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Medical History

William Wilde and the Early Records of Consumption in Ireland

C S Breathnach, J B Moynihan

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Summary Absence of documentary or bony evidence before the seventeenth century in Ireland is not conclusive evidence of freedom from tuberculosis. Clear records begin with Bills of Mortality kept in Dublin, the city at the centre of English administration of Ireland, and they show that the basis for an epidemic was firmly established therein before 1700. In the middle of the nineteenth century the cataclysmic Famine opened the floodgates of poverty and urban overcrowding that resulted in an alarming death rate that continued to increase until the early years of the twentieth century.

It is to William Wilde (1815-1876) we owe the nuanced investigation of the earliest numerical records of consumption and related disorders in Ireland.

INTRODUCTION

By the seventeenth century consumption had begun to replace the technical term *phthisis* to describe wasting with cough accompanied by sputum, variable in amount and character from trace to profuse and catarrhal to purulent, and fever. But even though the tubercular nature of the disease was firmly established in the nineteenth century the term consumption – or the euphemism decline - survived well into the twentieth.

Those linguists who have examined the medical manuscripts that have survived from the old Gaelic order are agreed that these are direct, unalloyed translations of Latin classics made between 1400 and 1650. These verbatim versions of *Regimen Sanitatis Salernitium, Lilium Medicinae* of Bernard de Gordon and *Rosa Anglica* by John of Gaddesden were made without addition or marginal comment about the translator's clinical experience, so they are of small value in the present context [1,2]. No evidence of tuberculous disease has been found in the bones that have been recovered in large interments dating from the sixth to ninth [3], seventh to sixteenth [4,5], or tenth and eleventh centuries [6].

BILLS OF MORTALITY

Our earliest numerical knowledge of consumption in Ireland stretches no further back than to the seventeenth century, and depends on Dublin Bills of Mortality, poor relations of their London counterparts.

The weekly, quarterly and annual numbers of deaths in the several parishes of London were kept by the parish clerks and collected into bills of mortality published for general circulation. For a small gratuity these bills, to which in time were attached market notes of a more extended character, were distributed from house to house, and at the bottom of each was printed 'POST THIS FOR THE USE OF YOUR FAMILY', an admonition hardly necessary at the time of an epidemic or outbreak of pestilence.

The numbers and causes of deaths were ascertained by 'searchers' - 'ancient Matrons, sworn to their Office' - who, by looking at the corpse and by other inquiries, determined from which 'Disease, or Casualty, the Corpse died' [7]. In his *Natural and Political Observations mentioned in a following index and made upon the Bills of Mortality*, John Graunt (1620-1674) summarised the London statistics for the years 1604 to 1661. He recognised the diagnostic limitations of the 'searchers', but felt that their reporting was sufficiently reliable for his purpose, and he was not unduly concerned if the 'searchers' ascribed to 'consumption' those corpses which were 'very lean, and worn away' even if the disease was not pulmonary phthisis as would be defined by Sylvius, Willis, Morton or Marten. In an Appendix Graunt included notice of 20 deaths recorded in Dublin between 6-7 July and 2 August 1661: eight were attributed to consumption [7, 8].

Nine years after Graunt's death, *Observations on the Dublin Bills of Mortality* (1683) were published 'By the Observator on the London Bills of Mortality', who, had he been 'the Observator', was in no way coy about his opening remarks: 'The Observations upon the London Bills of Mortality have been a new light to the World, and the like observations upon those of Dublin may serve as Snuffers to make the same candle burn clearer' [9].

The pamphlet compared total burials and births in Dublin and London for the six years 1666, 1668, 1674, 1678, 1679, and 1680. When the second edition came out in 1686 [10] the author came out too: he was William Petty (1623-1687). In reading them it must always be kept in mind that Dublin bills included only the births and deaths of Protestants; the Irish nation as officially defined (and described in all Petty's works) excluded Catholics whose existence was 'unknown' to parish

School of Medicine and Medical Science, NUI University College Dublin, Belfield, Dublin 4.

Correspondence to Dr Moynihan,

Phone 003531 7166621

email j.b.moynihan@ucd.ie

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Figure 1. William Stokes pouring a libation with William Wilde.

clerks. By their very nature the bills were ephemeral and very few survived into the nineteenth century [11].

