COUNTING AND CALCULATING: SOME REFLECTIONS ON USING STATISTICS TO EXAMINE THE HISTORY AND SHAPE OF THE COLLECTIONS AT THE PITT RIVERS MUSEUM

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Introduction

In an earlier contribution to this journal, I provided a brief introduction to the ESRC-funded 'Relational Museum' project at the University of Oxford's Pitt Rivers Museum and an overview of the field collectors who contributed to the development of the museum's collections between 1884 and 1945 (Petch 2004). In a presentation to the Museum Ethnographers Group conference in 2005, I presented more of the findings of the project, in particular some of the statistics that have been generated. Here I provide an overview of the kinds of statistical work that has been undertaken during the project and draw attention to the new research resource that is now available on the web for anyone to use, at < http://history.prm.ox.ac.uk/ >. I also take the opportunity to reflect a little on the production and use of such statistics.

The 'Relational Museum' Project

An ethnographic museum's collections are created through a mass of relationships between the people who originally made and exchanged the objects, the collectors of the objects, and the institution in which they are held. The aim of the 'Relational Museum' project was to chart the nature of the relations that created the Pitt Rivers Museum through an analysis of the history of its collections between 1884 and 1945. In order to understand both the past and the present of a museum it is necessary to understand these relationships. The past links between producers/users, collectors, and museum staff can tell us much about the histories of the people who made the objects, the intellectual and personal histories of those doing the collecting, and the institutional history of the museums in which they now reside.

The project concentrated on six major collectors, each of whom was important both to the development of anthropology in this country and to the history of the museum, to throw light on the present significance of the museum's collections. The selected collectors were Augustus Henry Lane Fox Pitt Rivers (1827–1900), the

donor of the museum's founding collection; Edward Burnett Tylor (1832–1917), the first lecturer in anthropology at a British university, specifically appointed in fulfilment of one of the conditions of the founding donation; Charles Gabriel Seligman (1873–1940), Professor at Anthropology at the London School of Economics, who undertook significant field research in Melanesia, Sri Lanka, and the Nilotic Sudan; Henry Balfour (1863–1939), the first Curator/Director of the museum, who worked there from 1884 to 1938 and amassed significant collections of his own, which he later donated and bequeathed to the museum; Beatrice Blackwood (1889–1975), a University Demonstrator in Ethnology at the museum for many years, who carried out fieldwork and made large field collections in North America and the Pacific; and finally John Henry Hutton (1885–1968), an Indian Civil Service officer who donated a very large Naga collection from north-east India.

In addition to the statistical analysis of the collections that I focus on here, the selected collectors' lives, careers, and collections have been examined in detail, as has the history of the museum itself, and—in relation to this—the wider history of anthropology in Oxford. As appropriate, we also sought out further information about other field collectors, other owners, and other sources associated with the selected collectors' collections. Archival and library research was undertaken at the museum, at various other institutions within the University of Oxford, and at a number of other institutions including the Cambridge University Museum of Archaeology and Anthropology, the Cambridge University Library, the Salisbury and South Wiltshire Museum, Birmingham Library, and the Royal Geographical Society.

Overview of the Statistical Research

The statistical analyses carried out as part of the project were made possible by the fact that the primary records for all the museum's object collections had been retrospectively computerized before the project began.[1] Indeed, the fact that all the records had been computerized and thus available for statistical analysis was one of the inspirations for the development of the 'Relational Museum' project in the first place. The statistics were prepared using a version of the museum's collections-management FilemakerPro database for all the objects accessioned up to and including 1945. Most of the analysis was of a very basic kind allowing graphs, charts, and tables to be produced using Microsoft Excel.[2]

