriage in order to support a family (Szreter and Garrett 2000: 67); and in respect of the middle and upper classes this had inheritance ramifications. In the case of the Watsons, where there is some historical documentation, one might propose that the increasing tendency for males to delay marriage was due to inheritance and financial issues encountered by the family (Coutts 2012: 92ff.). The Lecky data by contrast may reflect a more relaxed attitude toward males marrying at relatively early ages because their families experienced less financial stress; the dispersed family was much more diversified economically than its counterparts whose incomes were derived mainly from the fruits of the land and rents. Having said that, the Ducketts were very wealthy by comparison with the Watsons so that adverse economic circumstances are unlikely to have discouraged males from marrying whenever they so chose.

A hypothesis that members of the families delayed marriage until after the death of the father, quite probably for economic reasons, can be tested. Shown in Figs. 12 a-c below are the % numbers of persons who married after their father's death for the Meeting population and for three of the four families. In respect of the Meeting population it is interesting that there is a strong peak in 1750–1799 TP for all categories and there can be little doubt that marriage was being deliberately delayed during that TP by both males and females. The tendency drops sharply over the next TP and then rises for the eldest son during the period 1850–1899. Concurrently there was an increasing tendency for both males and

females to delay marriage, but it is much stronger for males. When the same hypothesis is tested for the individual families, similar results are obtained. For the Watsons there is a peak (73.6%) for all males in the 1750–1799 TP (compared to 67.7% for the eldest sons) suggesting that delayed marriage was generalized and not confined to eldest sons. Likewise there is another broader peak encompassing two TPs from 1850–1949 (58.6%–61.5%) with a strong bias towards eldest sons (about 68%).

The picture is quite different for females; there are peaks for 1750–1799 and 1900–1949 TPs but less pronounced (both 56%). In other words there was far less of a tendency for females to delay marriage until after the father had died. Nor is there any evidence that the eldest daughters behaved any differently from their sisters (54% and 57% respectively for the two TPs displaying peaks).

In the case of the Lecky, Watson and Duckett families there is no doubt that during the 1750–1799 TP most males delayed marriage until after the father's demise: 83% for Lecky, 72% for Watson and 58% for the Duckett family. There is no discernible bias towards eldest sons during this TP. A peak of similar magnitude occurs for the 1850–1899 TP for the eldest males of the Watson and Lecky families, perhaps indicating a change in marriage strategy during that TP. The pattern is repeated for Lecky and Watson females (78% and 57%) for the 1750–1799 TP but there are corresponding peaks for 1850–1899. During the 1900–1949 TP over 50% of all females that married in the Duckett, Watson and Lecky families delayed marriage until their fathers had passed on.<sup>30</sup> Notably the trends in the Duckett graphs tend to deviate from those for the Watson and Lecky families.

In respect of marriage delay nothing can be said about the Cooper family as the sample is too small. However, overall these results support a hypothesis of delayed marriage during certain TPs, particularly for the Watson and Lecky families.

When these results are compared with those for the Meeting, whilst they are similar, the peaks are much more pronounced for three of the four comparatively wealthy families (Tables 24–27 in Coutts 2012). Possible explanations for the very high proportion of males and females who delayed marriage until after the deaths of their fathers have been discussed at length elsewhere (Coutts 2012: 85ff.). Essentially it is argued that marriage strategies were established in response to the need by the heads of households to protect the integrity of estates accumulated over time through marriage agreements and wills.<sup>31</sup> Davies (2000: 98) noted that some English Quakers followed this pattern with more avarice, arranging marriages with wealth, social position and the sizes of the marriage portions in mind. In-so-far as wealthy Irish Quaker rural landowning families were concerned, inclusive of the four families (where wills are available for scrutiny), the bulk of the families' estates were inherited by eldest males. However, and by way of contrast, in England and Wales, wealthy Friends in a variety of businesses were located in urban areas, and family assets tended to be distributed more equitably between siblings for the purpose of protecting assets collectively (Walvin 1997: 89).



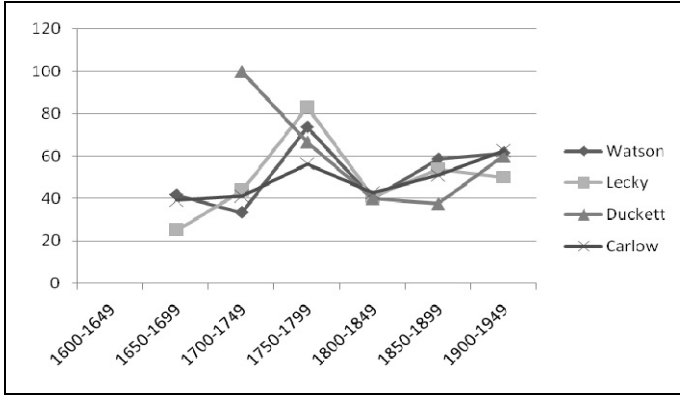


Fig. 12a. Test hypothesis that marriages were systematically delayed until after father's death—by family for all married males

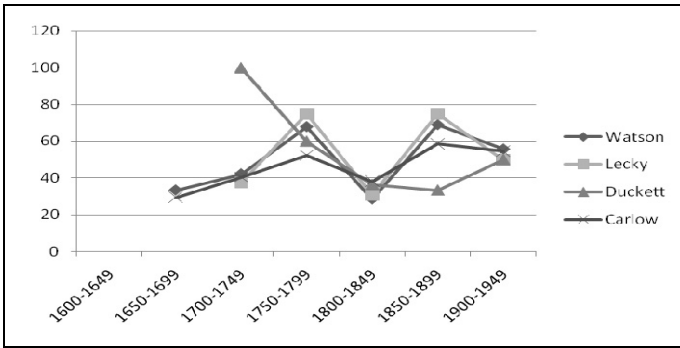


Fig. 12b. Test hypothesis that marriages were systematically delayed until after father's death—by family for eldest son only

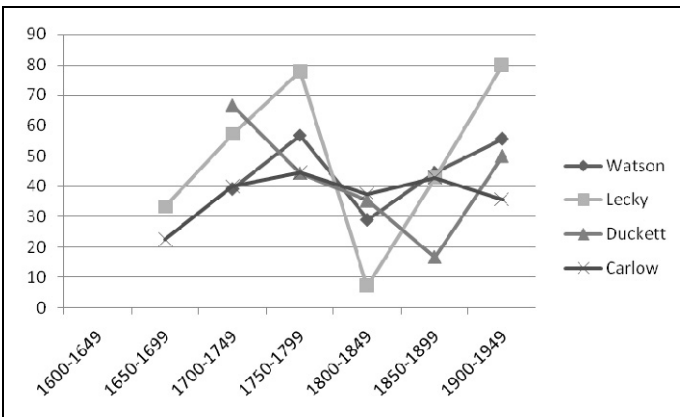


Fig. 12c. Test hypothesis that marriages were systematically delayed until after father's death—by family for all females

The peak for the 1750–1799 TP, where there is a tendency for marriages of both male and females to be delayed and with a slight emphasis on the eldest son (53.5%), may be viewed as an attempt, after several decades of accumulating estates, to distribute them a little more equitably than during a period of growing economic prosperity. The other peak, 1850–1899, during which there is a very strong emphasis on the eldest male (60.0%), may be seen as a much more assertive attempt by heads of households to protect estates in a period of political, economic and social upheaval. The 1750–1799 peaks for males of the Watson, Lecky and Duckett families are much higher than for the Meeting as a whole and as touched on in the foregoing, the explanation may be related to the relative wealth of these families: they had more to protect and took greater care in establishing and implementing their respective marriage strategies. The peaks for the 1850–1899 TP for the eldest males from the Lecky and Watson families clearly indicate a shift in marriage and most likely inheritance strategies (over 70% of eldest sons delayed marriage, compared with less than 60% of all males in these families). Moreover the proportion of eldest males who delayed marriage in the two families is about 10% higher than for the Meeting as a whole, again suggesting they followed more conservative marriage strategies than their contemporaries. The Duckett family by contrast does not appear to have abandoned such strategies during this period.

The extreme delays in marriage experienced by members of the Watson family during the 1850–1899 TP can probably be attributed in part to the tenuous financial situation of some of its the members during that period (Coutts 2012: 93ff.). In the case of the Lecky's there is no similar anecdotal evidence of financial hardship, although John James Lecky (1796–1878) of Ballykealey squandered an enormous sum of money on the construction of a new manor house for his wife in 1835<sup>32</sup> and John Lecky's (1829–1929) attempt to lay the first cable to America from Valentia proved to be a failed business venture (Goodbody 1964: 63).

*Age Differences at first marriage.* The age differences between males and females at first and second marriages are explored in Figs. 13–16. The patterns are roughly similar. As one might expect the majority of males were older than their wives at first marriage as for the Irish Quaker population at large (Vann and Eversley 1992: 93): 80% Watson, 84% Lecky, 68% Duckett and 83% Cooper. The average differences in ages however are relatively modest for most TPs, ranging between 3.5 and 13 years, consistent with the findings of Vann and Eversley (1992: 126, Table 3.1). No reliable trends are discernible for the Cooper family as the data are insufficient, although they suggest that the average age differences for the family tend to be slightly larger than for the other families. There is a discernible trend for the Watson data. The average differences tend to increase through time from 6 to 10 years up to the 1800–1849 TP from which time the average age differences drop. The same trend is apparent when the data are ordered by generation: there is a steady increase in age difference between generations 6 and 10 from 6 to 12 years. The behavior of the Lecky and Duckett data is quite the opposite. The differences decrease from c. 1700 to c. 1849 (8 to 3 years) and then increase sharply. When the data are plotted by generation the decrease progresses

between the 4th and 7th generations, increasing thereafter. Most probably these variations are reflections of differences in marriage strategies.

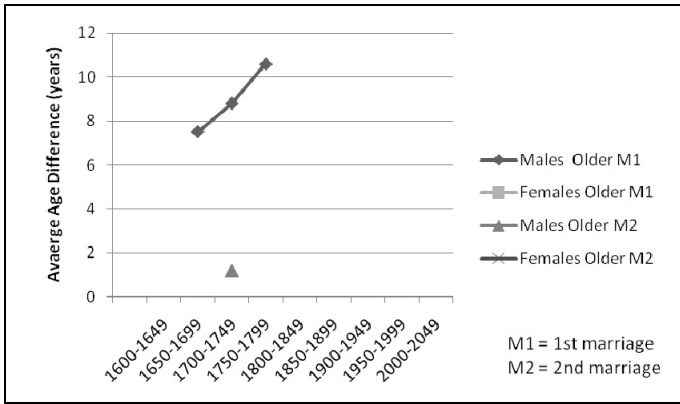


Fig. 13. Average age difference at marriage for the Cooper family

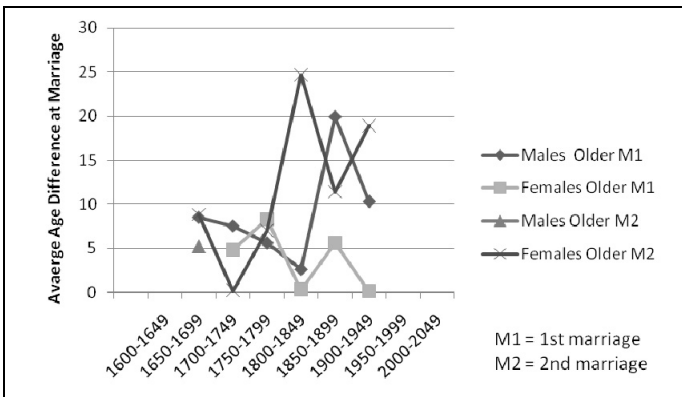


Fig. 14. Average age difference at marriage for the Duckett family

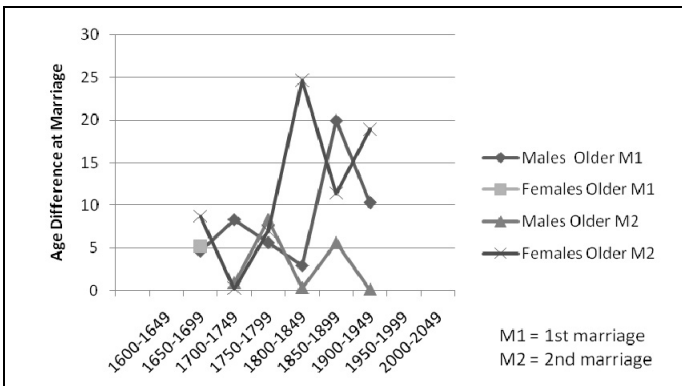


Fig. 15. Average age difference at marriage for the Lecky family

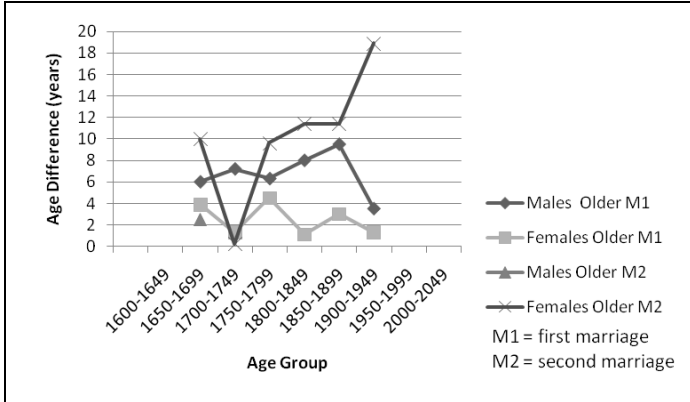


Fig. 16. Average age difference at marriage for the Watson family

Delayed marriage noted for the Watson (and Lecky) families may provide an explanation for the noted increase in age differences between couples at marriage for the Watson family.<sup>33</sup> However although the Lecky data tend to follow the same overall pattern, the differences between couples decrease over time. There is, then, a lack of consistency between the two data sets. Given that the average age at first marriage is generally slightly higher for females belonging to the Lecky family compared with that for the Watsons, one might conclude that the Leckys were more circumspect, particularly about age, when choosing partners.

In respect of instances where wives were older than their husbands at first marriage, the data are limited. Those from the Watson family suggest modest differences. There are insufficient data from all four families to make reliable inferences about age differences for second marriages.

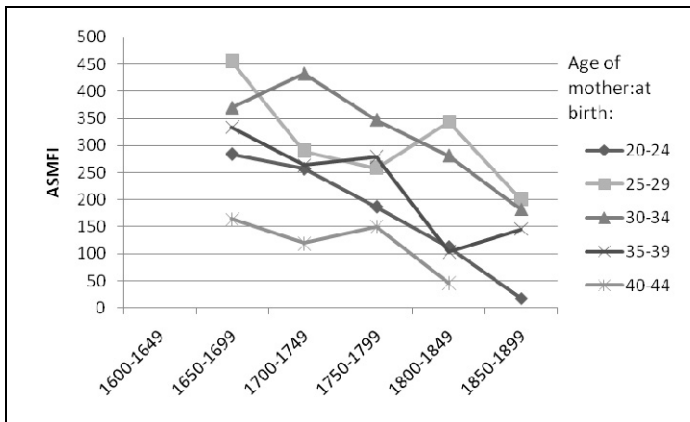


Fig. 17a. Age Specific Marital Fertility Index by mother's age at birth of child —all families combined

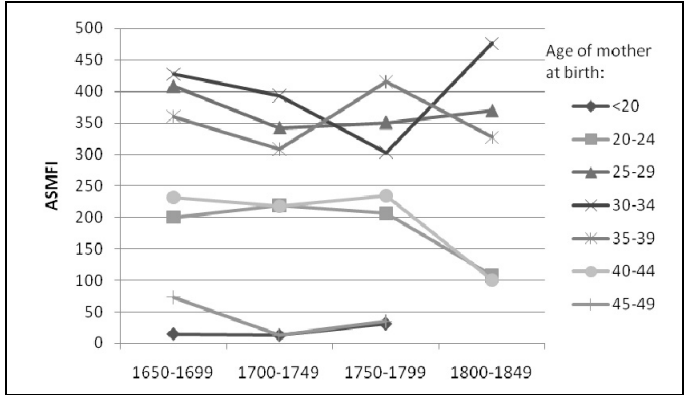


Fig. 17b. Age Specific Marital Fertility Index for the Meeting ranked by mother's age at birth of child

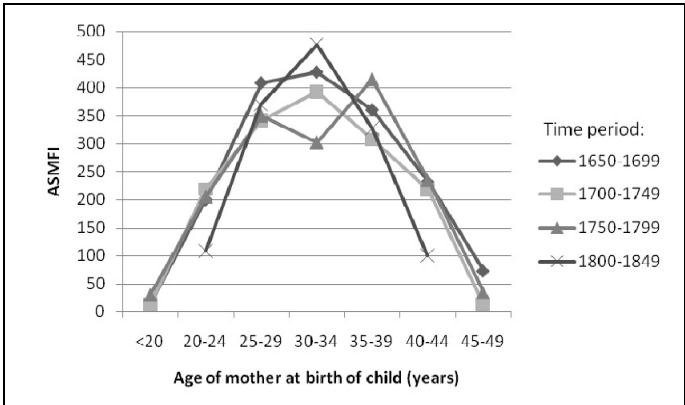


Fig. 17c. Age Specific Marital Fertility Index for the Meeting by age of mother at birth of child for each TP

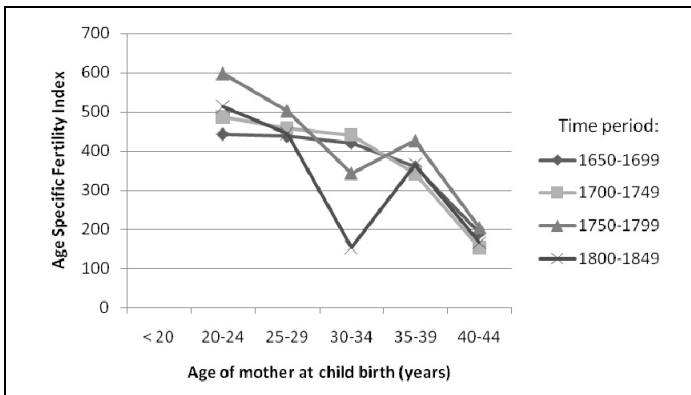


Fig. 17d. Age Specific Marital Fertility Index for all Irish Quakers as a function of age of mother at birth of child (after Vann and Eversley 1992: 134)

*Patterns of childbirth.* Several approaches to this topic have been undertaken with a view to identifying reproductive behavior, including birth patterns, birth strategies and changes in patterns over time. However in order to facilitate interpretation of the birth data it is prudent to identify initially the prevailing customs and attitudes towards birth management. These have been dealt with in historical context by Fildes (1986, 1988) in her seminal publications on breast-feeding and wet nursing. Her conclusions are based on an exhaustive examination of the medical, historical and related literature mainly of British origin, but certainly none specifically from Ireland. However, since the Irish Quakers were generally of British origin and heritage it is highly likely her observations and conclusions are equally valid for the Anglo-Irish population of Ireland.

Basically it seems that breast-feeding by the natural mother of children was not fashionable amongst the more affluent segments of the population until a change in attitude evolved towards the end of the 18th century that made the practice more acceptable (Fildes 1986: 102). Two methods were used to nourish infants. Wet nursing was the most popular method.<sup>34</sup> It was utilized widely, by the nobility, gentry, wealthy merchants and farmers, clergymen, lawyers and even physicians (1986: 99). As many of the Friends belonging to the Meeting fell into one or more of these categories, one would anticipate that some would use wet nurses to breast-feed their infants. The second method was to nourish infants artificially, but this method was not used to any great extent until the late 18th century, when despite warnings against it by medical practitioners (1986: 304), it was slowly accepted as an alternative to wet nursing (as well as to breast-feeding by the natural mother), which was at that time losing popularity (1986: 116). Friends actually advised against engaging dry nurses early on fearing that young women employed for that purpose were exposed to great danger 'by having too much liberty in walking abroad and thereby liable to great temptation'.<sup>35</sup> During the 19th century breast-feeding by the natural mother rose to ascendancy but wet nursing and artificial feeding were still used, particularly in public institutions. Thus in seeking to identify reproductive strategies from the Meeting data, ideally one would hope to determine whether infants were breast-fed by the natural mother or a surrogate, dry-nursed or combinations thereof.

Aside from estimating family sizes, an attempt is made here to determine whether families exercised marital fertility control through spacing and stopping strategies (Knodel 1987: 143).<sup>36</sup> Spacing in this context is defined as any attempt to delay conception after the first birth in order to have children in some possibly predetermined sequence. Stopping is of course a component of spacing, but is used in this context to describe a strategy adopted by parents to determine when the first or last births took place. Both aspects are difficult to recognize, particularly when the data are limited. The tools at the disposal of couples for manipulating reproductive strategies were limited to delaying their marriages, delaying pregnancy by means of contraception and extending periods of breast-feeding (a natural approach to contraception),<sup>37</sup> abstention from sexual intercourse, and increasing the frequency of pregnancies by reducing the periods of breast-feeding utilizing dry and wet nurses.<sup>38</sup> Contraception, other than by extending periods of

lactation through maternal breast-feeding or using the unreliable rhythm method, can be ruled out as no reliable methods were available to mothers during the periods of interest and even if they had been it is unlikely they would have been used by Quaker mothers (Vann and Eversley 1992: 147). Currently there appear to be no specific tests available to determine whether women used wet (or dry) methods of nursing and these need to be inferred from the demographic data.

Interpreting variations in birth intervals over time is dependent upon the assumptions made about fertility strategies, sexual behavior, social, economic and biological factors (Vann 1981: 71). Following Vann and Eversley (1992: 147) it is supposed here that a period of no less than 21 months or 630 days would constitute the minimum period between births assuming that the previous child, born alive, was wet nursed, or the child had died at birth or shortly after birth.<sup>39</sup> It is assumed also that in instances where a mother chose to breast-feed her children, there would be a minimum of 30–36 months (900–1080 days) between births.<sup>40</sup> Another factor that influenced fertility was the age of the mother because fertility declines with age. Thus when looking for patterns in birth interval data one might expect to find that the intervals tend to lengthen as the mother got older. Again for second and subsequent children where birth spacing occurs within the 600–700 day range, one can probably conclude that either the previous child had been still born, died or had been wet or dry nursed. Depending on the age of the mother, ranges in excess of 700 could be interpreted variously as evidence of breast-feeding or in some circumstances, depending upon the size of the interval, for child spacing and/or stopping strategies.