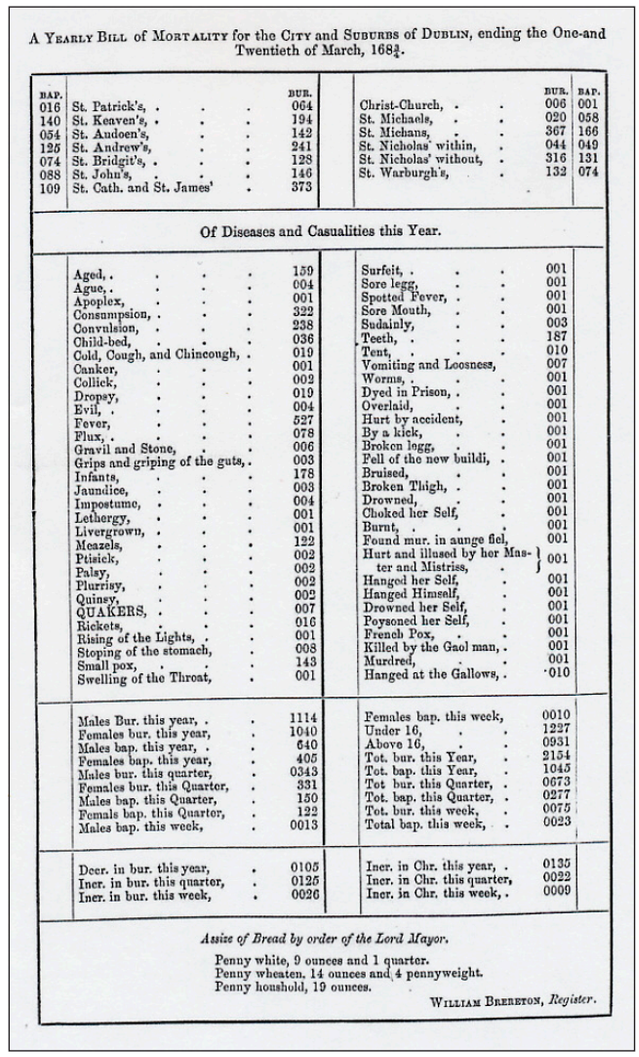
A DUBLIN BILL OF MORTALITY 1683-4

William Robert Wills Wilde (1815-1876) obtained his medical licence in 1837 and eventually became an aurist and oculist with an active interest in archaeology and antiquities (Figure 1). However, it was his literary contributions which 'showed him to have the necessary attributes of statistical interest, experience of Irish folk habits, language, and *mores*, literary ability and professional and historical flair' that brought him to the attention of the Census Commissioners to help in their analysis of the 1841 census [12].

When he came to comment – at great length – on the 1851 census returns, Wilde provided a transcript of the bill for the year ending 31 March 1684, prepared by William Brereton, Registrar, and published in Walker's Magazine (Figure 2). Burials from the ten Protestant parishes were 2,154 in number and in the same year 1045 were baptised, an increase of 135 over the previous year compared to a decrease of 105 in burials. The 'diseases and casualties of the year' were listed alphabetically. Numerically, Consumption, responsible for 322 deaths (15.0 per cent) and Convulsions, for 238, headed the list. The difficulty in assessment is highlighted by noting that 'Ptisick, Palsy, and Plurrisy' each accounted for 2 deaths. 'Convulsions' undoubtedly covered a multitude of infantile diseases; it was in common use up to the middle of the twentieth century. A computing failure occurred in age assortment: 1227 deaths under 16 and 931 above 16 reach 2,158, four too many (p 504) [13].

ANNUAL BILLS 1682 TO 1690

Robert Boyle (1627-1691) encouraged a young Oxford graduate, John Locke (1632-1704) to investigate the possibility that a thorough study of weather conditions might help to solve the nature of epidemic diseases. When Boyle recognised that the task was beyond his failing powers he asked Locke to prepare for the press his manuscript of A General History of the Air. In it Locke included his Oxford register and, with his interest in medical meteorology refreshed, he circulated, with Charles Goodall (d 1712) of the College of Physicians in London, a questionnaire enquiring about Bills of Mortality, Airs, Diseases, etc., in 'Paris, Madrid, Amsterdam, Venice, Hamburgh, Rome, Constantinople, Smyrna, Dublin, Edinburgh, etc., As also in New England, Barbadoes, Jamaica, and other Plantations'. His only replies came from Amsterdam and Dublin [14].