We tried to guard against potential biases in the statistics by asking standard questions for each geographical area and for each named collector. For the geographical statistics, we calculated the total number of objects from each continent, each region, and each country and broke these figures down into archaeological, ethnographic, and undetermined objects. We then broke these figures down decade-by-decade and by type of object.[3] We looked into how the figures correlated with the colonial status of the regions/countries vis-à-vis the United Kingdom and how

they compared with each other. We also tried not to ignore the particular, paying attention where we could to statistics that seemed relevant to the geographical area in question even when they seemed to be specific to that area alone. We also looked at how all these figures might correlate with different types of collectors, such as colonial officers, missionaries, anthropologists, archaeologists, etc. Similarly, for the statistics relating to individual collectors, we investigated the total number of objects donated and/or bequeathed by the collector and then broke these down by whether they were archaeological, ethnographic, or undetermined; also by continent, region, and country. We then broke these figures down decade-by-decade and by type of object.[5]

These were the sorts of questions we regarded as being the most likely to provide statistics that would be useful in furthering the project's key areas of investigation. In each instance, the questions were answered in full so that there is consistency between each set of statistics. Of course, additional statistics have been compiled as circumstances dictated. An invitation I received to participate in 'Collecting Aretfacts, Acquiring Empire: A Maritime Endeavour', a workshop held in May 2005 at the National Maritime Museum (in association with the Pitt Rivers Museum and the British Museum),[4] led me to compile a set of statistics relating to donations by men of the Royal Navy. For other reasons, a much more detailed statistical analysis of the stone-tool collections has also been carried out.

One of the first set of questions we asked related to the broad geographical provenance by continent of the collections. These showed that, for the period up to 1945 Africa was the source of the largest number of objects (26%), with Europe a close second (23%) and Asia a close third (22%), followed by Australia (10%), Oceania and the Americas (9% each), and 'Unidentified' (1%). When only the archaeological collections were included in the analysis, a different picture was produced, with Europe being the source of the largest number (43%), followed some way behind by Africa (31%), then the Americas (11%), Asia (10%), and Australia (4%). When only the ethnographic collections were included, Asia turned out to be the source of the largest number of objects (33%), followed by Africa (27%), Oceania (15%), Europe (14%), the Americas (8%), and Australia (3%).

Further statistical analysis was carried out into the collections from each continent, to illustrate which I have chosen the figures for the Australian collections. Of the collections from Australia up to 1945, 14% had been recorded on the computer as 'definitely' archaeological and 13% as 'definitely' ethnographic, while 73% were recorded as either archaeological or ethnographic. Moreover, 86% of all the objects from Australia were recorded as stone tools and 82% recorded as being from Tasmania, the explanation for this being the acquisition in 1940 of Ernest Westlake's collection of more than 13,000 Tasmanian stone tools, this collection representing 71% of the Australian collections accessioned by the museum up to 1945.

A further set of questions were asked about the collections donated and bequeathed to the museum by the six selected collectors, the statistics produced being used to compare and contrast their collections. In addition to the broad

questions outlined above, we investigated whether there were other objects in the collection from members of the same family as the selected collector. Unsurprisingly, perhaps, in order of size, Pitt Rivers was the source of the largest number of objects, having donated—as the founding collection—17,802 objects of which he is recorded as having field-collected/excavated 4,464 objects. In addition, he is recorded as being a previous owner of one further object, making a total of 17,803 objects.[5] The second greatest source of objects for the museum was Henry Balfour, who donated or bequeathed 12,709 objects, of which he field-collected/excavated 9,716. He is also recorded as the previous owner of a further 23 objects, making a total of 12,732 objects. C. G. Seligman was recorded as having donated/bequeathed 4,882 objects, of which he field-collected/excavated 4,625, as well as being as being the previous owner of a further two objects, making a total of 4,884. Tylor was recorded as having donated/bequeathed 1,419 objects, of which he field-collected/excavated 982, as well as being the previous owner of a further 2,906 objects, making a total of 4,325. Blackwood was recorded as the source of 12,709 objects, of which she field-collected/excavated 9,716, as well as being the previous owner of a further 23, making a total of 12,732. Finally, Hutton was recorded as the source of 3,520 objects, of which he field-collected/excavated 3,369, as well as being the previous owner of a further 26, making a total of 3,546. Of all the collectors represented in the museum's collections, Henry Balfour field-collected more objects than anyone else in the period up to 1945, Ernest Westlake (who is not one of the project's selected collectors) collected the second largest number.