*Age Specific Marital Fertility Index.* One approach to identifying patterns of birth management is to examine the variations in the Age Specific Marital Fertility Index (ASMFI). The Index is defined as ‘the number of births per year in a particular TP per 1,000 years lived by women in that TP’ (Vann 1981: 66; Vann and Eversley 1992: 130). As fecundity tends to diminish with age, one might expect the ASMFI to decrease over time, but the shape of ASMFI birth curves are influenced by a range of factors including the age at which couples married, the age of the mother at marriage, the implementation or otherwise of stopping and/or spacing strategies and infant and parent mortality. Put another way and elaborated by Vann and Eversley (1992: 150), if one assumes that the fertility profiles for all women of similar ages are basically the same (starting high and reducing with age to zero around aged 45), and that if no conscious attempt is made to limit the size of the family, then women of the same age should reproduce at the same rate regardless of when they married. This of course is a somewhat dubious hypothesis for rather obvious reasons. Nevertheless it is one that can be tested but with the modest purpose of identifying trends.

Some idea of what a ‘natural’ fertility<sup>41</sup> curve would look like can be gleaned from the compilation by Wrigley *et al.* (1997: 453, Fig. 7.6) of ASMFI for English Parishes by single year and which they have summarized graphically.<sup>42</sup> Essentially it is a convex curve that slowly drops away from an average ASMFI of about 400 for women 20 years of age to around 200 for women 40 years of age (gradient of about -10 ASMFI units per year) and thereafter dropping away to

zero for women aged 50 (gradient of -20 ASMFI units per year). The point is that the curve itself is a gradual deterioration. Thus as a general rule sharp peaks are probably indicative of birth promotion, horizontal or near horizontal portions of ASMFI graphs of birth spacing, gradual downward slopes could be attributed to a combination of reducing fecundity and random birth strategies and sudden breaks may indicate the deployment of stopping strategies. If the curve becomes concave then it is probably indicative of parity-specific birth management.

Using data from all four families, the ASMFI as a function of time and age of mother at birth (AMB) is shown in Fig. 17a. Notably the index tends to drop away from the early TPs to near zero in the 1850–1899 TP. The drop is consistent for women regardless of the age they gave birth, although the rate and degree of decrease varies. In general, with the exception of the 40–44 year rank, the older the mother was at childbirth the higher the ASMFI and there is a slight peak in the curve for mothers giving birth in the 25–29 year age range for the 1800–1849 TP.

It is interesting that slightly different patterns are evident for the Meeting (Fig. 17b). The main difference is that the curves are almost horizontal through time (index ranging between 300–400 for mothers giving birth in the age range 25–39) and there is evidence for slight peaks in the 1750–1799 TP, 35–39 year rank and in the 1800–1849 TP 30–34 year rank. Otherwise the same pattern can be discerned as for the four families, namely that with the exception of the 40–44 year rank, the older the mother was at childbirth the higher the ASMFI. The same data plotted as a function of AMB provides a clearer picture of the patterns of childbirth (Fig. 17c). Basically they are similar for all TPs except that for 1750–1799. The ASMFI increases sharply for mothers giving birth from around age 20 until they reach 30–34 years of age where the ASMFI peaks at about 400 and it then drops off rapidly. The higher values are maintained over a wider age range (25–39 years) in 1650–1699 TP and the peak ASMFI by AMB is only reached in 1750–1799 TP in the 35–39 age range. The flattish shapes of the ASMFI curves for 1650–1699, 1700–1749 and 1750–1799 TPs suggest that tailored birth-management strategies may have been deployed by couples during those periods.

Since the profiles all follow the basic convex trend (with perturbations that seek to define differences in birth patterns between TPs) there is no evidence from these profiles for parity-specific reproductive strategies.

When these data are compared with those for the Irish Quaker population (Fig. 17d) there are substantial differences. There is a continuous downward trend in the wider population for all TPs from the 20–24 age rank which also has the highest ASMFI in the 1750–1799 TP, whereas the peak occurs in the 30–34 year old rank of the 1800–1850 TP for the Meeting.<sup>43</sup>

To explore these differences in more detail the ASMFI is shown in Figs. 18–21 as a function of AMB for each of the four families by TP. The object is to determine whether there were variations in family birth patterns over time. The Cooper family is not represented in the 1650–1699 TP and the profiles for the other three families have little in common. A peak for the Watson family occurs at the 25–34 year rank and the shapes of the curves for the Duckett and Watson families are indicative of birth spacing. The Lecky profile is deviant, suggesting



increasing fecundity through three ranks to the 35-39 age rank, thereafter dropping off sharply (stopping).

In the next TP there is a broken gradient to a peak at the 30-34 age rank for the Watson and Lecky families followed by mild drop-offs, indicating a combination of spacing, clustered births followed by stopping. The Duckett family differs in that it has a peak in the 25-29 year rank and a much higher ASMFI. The gradual but stepped drop off in the profile thereafter suggests stopping and spacing. The Cooper profile is a flattened parabola indicative of spacing.

The ASMFI are much lower for the 1750-1799 TP compared with those of the preceding TP and except for the Cooper family the profiles are flattened off, again suggesting that births were deliberately spaced. The Cooper profile differs, having a very strong peak in the 30-34 age rank, suggesting clustered births.

There is a peak in the 1800-1849 TP for the 30-34 year rank for the Watson and Duckett families, and a peak for the other two families in the 25-29 rank. The profiles suggest clustered births for Leckys, Ducketts and Coopers followed by spacing and stopping. Spacing followed by stopping and spacing may have been the strategy for the Watson family as there is a gradual increase to the peak ASMFI in the 30-34 rank.

In summary these data indicate that birth patterns did change over time (manifested by changes in the dominant ranks and the shapes of the ASMFI curves), and that while there is some degree of uniformity in these patterns for some of the families in some TPs there is also considerable variation. For example the patterns are similar for the Watson, Cooper and Lecky families for the 1700-1749 TP and for Watson, Lecky and Duckett during the 1800-1849 TP, but there are a variety of patterns evident for the families during the 1650-1699 TP. It is apparent from the shapes of the ASMFI curves that birth spacing was most likely deployed by couples at one time or other during most of the TPs but more particularly during 1750-1799. And more generally there is a tendency for a slight reduction in the ASMFI throughout the TPs for many ranks although this also varied from family to family. There is no evidence from any of the profiles for parity-specific birth strategies.

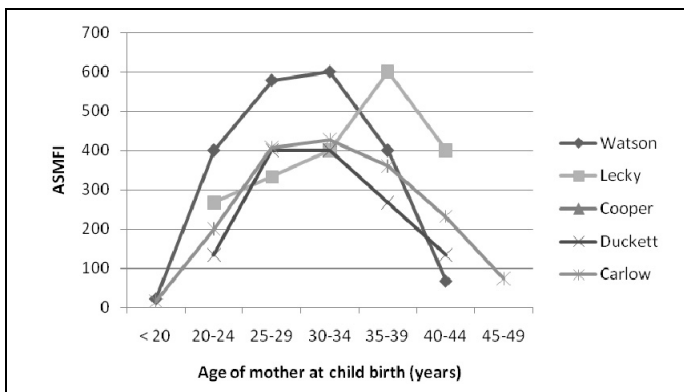


Fig. 18. Age Specific Marital Fertility Index by age of mother at childbirth 1650-1699

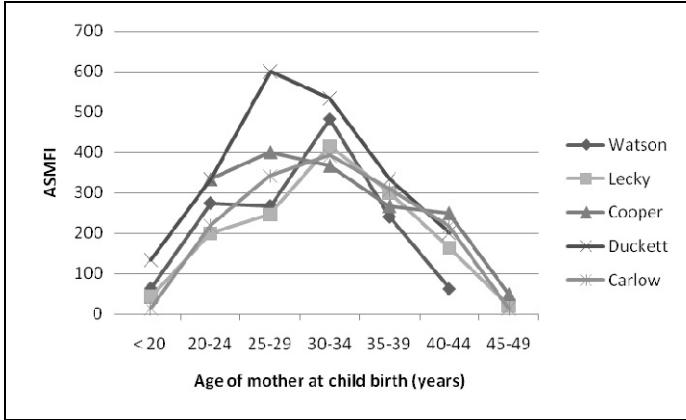


Fig. 19. Age Specific Marital Fertility Index by age of mother at childbirth 1700- 1749

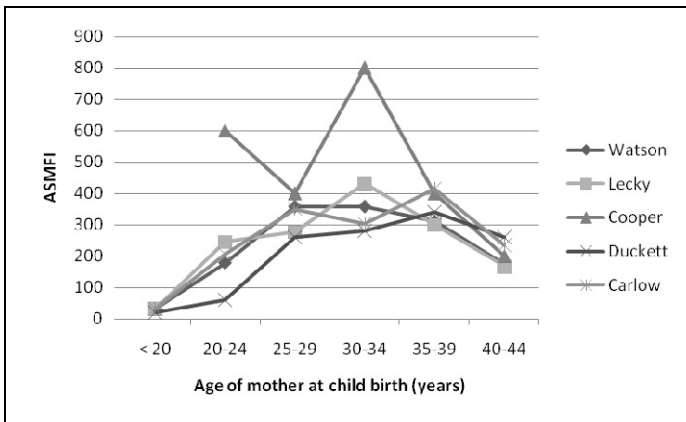


Fig. 20. Age Specific Marital Fertility Index by age of mother at childbirth 1750-1799

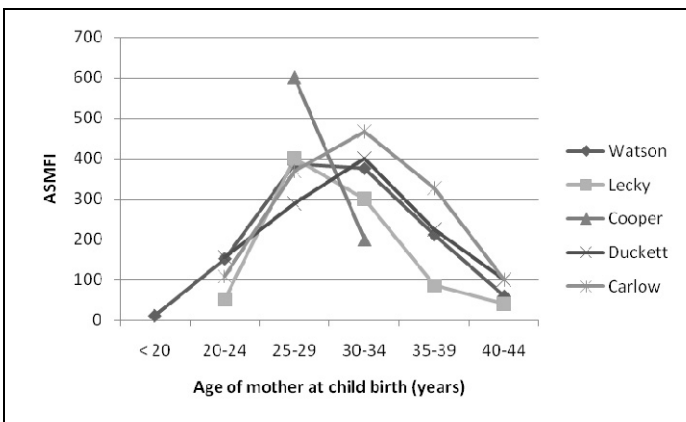


Fig. 21. Age Specific Marital Fertility Index by age of mother at childbirth 1800-1849

In order to try and explain the changes in the index and its lateral spread through the AMBs it would seem that some additional process or processes need to be invoked. For example if there was a concerted move by mothers to breast-feed their children one would expect to see a flattening of the Index. In any case the Cooper family does not appear to have been party to the process in the later TPs as their peak indices are very high.

Notably the trends observed from the Meeting data are generally consistent with those derived from the family data but less so when compared with the results of Vann and Eversley's analysis of Irish Quaker data (1992: 134, Table 4.2). There is however a general degree of similarity between the two sets of data and when the latter are plotted the resulting relatively flat curves suggest that spacing may have been deployed.<sup>44</sup> Vann and Eversley give no prominence to births that took place before the mother turned 20, but a number of such births were recorded for the Meeting and within the four families.<sup>45</sup> Why there is so much difference between the two data sets is not immediately clear but aside from real variation in reproductive patterns it could possibly be attributed in part to the sampling inadequacies of this study and/or regional/local variation.<sup>46</sup>

Another way of looking at these data is to present them as a function of the age of the mother at first marriage for the four families combined (Figs. 22a-d). A young mother, for example, had the option of spreading births over a longer TP, whilst a woman marrying late might have chosen to adopt a very different birth strategy because of her age. Looking first at the data for all families combined, as expected there are differences in the way the women of different ages managed childbirth. An overview of these graphs reveals that the highest ASMFIs are found in the two earliest TPs and that there is no really dominant age of mother at birth (AMB) rank although the higher birth rates tend to occur in those up to and including the 25-29 AMB.

Starting with women who married before the age of 20, the shape of the ASMFI curve suggests that births were deliberately spaced during the 1650-1699 TP.<sup>47</sup> The curve for women that married under 20 years of age during the 1750-1799 TP is similar, again suggesting high fertility followed by birth spacing. However the average ASMFIs for the mothers that married under 20 years in the 1650-1699 TP rank is much higher than for the 1750-1799 TP while it is much lower for mothers that married aged 20-24 years. In addition the 20-24 AMM curve is relatively flat, with a slight peak in the 25-29 AMB rank, suggesting spaced births.

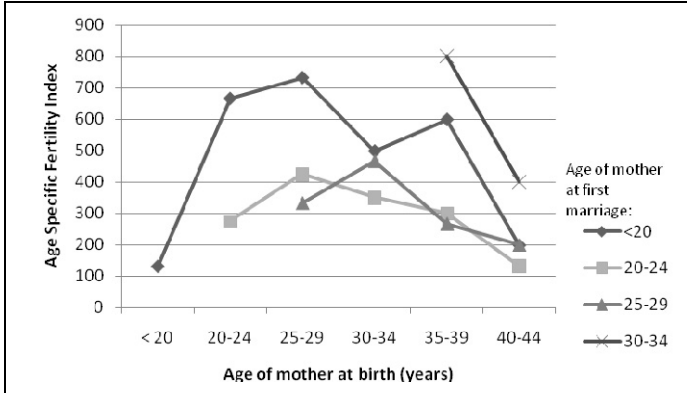


Fig. 22a. Age Specific Marital Fertility Index as a function of age of mother at first marriage 1650–1699, all families

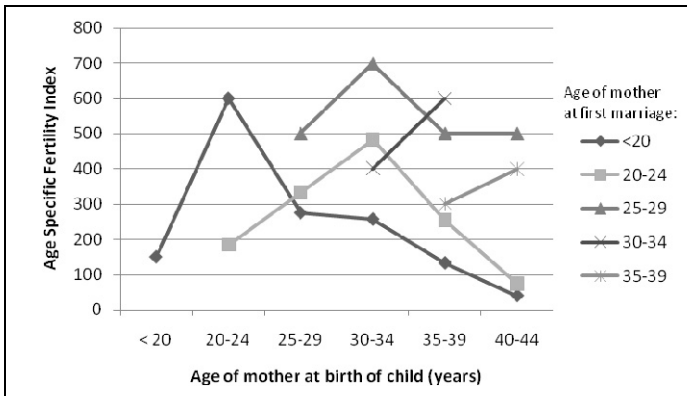


Fig. 22b. Age Specific Marital Fertility Index as a function of age of mother at first marriage 1700–1749, all families

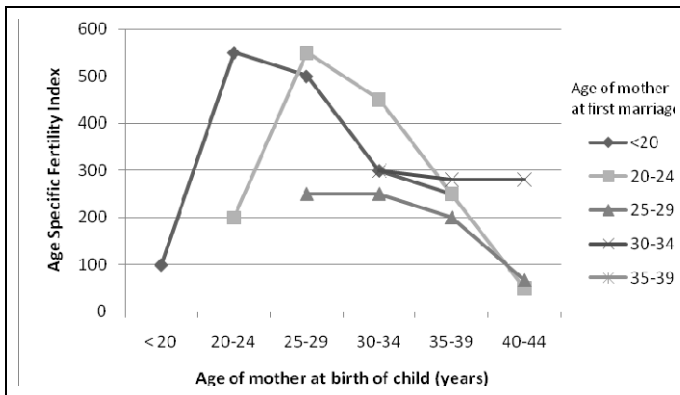


Fig. 22c. Age Specific Marital Fertility Index as a function of age of mother at first marriage 1750–1799, all families

The 20-24 AMM behaves quite differently in the 1700-1799 TP, with a slower build up to the maximum ASMFI in the 30-34 year AMB rank followed by a moderate drop. In the following two TPs the maximum ASMFI for 20-24 AMM occurs for the 25-29 AMB, after which a rapid decline in ASMFI implies that a stopping/pattern of births was used.

Considering mothers who married in the 25-29 year range there is some aberrant behavior through the TPs. The curve for the 1650-1699 TP is almost flat suggesting spacing and the maximum ASMFI of about 450 occurs for mothers giving birth in the range 30-34 years. The curve is very similar for the 1750-1799 TP but the maximum ASMFI never gets above 250 so that spacing can be implied (as well as a very different birth management strategy). The 1700-1749 TP has a very pronounced peak reaching around 700 in the 30-34 age AMB rank followed by a steep drop with a flattened tail, heralding spacing. The ASMFI however remains high, never dropping below 500. A similar type of curve is apparent in the 1800-1849 TP except that an ASMFI of 500 is maintained for women that gave birth between the ages of 25 and 34 (suggesting spacing) and the index drops dramatically to 100 for women who gave birth in later years, again suggesting spacing. For the second and last TPs and for the 25-29 AMM range, it would seem that the strategy was to have children as quickly as possible initially and then to space out the balance of their births. For the other two TPs it was more like steady and paced births.

There are limited data available for the 30-34 AMM year range for the first two TPs. All one can really say is that the ASMFI were high as one would expect if the object was to have as many children as possible before the end of the fecund period. More can be said about the last two TPs where the ASMFI were relatively low ranging between 200 and 400. The curve is almost flat for the 1750-1799 TP and spacing is implied. For the last TP the curve lifts from 300 to 400, peaking for mothers giving birth in the 35-39 year rank and then dropping away to 200, presenting as a stopping strategy.

When the profiles are presented in this way one can start to see a trend towards impending parity-specific limitation as early as the 1650-1699 TP. This appears to be the case since some of the profiles are beginning to look concave including 20-24 AMM 1650-1699 TP, less than 20 and 25-29 AMM for 1700-1749 TP, less than 20 and 35-39 AMM 1750-1799 TP and less than 20 AMM for the 1800-1849 TP.

When the foregoing profiles are compared with those for the Meeting, major differences are evident.<sup>48</sup> There is evidence for birth management and diversity in the Meeting profiles and in general the ASMFI are slightly lower than for many of the corresponding AMM ranks of the four families. Taking the profiles for the 1650-1699 and 1700-1749 TPs as an example, the maximum ASFMI for the <20 AMM rank are about 700 and 600 respectively whereas those for the same ranks in the Meeting profile are 530 and 450.

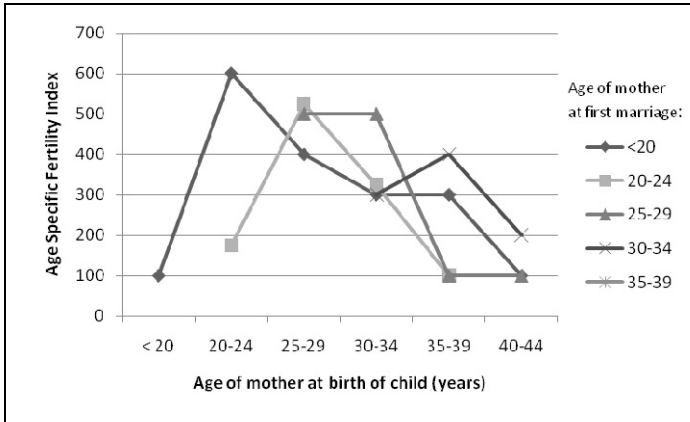


Fig. 22d. Age Specific Marital Fertility Index as a function of age of mother at first marriage 1800–1849, all families

The ASMFI by AMM can be broken down further and plotted for each family although the data available for this exercise are limited (Figs. 23a-j). As expected the data graphically illustrate contrasting and changing family patterns of birth and in these graphs there is a less obvious tendency for the profiles to become concave. Beginning with the under 20 years AMM similar birth strategies are in evidence for both the 1700–1749 and 1750–1799 TPs. Both have high birth rates (clustered births) in the 20–24 AMB for all families with the ASMFI varying between 400 and 1000 in the earlier TP and a much narrower range of 600–650 in the latter. Thereafter both stopping and spacing birth strategies were used until the termination of the fecund period, although the profile for the 1700–1749 TP is more regressive. Certainly for this AMM and for the 1650–1699 TP it would seem that all of the families had very similar birth management practices and the profiles are quite concave.

There is much more variation in the 20–24 AMM rank. During the 1650–1699 TP the birth rates jump steeply for the Duckett and Cooper families (ASMFI 500–600) in the 25–29 AMB, but the other two families peak in the following AMB, the Lecky family at 800 and the Watsons at an ASMFI of 640. Thereafter the ASMFI's tail away following differing strategies involving stopping and spacing. The profiles for the 1700–1749 TP have little in common with those of the previous TP. The Cooper family appears to have utilized spacing from the 20–24 AMB rank; the Watson's and Lecky's ASMFI's increase moderately to peaks in the 30–34 AMB rank and then drop away rapidly with little evidence of spacing; and the Duckett family has a relatively high peak ASMFI of 600 in the 25–29 AAB followed by a steep decline in the index with no real evidence of spacing. The profiles of the following two TPs are quite similar with a rapid climb to ASMFI's of 5–600 in the 25–29 AAB rank for all families, followed by moderate decline with evidence of stopping and spacing for the 1750–1799 TP and more steep decline with little evidence of spacing for the next TP.

The profiles for the 1650–1699 TP 25–29 AMM rank are very similar for all families and are much like those for the 1800–1849 TP 20–24 AMM, with steep rises in ASMFIs to between 500 and 600 in the 30–34 and 25–29 AMBs respectively, followed by rapid declines. However for the next two TPs the profiles for the 25–29 AMM are very different and suggest that quite different birth management strategies were deployed. In the 1700–1749 TP the Watson and Duckett (ASMFIs 600), Cooper and Lecky (both 800) families peak also in the 34–39 AMB and their tails deteriorate less acutely than in the preceding TP, with suggestions variously of spacing and stopping. Quite remarkably and unique to this study, the Cooper and Lecky profiles are identical. Notably the curve for the Meeting starts off rather flatly and deteriorates slowly suggesting spacing until the 40–44 AMB rank. The profiles for the 1750–1799 rank suggest radical changes in birth management. The Duckett and Watson profiles start off rather horizontally suggesting spacing in the 34–39 AMB ranks, and thereafter a continuation of spacing for the Watson family and a strong increase in the ASMFI for the Duckett family in the 35–39 AMB rank. Steep declines in the ASMFI for both the Duckett and Watson families from the 35–39 AMB suggest stopping strategies. The curve for the Meeting also begins at a relatively high ASMFI (400) is almost horizontal and then deteriorates rather more slowly than for those of the four families. Leaving aside the Lecky family for which there are very few data, the profile for 25–29 AMM 1800–1849 TP is very similar to that for the 20–24 AMM rank 1700–1749 TP. Both profiles have very strong peaks for the 30–34 AMB rank with ASMFIs ranging from 400–600. The deterioration from the peaks is rapid.