A Yearly Bill of Mortality for the City and Suburbs of Dublin, ending the One-and Twentieth of March, 1683/4.

BAP.		BUR.			BUR.	BAP.
016	St. Patrick's,	064		Christ-Church,	006	001
140	St. Keaven's,	194		St. Michaels,	020	058
054	St. Audoen's,	142		St. Michans,	367	166
125	St. Andrew's,	241		St. Nicholas' within,	044	049
074	St. Bridgit's,	128		St. Nicholas' without,	316	131
088	St. John's,	146		St. Warburgh's,	132	074
109	St. Cath. and St. James'	373				

Of Diseases and Casualities this Year.

Aged,	159		Surfeit,	001
Ague,	004		Sore legg,	001
Apoplex,	001		Spotted Fever,	001
Consumpsion,	322		Sore Mouth,	001
Convulsion,	238		Sudainly,	003
Child-bed,	036		Teeth,	187
Cold, Cough, and Chincough,	019		Tent,	010
Canker,	001		Vomiting and Loosness,	007
Collick,	002		Worms,	001
Dropsy,	019		Dyed in Prison,	001
Evil,	004		Overlaid,	001
Fever,	527		Hurt by accident,	001
Flux,	078		By a kick,	001
Gravil and Stone,	006		Broken legg,	001
Grips and griping of the guts,	003		Fell of the new buildi,	001
Infants,	178		Bruised,	001
Jaundice,	003		Broken Thigh,	001
Impostume,	004		Drowned,	001
Lethergy,	001		Choked her Self,	001
Livergrown,	001		Burnt,	001
Meazels,	122		Found mur. in aunge fiel,	001
Ptisick,	002		Hurt and illused by her Master and Mistriss,	001
Palsy,	002		Hanged her Self,	001
Plurrisy,	002		Hanged Himself,	001
Quinsy,	002		Drowned her Self,	001
QUAKERS,	007		Poysoned her Self,	001
Rickets,	016		French Pox,	001
Rising of the Lights,	001		Killed by the Gaol man,	001
Stoping of the stomach,	008		Murdred,	001
Small pox,	143		Hanged at the Gallows,	·010
Swelling of the Throat,	001			

Males Bur. this year,	1114	Females bap. this week,	0010
Females bur. this year,	1040	Under 16,	1227
Males bap. this year,	640	Above 16,	0931
Females bap. this year,	405	Tot. bur. this Year,	2154
Males bur. this quarter,	0343	Tot. bap. this Year,	1045
Females bur. this Quarter,	331	Tot bur. this Quarter,	0673
Males bap. this Quarter,	150	Tot. bap. this Quarter,	0277
Female bap. this Quarter,	122	Tot. bur. this week,	0075
Males bap. this week,	0013	Total bap. this week,	0023

Decr. in bur. this year,	0105	Incr. in Chr. this year,	0135
Incr. in bur. this quarter,	0125	Incr. in Chr. this quarter,	0022
Incr. in bur. this week,	0026	Incr. in Chr. this week,	0009

Assize of Bread by order of the Lord Mayor.

Penny white, 9 ounces and 1 quarter.
Penny wheaten, 14 ounces and 4 pennyweight.
Penny household, 19 ounces.

William Brereton, *Register.*

Figure 2. A seventeenth century Annual Dublin Bill of Mortality [13].

Charles Willoughby (d 1694), Registrar of the College of Physicians in Dublin, replied to Locke on 17 April 1691 providing him with details of burials for seven years: 1682, 1685, '86, '87, '88, '89 and '90. Of the 15,696 deaths 1,419 (8.7 per cent) were ascribed to consumption, and 1449 (9.1 per cent) to convulsions. He commented:

> 'The two most remarkable of the seat of the distempers that help to swell our bills are Convulsions and

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> Consumptions, their middle rate is near that the same in both, butt in the beginning of the 7 years, those that died of consumption were most, the convulsions being fewer increased every year till at length they outnumbered the former. ... I'm apt to believe that Spring and Autumn, being the verticall seasons of the year, doe carry of most of those that dye of consumptions or rather lingering distempers, tho I could nott in the bills make out any thing of certainty to demonstrate it'.[15, 16]

The Hippocratic writer advised a traveller to consider the situation of a city he was about to enter: 'whether it lies to the north, or the south, to the rising and setting sun'. Willoughby 'had heard it observed in Spain that the North side of a River is more unwholesome than the South', and because 'Dublin stands upon a River that runs East and West ... 'tis made a Question whether the North or South Side has the healthiest habitation ...' [15, 16]

William Wilde, who came across a copy of Willoughby's reply in a huckster's shop, discovered that Patrick Dun (1642-1713) sent Locke 'so many Bills of mortality as he had for 1695'. Diseases were still listed alphabetically and consumption (125 of 2,593; 4.8 per cent) and convulsions (137, or 5.3 per cent) were still prominent. In comparison, of 19,433 deaths in London from all causes other than suicide in 1700, 2,819 (*i.e.* 18.5 per cent) were from consumption [17].