The analysis of each collector's donations by continent revealed that Balfour's, Pitt Rivers's, and Tylor's collections contained objects from every continent: Balfour's collection comprising 52% from Europe, 22% from Africa, 15% from Asia, 7% from the Americas, 2% from Oceania, and 1% from Australia; Pitt Rivers's collections comprising 58% from Europe, 14% from Asia, 9% from Africa, 8% from the Americas, 7% from Oceania, and 2% from Australia; and Tylor's comprising 34% from Australia, 22% from Asia, 19% from Europe, 16% from the Americas, 7% from Africa, and 1% from Oceania. Blackwood's collections were heavily biased towards Oceania (71%), with the Americas (15%) and Europe (13%), taking up the rest of her collections, Asia being only 1% and Africa and Australia not registering statistically at all. Similarly, Seligman's collections were heavily biased, in his case to Africa (72%), with Asia (13%), Australia (6%), Europe (5%), and Oceania (4%) accounting for the rest and the Americas not registering. Hutton's Naga collections accounted for almost the whole of his collections, with 99% of his collections coming from Asia and 1% from Europe.

The examples I have discussed are, of course, only a very few of the many statistics generated by the project. In and of themselves, they tell us little. Rather, they are best regarded as no more than suggestive jumping-off or starting-points for further research, both internally within the museum and externally as they are made available to the research community through the project website and related publications. Even as starting-points, however, they need to be reliable. So how reliable are they?

Critique

In beginning to think about the reliability of the statistical information generated by the project, I could not escape the nagging doubts expressed in a number of well-known sayings. If one looks up 'statistics' in a dictionary of quotations one's doubts are immediately confirmed. Most famously, Benjami Disraeli remarked that 'there are three kinds of lies: lies, damned lies, and statistics', while others have made similar points, perhaps more subtly: Mark Twain remarked that 'facts are stubborn things, but statistics are more pliable', while the American humourist Evan Esar described statistics as 'the only science that enables different experts to use the same figures to draw different conclusions', and Jean Baudrillard concluded that 'like dreams, statistics are a form of wish fulfillment'. More systematically, the compilers of a BBC website set up to help people understand statistics (BBC 2003), suggest that the following points be borne in mind when reviewing any statistics: 'Where did the data come from? Who ran the survey? Do they have an ulterior motive for having the result go one way?' and 'How was the data collected? What questions were asked? How did they ask them? Who was asked?' They also warn the prospective user to, 'Be wary of comparisons. Two things happening at the same time are not necessarily related, though statistics can be used to show that they are.' Finally, they advise the user to 'Be aware of numbers taken out of context. This is called ''cherry-picking'', an instance in which the analysis only concentrates on such data that supports a foregone conclusion and ignores everything else.'

The accuracy of all statistics is, of course, linked inextricably to the precision of the data upon which they are prepared. This is the first, and largest, problem with all statistics, the present ones included. As I have pointed out previously (Petch 2002, 2003, 2004), the primary documentation of the collections at the Pitt Rivers Museum is generally agreed to be of a very high standard, with most objects being associated with a good deal of information. However, there are still many objects for which the museum holds little or (almost) no information. This is not unusual for a museum of the age and size of the Pitt Rivers, but it is a fact that needs to be taken into account when assessing the value of statistical analyses.

For example, there are still approximately 100 'bulk' entries in the database for the object collections. An example chosen at random—the first to be found on the database—is provided by the computerized record for PRM 1954.6.36, which contains no more information than was provided in the original accession book entry: 'Graham Hutton…. Objects obtained by him in 1939 in Mexico.—Valley of Mexico, Teotihuacan culture. Box containing flake-knives of obsidian (or portions of them) & other pieces of worked obsidian.' While ongoing work by collections staff continues to reduce the number of these unsatisfactory entries, which give little clue to the actual number of objects covered, it is difficult to envisage the number of them being reduced to zero in the near future—at least not without special funding.