Table 2. Summary of evidence for stopping (S), spacing (P) and clustering (C) birth strategies for four families

	<i>Watson family</i>				<i>Lecky family</i>			
Age at marriage	1650–1699	1700–1749	1750–1799	1800–1850	1650–1699	1700–1749	1750–1799	1800–1850
<20	P,S	P, S,C	P,C	S		P,S,C	P,C	
20–24	P	S,C	S,C	S,C	P,S,C	S,C	S,C	S,C
25–29	S,C	S,C	P,S	S,C		P,S,C	C	S,C

	<i>Duckett family</i>				<i>Cooper family</i>			
Age at marriage	1650–1699	1700–1749	1750–1799	1800–1850	1650–1699	1700–1749	1750–1799	1800–1850
<20		P,S,C	P, S,C	P,S		P		
20–24	S,P,C	S,C	S,C	S,C		P		S,C
25–29	C	P,S	P, S,C	S,C		P,S,C		

As a working hypothesis, judged on the shapes of the profiles for the 1800–1849 TP, it would seem that as the families emerged into the 19th century they all appear to have adopted similar birth management strategies. However the other profiles also suggest that a variety of strategies were deployed from time-to-time through the period 1650–1800. Using the gradients of the profiles as a guide, an attempt has been made to identify when stopping, spacing and clustered birth strategies were used by each of the families. These are summarized in Table 2, the results of which serve to illustrate a diverse approach to birth management through time, but ending with clustering/stopping strategies in the last TP for all families.

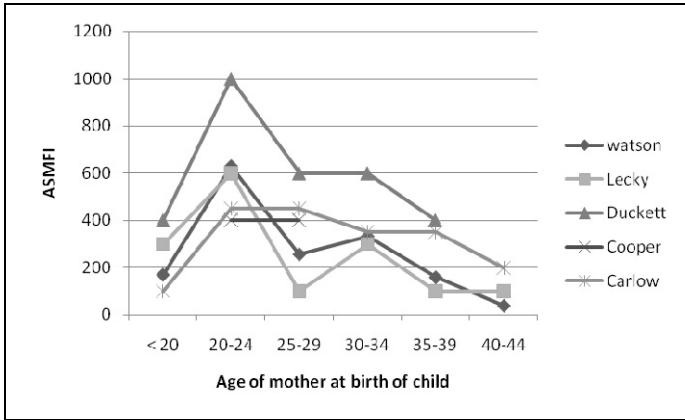


Fig. 23a. Age Specific Marital Fertility Index by mother's age at births of children for mothers married at under 20 years 1700–1749

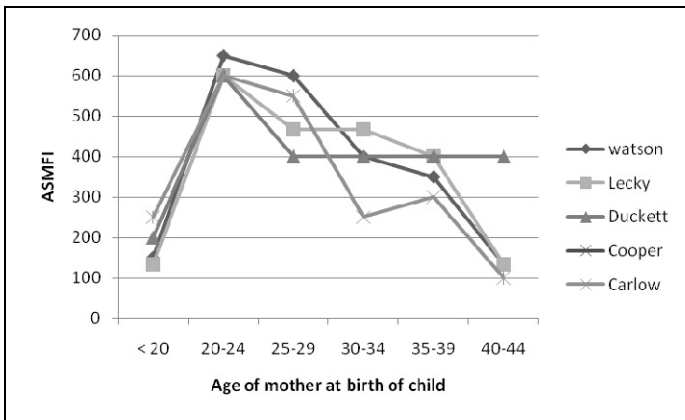


Fig. 23b. Age Specific Marital Fertility Index by mother's age at births of Children for mothers married at under 20 years 1750–1799



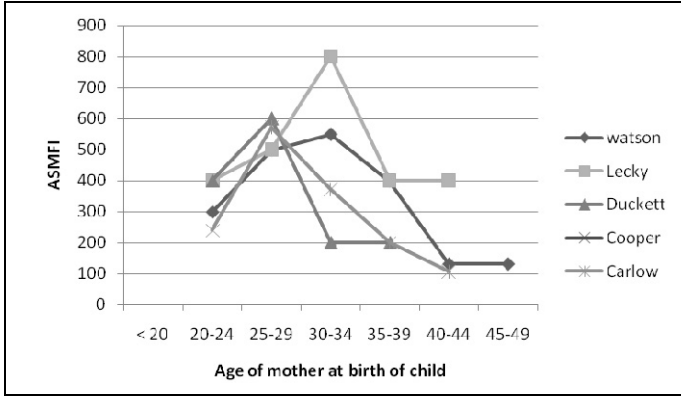


Fig. 23c. Age Specific Marital Fertility Index by mother's age at births of children for mothers married at 20-24 years 1650-1699

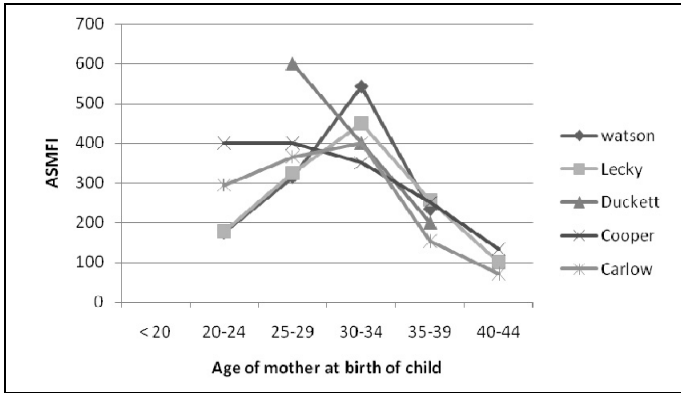


Fig. 23d. Age Specific Marital Fertility Index by mother's age at births of children for mothers married at 20-24 years 1700-1749

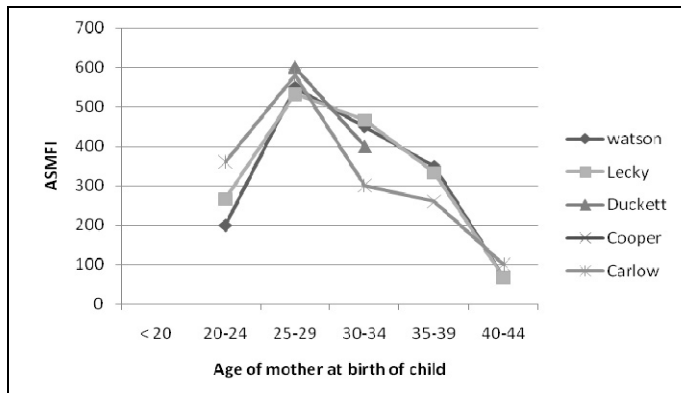


Fig. 23e. Age Specific Marital Fertility Index by mother's age at births of children for mothers married at 20-24 years 1750-1799

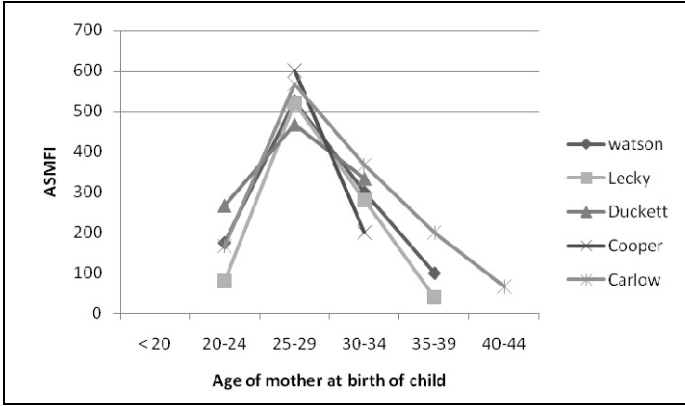


Fig. 23f. Age Specific Marital Fertility Index by mother's age at births of children for mothers married at 20-24 years 1800-1849

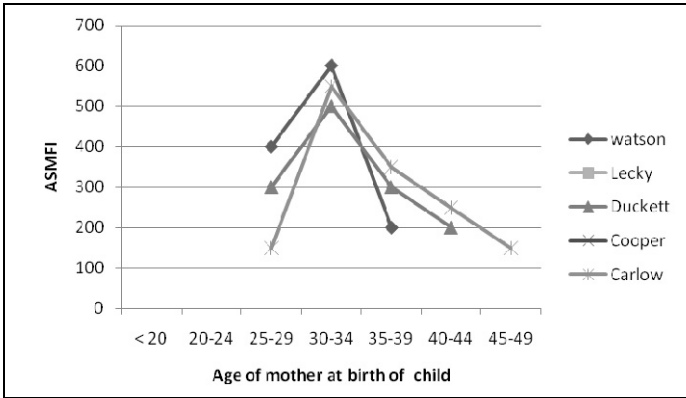


Fig. 23g. Age Specific Marital Fertility Index by mother's age at birth of children for mothers married at 25-29 years 1650-1699

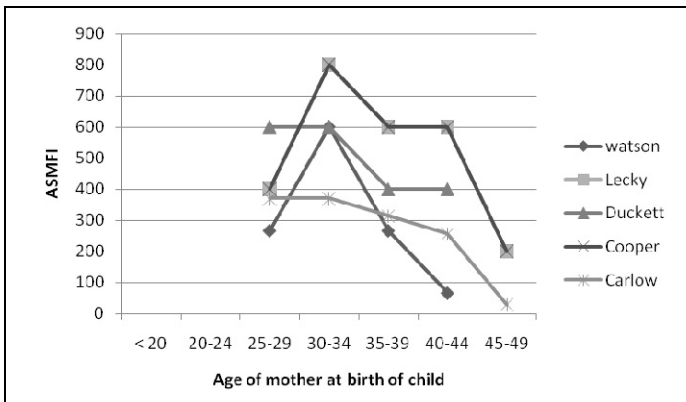


Fig. 23h. Age Specific Marital Fertility Index by mother's age at birth of child and family for mothers married at 25-29 years 1700-1749

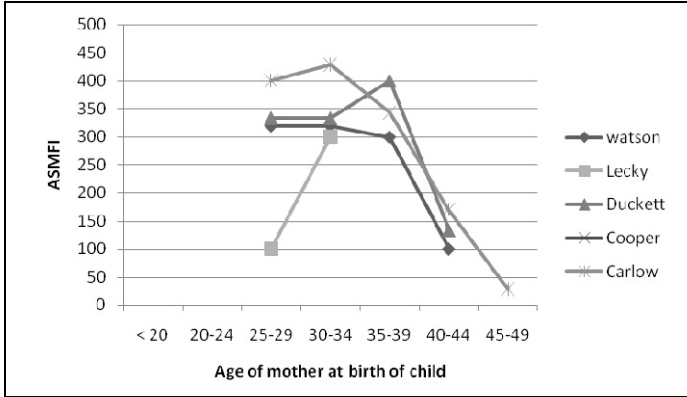


Fig. 23i. Age Specific Marital Fertility Index by mother's age at births of children for mothers married at 25-29 years 1750-1799

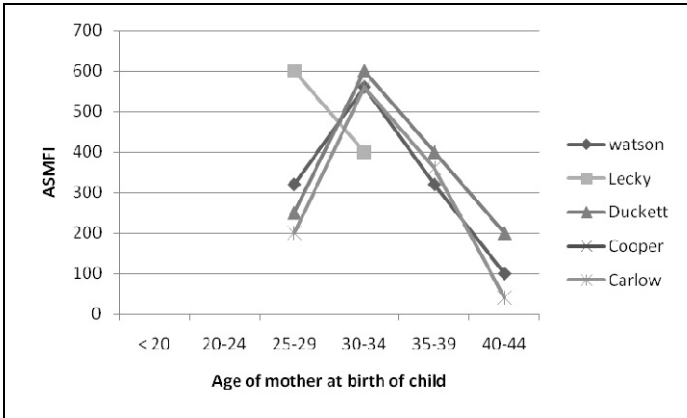


Fig. 23j. Age Specific Marital Fertility Index by mother's age at birth of child and family for mothers married at 25-29 years 1800-1849

*Birth intervals.* Average birth intervals have been calculated for all four sets of data, but need to be interpreted with caution, in particular when being used to infer family limitation strategies (Knodel 1987: 147). For example the size of the last birth interval has been used as an indicator of intentional birth spacing but there can also be mitigating circumstances because birth intervals tend to increase with birth rank as part of the natural fertility cycle. Although every care has been made to screen data for possible errors and omissions, in the end some personal judgment needed to be exercised. As mentioned in the foregoing there is no guarantee that all births were recorded in Friends' registers, indeed there is evidence of omissions, particularly still-births, births that took place before parents became Members and others that took place after Members left the Society (Vann 1981: 74). Nevertheless, the data chosen for analysis should be sufficiently reliable to enable trends to be identified.

The average birth intervals for each family and the average birth intervals for the first child are summarized graphically in Figs. 24-27 by TP and generation. Looking first at the overall averages by TP, they tend to fall within the 550 to 900 day bracket, as one might expect.

The same data plotted by generation show a lot more variation. There are strong peaks in the 12th generation for the Watson and Duckett families, and a peak in the 5th generation for the Cooper, Duckett and Watson families. There is also a bump for the Cooper family in the 7th generation. Otherwise the curves for the Lecky and Watson families remain fairly consistent at around 730 days from the 4th to the 10th generation. The Duckett profile is more erratic than those for the other families which suggest more variation in family reproductive strategies. Possibly the peaks represent TPs when the families in question were more prone to planned spacing or stopping strategies for bearing children. However except perhaps for the 12th generation there is no convincing evidence for patterned communal reproductive behavior.

A relatively sharp peak is apparent in the graph of average birth intervals for first born children in the 1750–1799 TP for Cooper and Lecky families, indicative of delayed conception. There are no significant deviations for Ducketts until the 1900–1949 TP, and the Watson profile drops only slightly from 1700 to 1899 after which it climbs significantly from around 550 to 900 days in the 1950–1999 TP. Overall, since the average first birth interval for all families and for the Meeting is above 450 days one suspects that it was common practice to delay slightly conception of the first child. Idiosyncratic behavior is apparent also when the data are arranged by generation. There is a strong peak in the 5th generation for Coopers and Leckys. For the Leckys there is a continuous decline to the 8th generation before the trend reverses, and there are peaks at the 7th and 11th generation for the Watson family. The Duckett profile has the lowest average first birth intervals of the four families but once the 9th generation is reached it follows the Watson and Lecky profiles more closely.

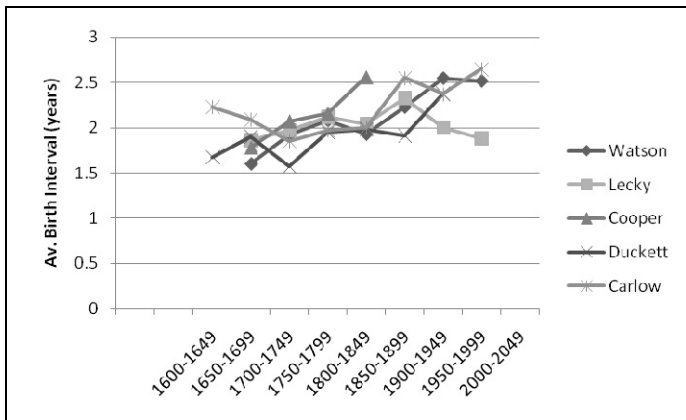


Fig. 24. Average birth interval (years) by TP

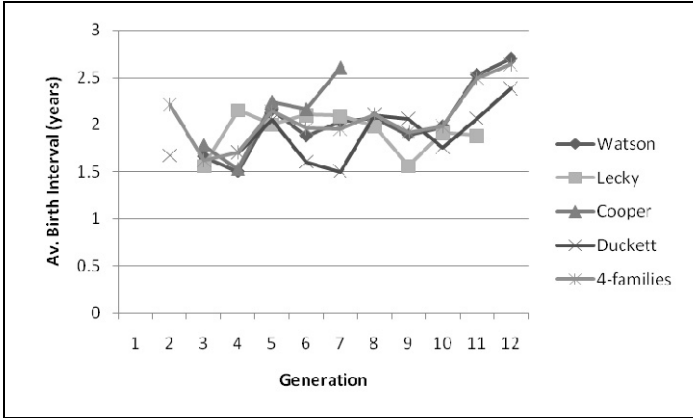


Fig. 25. Average birth interval (years) by generation and family

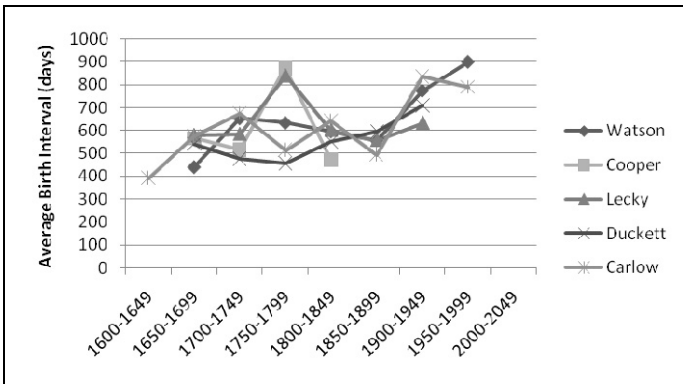


Fig. 26. Average birth interval for 1st child (days) by TP and family

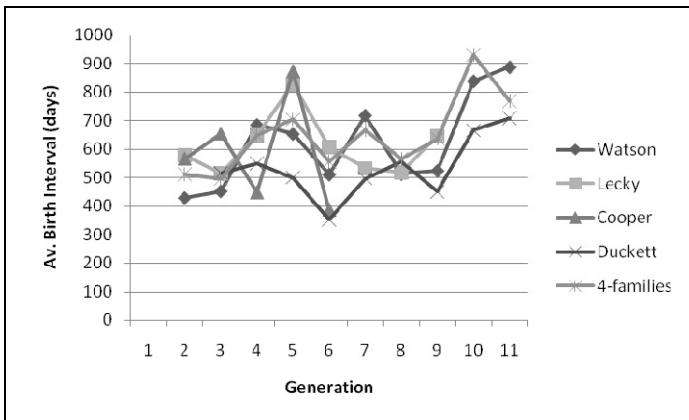


Fig. 27. Average birth interval for 1st child (days) by generation and family

The rather erratic configuration of average first birth intervals over time, though punctuated with peaks (and troughs), suggests that a variety of birth strategies were deployed by the families. The peaks in the graphs almost certainly represent deliberate delayed first births: for example in the 5th and 10th generations about 900 days after marriage, well above the averages for all the families.

To look at this in slightly more detail the average birth intervals for the first four intervals have been plotted as a function of TP and generation for each family (Figs. 28-33). Starting with the TP profiles, three of the four families have similar profiles up to and including the 1800-1849 TP, although the ranges of the birth intervals differ slightly; the Watson's vary between 400-900, Ducketts between 400 and 800 and Leckys between 600 and 800 days. The Cooper profile is erratic although there are obvious delays in conception, as there are for the Watsons and Lecky families (1850-1899 TP). Delay becomes apparent only in the late TPs for the Duckett family. In general there is a tendency for the first birth to have the smallest birth interval with increasing delay for subsequent births. One exception is for the Cooper family (1800-1849 TP) where there is an average delay of 850 days prior to first birth, 1,150 days for the second birth and then less than 600 days for subsequent third and fourth births. Turning now to a consideration of the same data plotted by generation, delay is evident in the 3rd and 4th births of the 4th generation and the 1st and 2nd births of the 5th generation of the Cooper family, in the 4th birth of the 4th and 9th generation of the Watson family, in the 4th and 6th generation of the Lecky family, in the 7th generation of the Lecky family where there are long delays in the 2nd and 3rd births, and for the third and fourth births of the 7th generation of the Duckett family.

Notably some of the birth intervals for the Cooper and Duckett families are well below the minimum estimated gap of 630 days between births and this suggests that wet (or dry) nursing may have been deployed possibly to enable subsequent conception at shorter intervals.<sup>49</sup> This technique is also implied for the other two families in a number of TPs though with less certainty. The various birth management methods tentatively identified from the profiles have been summarized in Table 3 including a breast-feeding category which can be implied for birth intervals of the order 800+ days.<sup>50</sup> Notably, the table suggests that wet nursing may have been widely deployed.<sup>51</sup> There is evidence in most profiles for moderate to substantially delayed first births (using c. 430 days as the minimum time for pregnancy to occur).

Table 3. Summary of birth management methods attributed to the four families by TP and Generation

<i>Family</i>	<i>1650-1699</i>	<i>1700-1749</i>	<i>1750-1799</i>	<i>1800-1849</i>	<i>1850-1899</i>
Watson	P,W(?)	P,S, W(?),D	P,W(?).D	P,W(?),D	S,D
Lecky	P,W(?),D	P,W(?),D	P,W(?),D	P,D	S,D
Duckett	D	P,W	P,W	P,W,D	P,W,D
Cooper	D	P,W,D	P,S,W,B,D	S,B	S,B,W

Generation	Watson	Lecky	Duckett	Cooper
2	B,D	W,D	D	W,P,D
3	P,W	W,D	W,P,D	W,P,D
4	P,B,S,W,D	W,P,D,D	W,P,D	W,S,B,P
5	P,W,D	P,D	W,P,D	W,S,B
6	P,W	D	W,P	S,B
7	P,W,D	S,B,D	S,B,D	
8	P,W	W,D	P,D	
9	P,S,B	S,B,D	P,D	
10	P,B,S,D		S,B,D	
11	D		S,B,D	

Key: P = spacing; S = stopping; W = wet nursing; B = breast-feeding;  
 D = delayed first birth

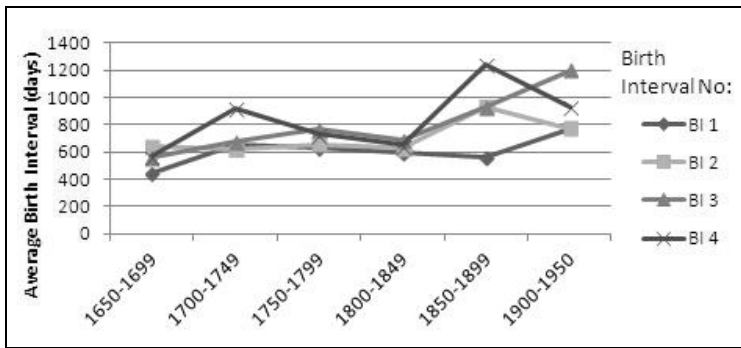


Fig. 28. Average birth intervals (days) by TP for first four births, Watson family.