THE CENSUS REPORTS.

As a consequence of the Population Act (1800) the First Census of Great Britain was conducted on 10 March 1801 by observers of the poor and by parish priests. By an Act of 1836 the General Register Office was set up in London and a Registrar appointed to organise the 1841 Census. William Farr (1807-1883), after serving his apprenticeship, studied medicine in London and Paris where he was influenced by Pierre Louis (1787-1872) and his 'Numerical Method' designed to undermine the phlebotomists. Farr returned to general practice in London and his indifferent success gave him time to pen an 1837 article on "Vital Statistics" for a *Statistical Account of the British Empire*. Soon after this article came to the notice of the Registrar General, Thomas Henry Lister, Farr was appointed as Compiler of Abstracts in that worthy's office, and he contributed a report on the deaths in the form of a Letter to the First Report of the Registrar General (1839), the first in a long series over forty years. An Appendix to this Letter carried a new system of classifying diseases. 'The recorded causes of death are exceedingly numerous … Some classification of theses causes was necessary … In casting about for a classification it struck me that it should have special reference to the causation and prevention of death …' [18].

At the time of taking a Census, a schedule was distributed to each householder, and he was directed, under penalty, to record name, age, marital status, place of birth, and nature of work of every member of his household. It fell to Wilde to assess the information accrued in the 1841 Census in Ireland, which was part of Great Britain since the Act of Union (1801). By 1843 Wilde had devised his own classification of diseases based on Farr's approach. He distributed the 1,187,374 deaths between 1831 and 1841 by area, cause, age, year and sex, and introduced 'occupation' as a guide to what later became 'social class' [19]. He moved on to specialise in aural and ophthalmic surgery in St. Mark's, the Hospital he founded; its original site was in the converted stables he leased from Wrigley Grimshaw (father of Thomas, *vide infra*) at 11 Molesworth Street, Dublin. But he continued as Assistant Commissioner for the 1851, 1861 and 1871 Irish censuses. 'Not so much in recognition of high professional reputation .. in Europe but for the services rendered to Statistical Science, especially in connection with the Irish census' he was knighted by the Lord Lieutenant, Lord Carlisle, on 1 February 1864 [12].

THE REPORT ON THE CENSUS OF 1851

The report on the 1851 Census was addressed to Henry Wilkie, Acting Secretary, Census Office, Dublin, dated 20 June 1856, and was signed by William Donnelly, Registrar General, Chief Commissioner, and William R Wilde, Assistant Commissioner, but at all times it was common knowledge that it was penned by the Assistant.

PULMONARY CONSUMPTION

Of Consumption he had much to say:

> Consumption - Phthisis: synonyms - Decline, Decay (of youth or manhood), Pulmonary Consumption; Irish - Seirglighe, decay; Seirgean as, shrinking of ones self; Cnaoid, wasting; Etige, pulmonary consumption (West); Creacht na Sgamhain, ulcer of the lung'. (Eiteann is the derivative of Etige in current use).

In the Report of the Census Commissioners for 1841 we read:

> Consumption - by far the most fatal affection to which the inhabitants of this country are subject - exceeding the returns of articles of fever by 23,518 deaths during the ten years - is reported to have destroyed 135,590 of the population of those families from whom the returns were received upon the 6th June 1841, being to the deaths of all causes 1 in 8.75; to those of the class of diseases of the respiratory and circulatory organs 1 in 1.31; to the total number of deaths from epidemic, endemic, and contagious diseases, as 100 to 281.17; and to fever alone as 100 to 82.65.
>
> We have now to report as many as 153,098 deaths, from this cause, the sexes being 96.7 males to 100 females; of these, 138,732 were received upon the "A form" or household schedule - viz. 107,383 from the rural area and 31,369 from the civic districts, the latter localities affording in proportion to their population a greater number of deaths from this cause than the former. 2,272 deaths from phthisis were returned from hospitals, and 12,074 from workhouses, being with the exception of those deaths from diseases classed under 'Infirmity, Debility, and Old Age,' the fifth most fatal affection in that class of institutions (pp 447-449) [13].