There are also a large number of objects the data for which is not sufficiently clear to be regarded as truly accurate. Many objects in the founding collection, for

example, are insufficiently provenanced. An example, again chosen at random, is provided by the record for PRM 1884.7.28, again based on the accession book entry: 'Primitive Food etc. Vessels (Substitutes for Pottery) Double gourd (figure of 8-shaped) ?Africa'. Some others are *confusingly* provenanced, such as PRM 1884.19.217: 'Weapons Spears Darts Spear, all of forged iron ?India or East Africa Sale no 346'.

Moreover, the circumstances in which objects were originally found is too often not described, making it particularly difficult to assess whether some items should be classified on the database as archaeological or ethnographic. This is particularly true for the stone tools brought from Australia in the late nineteenth century. At this time, some Aboriginal people continued to use stone but most had begun to use metal or glass instead. Also, at the time many collectors carried out amateur excavations as well as retrieving surface finds and obtaining objects directly from Aboriginal people. Very few of the Australian stone tools in the museum's collections came with detailed information about how they were collected. The absence of such information can mean that the very nature of the object may have to be regarded as unclear, for the time being at least.

Conclusions

So, on reflection, what do I think of the project's statistics? On balance, I have concluded that the statistics are of great value, especially if in using them one bears in mind the sort of caveats outlined above.

With regard to the first point raised on the BBC website, I hope that I have made clear above the methodology adopted in the project, while with regard to the second I trust that my explanations in previous contributions to this journal as to how the databases used to compile the statistics were prepared (Petch 1999, 2000, 2002) should set at rest any undue concerns. The third point does not seem to me to apply in the present case, while the 'cherry-picking' is of course just what we have had to guard against in preparing the project monograph, while all users of the statistics, whether members of the museum's staff or of the wider research community will need to do so as they make use of the resource that the project has created.

There are, of course, many uses to which the statistics could be put (in addition to those to which the 'Relational Museum' project itself has already put them). First, they provide overviews of the collections that are just not obtainable by any other means, thus allowing members of the general public, visitors, and researchers to understand the museum's collections a little better. Secondly, if other museums produced similar statistics the possibility would be created for some interesting comparative work. For example, a detailed statistical comparison between the collections of the Pitt Rivers Museum and those of the Cambridge University Museum of Anthropology and Archaeology—a similar institution with a similar history—might yield a great deal of information about the development of museum ethnography

(especially within university museums), patterns of acquisition, and so on. Or, at least, give rise to even more suggestive jumping-off points for further research.

The BBC site concludes, 'Statistics do have a sort of magical appeal. They appear to the untrained eye to be based on complex maths that is difficult to understand. This is rubbish: statistics are easy to create. Accurate statistics are much more difficult to calculate.' In producing statistics about the collections of the Pitt Rivers Museum between 1884 and 1945, my colleagues on the 'Relational Museum' project and I aimed to be accurate and clear. The users of the products of the project, including this article and the project website, may judge the extent of our success.

Acknowledgements

Notes

1. Computerization of object records began at the museum in 1985, retrospective computerization of the earlier records being carried out on a piecemeal, project-by-project basis until 1999–2002 when a grant from the UK government's Designation Challenge Fund was used to complete the task (for further information, see, for example, Coote et al. 2000; Petch 1999, 2002).
2. For examples of the charts, graphs, and tables, see the project website. A moot point that I do not have the space to consider here is the extent to which the presentation of statistical information in graphs, charts, and tables, rather than in prose as adopted here, gives additional—possibly spurious—authority to the figures.
3. Lists of the object names, classes, processes, materials, and other terms currently used in the museum's cataloguing processes may be found in the relevant section of the museum's website at < http://www.prm.ox.ac.uk/databases/ >. These draw, of course, on those developed earlier in the history of the museum by Beatrice Blackwood and others (Blackwood 1970).
4. For an account of this workshop, see Janet Owen's report elsewhere in this issue.
5. It should be noted that the total number of objects in the founding collection is yet to be finally established. The collection was not systematically recorded until the 1920s (Blackwood 1970: 14–15; Coote et al. 1999: 65), and even then a number of objects were 'missed'. As a result, 'previously unentered' objects continue to be identified during ongoing inventorying work.

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