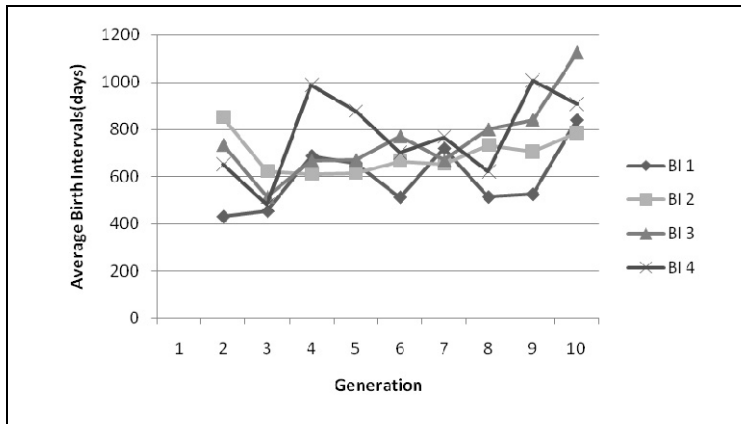


Fig. 29. Average birth intervals (days) by generation for first four births, Watson family

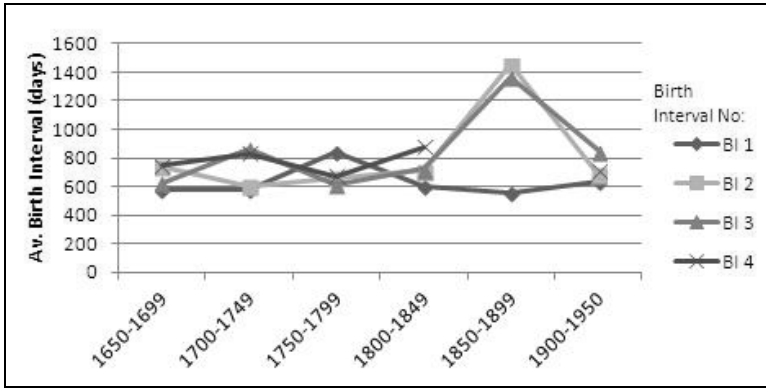


Fig. 30. Average birth intervals (days) by TP for first four births, Lecky family

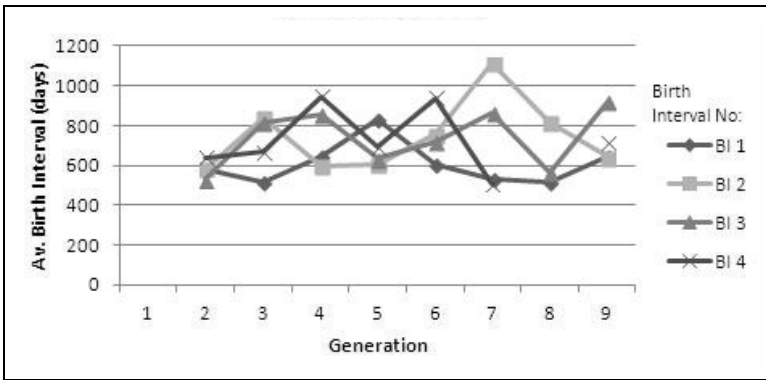


Fig. 31. Average birth intervals (days) by generation for first four births, Lecky family

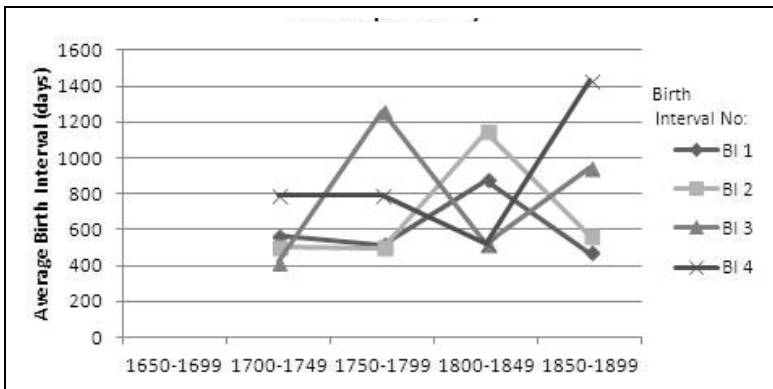


Fig. 32. Average birth intervals (days) by TP for first four births, Cooper family



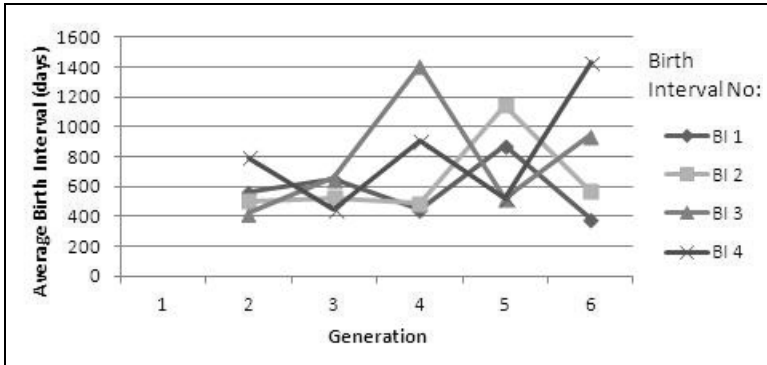


Fig. 33. Average birth intervals (days) by generation for first four births, Cooper family

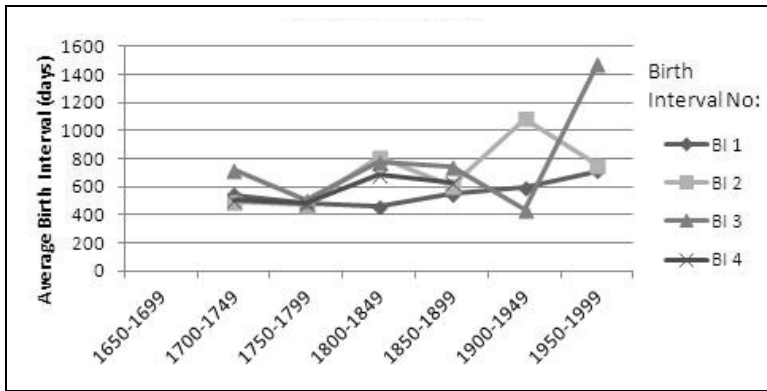


Fig. 34. Average birth intervals (days) by TP for first four births, Duckett family

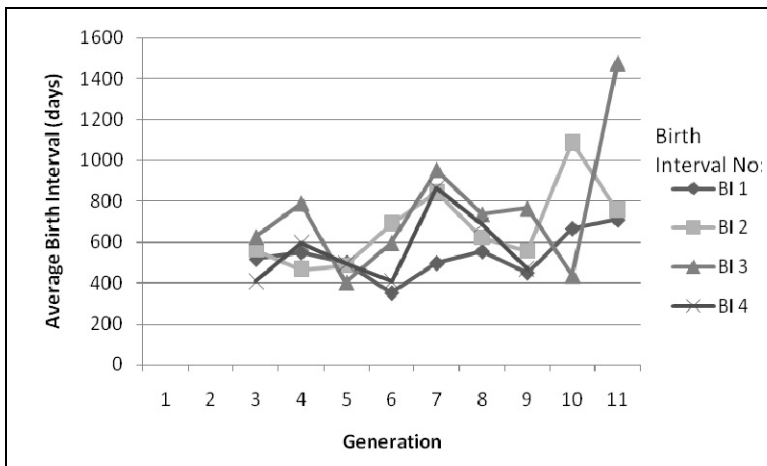


Fig. 35. Average birth intervals (days) by generation for first four births, Duckett family

The foregoing data indicate that whilst each family shows some of the birth management characteristics discussed, each has its own idiosyncrasies. However by the end of the 19th century all families appear to have adopted similar birth management patterns. If wet nursing was used as a birth management tool, as the data suggest, it would have hastened a return to ovulation. As indicated, those birth intervals in excess of 8-900 days could have been achieved by stretching the period of post-partum amenorrhea through extended breast-feeding (or by limiting sexual activity).

Pursuing the possibility of child spacing a little further, the birth interval data for the Meeting have been reworked to display average birth intervals for the first five births by age of mother at marriage (Figs. 36-39). It is notable that there is a general similarity between the four profiles although their behavior for the 1750-1799 TP is rather more erratic than for those for the other TPs. The profiles for the 1650-1699 and 1800-1849 TPs are similar, with average birth intervals ranging between 500 and 760 for the former and 360 and 900 for the latter. The profile for the 1700-1749 TP is not as tightly clustered as those of its predecessor but the birth intervals range between 360 and 900 days. Utilizing the same criteria deployed in the preceding exercise, possible birth management strategies associated with each TP have been extracted from the profiles and are summarized in Table 4.

Table 4. Summary of birth management strategies derived from the profiles of average birth intervals by age of mother at marriage, all Newgarden/Carlow data

<i>TP</i>	<i>Age at marriage</i>	<i>B1</i>	<i>B2</i>	<i>B3</i>	<i>B4</i>	<i>B5</i>
1650-1699	< 20	D	P,W	P	P,W	B
1700-1749		D	W	B	B	B
1750-1799			B	W	W	B
1800-1849		D	P	P,W	B,S	B,S
1650-1699	20-24	D	P,W	P	P,W	S,B
1700-1749		D	W,P	P	P	P
1750-1799		D	P	P	P,W	P
1800-1849		D	P	P	P	P
1650-1699	25-29	D	P,W	P	P,W	P
1700-1749		D	P,W	P,W	P	P,W
1750-1799		D	P,W	P	P	P,W
1800-1849		D	P	P	P	P
1650-1699	30-34	D	P,W	P,W	P,W	P,W
1700-1749			P,W	P,W	P	P,W
1750-1799		D	P	W	B,S	W
1800-1849			P,W	P,W	P,W	P

Key: P = spacing; W = wet nursing; B= breast-feeding; S = stopping;  
D = Delayed first birth

What does all this mean? First, it would seem that the upper limits of most of the average birth intervals for the first 4 births lie within a range that could have been achieved by so-called normal births or birth sequences extended by breast-

feeding, but many of the birth intervals are relatively short and much less than the 1000 or so days one would expect if mothers followed the natural birth sequence. Secondly, the lower limits, leaving the first birth interval aside, are mostly above the minimum time required for a mother to fall pregnant and give birth (630-700 days), but there are a number of instances where this is not the case so that wet (or dry) nursing is implied (e.g. mothers that married at 30-34 years of age in the 1650-1699 TP and at under 20 years in 1750-1799 TP). Thirdly, the fact that many of the average birth intervals tend to fall within fairly narrow ranges and are relatively consistent through the first few intervals, regardless of age of marriage, suggests that a common strategy was invoked to control spacing by utilizing a mixture of ‘natural births’, wet (or dry) nursing and breast-feeding. Notably there is evidence for slightly delayed first births for most of the AMB ranks in conformance with results from the preceding analyses.

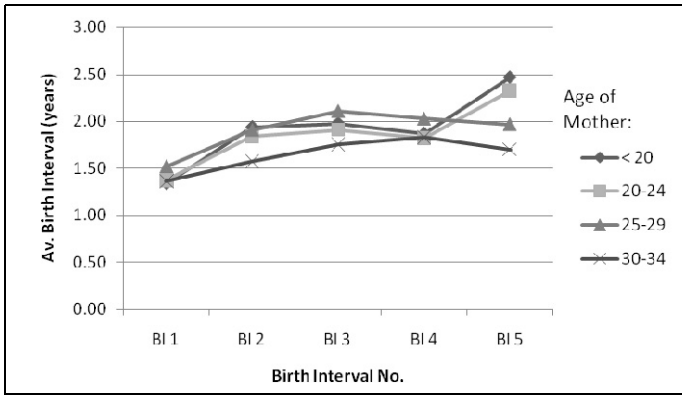


Fig. 36. Average birth interval (years) by age of mother for first five births 1650-1699, for the Meeting

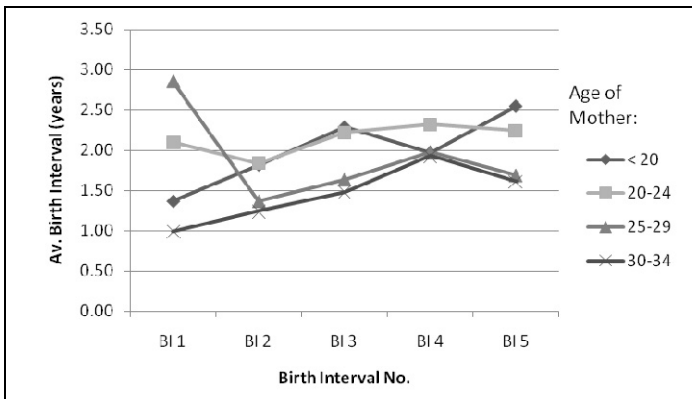


Fig. 37. Average birth interval (years) by age of mother for first five births 1700-1749, for the Meeting

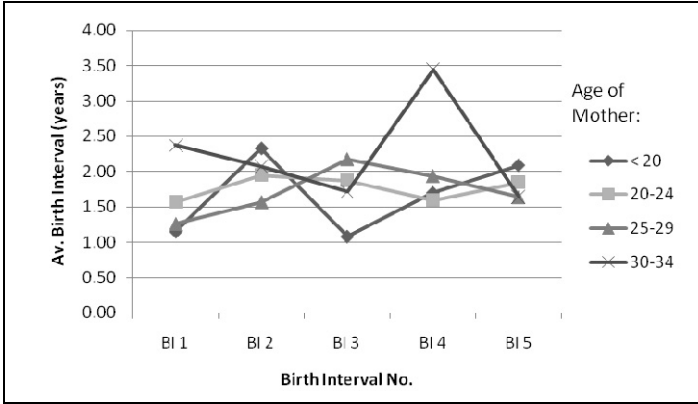


Fig. 38. Average birth interval (years) by age of mother for first five births 1750-1799, for the Meeting

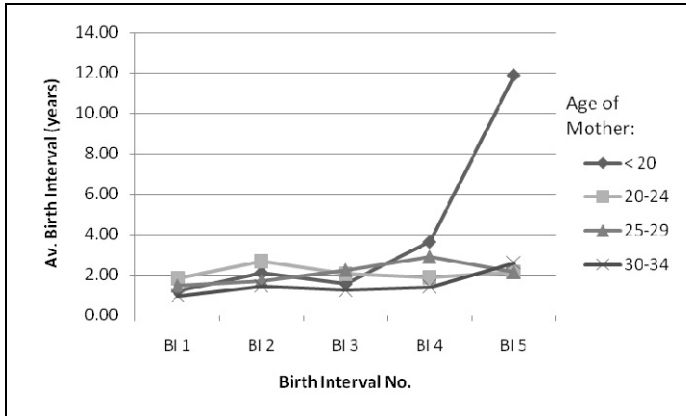


Fig. 39. Average birth interval (years) by age of mother for first five births 1800-1849, for the Meeting

Ideally one would like to look at the same kind of data for each of the families, but in practice there is a lack of data for that purpose. Some are available for the Watson and Lecky families and they are presented for the first five birth intervals in Figs. 40-49. The possible birth management strategies extracted from them are summarized in Table 5. Dealing first with the Watson family, there appears to have been little delay in achieving a first birth during the 1650-1699 TP, but thereafter some birth intervals were far smaller than the estimated minimum time between births of 630-700 days, so wet (dry) nursing is implied as is spacing of births. In the next TP there is evidence for delayed first births for women married in the 20-24 and 25-29 AMM ranks, for wet nursing (e.g. under 20 AMM rank) and for delayed pregnancy (e.g. 20-24 age rank). There is similar evidence from the two subsequent TPs but rather more regular spacing of births is apparent for

the 1800–1849 TP. The progression of the under 20 AMM rank is indicative of spacing followed by a stopping strategy in the 5th interval.

Although the Lecky and Watson profiles share some features in common in general, each have their own characteristics. In the 1650–1699 TP for the 20–24 AMM rank for the Lecky family there was little delay in producing the first child and thereafter spacing was quite regular, sometime close to or below the minimum estimated birth interval of 630–700 days. In the next TP there is evidence for delayed first birth for the 20–24 AMM rank, wet (dry) nursing for the under 20 AMM rank and relatively large average birth intervals in some of the AMM ranks bordering on the upper estimate, which suggest delayed pregnancies facilitated by breast-feeding. There is no evidence of delayed first birth for the 1750–1799 TP and most average birth intervals fall within the upper and lower estimated limits of the time required to produce a birth. However some do fall below 630 days for the under 20 AMM rank and it is interesting that averages for the 30–34 AMM rank are all on the high side, suggesting deliberate spacing. By way of contrast the averages for the 30–34 AMM rank of the next TP all fall below 550, with the implication that wet nursing was utilized to facilitate a return to ovulation and pregnancy. On the other hand the averages for the 20–24 AMM rank are all above 730 which suggest delayed pregnancy because of breast-feeding.

The various tabulations (Tables 3–5) suggest that wet nursing may have played some role in reproductive behavior throughout the TPs, but at present there is no way to confirm this. Consequently, from the data that are available, it is not possible to determine how widely it was used or whether it was a practice restricted to affluent families.<sup>52</sup> The use of artificial feeding in place of wet nursing cannot be ruled out completely (hence the bracketed ‘dry’), but it is highly unlikely to have been used until at least the late 18th century when it began to be introduced as a substitute for wet nursing. Based on the frequency of occurrence of ‘W’ in the tables, it would seem that the Watsons used it more widely than the Leckys and that the Leckys used it less widely than the Meeting population!

There is little doubt that wet nursing was used by some Irish Quaker families in the late 17th century, especially before 1696, and in the early 18th century (though not necessarily by Carlow Friends). After 1696 mothers who wished to use wet nurses had to get permission from their local meeting but otherwise were actively counseled to breast-feed their own children (Greaves 1997: 322–33). The topic of wet nursing arose again in 1707 at the Dublin Monthly Meeting suggesting that it was being deployed by some mothers at that time and Sophia Hume delivered an attack on the practice in 1751, an indication that it had not been abandoned (Larson 1999: 159). In fact wet nursing continued to be deployed by the affluent members of the wider community well into the 19th century for a variety of reasons, despite opposition from the medical profession. Aside from misguided superstitions that advocated against breast-feeding, and the vanity of mothers who wished to maintain shapely bosoms, it was, according to Fildes (1988: 83), often the husbands who refused to allow their wives to breast-feed, probably for quite selfish reasons: they wanted to get on with business of

producing heirs and/or resume their normal social activities and such ambitions were thwarted when a mother chose to breast-feed her children. There is little reason to think that wealthy Friends did not follow the fashion of the day and use their wealth to employ wet nurses, especially (and probably only) if they were available from amongst the membership.<sup>53</sup>

The use of wet nursing by Quaker families during the first half of the 19th century is also a possibility though one suspects with less frequency as the tide of medical and public opinion had, by that time, picked up momentum against the practice (Fildes 1988: 190ff.). Letters posted in the *British Medical Journal* in the mid-19th century strongly condemned the practice. For example Mr H. Terry,<sup>54</sup> surgeon extraordinary, published one such a letter in the mid-19th century in which he wrote, 'I consider that, as a system, wet nursing is most objectionable, and, to all but a very few exceptional cases, morally as well as medically unjustifiable'.