These were the Famine years when consumption was perhaps more acceptable to a family as the cause of death than starvation - a tacit admission of dire poverty.

Like the rest of the country (though not quite so badly) the population of Ulster suffered, and the population fell. Belfast

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escaped, increasing from 75,305 to 100,301. The average annual rural (r) and civic (c) death rates from consumption (calculated on the 1841 population) was highest in the three eastern counties: Down r 2.20, c 3.62; Antrim r 1.66, c 2.57; Belfast c 3.19; Armagh r 1.88, c 2.55. The combined deaths in the towns of Down (Newry, Newtownards, Downpatrick, Banbridge, Donaghdee, especially) made the civic rate in that county higher than that in urban Belfast. The gradient fell westwards: Monaghan r 1.38, c 2.36; Londonderry r 1.38, c 2.24; Tyrone r 1.46, c 2.16; Fermanagh r 1.51, c 2.27; Cavan r 1.22, c 1.90; Cavan r 1.22, c 1.90; and Donegal r 1.22, c 1.99; with the lowest rates rural. Land-locked Cavan fared equally well with coastal Donegal (Figure 3). Taken together, the rural death rate in the nine counties was 1.58 and the civic at 2.83 was not quite twice as high. In the province 14 per cent of the deaths occurred in civic districts, 85 per cent in rural districts and 1 per cent in institutions; in the country as a whole, according to Wilde, 'about 21 per cent of the deaths from consumption occurred in civic districts, 70 per cent in the rural, and 9 per cent in the hospitals and sanitary institutions' (pp 413-478) [13]. Density of population undoubtedly facilitated spread of contagion in the civic districts but nearly three out of every four consumptive deaths occurred, if widely scattered, in the rural areas.

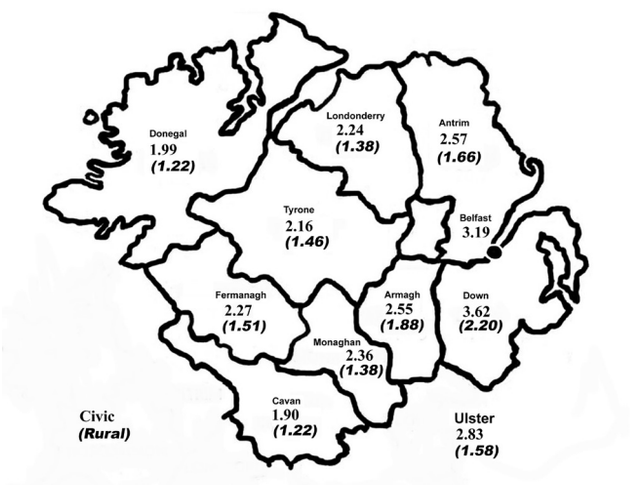

Figure 3. Average annual death rates between 1841 and 1851 from consumption per 1,000 population in civic and *rural* districts of Ulster.

> In the country as a whole yearly deaths from consumption varied widely. During the years from 1842 to 1845, both inclusive, the average annual number of deaths from consumption was 10,919; in 1846 we find the number increased to 15,792; and in the following year, when the general mortality reached an almost unparalleled height in Ireland, the annual average deaths from consumption rose to 21,975; but in 1850 the return for this disease fell to 19,755. In proportion to the total deaths from all causes, those from consumption were 1 in 8.8 (or very nearly that returned for 1841) [13].

This might possibly explain why Wilde did not provide a map of Ireland to display the geographical distribution of average annual death rate from consumption, a feature all the more remarkable since Harty in 1820 had used a map of Ireland to show dates and places of outbreaks of 'contagious fever' in 1816-18 as Frontispiece in *An Historic Sketch of the Causes, Progress, Extent and Mortality of Contagious Fever Epidemics in Ireland ...* 1820 [20]. The dramatic change in population from 8,175,124 to 6,552,285 was another deterrent. (A further 'complication' arises because the decade of observation was six weeks short.) However, using the population in the initial year and the total deaths from consumption in the 32 counties provided in his voluminous Tables (pp 413-478) [13], it is possible to calculate the average annual death rate in each county and so arrive at a useful indication of the geographical distribution of the disease in Ireland in the middle of the nineteenth century. The counties along, or close to, the eastern seaboard displayed the highest rates. Similar rates were shown in the great central plain and the inland counties in the south east (Figure 4).

