

The I-CeM Occupational Matrix

Background

In the original British census returns for the period 1851 to 1911 there are a vast number of terms for describing occupations or professions. Indeed in the I-CeM dataset there are over 7 million individual occupational strings. Some of these are permutations on the same occupation – ‘agricultural labourer’, ‘ag. labourer’, ‘Ag. Lab.’, ‘labourer in agriculture’, ‘farm labourer’, and so on. However, some distinct occupations are just obscure – ‘bulldog burners’, ‘dung boys’, ‘fat lads’, ‘cuppers’, and so on.¹ In order to make sense of this data, historians and social scientists have grouped occupations under certain general headings, which are seen as being part of distinct industrial sectors.² The term ‘clergyman’, for example, groups together persons from very different religious groups. The problem is, of course, that scholars have used rather different classification systems to arrange these groupings, which makes comparison difficult. Plainly, all such classification systems reflect the concerns and assumptions of those creating them.³

Rather than adopting one of the existing occupational classification systems, or creating a new one, when coding the raw occupational data in the I-CeM dataset (the OCC variable) the decision was taken by the I-CeM team to use the occupational classifications systems in the *Census Reports* for 1851 to 1911.⁴ The General Register Offices in both London and Edinburgh faced exactly the same problems as modern social scientists in trying to reduce the millions of occupational entries in the census returns to manageable tables that could be presented to the public for information.⁵ To do this they created their own occupational classification systems, and then created occupational dictionaries to show the census clerks abstracting the data from the returns under which classification heading individual occupational terms should be placed.⁶ Of course, these classification systems changed every decade, and there were

¹ Edward Higgs, ‘What do you do with a bulldog burner? Classifying occupations in the British censuses, 1841-1911’, *BBC History*, 12(3), 2011, pp. 50-5.

² Dennis Mills and Kevin Schürer, *Local Communities in the Victorian Census Enumerators' Books* (Oxford : Leopard's Head Press, 1996), pp. ???

³ Edward Higgs, ‘The linguistic construction of social and medical categories in the work of the English General Register Office’, Simon Szreter, Arunachalam Dharmalingam and Hania Sholkamy (eds), *The qualitative dimension of quantitative demography* (Oxford: OUP, 2004), pp. 86-106.

⁴ For the references to the *Census Reports* see Section 3 of the *I-CeM Guide*.

⁵ Edward Higgs, ‘The State and Statistics in Victorian and Edwardian Britain: Promotion of the Public Sphere or Boundary Maintenance?’, in Tom Crook and Glen O’Hara (eds.), *Statistics and the Public Sphere: Numbers and the People in Modern Britain, c. 1750 – c. 2000* (London: Routledge, 2011), pp. 67-83.

⁶ For an example of an occupational dictionary see that used in 1881 on the HistPop website: <http://tinyurl.com/c28gzcb>.

differences between those used in England and Wales, and in Scotland. However, the shifts in the classifications were gradual, and there are enough similarities in the general structures of the classifications over time, and between the two General Register Offices, to treat them as a single body of work in progress.⁷ It has been possible, therefore, to create a matrix in which the position of broadly defined occupational groupings can be shown in each of the census classifications in each of the census years.

The census classification tables in the *Census Reports* in the period 1851 to 1871 were arranged in a three part structure -occupational heading were placed in 'Suborders', which were placed in broader 'Orders', which were placed in still broader 'Classes'. Thus, in 1861 all clergymen were in sub-order 1, of order 3 ('Persons engaged in the Learned Professions or engaged in Literature, Art and Science'), which was part of the Professional class (class 1). From 1881 onwards the classes disappeared but the tripartite structure survived in that occupational headings in the sub-orders could be numbered. Thus, all occupational headings in the census classification systems can be reduced to a code representing orders, suborders, and headings in any census year in the matrix– two-part in the years 1851 to 1871, and three-part in the later period. All clergymen in England in 1861, for example, have the code 0301, and it is the same in Scotland. From 1881 onwards the I-CeM Matrix code goes down to a finer level distinguishing the clergy of particular denominations – thus Roman Catholic priests in England and Wales in 1911 are in 030102. The Scots in 1911 complicated matters a little by numbering all occupational headings consecutively from 1 to the end, thus partly over-riding the order/suborder structure. In Scotland in 1911, therefore, Roman Catholic priests are 030114. In the Matrix the classification codes for the positions in the census tables of each occupational heading for each year/country is given as a row. Thus Roman Catholic priests are represented as follows:

1851		1861		1871		1881		1891		1901		1911	
E&W	S	E&W	S	E&W	S	E&W	S	E&W	S	E&W	S	E&W	S
0301	0301	03010301	0301	0301030102	030105	030102	030105	030102	030104	030102	030114		

This is row 29 in the Matrix, so in the I-CeM dataset all Roman Catholic priests have an OCCODE variable value of 029.

Use

The resulting I-CeM Occupational Matrix [\[hypertext link\]](#) allows researchers to identify where in the classifications for each year for England and Wales, and for Scotland, an occupational heading fell. The Matrix can also be used to organize data downloaded from the I-CeM dataset according to the occupational classification systems used in any particular census year. One could, for example,

⁷ For a general consideration of the development of the census classification system in England and Wales see: Matthew Woollard, 'Historical conceptions of occupations through use of classification schemes, 1662-1921', Thesis (Ph.D.), Dept. of History -- University of Essex, 2005.

download all people in a particular county in 1871, and order the OCCODEs according to the census classification system in 1881. Alternatively, one can identify from the Matrix the OCCODEs of all persons who can be described as following a religious vocation (028-036), and use this to download this particular group from the I-CeM dataset.

Problems

An exercise of this type is bound to throw up anomalies. Some occupations only come into existence at particular dates, and their retrofitting into past census classifications can be somewhat artificial. Thus 'electricians (undefined)' only appears in 1911, and has to be linked in the Matrix with its nearest equivalent in previous years, such as 'electrical apparatus maker' in 1901. This is in the sub-order for 'watches and philosophical instruments' in that year, so electricians are put in this order in the Matrix in 1851. In a sense this is not much of a problems because, of course, there will be few electricians appearing in the census returns for the latter year. Similarly, old age pensions were only introduced in Britain in 1908, so the term 'old age pensioner' has to be subsumed in the category for other pensioners in previous years.

Some occupational terms, such as 'crofter' only appear in the Scottish classifications, so the Matrix subsumes them into 'farmers, graziers' in the classification systems for England and Wales. At least one occupational term found in the census returns, 'prostitute', is totally absent from the census classification of the Victorian and Edwardian periods. This has been linked to the 1911 heading 'others' in the suborder for 'Persons without specified occupations or unoccupied', and so on.

Yet despite these issues, the I-CeM Occupational Matrix has enough internal consistency to be a useful research tool.

Construction

The construction of the I-CeM Occupational Matrix has been a collaborative process. The original work for the Matrix was undertaken by Schürer and Diederiks for the years 1851 to 1921.⁸ This was adapted for by Nicola Farnworth, and work on incorporating the Scottish classifications was done by Michael Goodrum. Lisa Gardner identified some problems with the occupational headings, and Edward Higgs synthesized the results of all this work.

⁸ Schürer, K, and Diederiks, H, (eds) *The Use of Occupations in Historical Analysis* (St Katharinen, 1993).