Table 5. Birth management strategies identified from the profiles for age of mother as a function of average birth interval and TP for the families of Lecky and Watson

<i>TP</i>	<i>Age of mother at marriage</i>	<i>B1</i>	<i>B2</i>	<i>B3</i>	<i>B4</i>	<i>B5</i>	<i>Family</i>
1650–1699	< 20		P,W	P,W	P,W	S,B	Watson
1700–1749			P,W	P,W	P	W	
1750–1799		D	P,W	P,W	P	S,W	
1800–1849			P,B	P,W	P,B,S	B	
1650–1699	20–24	D	P,W	P,W	P,W	P,W	
1700–1749		D	B,S	W	S,B	P,B	
1750–1799			P,W	P,W			
1800–1849		D	P	P	P	P	
1650–1699	25–29		P,W	P,W	S,W	S,B	
1700–1749		D	P	P,W	P	P,B	
1750–1799			B,S	S,B	W,S	B	
1800–1849			P,W	P	P	P	
1650–1699	<20						Lecky
1700–1749			W,S	W,S	S,B	W	
1750–1799			W,P	P	P,W	P	
1650–1699	20–24	D	W,S	B,P	P,W	B	
1700–1749		D	S,W	S,B	P,B	P,B	
1800–1849		D	P	P,S	W,S	B	
1650–1699	25–29						
1700–1749			P,W	P,W,S	B,P	B	
1750–1799			P	P	P,W		

Key: P = Spacing; W = Wet nursing; B = Breast-feeding; S= stopping;  
D = Delayed first birth

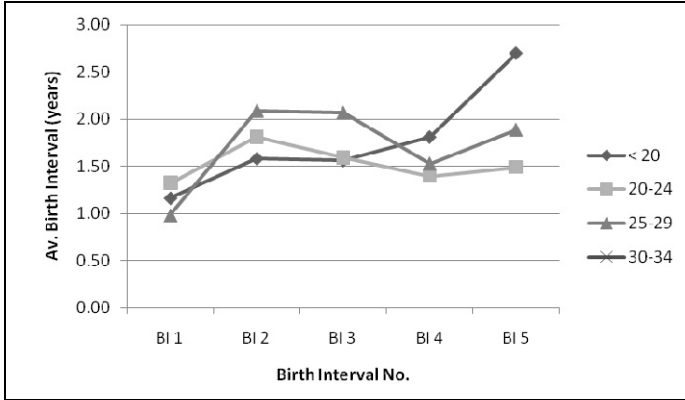


Fig. 40. Average birth interval (years) by age of mother at marriage for Watson family 1650–1699, first five birth intervals

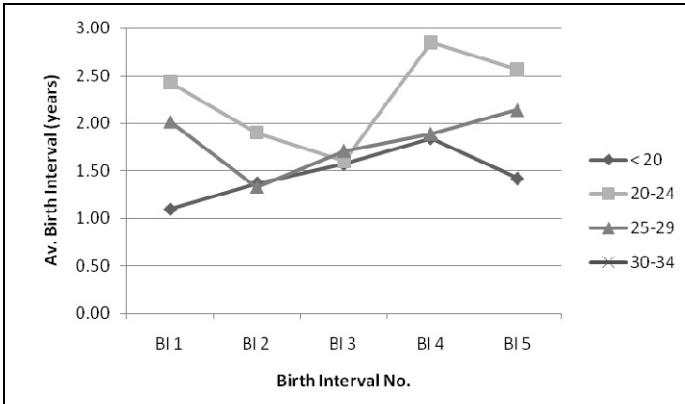


Fig. 41. Average birth interval (years) by age of mother at marriage for Watson family 1700–1749, first five birth intervals

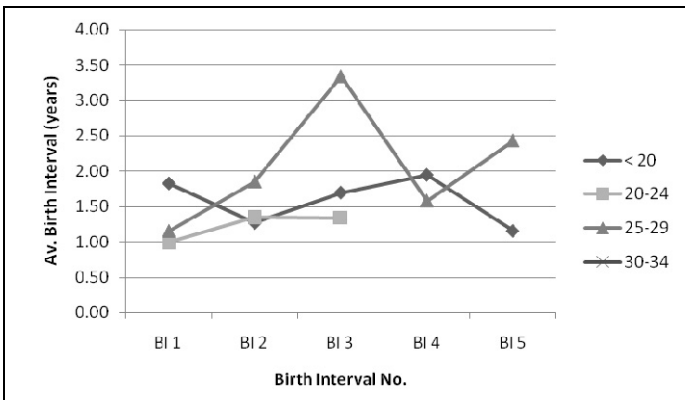


Fig. 42. Average birth interval (years) by age of mother at marriage for Watson family 1750–1799, first five birth intervals

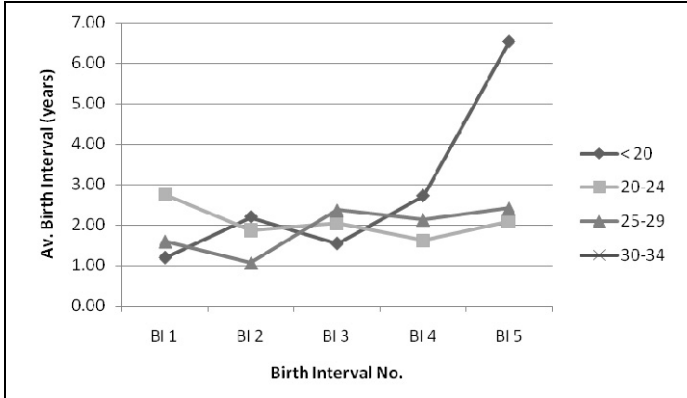


Fig. 43. Average birth interval (years) by age of mother at marriage for Watson family 1800-1849, first five birth intervals

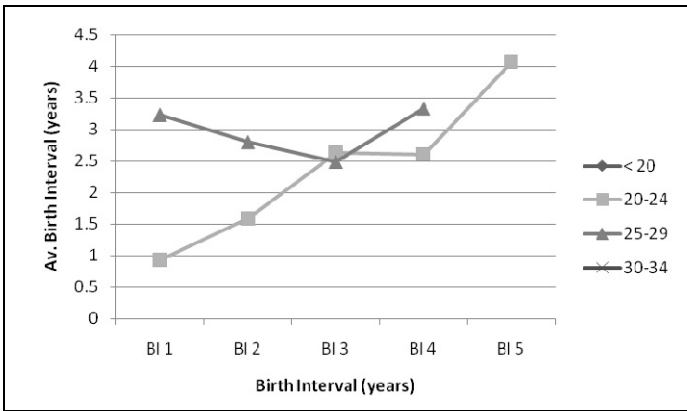


Fig. 44. Average birth interval (years) by age of mother at marriage for Watson family 1850-1899, first five birth intervals

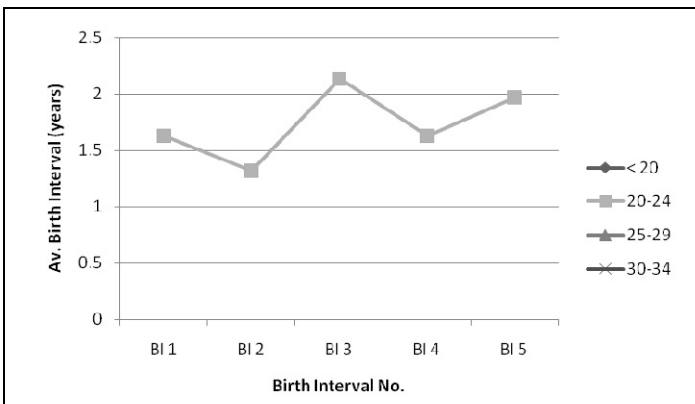


Fig. 45. Average birth interval (years) by age of mother at marriage for Lecky family 1650-1699, first five birth intervals



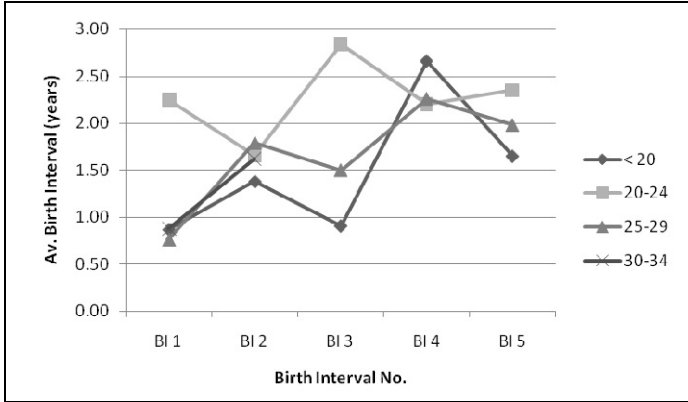


Fig. 46. Average birth interval (years) by age of mother at marriage for Lecky family 1700–1749, first five birth intervals

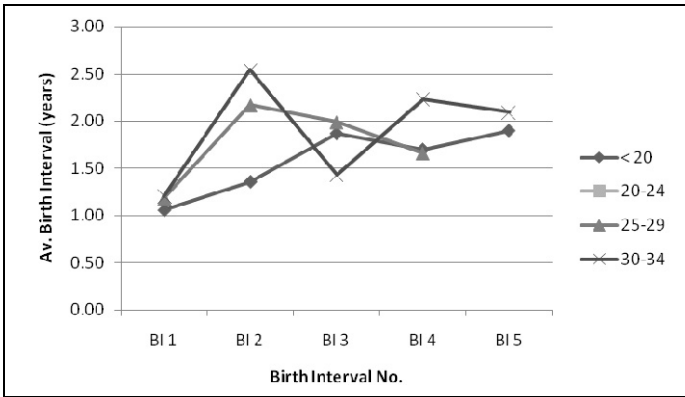


Fig. 47. Average birth interval (years) by age of mother at marriage for Lecky family 1750–1799, first five birth interval

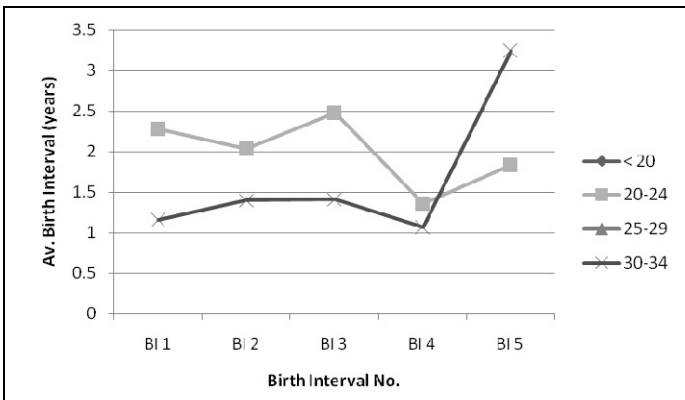


Fig. 48. Average birth interval (years) by age of mother at marriage for Lecky family 1800–1849, first five birth intervals

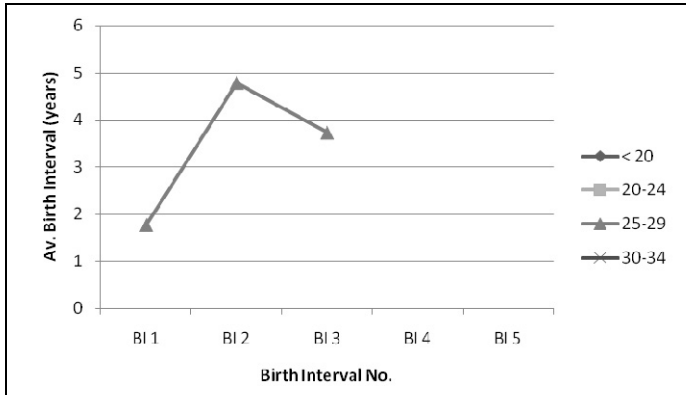


Fig. 49. Average birth interval (years) by age of mother at marriage for Lecky family 1850-1899, first five birth intervals

In summary, these data suggest, first, that the two families managed births using strategies that involved spacing, wet nursing, breast-feeding and in some instances delay in the birth of the first child. Secondly, as suggested above, each family, indeed each generation, adopted its own strategy, although similar birth management tools were deployed. Thirdly, within each family these strategies changed through time and sometimes varied depending upon the age of the mother at marriage. Lastly, whilst there is no reliable comparative data for the Duckett and Cooper families, judged on the patterns discerned above and those identified during the course of the analysis of ASMFIs and average birth spacing patterns, there is little reason to doubt that the conclusions arrived at here apply equally to these two families.

*Last Births.* The average age of mothers at last birth is the final aspect of the birth interval analysis to be considered. If stopping strategies were deployed by the families, supporting evidence should be forthcoming from these data. Thus one might anticipate that a woman who married young might choose to terminate her birth sequence earlier than a woman who chose to delay marriage, and that women of any age at marriage who chose to practice family limitation would bear their last children before their fecund periods expired. Such reproductive behavior should be reflected, first in the way the ASMFIs behave (as we have seen in the foregoing where the curves tend to deviate from the so-called 'natural fertility curve'), in the age of mothers at last birth and in the birth spacing of penultimate and ultimate children (Knodel 1987: 145).

The percentage number of last births as a function of the age of the mother at last birth for the Meeting population is shown in Fig. 50. Here there are few surprises. There are peaks for the 35-39 and 40-44 year old age ranks. Notably, and regardless of age rank, a minimum of 55% and a maximum of about 95% of all last births took place before the mother's fecundity was expended (about age 45) implying that stopping strategies were used. Again, the data for the 1800-

1849 TP, where there is a sharp drop from the 35-39 age rank and to a lesser degree from those for the 1650-1699 TP, make this crystal clear. Two other observations are pertinent. First, for 1750-1799 TP, as one moves from the 20-24 to the 40-44 rank, the percentage numbers of last births in each rank tends to be the lowest for all TPs and takes off only when it reaches the 35-39 rank peaking at about 45% in the last AMB rank. This would suggest that births were deliberately spread over the maximum period of fecundity, perhaps helping to account for the slight increase in the average size of families during that TP. The curve for the 1700-1749 TP follows the same pattern, though with higher percentages on the way through the age ranks and with a less dramatic rise in the 40-44 rank. Secondly the percentages in each age rank for the 1800-1849 and 1850-1899 TPs contrast with and are higher than their counterparts in the earlier TPs, a clear indication that child bearing was being deliberately terminated well before the expiration of fecundity.

Unfortunately the data are not sufficient to allow a meaningful analysis to be conducted of last births by family. Taking the Watson data as an example, the percentages for the 35-39 AMB rank for the 1700-1759 TP (sample 4) and 1750-1799 TP (sample 4) are 57 and 33 respectively, compared with 25 and 23 for the corresponding Meeting TPs. This is a potentially interesting result, but the sample size is far too small to support a convincing argument.

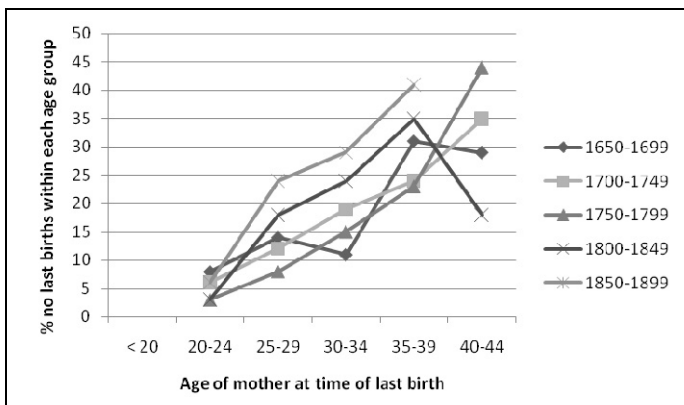


Fig. 50. % no. of last births by age of mother at last birth for each TP, Meeting population

*Mortality.* The last topic to be dealt with here is the thorny problem of mortality, which normally would include discussions relating to life expectancy, lifespan, infant mortality and age-specific mortality. Life expectancy is not dealt with here, being beyond the scope of this analysis. The other subjects are tackled in the context of limited availability of data.

*Lifespan.* Lifespan is defined as the difference in years between dates at death and the dates at birth. Whilst there is no doubt that lifespan can be calculated for many individuals in the database, problems arise with sampling and consequently with averaging. The records are notoriously incomplete when it comes to death

records. Many individuals, starting from early adulthood, moved away from Meetings whether for marital, employment or personal reasons and consequently disappear from observation. Thus completed lifespan observations tend to be heavily weighted towards the younger end of the age spectrum. What this means is that when average lifespans are calculated from this kind of data one can expect the results to be biased downwards and conversely that the actual averages will be higher. A case in point may be seen in the profile for the Cooper family where the average lifespan for males in the 1650–1699 TP is only 15 years, clearly no reflection of the true average. The problem here is the sample itself; out of a total sample of only 4 persons, all died young resulting in a very low average. Nevertheless, assuming that the families of interest were embedded in similar social and economic contexts and considering that there is an interest in establishing comparative profiles, it would seem legitimate to deploy the lifespan data for that purpose. Lifespan profiles for males and females by TP and generation are shown in Figs. 51–52 and Tables 6–7.

Table 6. Average lifespan by TP, male, by family. Sample numbers in brackets

<i>TP</i>	<i>Watson</i>	<i>Lecky</i>	<i>Duckett</i>	<i>Cooper</i>	<i>4 families</i>	<i>Carlow*</i>	<i>Vann et al.</i>
1650–1699	31.05 (51)	36.24(11)	40.43(15)	15.01(4)	35.91(77)	36.55(169)	47.0
1700–1749	39.10(80)	39.85(48)	42.86(11)	49.22(8)	42.77(147)	40.16(294)	41.3
1750–1799	47.05(60)	42.28(46)	50.46(22)	46.65(10)	46.86(138)	36.83(231)	44.1
1800–1849	56.65(73)	57.23(34)	52.17 (26)	66.45(10)	58.26(143)	45.47(186)	58.3
1850–1900	50.40(13)	45.71(4)	73.99(1)		57.00(18)	57.53(93)	

\* Meeting data extracted from Table 20, Coutts 2013: 175.

Table 7. Average lifespan by TP, female, by family. Sample numbers in brackets

<i>TP</i>	<i>Watson</i>	<i>Lecky</i>	<i>Duckett</i>	<i>Cooper</i>	<i>4 families</i>	<i>Carlow*</i>	<i>Vann et al.</i>
1650–1699	20.52(39)	27.87(12)	36.03(7)	32.01(3)	29.11(61)	36.27(112)	50.0
1700–1749	41.04(62)	46.55(40)	33.40(21)	37.37(6)	39.59(129)	36.08(223)	45.8
1750–1799	40.47(52)	43.13(45)	39.41(15)	53.68(10)	44.17(122)	38.70(206)	47.9
1800–1849	56.75(45)	46.05(18)	51.62(22)	64.19(3)	54.65(88)	49.73(139)	59.4
1850–1900	67.03(12)	70.69(7)			68.86(19)	59.82(72)	

\* Meeting data extracted from Coutts 2013: 175, Table 20.

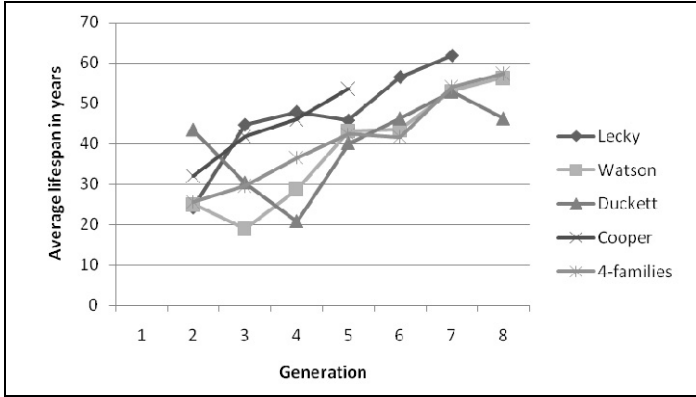


Fig. 51. Average lifespan by generation, females, by family

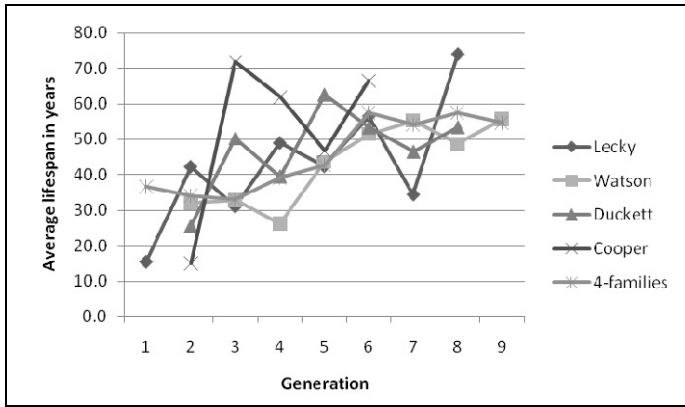


Fig. 52. Average lifespan by generation, males, by family

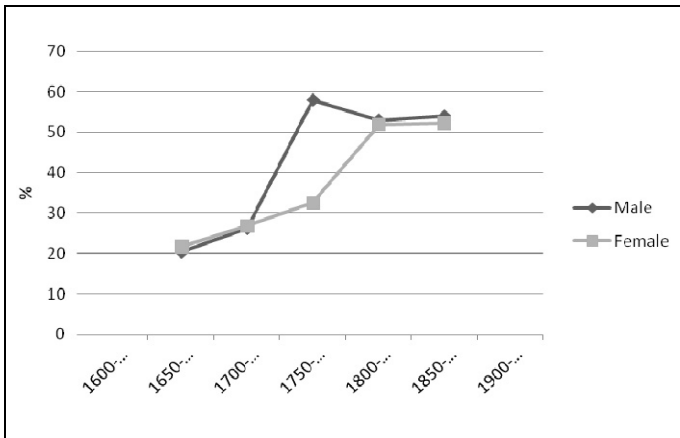


Fig. 53. % no. persons still alive at age 65 years, 4 families combined

For both males and females and for the four families there is an upward trend whether by generation or TP, although by the time the 9th generation and the 1800–1849 TP are reached both sexes are approaching an average lifespan of 60 years. Cooper males and females are conspicuous in that they tend to have slightly higher average lifespans than those of the other families. Figure 53 shows the percentage of individuals (for which birth and death data are available) who were born in each TP and were still alive at 65 years of age. It is interesting that male and female curves merge from the 1800–1849 TP after episodes of steep progression, male more quickly than female. The difference between males and females in the 1750–1799 TP is striking implying an imbalance in mortality rates. It could be attributed in part to sampling bias, as one would expect females to be more migratory than males because they tended to move to other Meetings when they married thereby diluting the female sample. However this should have been offset by an influx of females from other Meetings. Recalling that this was a period when there was a tendency for mothers who married under 24 years of age to produce a slightly higher number of offspring (see Fig. 7) it is possible that this was accompanied by a higher mortality rate for mothers if not their children. The proposition that higher mortality rates might have been linked to deaths associated with childbirth has been explored elsewhere (Coutts 2013: 150), but with no positive correlation.

A comparison of lifespan estimates for the families with those for the Meeting reveals that with a few exceptions the estimates for both males and females are, for the TPs spanning 1700–1899, slightly higher for the four families. These data suggest that some aspects of the lives of members of the four families changed in subsequent generations to improve their prospects of longevity. Reduced infant mortality, more ready access to and availability of medical professionals and a better understanding of disease and basic hygiene in the context of their superior economic circumstances are possible explanations.

The pattern of increasing life expectancy from c. 1700 is apparent for the Irish Quaker population at large, but a direct comparison with the Carlow data is not possible because the data sets were derived using different methods.