Such a map might have saved Wilde from indulging his meteorological fixation in relation to diseases of the respiratory organs for he concluded, from the deaths from pulmonary consumption in seaboard counties, that 'the coastline of a county is more salubrious than inland districts [though from] a more minute examination of the inland and seaboard mortalities we find some very remarkable irregularities' (pp 448-9)[13]. It would have shown that the Atlantic breakers had some secret advantage over the gentler tides in the Irish sea, for there was a very clear east-west divide.

The seasons influenced the consumptive death rate 'as might naturally be expected': mortality was lowest in the mild autumn after the warm summer, rose during the cold winter and peaked 'with the harsh, trying weather of spring' (p 447)[13]

After alluding to the necessary assumptions arising from the methods of registration, he remarked

> Taking all these circumstances into consideration, we find that the period of life at which most deaths from consumption were returned was from 15 to 25; a remarkable disproportion of cases occurred between the first and second five-year-period of that age; as from 15 to 20 the sexes are 78.3 male to 100 female, while from 20 to 25 the proportion is reversed - for the numbers are 100 female to 115.5 males; from 25 to 30 the males also predominate; but from 30 to 50 the females again take the lead; and from 55 onwards the deaths of the male sex again predominate'(p. 448) [13].

NON-RESPIRATORY MANIFESTATIONS.

Abdominal, lymphatic and cutaneous manifestations were clearly, if not always precisely, identified, but the concept of bony affection was nebulous.

Amongst Diseases of the Digestive Organs Wilde described Marasmus:

> Marasmus - Tabes mesenterica, Anemia, Tuberculosis mesenterica: synonyms - Atrophy, Emaciation,Wasting away, Decline and Decay (infantile), general Cachectic and Tubercular disease of early life. Infantile Consumption. Fairy Stricken, 'Backgone', Struck, a Blast; in Irish Cnai or Cnaoidh, wasting, with or without disease of the chest; Cuirrethe or Milte, fairy-stricken.

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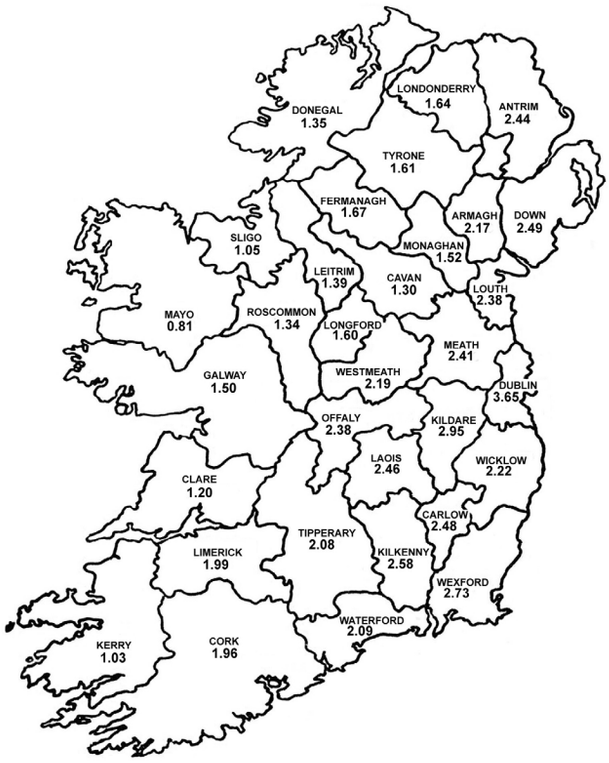

Figure 4. Average annual death rates between 1841 and 1851 from consumption per 1,000 population in the counties of Ireland.

> In the Census Report for 1841 the name Marasmus was adopted as a generic term, under which to class all those various afflictions of infancy and early youth returned on the different Forms as "Consumption (infantile), wasting, decay, decline, emaciation, general debility, and loss of strength." This assignment became necessary from the multitude of deaths returned as consumption and decline under 1 year of age, and from 1 to 10. There can be little doubt that the great majority of cases of infantile deaths returned under the above popular headings were caused by scrofulous tubercular diseases, chiefly of the abdominal cavity, many of *tabes mesenterica*, and very many of *chronic peritonitis*, a disease of frequent and fatal occurrence in young children in this country ... "changelings", ... supposed "fairy stricken" children.
>
> …. In proportion to the deaths from all causes, those registered under the head of marasmus are 1 in 20 ... As might be expected ... the great bulk of these deaths occurred at very early ages; as many as 16,990 were of children under 12 months old; 34,035 from that age to the end of the fourth year; 14,248 at 5 and under 10; and 2,742 during the remaining years of life' (pp 455-6) [13].

