

# How Oliver Cromwell's doctor pioneered the use of statistics

By Cliona Ó Gallchoir UCC. Friday, 25 Sep 2020 12:29

Source: <https://www.rte.ie/brainstorm/2020/0925/1167432-william-petty-oliver-cromwell-ireland-statistics/>

**About the Source:** RTÉ's 'Brainstorming' project describes itself in the following terms: "...an unique partnership between RTÉ and Irish third level institutions, namely our Founding Partners UCC, NUIG, UL, DCU, Technological University Dublin and Maynooth University. We're pleased to welcome the Irish Research Council and Teagasc as our Strategic Partners. RTÉ Brainstorm is where the academic and research community will contribute to public debate, reflect on what's happening in the world around us and communicate fresh thinking on a broad range of issues." In other words, University academics, who write short summaries of big ideas using their expertise. Their goal is to make academic ideas easily accessible to novice readers. A **laudable** project and a must for Pol-Soc Students!!!

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## **Analysis: William Petty's use of numerical information about land and people shows that there are no such things as simple or neutral facts**

Numbers and statistics have acquired a grim importance and urgency of late thanks to the pandemic. We have very quickly become familiar with forms of analysis used by **epidemiologists**, scientists who study health at the level of populations, rather than individuals. We can discuss rates of infection, mortality rates, positivity rates, and we anxiously track deaths per million or per 100,000. A sobering league table has emerged, that no country wants to lead. These numbers and statistics are vital to our understanding of this new disease, and to our ability to tackle it.

But the **framing of death and disease in terms of numbers, rather than individuals, is also problematic**. Comparing mortality rates as numbers and data erases the humanity of the individuals whose deaths make up those numbers. This was poignantly expressed by Dorothy Duffy in "My Sister is not a Statistic", her poem about the death of her sister from Covid-19.

The morally troubling aspect of statistics has been **apparent** since its emergence as a new form of knowledge. Statistics and the study of populations is usually seen as part of the scientific revolution of the 17th century, when religious interpretations of the world gave way to investigations of **empirical reality** and the insistence on observable facts as the basis for theories. One of the reasons that the Royal Society in England, founded in 1663, was committed to the promotion of empirically-based research was that it was regarded as a way of avoiding and moving beyond the religious and philosophical disputes that had raged since the Reformation.

However, **it is very tricky to separate supposedly neutral 'facts' from ideological controversy**, as is seen in the career of William Petty. A **polymath** and founder member of the Royal Society, Petty was educated in Oxford, France and the Netherlands and came to Ireland in 1652 as physician to Oliver Cromwell's army. Petty's wide-ranging abilities soon saw him appointed to other duties, including the redistribution of Catholic-owned lands seized during Cromwell's campaign. (Remember "To Hell or to Connacht" from your 2<sup>nd</sup> year History course? – JD) This resulted in the first attempt at a comprehensive survey of land and population in Ireland, known as the '*Down Survey*'.

The fact that the surveying and mapping of land was frequently prompted by the concerns of the military, or in the context of the seizure and settlement of land, is no great secret in Ireland. Many people are familiar with Brian Friel's play *Translations*, which represents the 19th-century **ordnance survey** project as both an outcome of colonization and a further act of **erasure** of Irish culture through the replacement of place names with **anglicized** equivalents. It is less well known that population statistics had a very similar point of origin.

English administrations in Ireland, such as the one of which Petty was a part, were obviously keen to maximize the productivity of the land. Doing so both contributed to individual and **state coffers** and served the ideological function of proving that the country and its people were better off under the guidance of a civilized and 'improving' regime.

Petty was among the very first writers to recognise the importance of gathering numerical information about land and people in order to bolster this project through the application of the new scientific method, founded on 'facts'. He even gave his new science a new name: '**Political Arithmetic**'. One of the key principles of political arithmetic was that population size was a key indication of the growing wealth of a nation, and thus his *Political Anatomy of Ireland*

(written in 1691) gives a great deal of space to calculating population from the very patchy information available, frequently relying on estimates of births and deaths.

**But it is clear from Petty's work that not all lives 'count' the same.** Because his study of population and population increase is motivated by concerns about productivity and wealth, he distinguishes between those capable of work, or women capable of childbearing, and those who are not 'productive', effectively 'subtracting' from his totals the elderly and infirm, and children 'not fit for labour'. **Sectarianism** was also embedded in the thought of the period, and Petty's figures therefore also include estimates of the numbers of Catholics, Anglicans and dissenting Protestants in Ireland, not only in the interests of accuracy, but also because Catholics were generally regarded as lazier and less productive.

The **confluence** of statistical science with sectarianism and colonial ideas of productivity and value that we see in Petty continued into the 18th century. In his *Essay on the Trade and Improvement of Ireland* (1729-31), for example, Arthur Dobbs attributes population growth in Ireland to the impact of King William's victory over James II at the Battle of the Boyne in 1690 and the consequent safeguarding of Protestant rule. However, the facts were not in Dobbs's favour: a combination of financial instability and poor harvests in the 1720s led to great hardship and localized famines in Ireland.

It was the gap between the **rhetoric** of writers like Dobbs, and the actual facts of poverty and hardship that prompted Jonathan Swift to write his savagely **satirical** *A Modest Proposal* in 1729. In what appears at first to be a pamphlet on ways to 'improve' Ireland economically, Swift declared that Ireland was an **anomaly**, because it was a country in which an increase in population did not signal wealth, but in fact lead to even greater poverty.

The solution, or 'modest proposal', that he outlined was simple: to reduce the population and address poverty, the poor should be encouraged to sell their infant children to the rich as food. Swift's pamphlet is astonishingly **prescient** in the way it identifies the potential for dehumanization that lurked within the new 'scientific' methods for counting and categorizing people.

Since the start of the pandemic, we have been confronted with the uncomfortable **implications** of similar forms of arithmetic. Deaths are categorized by age, and by 'underlying condition'. These categorizations are essential to understanding how the disease works, and who is most at risk, but the focus on the relatively low risks to the younger and healthier seems to suggest that some lives are less valuable, and some deaths less significant.

William Petty pioneered the use of statistics as a vital form of knowledge, but his work also reveals that there are no such things as simple or neutral facts. The reasons for gathering statistics also shape the knowledge and understanding they offer, and our values play a vital role in the use we make of statistical knowledge.

### **Key Vocabulary/Terminology for you to look up in the Dictionary:**

Epidemiologists	Empirical Reality	Polymath	Ordnance Survey	Erasure
Anglicized	State Coffer	Sectarianism	Confluence	Rhetoric
Anomaly	Prescient	Implications		Satirical

### **Questions**

1. How does the author's presentation of the idea that **"framing of death and disease in terms of numbers, rather than individuals, is also problematic"** help us to understand the possibilities and limitations of **Quantitative 'vs' Qualitative** Analysis?
2. Do you agree with the author's assertion that: **"it is very tricky to separate supposedly neutral 'facts' from ideological controversy"**? Justify your answer with reference to the author's argument and your own perspective/learning?
3. How does the author define Petty's idea of "Political Arithmetic"? (Weave her quotations into your answer)
4. How does the author criticize Petty's 'Methodology', specifically her claim that **"it is clear from Petty's work that not all lives 'count' the same"**? Cite evidence from the article in your answer.
5. How do we know that the suggestion of Jonathan Swift in his work A Modest Proposal (1721) is really a satirical proposal?

### **Longer Answer (50 Marks)**

*Is the author successful in using this 'historical perspective' to improve our understanding of how data and statistics are used during the Covid-19 Pandemic? Justify your answer based on the article and your own learning.*