*Age Specific Mortality Rates.* The Age Specific Mortality Rate (ASMR) is defined as the number of persons who died in a specified age range or rank divided by the number of persons from the same community that were still alive and belonged to the rank multiplied by 1000. The index for the Carlow Meeting has been tabulated elsewhere (Coutts 2013: 177, Tables 23 & 24) for males and females from which profiles can be constructed. The profiles are broadly similar with the higher rates in the 0–5 year old range and increasing from around the 45–49 year old rank in all TPs. The index for the 0–0.99 male rank increases from the 1650–1699 TP to a peak of 177 in the 1750–1799 TP and drops off sharply thereafter. The peak for females for the same rank occurs in the 1700–1749 TP and it too drops off rapidly in the succeeding TPs. Mortality rates are slightly higher for males than females once the 60 plus ranks are reached and there is a trend for the rates to drop off from the 1650–1699 TP for both males and females. Otherwise the profiles are much as one would expect.

Poor sample sizes preclude the possibility of erecting detailed ASMR profiles for each family. Consequently data for the first, second and last age ranks are summarized in Table 8 for the four families combined, the Watson family (for which there is the most data) and for the Meeting.<sup>55</sup> A few observations can be made from these profiles, inclusive of the Leckys and the Ducketts.<sup>56</sup> First, in general the 0-0.99 rank (otherwise the Infant Mortality Rate<sup>57</sup>) has the highest mortality rates for both males and females until the age ranks c. 45-50 years are reached. Secondly, there is a general trend for the ASMR for the first two age ranks and the over 65 year old rank to reduce over time. Thirdly, the mortality rate for males in the over 65 rank is slightly higher than females in all TPs for the four families combined except for the 1700-1749 TP. This suggests that by the time the 1850-1899 TP is reached women tended to survive longer than their male counterparts. Fourthly, the highest infant mortality rate occurs in the 1700-1749 TP for both males and females. Lastly the overall trends for the four families are similar to those for the Meeting. However during the first two TPs for the over 65 rank there is a tendency for the ASMR to be higher for the four families than for the Meeting but thereafter they are very similar. There is no obvious reason why the rates of the four families should be higher during the earlier periods although it may have had something to do with diet and nutrition. As Fildes (1986: 214ff., 387) points out in her discussion of dietary deficiencies in relation to weaning children, nutrition was little understood at that time. Thus the wealthy, with their capacity to purchase whatever provisions took their fancy, may simply have been consuming the wrong foods, whereas less fortunate families were more constrained to adhere to traditional diets that happened to be more nutritious.

Table 8. Selective summary of Age Specific Mortality rates for the four families and the Carlow Meeting

<i>Age group</i>	<i>Family</i>		<i>1650-1699</i>	<i>1700-1749</i>	<i>1750-1799</i>	<i>1800-1849</i>	<i>1850-1899</i>
0-0.99	Watson	M	44(1)	208(16)	115(7)	46(4)	13(1)
		F		132(10)	14(1)	54(5)	43(2)
	4 families	M	43(3)	127(20)	60(8)	48(6)	10(1)
		F	19(1)	89(15)	30(4)	36(5)	32(2)
	Carlow	M	155	164	177	86	27
		F	124	148	97	79	42
1-4.99	Watson	M	35(3)	35(8)	9(2)	5(3)	7(2)
		F	57(3)	31(8)	26(7)	9(3)	6(1)
	4 families	M	19(5)	22(12)	6(3)	8(4)	5(2)
		F	20(4)	23(14)	24(12)	8(4)	4(1)
	Carlow	M	46	34	41	26	12
		F	38	49	53	18	11
Over 65	Watson	M	70(4)	91(13)	85(15)	88(34)	63(21)
		F	67(2)	97(9)	73(11)	79(25)	62(16)
	4 families	M	92(11)	82(31)	78(30)	76(43)	61(32)
		F	66(8)	88(26)	70(25)	64(41)	49(22)
	Carlow	M	75	77	78	74	64
		F	65	68	76	68	48

The child mortality indices for males and females four families combined are shown in more detail in Figs. 54–55. The highest mortality rates occur in the first year, and it peaks in the 1700–1750 TP. Thereafter the index for both males and females drops sharply, leveling off at c. 30 for females and continuing to drop for males. The indices for the other ranks are modestly low by comparison with the 0–0.99 rank and eventually fall away towards the 1850–1899 TP.

The profiles for the four families and the Meeting are similar but differ in some details.<sup>58</sup> For example, the peak ASMR for males belonging to the Meeting occurs in the 1750–1799 TP and the ASMRs for the 0–5 year ranks are much higher than those of the four families combined.

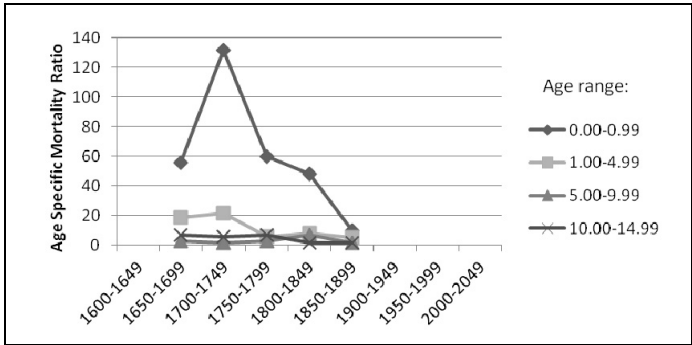


Fig. 54. Age Specific Mortality Rate for male children, 4 families combined

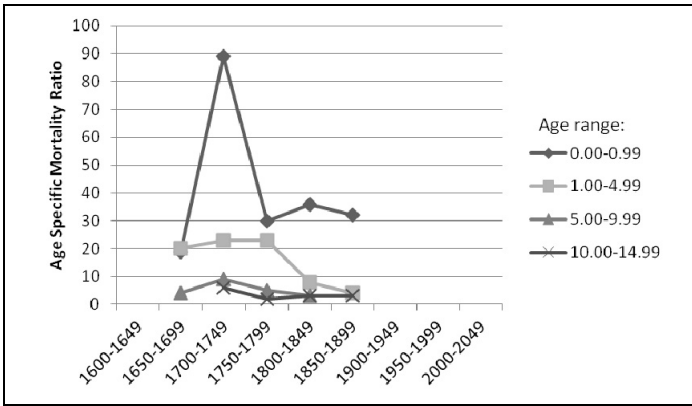


Fig. 55. Age Specific Mortality Rate for female children, 4 families combined

A comparison of the Meeting data with those available for the wider Quaker population of Ireland reveals different profiles (Table 5.1a, Vann and Eversley 1992: 193). The wider population has much higher indices in the 1–5 year ranges and as for the Meeting data the index for male children is, in most age ranks, higher than those for females. And like the four families the highest infant mortality rates occur in the 1700–1749 TP for both males and females, contrasting



with the Meeting population (as noted above) where the peak ASMR for females occurs in the 1700–1749 TP and for males in the 1750–1799 TP. Another difference between the three sets of data is the much higher mortality rates in the 1–5 age rank for the National population. On the basis of these data Quaker-related children who were born to mothers belonging to the Meeting and survived their first year had a much better chance of survival than those who were born elsewhere!

The stark contrast between the Infant Mortality Rate (abbreviated IMR) for the four families with those of the Meeting (and for that matter with those for Irish Quaker population), begs explanation. The first possibility that comes to mind is under registration of infant births and deaths, recalling that the DII for the four families is around 0.6 and dates of death are available for less than 30% of the entire Meeting (Coutts 2012: 65, Table 7). The fact is that there is little evidence for under registration of births *per se*, certainly not on the scale required to explain the differences between the data sets. There are instances where lifespan dates are not known for infants and children but the numbers of cases are insignificant when compared with those unavailable for adults. Notably the best lifespan data available are for the two TPs where the IMRs peak. Consequently whilst there is a suspicion that IMRs for the Meeting and the four families may have been higher than those suggested in Figs 54 & 55 it is unlikely that such an upward shift would significantly affect or explain the differences observed between the data sets.

It would seem, then, that children born to members of the four families had a significantly higher chance of survival than those born into other Meeting families through all TPs and that the highest IMRs were encountered in the 1700–1749 TP. Notably the IMRs also increased for the other Meeting families though not as significantly.

Table 9. % no. of marriages by AMM for Lecky, Watson and 4 families combined

TP	Age of mother at marriage	Watson	Lecky	4 families
1650–1699	<20	35.7(5)	12.5(1)	25.0(7)
	20–24	50.0(7)	75.0(6)	57.1(16)
	25–29	7.7(1)	12.5(1)	14.3(4)
	30–34	7.1(1)		3.6(1)
Total SN		14	8	28
1700–1749	<20	25.6(11)	24.0(6)	24.7(22)
	20–24	44.2(19)	48.0(12)	46.1(41)
	25–29	18.6(8)	12.0(3)	16.9(15)
	30–34		8.0(2)	3.4(3)
Total SN		38	23	89
1750–1799	<20	28.3(13)	24.1(7)	23.6(10)
	20–24	21.7(10)	24.1(7)	24.7(22)
	25–29	23.9(11)	24.1(7)	27.0(24)
	30–34	23.9(11)	27.6(8)	22.5(20)
Total SN		45	29	89

Key: SN and () = Sample numbers

The relative wealth of the families, discussed more fully below, is one possible explanation for their lower IMRs.<sup>59</sup>

The spike in the IMR for the 1700–1749 TP may have been a response to detrimental changes in birth management strategies such as more focus on utilizing the dangerous practice of ‘purging’ during the first days or weeks after birth (Vann and Eversley 1992: 198) and/or a wider adoption of wet nursing with its attendant dangers.<sup>60</sup> Infectious disease is another possible explanation. Whilst it is known that there was a small pox epidemic in Ireland during that TP (Vann and Eversley 1992: 188) there is no documentation on how it affected the population of County Carlow and the surrounding counties. It seems an unlikely cause as high IMRs continue into the following TP for other families belonging to the Meeting.

Why there should have been such a difference between the IMRs for males and females is not obvious although the same trend is apparent in the IMRs for the Meeting. Were male infants treated differently from females, perhaps being wet nursed or ‘purged’ more frequently thereby attracting potentially higher mortality rates?<sup>61</sup> And the dramatic drop in IMRs following the 1700–1749 TP suggests that there was a further change in birth management strategy, possibly with more emphasis on breast-feeding, abandonment of the practice of ‘purging’ and/or improved standards of wet nursing<sup>62</sup> and artificial foods including those deployed after weaning. What is clear from the IMRs is that the birth management strategies deployed for both males and females by the four families were more successful than those utilized by other members of the Meeting for all TPs. And since IMRs for the four families were generally lower than those for the Meeting for all TPs, this would help to explain why average lifespan for the four families tended to be slightly higher.

The data are too few to enable a chart to be constructed for IMR as a function of the age of mother at marriage for the individual families. The data for the Meeting suggests the highest risks for all marriage ranks occurred during the 1650–1699 TP, but in the following TP and thereafter the risk drops dramatically from around 350 for the first two marriage ranks to about 100–150.<sup>63</sup> The highest overall risk was for mothers that married in the 30–34 year range for all TPs and this is likely to have been the case for mothers who were members of the four families. In other words the children of women that married late were at more risk than those from mothers who married earlier. If so, when females opted to delay marriages, and depending upon their reproductive strategies, the IMRs could have been affected. For example the % numbers of females that married in the 30–34 year range jumped from 3.1% in the 1700–1749 TP to 18.0% in the following TP thus increasing the risk of infant mortality.<sup>64</sup> If there was some strategy in place to produce a specific number of children then one would expect an increase in the ASMF<sub>I</sub> for the 1750–1799 TP in order to compensate for the children that did not survive infancy. In practice just the opposite occurs despite the relatively high IMRs, which would possibly explain why there was a slight drop in the average numbers of children per family for that TP.<sup>65</sup>

Although the relevant data for the four families are limited, for the Watson, Lecky and four families, the percentage numbers of females that married by AMM and TP are summarized in Table 9. These suggest an even more dramatic move to later marriages, from the 20–24 AMM, the dominant rank of the first two TPs, to older ranks in the 1750–1799 TP. In so doing the prospects of infant mortality were greatly enhanced, particularly for those who married in the 30–34 AMM rank. Indeed the distribution of AMM in the later TP is fairly even.

Notably the average female lifespan is in or greater than the 40–50 year rank for all four families from 1750–1799 TP onwards, meaning that married women had the opportunity to give birth through their entire fecund period no matter at what age they married. This allowed mothers who married before age 24 to spread their births and still have large families while moving the ASMF to a peak for the 35–39 AMB rank. Infant and child mortalities were still relatively high during the 1750–1799 TP but thereafter tapered off. In contrast the average lifespan for females for the 1650–1699 TP was less than 40, which meant that in order to have large families females had to marry as early as possible because the chances were that they would die before they could reach the end of their fecund periods. Indeed females did marry slightly earlier on average than in later TPs, they had the highest average number of live births and the ASMF reaches 400 for AMB 25–29 and 420 for the AMB 30–34 ranks respectively. Yet the IMR for both males and females was relatively low, indicative of effective nursing practices.

By way of contrast, the average lifespan of females for the Meeting does not seem to get above 40<sup>66</sup> until the 1800–1849 TP whilst that for the Irish Quaker population exceeds 40 for all TPs. Thus the three sets of data have separate personalities.

#### DISCUSSION AND CONCLUSIONS

The four families chosen for this study share a similar occupational status, namely ‘gentle family’ if that term can be used as an occupation classification.<sup>67</sup> It is interesting that as far as can be determined there were no families of this social status in the original membership of the Newgarden/Carlow Meeting, although it did include a number of relatively wealthy families such as those headed by Daniel White of Donore who was a member of the Meeting from c. 1665 to 1707.<sup>68</sup> In contrast to the Meetings in Buckinghamshire and Norfolk where just three ‘gentlemen’ were included in the foundation Meetings,<sup>69</sup> gentlemen did not become involved with Newgarden/Carlow Friends until the late 17th century, when they would be classified as second-generation members. And then there were only four such families headed by Thomas Cooper, Thomas Duckett, John Boles and Robert Lecky. John Watson, the first of his family to embrace the Inner Light, was a contemporary of this group, but his family did not consolidate gentleman status until the beginning of the 18th century.<sup>70</sup> It was members of these five families that played consistent and dominant roles in administering the Meeting for the best part of thirty years from c. 1680, and thereafter, following

the departure of John Boles to County Tipperary, members of the remaining four families. As for the Buckinghamshire and Norfolk Meetings, which did not attract new members from the families of gentry after 1670, this was essentially true for the Meeting a decade later. Consequently members of the four families analyzed in this paper represent the most affluent members of the Meeting and had the capacity to be the most influential.

The analysis of demographic data for the four families resulted in a series of profiles that showed similarities but also revealed differences between families and between profiles erected for the Meeting (including their non-Quaker descendants) and for the Irish Quaker population. At this point it must be re-emphasized that the results of the analysis of the demographic data for the families should be regarded with some caution because sample sizes were, in general, limited, and particularly so for the Cooper and Duckett families. Nevertheless the results are encouraging because they have produced trends that follow, are similar to or can be related to those of the more complete analyses of all Irish Quaker data and for the Meeting.

Unfortunately, as noted in the introduction, the historical information pertaining to the four families is too scant to enable correlations to be made between demographic and historical events or to provide reliable explanations for the demographic profiles. Consequently the profiles themselves have to serve as artefacts for comparative purposes. That is not to deny that some of the demographic anomalies may have been fashioned (although not necessarily explained) by broader historical events. Whilst detailed life histories may not be available some factors that may have impacted on fertility can be identified. From the earliest period the basic economic unit was the land and the families derived their income in the first instance from rents and secondly from the produce of the land including cropping and cattle raising coupled with market speculation. As the families became more prosperous some ventured into other fields such as shipping and banking, but it was also the custom amongst the gentry to buy shares in stock, such as insurance and railways. Shifts in fortune occurred when tenants could not pay their rents or when the market for agricultural produce and livestock weakened. Thus the second half of the 18th century to 1815 was a prosperous period when there was plenty of work for the Irish poor and great demand for agricultural produce (Cullen 1972: 97), but it also heralded lavish spending by the wealthy and the beginning of increasing indebtedness (Wilson 2009: 6).<sup>71</sup> The period following the end of the Napoleonic war saw a diminishing demand for farm produce, depression (2009: 101) and the beginnings of a shift from tillage to pasture which required refinancing arrangements. The second quarter was disastrous because of the Great Famine and the last half of the 19th century was salutary for the gentry because of major changes to landownership laws in Ireland<sup>72</sup> and the need to service debts accumulated during previous periods.<sup>73</sup>

Whilst income was critical to the gentry, so was debt. To be a gentleman one had to live and act the part which was expensive (McDowell 2009: 682-84). The maintenance of large properties, the expense of servants, replenishing stock, entertaining, transport, the schooling of children, dowries for daughters, annuities

for wives and other family members, jointures, wedding costs for sons and daughters, support for public charities and the poor, clothing and wigs were just some of the ongoing expenses. The latter were constant and demanding, and in circumstances where rents could not be increased because of long leases, and general shortages of liquidity, led to the practice of mortgaging estates to fund this lifestyle.<sup>74</sup> Encumbered estates were not much good to heirs or to sons or daughters who wished to marry, and it was probably the inability of sons to support a wife and family that was responsible for delays in marriages whilst a lack of cash to provide daughters with appropriate dowries could delay their marriages. The basic problem was that parents were obliged by law to provide protection, education and maintenance for their children (Wilson 2009: 111) and the expenses increased proportionately with family size. Thus one can conclude, given the historical context, that there must have been a strong incentive in place from the late 18th century onwards for many members of these families to adopt reproductive strategies that would limit family size if only to reduce financial (and social) stress.

Aside from the gradual but persistent flight of family members from the Society of Friends the results of the comparative analysis of the four families suggest that a number of demographic transitions occurred from 1650 onwards. Family size did decrease over time while the average age at which couples married tended to increase but with occasional fluctuations and some differences between families. Women tended to marry younger and earlier than men and until the late 19th century men tended to increasingly delay marriage. The lifespan profiles for all four families indicate an upward trend from c. 1650 for both males and females, and particularly for the latter, though again with some variations.<sup>75</sup> Fertility rates changed over time and infant mortality rates declined.

Changing birth management strategies have been identified for each of the families and it is clear they sometimes used delay of first birth, birth spacing, wet nursing and breast-feeding and combinations thereof to manage births. The various strategies have been inferred from the demographic data alone and since the data themselves are limited, conclusions derived from them are probably best regarded as working hypotheses. In this respect it has to be admitted that despite a thorough scrutiny of historical resources for these families absolutely no documentary or anecdotal evidence has been discovered that throws light on how they managed births during any of the TPs.

Throughout this paper while the term birth or reproductive management has been used with abandon there is no doubt that births were manipulated. But to what end? Was there 'conscious' family planning, that is, did couples deliberately set out to have a specific number of children<sup>76</sup> or was manipulation a response to fashion, socio-economic circumstances, opportunism, cultural factors or health issues? In reality a couple may have chosen a particular reproductive strategy for a variety of reasons beyond one that delivered parity-specific fertility limitation. For example, a couple's financial situation may have prevented them from engaging a wet nurse so that artificial or breast-feeding were the most practical alternatives.

Again the mother's poor health may have been the reason for engaging a wet nurse.<sup>77</sup> Husband and wife may have been separated for lengthy periods for a variety of reasons which could explain spacing and stopping. Consequently if such strategies were in place, without the benefit of supplementary evidence, they are likely to be invisible in the demographic record. What can be said is that couples throughout the period of study would have been aware of the basics of reproduction (Fildes 1986: 108): no sex = no children, prolonged lactation = temporary lapse in fertility, engagement of wet nurses = faster return to fertility, delayed marriage = less time left in the fecund cycle to have children. Moreover, according to Szreter and Garrett (2000: 58-59), up until at least the early 19th century the practice of male restraint and an aversion to the use contraceptive devices was deeply ingrained in British culture.

Judged solely on the behavior of the ASMF profiles it is highly unlikely that parity-specific strategies were adopted by the families at any time throughout the study period. We are certainly witnessing neo-Malthusian transitions<sup>78</sup> and since some of the profiles are flattened and approaching concavity it is possible that we are witnessing the progression of fertility transition, certainly to smaller families, and towards parity-specific family limitation.<sup>79</sup> Demographers have suggested that this change begun to take place abruptly from c. 1876-77 in England, but Szreter and Garrett (2000: 71) have challenged this view. They suggest that the process of transition was gradual, dating from c. 1816 in England, and that traditional methods of fertility manipulation continued to be used well into the 20th century when reliable appliance and pharmaceutical methods of birth control became available. The results of the current study do not conflict in any way with their contention, namely that conscious family planning was systematically practiced long before the notion of parity-specific strategies took root and there are hints in the Meeting data that a process of fertility transition toward that end could have started in Ireland well before 1816.<sup>80</sup>

As surmised in the introduction, one might well expect four families with similar socio-economic backgrounds and with seats in related geographic areas to have similar demographic profiles. In practice many of the demographic markers and trends are similar, but there is sufficient deviation between families to suggest that they tailored their birth and marriage strategies and did not blindly follow the fashions of the day, whatever these may have been. The limited data available for the Cooper family is enough to indicate that of the four families they were perhaps a little more individualistic. Indeed perhaps it is a reflection of this individuality that they had absolutely no marital connections with the other three families which by contrast did intermarry.

The reason for the slight differences in demographic patterns is not clear (aside from the possibility of sampling bias) although one suspects that a multiplicity of factors were at work. A lack of relevant historical information is frustrating. The membership of the Meeting was dispersed geographically, inhibiting communication between families and at times making it difficult for members to attend Meetings.<sup>81</sup> Thus the geography of the Meeting probably diluted its clannishness and quite possibly the oversight of its members, some of whom broke the rules

while others choose to be innovative within the compass of the rules. The four families were part of the dispersed population although their respective estates tended to cluster in particular areas.

Whilst each of the families experienced similar economic, political and social environments and events they most probably responded in different ways resulting in a variety of economic and social consequences. These in turn may have been fully or partially responsible for the demographic perturbations. Whilst Szreter and Garrett (2000: 60ff.) have convincingly related changes in fertility in the 19th century to changes in socio-economic events in Britain, to date no such connection has been established for the Meeting population.