Within Diseases of Locomotor Organs were three categories: Diseases of Bones and Joints, Hip Disease, and Spine Disease. The first included necrosis, caries, periostitis, synovitis, 'white swelling' and the Irish term was Teamadh. The 1,836 deaths recorded in the 1851 Census were reported at every age, but chiefly between 10 and 25 years; 58.1 females to 100 males. (One hundred years later 'white swelling' was invariably associated with tuberculous synovitis.) One of the synonyms for Hip diseases was psoas abscess; the Gaelic term was Galar na leise. The 89 deaths recorded in 1841 rose to 390 in 1851; of these 266 were in males and 124 in females; the greatest incidence was between 10 and 25 years. Synonyms for Spine Disease were psoas and lumbar abscess, or Galar droma. The 325 deaths accumulated in 1841 rose to 800 in 1851, the sex ratio being 62.6 female to 100 male. Deaths from spinal disease were returned at all ages, but from 5 to 20 was the period of life which showed the greatest proportionate numbers (p 460) [13].

Osteomyelitis was not mentioned; rickets was included among the diseases of bones and joints with no allusion to dietary deficiency or age.

Scrofula or Struma appeared in the Tegumentary System. Synonyms were:

> The Evil, King's Evil, The Running Evil, Running Sore, Felloon, Bone Evil, Glandular Disease, an Impostume; in Irish Easbaidh bragadh, deficiency in the neck; Fiolun, the treacherous disease; Cneadh Cnaithneach, the wasting ulcer; Cuit bragach, cuts in the neck. How far scrofula, in any of its numerous and protean presentations, influenced either directly or indirectly the 621,710 deaths from sporadic diseases, which are specified in our tables, is a question to which numbers cannot be applied, but to which concurrent testimony of all medical authorities would assign a very large proportion (p 465) [13].

In 1841 3,149 deaths were so assigned; the number was 6,774 in 1851, 69.1 females to 100 males, amounting to 1 in 201 of the general mortality. The seasonal distribution mimicked that of consumption with the highest number of deaths in spring and the lowest in autumn. All ages, though chiefly those under middle life, were affected (p 465) [13].

The City of Dublin

Section VIII provided a Special Sanitary Report upon the City of Dublin; population in 1841 – 232,726, in 1851- 258,396. In this he was greatly facilitatated by Sir Richard Griffith's (1784-1878) *Tenement valuation* (1882) [21]. After describing and defining the localities, including paving, lighting, scavenging and sewage arrangements, Wilde provided three Tables.

> I. Deaths by Ages and Localities,
>
> II Localities with Causes of Death, and
>
> III Deaths by Occupation and Causes of Death.(pp 479-499) [13]

'His intuitive commentary shows that he was aware of statistical principles, of the importance of sampling, of reliable disease classification, and of gradients between occupations and districts (special classes). He followed rational order and, as a modern statistician has noted, understood the necessity of validating his estimates' [12].

As he worked through the Returns he might have remembered and paraphrased Horace (30 BC):

> *Pallida mors aeque pulsat pede pauperum tabernas regumque turres*,

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the captain of the men of death strikes with impartial foot the hovels of the poor and the town house of the aristocrats [22]. Wealth could no more prevent than poverty, of itself, could cause consumption. Deaths from all forms of tuberculosis in first and second class streets accounted for 1.56 per cent of the population compared with 3.00 per cent in the crowded districts of the wards in the centre of the city; in the first class shopping streets the rate was 1.43, compared with 3.00 in the second and third class shopping streets; and in the mixed commercial streets taken together the rate was 2.73. (pp 478-521) [13].

While he was composing his Report, the Assistant Commissioner, as noted above, had already come across a copy of Willoughby's reply to Locke and later published a transcript [17]. He decided that Dublin, built upon a river running from west to east might, indeed, answer Willoughby's Hispano-Hippocratic question 'whether the North or South Side has the healthiest habitation'..So far as consumption was concerned, there was no evidence that the north side of the Liffey was more unwholesome than the south side; consumptive mortality was lower in the first- and second-class private streets, on either side, than elsewhere, but regardless of location the rates were similar. Although the percentage of deaths due to consumption (1.48) was lower in the first- and second-class private streets on the south side than the north (where it was 1.68), the percentage for all localities on the south side (2.94) was slightly higher than that for the north (2.78). Salubrity resided in the first- and second-class houses: total deaths per 1,000 were similar on the south (152) and north sides (181), but in the more choice neighbourhoods the rates were 89 per 1,000 on the south side and 109 on the north side (pp 482-499) [13].

DUBLIN AND LONDON

In the middle of the nineteenth century Dublin was the second city in the Three Kingdoms. Henry Ancell (1802-1863) remarked that in 1847 16.1 per cent of all deaths in England were attributed to consumption, 78.4 per cent of them from pulmonary disease [23]. In London in 1851 deaths from all forms of tuberculosis accounted for 17.7 per cent of deaths, pulmonary consumption causing 71.5 per cent of that percentage. And almost three out of every four of the 41.3 per 10,000 Londoners with tuberculosis suffered from the pulmonary form (29.6 per 10,000) [23], rates in excess of, but not very different from, those in Dublin.

REFLECTIONS

When the soil was prepared by the Great Famine of 1847 [24], the seed for an epidemic of inordinate proportions was there in abundance. Abject rural poverty, dismal urban overcrowding, and railroad extension ensured that the tubercle bacillus (identified in 1882) would rule the second half of the nineteenth century in Ireland.

The Census schedules distributed throughout the country were filled in by the head of the household, so Wilde was at the mercy of the memory and veracity of each householder for the medical and mortality information in the returns, not to mention the likelihood that a professional diagnosis had never been made in many instances. Although registration of births and deaths were long-established in Britain, Westminster did not pass a Births and Deaths Registration Act (Ireland) until 1863, and thereafter vital statistics passed into the care of a Registrar General. Even so Wilde, as Commissioner, provided a chapter in the 1871 Census Report [25]. As late as 1887 Thomas Wrigley Grimshaw (1839-1900), who had become Registrar General in 1879, was aware that some deaths were not registered, and that in a considerable number the causes of death were not medically certified – his map, in spite of all the isopleths and isotherms – refuted Wilde's notion of seaboard salubrity [26].

In 60 years the population had fallen from 8,175,124 in 1841 to 4,458,155 in 1901. Slowly 'consumption' was replaced by the dreaded term 'tuberculosis', and no reliable remedy had been found. 'The fact that the epidemic was taking place in a country in which the population was falling overall and which was still primarily rural, did not appear to inhibit the rise in tuberculosis mortality' [25]. The rising incidence in a falling population might suggest that the reduction was selective, i.e. emigration of the fittest, but the label or slur 'tubercular Irish' commonly used in the United States of America suggests otherwise. And although overcrowding in towns and cities helps spread of infection, it was the rural districts that held the greater number of consumptives. Of the 2,238,473 making up the total population of Ulster of in 1841 as many as 2,161,248 were rural dwellers, and of 43,828 who died from consumption between 1841 and 1851, 34,104 were living in rural districts (Tables, pp 413-478) [13]. Almost 8 out of every 10 deaths from consumption occurred in the rural population which comprised 96 per cent of the total. This has to be seen in the light of the 'Framingham factor': for each annual consumptive death 9 patients with active disease and 9 with inactive disease were alive [27].

From graphical examination of the causes of mortality per 100,000 population in London, Stockholm and Hamburg, Grigg estimated that the wave form of tuberculosis epidemics in cities extends over approximately 300 years, reaching its peak in about 50 years, followed by a steady decline; the rural curve rises more slowly to a lower peak, and declines more slowly over a similar time span [28].

Three centuries after the earliest records identified consumption as a major cause of death in the population of Dublin, the Irish epidemic came under control, and by the close of the twentieth century the tuberculosis death rate (mortality) had yielded to morbidity its value as an index. With 13.1 new cases detected in 2002, Dublin still exceeds the national rate of 10.2 per 100,000 population nationally [29]. Episodic clusters of tuberculosis infection serve as a reminder that eternal vigilance in the form of continual surveillance is the price of freedom from the ravages of *Mycobacterium tuberculosis*.

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