Although the four families were regarded by their peers as being members of the same socio-economic group, in reality they were differentiated by degrees of wealth. During the 19th century the Ducketts, Coopers and Leckys were far wealthier than the Watsons, the Ducketts more so than the Leckys and so on. Moreover, the Watsons were traditionally farmers, only elevated to gentry status in the early 18th century whereas when the other three families established themselves in County Carlow they had both money and gentry status. Again the Leckys were much more aggressive than the other families in diversifying away from the land into alternative areas of the economy thereby exposing themselves to worldly experiences and investment opportunities.<sup>82</sup>

This study has not shown unequivocally that wealth was a factor in molding some aspects of the demographic patterns but it has raised the possibility that wealth differentials might have been responsible for some of the observed differences between the family and Meeting profiles. Wealth gave the families flexibility and resources to respond to changing social, political and economic circumstances, more so than their contemporaries. Elsewhere it has been strongly argued that the majority of members, even from the first generation, were not amongst the poorest stratum of Irish society (Coutts 2013: 187–89). If literacy can be used to benchmark relative affluence then the Meeting had few if any members of the peasantry.<sup>83</sup> For example some 56 members, 46 men and 10 women, belonging to the Newgarden Meeting, wrote and signed individual testimonies against tithes in 1680 (Douglas 1956: 31).<sup>84</sup> Moving forward in time to the second half of the 19th century, it comes as no surprise that there is absolutely no mention of help for ‘poor members’ in the women’s minutes and there are several entries in contemporary men’s minutes that certify there were no poor amongst their members.<sup>85</sup>

But just how big a financial advantage did members of the four families have over other members of the Meeting? One approach to examining this issue is to analyze the tithe data available for the meeting since the amount of tithes collected from individual members should be a reflection of their relative wealth.<sup>86</sup> The % distribution of average yearly tithes collected from individuals over the period 1660–1723 is depicted in histogram form in Fig. 56 together with the relative positions of the four families. These data show that some 78% of Friends paid yearly average tithes worth less than 1500 pence, whilst over half

paid averages of less than 500 pence. If the data are a reflection of the relative socio-economic status of Friends, then it can be concluded that the majority of Friends shared a similar socio-economic niche, and that members of the four families were well and truly outside that group giving them a decided financial (and probably social) advantage over their contemporaries.

Aside from the documented fact that the four families grew in wealth and prosperity through the 18th century, there is every reason to believe that other Quaker families also prospered.<sup>87</sup> In general Quakers had no rules against the accumulation of wealth but they also were aware that it could corrupt.<sup>88</sup> Their view was that a rich man was one who was rich in spirit irrespective of his socio-economic status. Thus increasing wealth enhanced temptation to break a solemn rule of the Society, namely to live life simply without vanity, luxury and material vice.<sup>89</sup> This was a dilemma, because if wealthy families wanted to conform to the rules of the Society they could not spend their money on luxuries, embellishments, fine clothing and so on. So why choose to become wealthy in the first place? In fact many wealthy Irish Quakers, especially from the middle of the 18th century, chose to ignore the rule and left the Society, or were admonished or seemingly got away with ignoring the rules (Wigham 1992: 58).<sup>90</sup> Wealthy English Friends were infected in the same way, and many left or were disowned unable to reconcile their obligations to the Quaker faith with the opportunities and temptations of the non-Quaker world (Walvin 1997: 89). The same dilemma became a major issue amongst American Quakers during the 18th century many of whom embraced market capitalism and became immensely wealthy.<sup>91</sup> Others saw this as a retrograde step fearing that it would result in spiritual decline. Consequently, major though unsuccessful reforms were introduced to counter 'the spirit of the world'. What is interesting about the Newgarden/Carlow Meeting is that there is little evidence of any such dilemma yet its affluent members must have experienced much the same temptations as their compatriots in America. The problem is not highlighted in the Men's Business Meetings and while a number of members, including some belonging to the four families, were disciplined from time-to-time, with one exception,<sup>92</sup> none were expelled or disciplined for offences related to vanity or superfluity. Nor could the Meeting have been unaware of the rules relating to such offences. The Men's Meeting was periodically required to answer a number of Queries relating to their Meeting and these included questions<sup>93</sup> such as 'Do Friends keep plainness of habit, speech and furniture?' and 'Are Friends advised to avoid encumbrances hindering growth in the truth and the service of it?'. It would be interesting to see how such questions were answered.

Wealth potentially gave individuals access to the best doctors, choice of educational facilities, abundance of and varieties of foods, opportunity to build well-aired, spacious and hygienic houses and to provide the labor to maintain them. It could have both good and bad effects on the health of individuals. For the four families it may, for example, and from the 1650–1699 TP, have been a factor that contributed towards the slightly longer lifespans for both males and females, lower child mortality rates, declining fertility rates for all 'age of mother at birth' ranks, and for the 1750–1799 TP, for lower ASMRs for males relative to Meeting



families of more modest means. Again whilst there is no doubt many male members of the Meeting, regardless of socio-economic denomination, delayed marriage until the demise of their fathers in all TPs, the practice was much more prevalent amongst members of the four families during the 1750–1799 and 1850–1899 TPs. The former was a period of expansion and prosperity, the latter one of turmoil, consolidation and decline. In both instances the wealthy, no doubt having more to lose, and as argued in the forgoing, seem to have intensified their efforts to protect their estates by means of inheritance strategies that had the effect of delaying the marriages of their children.

In reality little is known about the finances of the four families and how they chose to spend their wealth. All built stately mansions from the late 18th century, some members indulged in fox-hunting and kept kennels,<sup>94</sup> all travelled extensively, some invested in railways and shipping and the Ducketts held and/or attended charity balls.<sup>95</sup> And like their contemporaries in England many individuals were involved in, though by comparison, modest charitable projects<sup>96</sup> from time-to-time and some left small bequests for the use of the poor in their wills. Otherwise it would appear that with the passage of time more and more members of these families fell victim to self-indulgence and the ‘fashions of the world’.

Looked at from a slightly different perspective, some of these results could be interpreted as evidence for adaptation and innovation with interesting ramifications. The public perception of Quakers, particularly in the early years, varied, but in general it was of an introspective, reclusive and ultra-conservative Protestant sect (Wigham 1992: 46).<sup>97</sup> It goes without saying that one would not expect such a group to embrace change or transition easily, and certainly in so far as their theological tenets are concerned the latter have survived relatively intact throughout the entire history of the Quaker Church. However, the major socio-economic and political changes that occurred in Ireland (also in England and America) during the period of interest raised a myriad of social issues and personal challenges, that solicited vigorous responses from the Society and its members, so much so that the conservative label given to the Friends is hardly appropriate. Judged on modern standards ‘Enlightened’ as opposed to ‘Radical’ might be a more appropriate description of a Society that championed the rights of women, setting them on the path toward equality, and giving them freedom to travel and to preach; again their dedication to peace and opposition to violence, rejection of the tithing system, unselfish treatment and support of the poor, devout opposition to slavery, rejection of the doctrine of original sin and their opposition to the suppression of the Indian populations of America were brave initiatives, manifestations of social attitudes that differentiated them from many of their contemporaries.

Moving from the macro to a micro perspective, and stretching a long bow, the adaptive and innovative aspects pertaining to family planning and marriage derived from the demographic analysis of this relatively wealthy group of Friends could be interpreted as manifestations of ‘Enlightenment’ at the micro level. Indeed, in the context of Friends religious beliefs, even the rebellious acts of ‘marrying out’ and laxity in observing traditional customs such as plainness of

attire could be interpreted as ‘innovative’ acts. Thus despite the many restrictions imposed on members by the rules of the Society, and their public perception, in reality ‘conservative’ may not be the right word to describe the character and attitudes of at least some of its members.

Judging from the results of the comparative analysis of the demographic profiles for the Meeting and the four families there can be no doubt that in the course of defining them there has been some degree of masking of subtle and some not so subtle demographic events associated with the member families.<sup>98</sup> That is the inevitable consequence of averaging. Overall, most of the major trends are still evident in the analysis of the individual families, so that the method of characterizing Meetings for the purpose of comparative analysis by defining demographic profiles based on an averaging process need not be discarded. There needs to be awareness that in using this approach some demographic events may be invisible and that there is no easy way to determine the significance of the missing events.

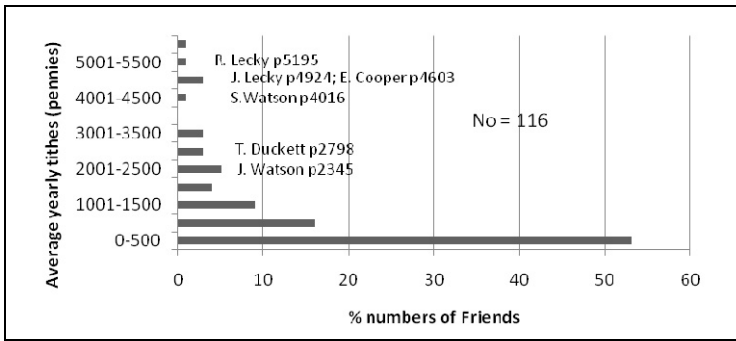


Fig. 56. Ranked average values of tithes (in pennies) taken from members of the Newgarden/Carlow Meeting in 1660–1723

To reiterate, the results from the analysis suggest that although all four families journeyed towards a similar destination they followed slightly different pathways to get there. Transition or change has been documented for the pathways manifested in the guise of temporal changes to the demographic profiles of each family. From the Quaker viewpoint, the families first embraced the ‘Inner Light’ towards the end of the 17th century, integrating themselves into a vibrant and active Society that was still evolving doctrinally and administratively. Thereafter, up until the late 19th century, the progress of transition involved the gradual but inevitable loss and rejection of the ‘Inner Light’ by all members of these families.

At this stage it is not possible to determine whether the family profiles described in this paper typify those of others that belonged to or were related to the Meeting. Given that the four families belonged to the wealthier segment of the community it would seem unlikely. Likewise, whilst the profiles have much in common with those for the wider Quaker community of Ireland, as described by Vann and Eversley (1992), there are significant variations and these in turn have been used to argue for regional variation (Coutts 2013: 196).

## NOTES

1. 'Fingerprinting' as deployed in this analysis is based on averaged data, a potentially useful tool for comparative analysis bearing in mind that interpretation can be challenging. Thus as in the case of human fingerprinting, unless there is an existing database for comparative purposes, the approach has limited utility.

2. Eversley's (1981: 59) assertion that there were no identifiable members of gentry amongst Irish Friends after 1700 is not correct.

3. There is a large amount of genealogical information available for these families in various sources including Burke's series of publications: Watson: Burke 1937, 1976. Lecky: Burke 1863: II, 847; 1871: 765; 1937: 2615-16. Duckett: Burke 1862: I, 396-97; see also Walford 1920: 410. Cooper: Burke 1858: 83; see also Walford 1920: 307. The major primary sources utilized in this project included the Registers of Births, Deaths and Marriages of the Society of Friends for the Newgarden, Dublin and Mountmellick Meetings, the Family Register for the Newgarden Meeting, and the Minutes of the Newgarden Men's Meeting (1678-1729), all housed at the Religious Society of Friends Historical Library, Dublin. These items are itemized with catalogue numbers in Goodbody and Hutton (1967: 32), but since publication the library cataloging system has been revised. As well as scrutinizing the original documents held by the library, the author has utilized copies of the birth, death and marriage records made by the Church of the Latter Day Saints (hereafter abbreviated LDS) available on microfilm (LDS Film numbers 571395, 571396, 571397, 571398). The odd will or will summary is available in Eustace and Goodbody (1957) and Eustace (1956). For the later TPs there are a few voters' lists for County Carlow, the occasional newspaper report, but the Griffith Valuation is a major source of information for the early 19th century. The most informative sources for the period 1708 to 1850 are the numerous land memorials that were registered at the Register of Deeds Office, Dublin. These documents sometimes contain genealogical data, marriage settlements, details of land transactions and indications of financial and social status. The primary sources have been supplemented with information from a variety of secondary sources such as Stockdale (1683), Fuller and Holmes (1672) and Besse (1753). The research conducted for this paper has verified the general accuracy of family genealogies published by Burke.

4. The history of the family has been outlined in detail in another place (Coutts 2011a).

5. He is cited in the list of sufferings for Carlow for 1688 as Thomas Cooper of 'Clonegath' (YMSUFF). He is not listed in the Great Book of tithes c. 1680 nor is he mentioned in Besse (1753), Holmes and Fuller (1672) or Stockdale (1683).

6. During the late 17th century Quakers were regarded by many members of the establishment as blasphemous and arrogant and a group whose views potentially threatened the security of family, church and state (Larson 1999: 26-28). Gentlemen, such as Thomas, invited persecution because of their rank, and were particularly vulnerable to the excesses of unscrupulous tithemongers. Moreover as Quakers they could not serve as magistrates, go to court or swear oaths, or serve in the military, all activities that were associated with the status of 'gentlemen'.

7. Eustace and Goodbody 1957: 25.

8. His will is dated 29 October 1739 (GONLI Ms 139 p. 222).

9. He was convinced by John Burnyeat, a visiting evangelist (ABA)

10. The family had maintained its place within the gentry and upper middle classes for more than 250 years. A glance at the published pedigrees suggests that its male members tended to marry well: daughters of ministers, wealthy landowners, relatives of the aristocracy and merchants (Burke 1937: 2709-10; 1976: 1188-93). Their female counterparts were no less fortunate, marrying gentry, lawyers, military officers and others of station. A tradition of serving in the military grew from the early 19th century when Thomas Henry Watson of Lumclone was a Captain in the Carlow militia. Military service was particularly strong among the

descendants of the Tipperary branch which produced a Colonel, Lieutenant Colonel and a Major together with a variety of distinctions and decorations.

11. NGMMM 11.09.1835.

12. Fielding Marriott Lecky Watson and his wife Isobel were the last of the Watson families to reside in County Carlow, moving from Lumclone to Altamont House in 1923. Isobel recorded vivid accounts in her diary of encounters with the IRA during the rebellion in 1922 (O'Toole 1993: 202ff.). Altamont House was renowned for its gardens and daughter Corona North bequeathed the estate to the Nation in 1993.

13. Several intermarriages are documented including Mary Watson and James Lecky 20.02.1699, John Watson and Elizabeth Lecky 13.07.1800, and Mary Elizabeth Adelaide Lecky and the Rev. Francis Metcalf Watson 21.06.1853.

14. Notably the family produced the famous Irish historian W.E.H. Lecky (McCartney 1966: 8).

15. NGMMM 10.11.1854.

16. Memorial Nos. 23528 Vol. 37 p. 469 Reg. 19 June 1723 Lecky to Cooper; 58411 Vol. 81 Reg. 01 May 1736 Lecky to Cooper *et al.*

17. For location see Kendal (2012), <http://www.genuki.org.uk/big/eng/WES/Kendal/index.htm>, accessed 30 June 2013.

18. He purchased Kneestown, Moore town and Ardnehue from Thomas Crosthwaite of Cockermouth, Cumberland in 1696 (GONLI Ms 175 p. 52). Philipstown was sold to his son Thomas Duckett on 24 and 22 February 1708 for the sum of 515 pounds by James, Duke of Ormond, Charles, the Earl of Arran and Sir? Fox (GONLI Lodge Ms, Pedigrees William to Anne Vol. 9 p. 484). It was held in Fee-farm for a rental of £39-12-06 pounds.

19. Thomas Duckett's (died in 1702) name first appears in the list of Carlow Sufferings for that year (YMSUFF).

20. Jonas Senior and his son Jonas were disowned at a meeting 07.10.1796, John survived as a member for another six years but was expelled in 1802 (NGMMM 12.02.1802).

21. Hannah Boake (nee Duckett) daughter of Jonas Senior died a member in 1830, and William, grandson of Jonas Senior, had withdrawn from the Society by around 1825.

22. O'Toole 1993. The demise of the family and in particular their spectacular estate known as Duckett's Grove is filled with drama and sadness.

23. However the author will provide sample numbers to other researchers upon application.

24. Using data extracted from their Table 4.3, a tabulation of family size by age of mother at marriage. In order to make their data comparable, the mean numbers of children tabulated in their 'Wives age at marriage' category per TP have been averaged.

25. The results presented by Eversley (1981: Table 3.7) for the Irish Quaker population are quite different, and except for a bump in the 1700-1749 TP, basically suggest little change in completed family size throughout the period 1650-1850. His sample was drawn from 11 Meetings including Newgarden (1981: Table 3.1) but there is no obvious explanation for this apparent anomaly.

26. Figures for the Newgarden/Carlow Meeting extracted from Table 1 in Coutts 2013: 151.

27. Unfortunately the data are insufficient to conduct a meaningful analysis by family.

28. A slight upward trend in the ages of first marriage for both males and females 1650-1850 has been documented also by Eversley (1981: 65, Table 3.3) as has the tendency for females to marry earlier than their male counterparts.

29. Delayed marriage was not a new development and had long been a part of British cultural traditions (Szreter and Garrett 2000: 52).

30. It is possible that some fathers may have died young and/or died whilst children were under age. The test was not designed to take this possibility into account.

31. Wilson 2009: 112. Clauses in wills frequently spelt out what was expected of legatees in respect of marriage. Thus a legatee was constrained to marry a Friend and the marriage required the approvals of executors on pain of disinheritance. The will of Samuel Watson (1686-1762)

was typical (GONLI Ms T7632). He appointed Robert Lecky, Robert Clibborn and Isaac Jacob guardians of his grandchildren and executors of his estate. All marriages were subject to their approvals with penalties prescribed for non-compliance.

32. 'The history of Ballykealey Manor Hotel' (no date) flyer published by the management of the Ballykealey Manor.

33. Demographers refer to the strategy where women curtailed or delayed first marriage and others failed to marry at all as 'the Malthusian transition'.

34. The term 'wet nurse' is used here to mean a surrogate mother still lactating who was employed to give suck to her employers' children (McLaren 1979: 432).

35. Minutes of the Leinster Province Men's Meeting 28.07.1706.

36. Knodel also utilizes the statistical model developed by Coale and Trussell (1974) to look for evidence of family limitation, but when Vann & Eversley (1992: 178ff.) applied the method to their English and Irish data they got inconclusive results. Consequently it has not been pursued here.

37. After McLaren 1979: 426ff.

38. A 'dry nurse' was a person employed to facilitate artificial feeding or the act of artificial feeding (Fildes 1988: 91).

39. This figure is very approximate, 9 months of pregnancy + 2 months of amenorrhea + 2 months delay in ovulation + 5 months to become pregnant + allowance of 3 months for fetal mortality + the assumption that weaning was abrupt. Fildes (1986: 352) has shown that the common median age for weaning during the 17th century was 11-12 months and during the 18th century it was shorter, about 10.5 months.

40. Minimum of 12 months breast-feeding + 2 months of amenorrhea after weaning + 2 months to return to ovulation + 5 months to become pregnant + 9 months of pregnancy. + the assumption that weaning was abrupt.

41. The term natural fertility refers to a reproductive behavioral pattern in which no artificial intervention is invoked to influence pregnancy.

42. Wrigley *et al.* (1997: 398) have suggested that as a general rule fertility rates drop about 5-10% over each progressive 5 year period of marriage. Coale and Tressell have published a similar 'natural' fertility curve for the 19th- and 20th-century English and Welsh data (reproduced in Szreter and Garrett 2000: 46, Fig. 1). Fertility profiles drawn from 1971-75 English and Wales populations are also shown for comparison and these are concave in shape and have much lower ASMFIs, a result of severe parity-specific control over fertility.

43. Eversley (1981: 68) has also noted that the highest fertility rates for the Irish Friends occurred in the 1750-1799 TP for women who gave birth in the 20-24 age rank. However he offers no explanation.

44. The curves for the first two TPs are similar with some slight indications of steps on their tails and similar to the shape of the tail of the Meeting curves from the 30-34 age rank for those TPs. However there are no tell-tale features that enable one to say anything about birth management. The form of the curves for the 1750-1799 and 1800-1849 TPs, all Irish data, are quite different as they are endowed with steps indicating possible changes in birth-management strategies during those periods. The ASMFIs are higher than those for the Meeting but the shapes of the tails of the 1750-1799 TP for the 30-34 age rank of the latter are similar in the two data sets.

45. For the four families 1650-1699 TP 6 births, 1700-1749 TP 14, 1750-1799 TP 10, 1800-1849 TP 14.

46. Under registration of Carlow born infants that died in their first year of birth is another possibility although in this instance it would have to have been on a massive scale to explain the disparities between the data sets. However there is little evidence for under registration of Carlow infants (Coutts 2012: 59).

47. The samples are too small for the under 20 rank to give reliable results.

48. The Meeting data (unpublished) are not presented here as it would involve four more graphs. However a selection of the data has been published elsewhere (Coutts 2013: 164, Table 12).

49. Shorter birth intervals can be facilitated also when there are high rates of infant mortality, although there is no evidence of this for the TPs in question (see below). Given Friends aversion to the employment of dry nurses wet nursing is more likely.

50. Breast-feeding is a possibility as it delays a return to ovulation. Contraception and/or abstinence appear unlikely explanations as does malnutrition (see McLaren 1978: 383). Breast-feeding as a deliberate and effective and conscious strategy for controlling fertility, particularly within 17th-century communities, has promoted discussion in the literature (1978: 378ff.). However there seems little doubt that lactation prolongs post-partum amenorrhoea and delays conception (1978: 381ff) and in the absence of evidence for other mitigating factors breast-feeding may be invoked as an explanation for delays in birth sequences.

51. Wherever 'W' appears in this and following tables, given the tentative criteria that have been used to infer wet nursing, it should be read as 'possible'. Wherever 'B' appears it should be read as 'likely.'

52. Fildes (1988: 79) in her wide-ranging study of wet nursing suggests that it was generally the prerogative of affluent families.

53. When Quakers contracted servants, apprentices and other employees they preferred to recruit from among Friends and such employees were encouraged to adhere to and practice Quaker tenets including attending regular Meetings for Worship (Rules of Discipline etc. 1834: 104-106; Homan 1939: 64). Given the very sensitive and personal nature of child nursing and Friends guidelines relating to their upbringing it would seem most unlikely that a Quaker family would recruit a wet nurse who was not amongst Friends.

54. *British Medical Journal* 1: 129.

55. The data for the Carlow Meeting have been extracted from in Coutts 2013: 177, Tables 23 & 24.

56. Excluding the Cooper family for which there is virtually no data.

57. The Infant Mortality Rate is the proportion of children born alive but dying before their 1st birthday to all live births in the first year after birth.

58. See Coutts 2013: 177, Tables 23 & 24, for the comparative data.

59. Vann and Eversley (1992: 202) cite a study by Roger Finlay that documents a direct relationship between low infant mortality and wealth for a population in Cumbria.

60. See Fildes 1988: 93ff. Deaths were probably not due to neglect or directly to disease, but rather from the lack of the mother's colostrum which would normally provide the child with some immunological protection against disease, inadequate IgA provided from the nurses' milk, cot deaths and diseases contracted from the nurse herself (Fildes 1986: 203-204).

61. Fildes (1986: 368) relates that there was a theory circulating that males should be weaned later than females to supposedly increase their chances of survival in order to be able to inherit and run the households of their parents. If they were being wet nursed this would in fact enhance the risk of disease and death.

62. Fildes (1988: 119) suggests that breast-feeding became more acceptable if not fashionable amongst better off families from the late 18th century onwards. 'Purging' as a nursing stratagem had already been damned by the medical profession and it was abandoned by those who accepted the medical wisdom of the day.

63. These data are summarised in Coutts 2013: 178, Table 25.

64. The IMR increases from 179 for women that married aged 25-29 years to 330 for women that married in the 30-34 year age range (Coutts 2012: 7, Table 19).

65. See Coutts 2013: 155, Tables 7 & 8.

66. Recalling however, that the lifespan data are not strictly compatible with those of Vann and Eversley and that the average lifespan estimates for the Meeting are likely to be underestimates.

67. As Vann (1969: 61) has pointed out any attempt to define the term 'gentleman' attracts discussion and debate.

68. Relative degrees of wealth can be assessed by comparing the values of tithes taken from individuals (Coutts 2011b: Annex 3 – see below). For example Daniel White had an average amount of 3321 pence taken from him annually between 1671 and 1706 whereas most members lost goods valued at less than 500 pence per year.

69. Vann 1969: 73. He has stressed however that 11.1% of the original 'valiant 60', the founders of the Quaker movement, were from the gentle class (1969: 55).

70. His heir, Samuel Watson, 'gentleman', lost an average of 4016 pence in tithes per year between 1710 and 1723, one of the highest taxed individuals in the Meeting. Another family that may have been part of this group was headed by Jacob Fuller, as his son Henry, born at Ballytore in 1692, went by the title of 'gentleman' in the 2nd decade of the 18th century.

71. During this period marriages of both males and females belonging to the four families were deliberately delayed, more so than in previous periods, until after the deaths of family heads, and there were relatively high infant mortality rates for male children.

72. Passage of the encumbered Estate Act in 1849.

73. Cullen 1972: 138. The slow demise of the Watsons of Carlow through debt during the 19th century is described in detail in Coutts 2012: 92ff.

74. An example of landlord indebtedness and how it evolved in Ireland is described by Roebuck (1981: 135ff.); see also Cullen 1972: 115.

75. For example the data suggest that male and female members of the Cooper family may have survived longer on average than those belonging to the other three families.

76. Otherwise parity-specific fertility limitation where childbearing ceased after a preset number of children had been born.

77. Fildes (1986: 110) lists a number of legitimate reasons why some women had little choice but to use wet nurses, even if their preference was to breast-feed. Likewise she lists four good reasons why artificial feeding may have been chosen as an alternative to breast-feeding (1986: 266) including lack of breast milk and prematurity.

78. A pattern of transition where marital fertility declines and there are perturbations around the so-called 'natural fertility' profiles.

79. Mace (1998: 390) describes such a demographic transition as one that takes place when a society 'formerly with high fertility and high mortality, an increase in living standards and a decrease in mortality risks [is] generally associated with a decline in fertility'.

80. Sreter and Garrett 2000: 68. The date was derived from an analysis of the demographics in socio-economic and historical context for 19th century Britain but their results cannot be applied to Ireland where the contemporary context was quite different.

81. This became a major issue during the late 19th century as membership declined and the satellite Meetings such as Kilconner and Newtown were laid down thereby limiting the Meeting options for surviving members. The minutes refer to a 'greatly scattered' and 'reduced' membership (e.g. NGMMM 09.03.1888, 18.02.1892).

82. Refer to the biographical notes for John Lecky and Robert John Lecky in Harrison (2008: 144-45).

83. Davies (2000: 121) noted that there was a very high level of literacy amongst 17th-century Friends in England which seems to have been the case in Ireland. Walvin (1977: 46) claims that English Friends belonged to 'a highly literary culture' from the first.

84. Elsewhere the author has estimated that membership in 1680 was about 100, including women and children, so that a very high percentage of the adults were literate.

85. E.g. NGMMM 08.10.1885, 11.10.1888, 13.10.1892, 09.11.1897.

86. The aspect of relative wealth is discussed and analysed in detail in Coutts 2011b.

87. The increase in the good fortune of Irish Friends during the 18th century seems to have been accompanied by a serious decline in discipline, particularly amongst the younger Members (Rathbone 1804: 33ff.).

88. Davies 2000: 68; Walvin 1997: 42, 50.

89. Rules of Discipline of the Religious Society of Friends etc. 1834: 206–13.

90. An Advice was issued in 1753 which lamented the actions of many of its members who appeared to have abandoned plainness of habit, speech and deportment and who attended 'destructive diversions' such as sports and plays (Rules of Discipline of the Religious Society of Friends etc. 1834: 210). Symptoms of decline in discipline were evident during a visit to Ireland by Samuel Bownas in 1740 when he observed Friends who 'were too much taken up with the world and the riches of it' (Grubb 1927: 109). In 1762 James Gough (who died in 1780), a long time minister and familiar with Irish friends, observed 'inundation of negligence and revolt' amongst Friends and corruption of 'a large body of youth and others shooting up in self-indulgence, in conformity to the world, and running headlong into temptations of the times' (Gough 1837: 93–94). Much later in early 1798, William Savory, a Minister travelling in Ireland, reported that the Irish Quakers 'live like princes of the earth' having observed 'their gardens, houses, carriages, and various conveniences'.

91. Eiler 2008: 11ff.

92. In August 1781 a report was forwarded to the Men's Meeting of Carlow regarding the behavior of Edward Cooper. The report claimed that his conduct and conversation had been a long-time disorderly, not only by his not attending religious meetings but also affording matters of public consciousness: the Meeting appointed a committee to visit and admonish him on the evil of his ways and make a report to the next Meeting (NGMMM 08.08.1781). The committee investigated his behavior in detail and become aware of scandalous activities in York, where he frequented gaming tables, and was alleged to be the father of a bastard child. A testimony of disunity was drawn up against him.

93. The full list of Queries, first introduced in 1740, can be found in the last few pages of the Minutes of the Newgarden/Carlow Men's Meeting 1743–1766, Ms MM I A5 and in Wight and Ruttly 1800: 323–15.

94. Fox hunting was a passion shared by the principal members of all four families during the 19th century. William Cooper and his daughter Elizabeth were members of the Emu Hunt and the family was well known for providing other members with hospitality at their house at Cooper's Hill (*The Carlow Morning Post* 10.01.1818). John Henry Watson of Ballydarton was another well-known huntsman, famous for his pack of hounds and Master of the Tulloo Hunt [later called the Carlow and Island Hunt] in 1808 (Fennell 1968: 13). His son Robert Gray Watson took over from his father as Master and was well known to hunting enthusiasts in both Ireland and England until his death in 1908. Members of the Duckett and Lecky families were attending meetings of the Carlow and Island Hunt in the late 19th century (*The Carlow Sentinel* 17.01.1880; 08.02.1895).

95. Accounts of these social events were published in the local newspapers e.g. William and Elizabeth Cooper attended such a ball in 1818 (*The Carlow Morning Post* 14.12.1818).

96. The most affluent English families were extremely philanthropic. Many of their projects were of a pioneering nature leading to dramatic social reforms and heightened public awareness of the plight of the poor (Walvin 1997: Chapter 12).

97. Greaves 1997: 315. Friends' distinctive style of dress, speech, internal discipline and clannish customs set them apart from the general population. By 1800 the public perception had mellowed when, at worst, they were regarded 'as a body of eccentrics for whom the State was on the whole, willing to make allowances' (Walvin 1997: 93).

98. Not unlike the experience of Szreter and Garrett (2000: 64) who have suggested that in aggregating demographic trends of the British population the significance of delayed marriage in the propertied classes of southeast England has been masked.



## ACKNOWLEDGMENTS

I wish to thank Michael Purcell of County Carlow who provided me with copies of a number of manuscripts and other materials from his own collections and who assisted and advised me during a recent field trip to Ireland. My thanks also to the staff of the Religious Society of Friends Historical Library in Dublin who were generously helpful to me during a succession of weekly visits and more recently to Christopher Moriarty current Curator of the library who has provided me with constant help and support, invaluable constructive criticism of content and editorial assistance. My thanks also to Dr John O. Ward for his comments on content and to Dr Laila Hagland for editorial assistance.

## ABBREVIATIONS

a: acre  
 ABA: 'A Brief Account etc. 'Ms held in the Historical Library of the Religious Society of Friends, Dublin.  
 AMB: Age of mother at birth  
 AMM: Age of mother at marriage  
 ASMFI: Age specific marital fertility index  
 ASMR: Age specific mortality rate  
 FN: Film No  
 GONLI: Genealogical Office, National Library Ireland  
 IMR: Infant mortality rate  
 LDS: Church of the Latter Day Saints  
 Meeting: Newgarden/Carlow Meeting  
 Ms: Manuscript  
 NGMMM: Minutes of the Society of Friends Newgarden Men's Meeting  
 No.: number  
 Reg.: Registered  
 ROLOI: Return of Owners of Land of One Acre and Upwards  
 SN: Sample number  
 TP: time period of 50 years  
 Vol.: volume number or in the case of Irish land memorials book number  
 YMSUFF: Yearly Meeting National Sufferings 1665–1705, Religious Society of Friends Library, Dublin

## REFERENCES

## MANUSCRIPTS

*Religious Society of Friends Historical Library, Dublin*

ABA (abbrev.) A Brief Account of the Convincement, Sufferings and labours in the Gospel of Christ of our Dear Friend and Brother in the Truth John Watson deceased. In Grubb collection—Commonplace Book II: 138ff.  
 Minutes of the Leinster Province Meeting 1670–1705, QMI A1.  
 NGMMM (abbrev.) Newgarden Men's Meeting Minutes, Carlow Men's MM I A1-A11  
 YMSUFF (abbrev.) Yearly Meeting National Sufferings 1665–1705.

*Genealogical Office, National Library Ireland*

Lodge Ms. Pedigrees etc., William to Anne Vol. 9 pp. 518, Record of the rolls Vol. IX.  
LDS FN 100882.

Précis of the will of Edward Cooper 29 October 1739 Ms. 139, pp. 222.

Will of Samuel Watson of Kilconner County Carlow dated 23.03.1761. Ref. T17632

## LIST OF IRISH LAND MEMORIALS CITED IN TEXT

No. 23528 Vol. 37 p.469 Reg. 19 June 1723 Lecky to Cooper LDS FN 522810.

No. 58411 Vol. 81 Reg. 01 May 1736 Lecky to Cooper *et al.*

## SECONDARY SOURCES

Besse, J. (1753), *A Collection of the sufferings of the People called Quakers, for testimony of Good conscience, from the time of their being first distinguished by that name in the year 1650, to the time of ...the Act of toleration, in the year 1689. Taken from original records and other authentic accounts*, II, London: Luke Hinde.

Burke, B. (1858), *A Genealogical and Heraldic directory of the Landed Gentry of Great Britain and Ireland*, London: Harrison.

—(1862), *A Genealogical and Heraldic Dictionary of the Landed Gentry of Great Britain and Ireland*, London: Harrison, Pall Mall, 4th edn.

—(1863), *A Genealogical and Heraldic Dictionary of the Landed Gentry of Great Britain and Ireland.*, London: Harrison, Pall Mall, 4th edn.

—(1871), *Genealogical and Heraldic History of the Landed Gentry of Great Britain and Ireland*, London: Burke's Peerage.

—(1937). *Irish Supplement to the Genealogical and Heraldic History of the Landed Gentry*, London: Shaw Publication Co. in conjunction with Burke Publishing Co.

—(1976), *Burke's Irish Family Records*, London: Burke's Peerage.

Coale, A.J., and Trussell, J.T. (1974), 'Model Fertility Schedules: Variations in the Age Structure of Childbearing in Human Populations', *Population Index* 40, pp. 185-258.

Coutts, P.J.F. (2011a), *Families in Transition: Edward Cooper and the Cooper Families of County Carlow and Queen's County* (unpublished Ms).

—(2011b), *Evaluation of Tithes as a Source of Ecclesiastical and Economic Information: Analysis of Friend's Records for the Newgarden Meeting, Ireland 1650–1725* (unpublished Ms).

—(2012), 'Members and Descendants of the Newgarden Meeting, County Carlow—Demographic Profiles 1600–1899: Part 1', *Quaker Studies* 17/1, pp. 48-109.

—(2013), 'Members and Descendants of the Newgarden Meeting, County Carlow—Demographic Profiles 1600–1899: Part 2', *Quaker Studies* 17/2, pp. 149-202.

Cullen, L.M. (1972), *An Economic History of Ireland Since 1660*, London: B.T. Batsford.

Davies, A. (2000), *The Quakers in English Society 1655–1725*, Oxford: Oxford University Press.

Douglas, J.M. (1956), 'Early Quakerism in Ireland', *Journal of the Friends Historical Society* 48, pp. 3-32.

Eiler, R.E.M. (2008), 'Luxury, Capitalism, and the Quaker Reformation, 1737–1798', *Quaker History* 97/1, pp. 11-31.

Eustace, P.B. (1956), *Registry of Deeds, Dublin: Abstract of Wills 1708–1745*, I, Dublin: Stationary Office.

- Eustace, P.B., and Goodbody, O.C. (1957), *Quaker Records Dublin: Abstracts of Wills*, Dublin: Stationary Office.
- Eversley, D.E.C. (1981), 'The Demography of the Irish Quakers, 1650–1850', in J.M. Goldstrum and L.A. Clarkson (eds.), *Irish Population, Economy, and Society: Essays in Honour of the Late K.H. Connell*, Oxford: Clarendon Press, pp. 57–88.
- Fennell, H. (1968), 'The Carlow Hunt', *Carloviana* 1/17, pp. 13–14.
- Fildes, V.A. (1986), *Breasts, Bottles and Babies*, Edinburgh: Edinburgh University Press.
- (1988), *Wet Nursing: A History from Antiquity to the Present*, Oxford: Blackwell.
- Fuller, T., and Holmes, A. (1672), *A Brief Relation of Some Part of the Sufferings of the True-Christians, the People of God (in scorn called Quakers) in Ireland for these Last Eleven Years, viz., from 1660 until 1671*. Microfilm 2, Monash University Library, Victoria, Australia.
- Goodbody, O.C. (1964), 'Irish Quaker Diaries', *Journal of the Friends Historical Society* 50, pp. 51–64.
- Goodbody, O.C., and Hutton, B.G. (1967), *Guide to Irish Quaker Records 1654–1860*, Dublin: Stationary Office for the Irish Manuscripts Commission.
- Gough, J. (1837), *Memoirs of the Life, Religious Experience and Labours in the Gospel of James Gough, Compiled from his Manuscripts, by his Brother, John Gough*, Lindfield: W. Eade (Friends Library, Consisting Principally of Journals and Extracts from Journals and other Writings of Members of the Society of Friends, III), 2nd edn.
- Greaves, R.L. (1997), *God's Other Children: Protestant Nonconformists and the Emergence of Denominational Churches in Ireland, 1660–1700*, Stanford: Stanford University Press.
- Grubb, I. (1927), *Quakers in Ireland 1654–1900*, London: Swarthmore Press.
- Harrison, R.S. (2008), *A Biographical Dictionary of Irish Quakers*, Dublin: Four Courts Press, 2nd edn.
- Holman, W.J. (1939), *Children and Quakerism: A Study of the Place of Children in the Theory and Practice of the Society of Friends, Commonly Called Quakers*, Berkeley: Gillick Press.
- Kendal (2012). Online: <http://www.genuki.org.uk/big/eng/WES/Kendal/index.htm> (accessed 30 June 2013).
- Knodel, J. (1987), 'Starting, Stopping, and Spacing During the Early Stages of Fertility Transition: The Experience of German Village Populations in the 18th and 19th Centuries', *Demography* 24/2, pp. 143–62.
- Larson, R. (1999), *Daughters of Light: Quaker Women Preaching and Prophecy in the Colonies and Abroad, 1700–1775*, New York: Alfred A. Knopf.
- Mace, R. (1998), 'The Coevolution of Human Fertility and Wealth Inheritance Strategies', *Philosophical Transactions: Biological Sciences* 353/1367, pp. 389–97.
- McCartney, D. (1966), 'W.E.H. Lecky', *Carloviana*, pp. 8–13.
- McDowell, R.B. (1986), 'Ireland in 1800', in T.W. Moody and W.E. Vaughan (eds.), *A New History of Ireland. IV. Eighteenth-Century Ireland 1691–1800*, Oxford: Oxford University Press, pp. 657–712.
- McLaren, D. (1978), 'Fertility, Infant Mortality and Breast Feeding in the Seventeenth Century', *Medical History* 22, pp. 378–96.
- (1979), 'Nature's Contraceptive, Wet-nursing and Prolonged Lactation: The Case of Chesham, Buckinghamshire, 1578–1601', *Medical History* 23, pp. 426–41.
- O'Toole, J. (1993), *Carlow Gentry*, Carlow: the author.

- Rathbone, W. (1804), *A Narrative of Events that have lately taken place in Ireland among the Society Called Quakers with Corresponding Documents and Occasional Observations*, London: McCreay.
- Roebuck, P. (1981), 'Landlord Indebtedness in Ulster in the Seventeenth and Eighteenth Centuries', in J.M Goldstrum and L.A. Clarkson (eds.), *Irish Population, Economy, and Society: Essays in Honour of the Late K.H. Connell*, Oxford: Clarendon Press, pp. 135–54.
- Rules of Discipline of the Religious Society of Friends with Advices: Being Extracts from the Minutes and Epistles of their Yearly Meeting Held in London from its First Institution (1834)*, London: Darton & Harvey.
- Savery, W., and Evans, J. (1844), *A journal of the life, travels, and religious labors of William Savery, late of Philidelphia: A Minister of the Gospel of Christ, in the Society of Friends*. London: C. Gilpin.
- Stockdale, W. (1683), *The Great Cry of Oppression: or A brief Relation of some part of the Sufferings of the People of God in scorn called Quakers, in Ireland, for these Eeven Years, viz. from the beginning of 1671 until the end of 1681 divided into two heads. The first shewing [sic] what we have suffered upon the Account of Tythes and Priests Maintenance etc. The Second sheweth [sic] what we have Suffered for not Swearing, for Meeting Together to Worship God, for not Paying to the Building and Repairing of the Publick [sic] Worship Houses, and for not Observing Holy Days (so called) and etc. with a Testimony against taking and Paying of Tythes, proving out of the Holy Scriptures, and also from Antient [sic] and Modern Writers, that Tythes are no Gospel Maintenance, and also that Swearing is no Gospel Ordinance*, Dublin: Sighted Monash University Matheson Library Microfilm 2 Reel No. 2079:13.
- Szreter, S., and Garrett, E. (2000), 'Reproduction, Compositional Demography, and Economic Growth: Family Planning in England Long before the Fertility Decline', *Population and Development Review* 26/1, pp. 45–80.
- Terry, H. (1861). 'Wet Nursing', *British Medical Journal* 1, p. 129.
- Vann, R.T. (1969), *The Social Development of English Quakerism 1655–1755*, Cambridge, MA: Harvard University Press.
- Vann, R.T., and Eversley, D. (1992), *Friends in Life and Death: The British and Irish Quakers in the Demographic Transition, 1650–1900*, Cambridge: Cambridge University Press.
- Walford's County Families of the United Kingdom or Royal Manual of the titled and Untitled Aristocracy of England, Wales, Scotland, and Ireland containing etc.* (1920), London: Spottiswoode, Ballantyne & Co.
- Walvin, J. (1997), *The Quakers: Money and Morals*, London: John Murray.
- Wigham, M.J. (1992), *The Irish Quakers: A Short History of the Religious Society of Friends in Ireland*, Dublin: Historical Committee of the Religious Society of Friends in Ireland.
- Wight, T., and Ruty, J. (1800), *A History of the Rise and Progress of the People Called Quakers, in Ireland from the Year 1653 to 1700*, London: William Phillips.
- Wilson, D. (2009), *Women, Marriage and Property in Wealthy Landed Families in Ireland, 1750–1850*, Manchester and New York: Manchester University Press.
- Wrigley, E.A., Davies, R.S., Oeppen, J.E., and Schofield, R.S. (1997), *English Population History from Family Reconstitution 1580–1837*, New York: Cambridge University Press.

## NEWSPAPERS

*The Carlow Morning Post*

*The Carlow Sentinel*

## MISCELLANEOUS

*The History of Ballykealey Manor Hotel* (no date), flyer published by the management of the Ballykealey Manor.

## AUTHOR DETAILS

Peter J.F. Coutts is an Australian archaeologist whose research has focussed on aspects of economic prehistory and historical archaeology variously in Australia, New Zealand, New Guinea and the Philippines. He was the foundation Director of the Victoria Archaeological Survey and was Honorary Senior Research Fellow in the Prehistory Section of the History Department, LaTrobe University at the time of his retirement from both posts in 1986. Dr Coutts is also a competent computer programmer/analyst and author of a wide variety of publications that deal mainly with archaeological and historical topics. In his retirement he has devoted much of his time and energy to researching the economic and social history of Irish Quakers, inspired by a latent interest in Irish Church history and churches.

Mailing address: 17 Byfield Court, Nerang, Qld, Australia 4211.

Email: [pjfc@tpg.com.au](mailto:pjfc@tpg.com.au).