History and Statistical Analysis: A case study

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In my historical work, I am an occasional, or perhaps even accidental, user of computerized statistical analysis. My level of competence in this area can be best conveyed by the fact that I first met my colleague, Chuck Humphrey, of the University of Alberta, when I walked into his office and told him that I had copied the records of 14,000 French mental patients. I then asked whether he thought that I could analyze them using index cards. I was fortunate to find an expert who understood what I was trying to do with my data and who could make the computer work for me.

Historians have long been reluctant to engage in extensive statistical analysis, which they often dismiss as "number-crunching." In part, their reluctance stems from a genuine fear of obliterating the particular and the personal—aspects that, for many of us, are an essential part of history. Obviously, however, this reluctance also stems from ignorance or fear of the technology and methodology.

The field in which I am now working—the social history of medicine or, specifically, the social history of madness—illustrates how slowly historians can turn to computerized statistical data. This is a relatively new field and until seven or eight years ago, most people in the field concentrated on the analysis of historical documents, particularly the writings of doctors, using many of the theories about power inspired by Foucault and sociologists. A primary interest has been the nineteenth century psychiatrist hospital, or asylum,or "madhouse". It has been seen as the symbol of social control, of the ways in which the bourgeoisie in general and psychiatrists (or "mad doctors") in particular deflected any challenges to their power by labelling it as deviation.

But, as a number of historians in different countries began to point out, much was being theorized about the asylum without any detailed evidence of how it functioned or whom it supposedly controlled. For the past few years, a small number of studies have emerged which look at asylum records and try to understand the complex functioning of this institution. These studies , although few in number, have already begun to challenge many of the predominant theories about the asylum and about nineteenth century psychiatric medicine. Most of these studies contain some statistical analysis, although even historians of the asylum are still cautious in this respect.

My own research is the study of a Parisian asylum, Sainte- Anne, from its opening in 1867 as the first of the new model asylums, until the end of the First World War. Sainte-Anne may not be a typical asylum—although no one is sure now what a typical nineteenth century asylum was. Like most public asylums in the nineteenth century, it was for the poor, in this case the working class and petty bourgeois of Paris. Sainte-Anne was, however, the only Parisian asylum that was not in the suburbs, but the city itself—an important factor in considering the relations between families, the asylum and the psychiatrists. It was also the teaching hospital for the Faculty of Medicine of the University of Paris and its doctors were among the most eminent in France.

The nineteenth century asylum generated masses of printed statistics— in fact the main occupation of nineteenth century medical institutions seems to have been the compilation of statistics. This is not only a reflection of their institutional character but of the fact that by the end of the nineteenth century doctors seemed to be more interested in the diagnosis, or rather the classification, of mental illness than in its treatment. Data on mental patients became an important means of both refining and justifying their classifications.

But, of course, much of the published statistical material is not useful today because we ask different questions. To give some specific examples, the asylum recorded and printed extensive statistics on the occupations, marital status, age, sex, and diagnoses of their patients but always in separate charts, so that it is difficult to make any correlations. (For example, we know how many single women were interned, and how many employees, but not how many single women employees.) They recorded the length of stay of those admitted for the first time (probably with a view to giving a rosier picture of cure rates) but not of those who had been readmitted, although readmissions constituted a significant proportion of their patients. In the printed statistics, there is no correlation between diagnosis and length of stay, or between length of stay and result of treatment (i.e. death, transfer or release). So, for example, it is impossible to tell from the printed records whether a male depressive

would stay as long as a male alcoholic or a female depressive and what chances each had of release. Thus, while the printed material is sometimes useful for verification, it was essential for me to compile my data from the original records.

These records are the Registres de la loi, the legal register that must be retained permanently for every patient admitted to psychiatric hospital in France. They are highly confidential documents and even today are not computerized because the French have very strict legislation about privacy of 'information. (Today, a clerk enters the details by hand; in the nineteenth century it was often mental patients who did this work.) The Registers give the basic demographic data on each patient— age, occupation, marital status— as well as date of entry, date of exit, legal status, and result of treatment (ie death, transfer or discharge.) There are also three diagnoses for each patient: an admitting diagnosis, a diagnosis after 24 hours and a diagnosis after 2 weeks. Usually, the diagnoses are by different doctors. The records often contain incidental information on the circumstances under which the patient was interned (e.g. as a result of a suicide attempt, family violence, or strange behaviour) and sometimes some observations of the patient's behaviour while interned.

I have selected the Registers only for Sainte-Anne itself. The hospital also had an Admissions Bureau which saw almost every patient that was interned in the Paris region. The patients came through this Bureau and were sent on to the various Parisian asylums. Approximately 3000 patients per year passed through the Bureau of Admissions and their records are intact, including many of their medical files. To collect the data, would, however, be an immense project that could only be undertaken by team effort. My data come from the patients that were transferred from the Admissions Bureau to Sainte-Anne itself. The asylum was built for 500 patients, but by the 1890s usually held about 1000 patients. I have transcribed the registers for every second year from 1867- 1927, for a total of 14,000 patient records. This sample is considerably larger than in comparable historical studies of public asylums, which usually select only certain years. I collected such a large sample in part to deflect criticism that my sample would be unrepresentative, but also because I felt that with a larger sample I could begin to ask certain questions about internment patterns that could not be asked with a smaller sample. Even now, I have certain problems; for example, I have only 238 cases of senility for the period 1873-1913 and so for some of the detailed analysis, my sample is extremely small.

Of course, even on the basis of selecting every second year, my sample is not complete, because certain registers could not be found. The registers are stored, in a very disorganized fashion, in a basement room, lit by a 40 watt bulb and covered in dust and rat poison (The basements of Sainte-Anne connect with the catacombs of Paris.) With the help of a hospital worker, or occasionally, a patient, I had to haul these large registers up from the basement. I simply did not find all the years that I wanted. Or, as often happened, since one year would be spread over several registers, I would find only part of a year. The registers were also difficult to read, because, apart from the dust and yellowing paper, the ink had faded and the handwriting was not always decipherable.

Although these registers offer some very difficult problems of interpretation, they are an important source for the type of social history that I am trying to write. My goal is to write a book on the asylum as a social institution, i.e. as part of a specific historical community. I want to understand what roles this medical institution played in the lives of families, patients, nurses, and doctors.I want to understand what power these different groups had and how they interacted. The statistical data is merely the beginning of my analysis. The data, in some cases, will give me specific answers, but in most cases, it will direct me to the nonstatistical literature.

For example, analysis of the statistical data is helpful simply to clear away some of the myths about the nineteenth century asylum and to establish who got interned, for what diagnosis and for how long. Social historians of medicine, who have read only the qualitative material, have postulated that the asylum was the dumping ground for the " inconvenient" in society, those who simply did not fit into the developing industrial society. Patients in public asylums were certainly not middle-class, but as the analysis of occupations at Sainte-Anne shows, neither were they the dregs of society. There were very few labelled as "vagabonds"(1.5%) and in fact, most gave their occupations as skilled workers (carpenters, seamstresses, etc.) or as employees.(43% and 16% respectively, but the figure is probably higher if one counts part of the 17% who were women listed as " no occupation and who are usually the wives of skilled workers or employees.) The proportion of unskilled workers, such as day labourers or domestic servants, in my data was only 14%. (Again if wives are counted, it might be higher.)

It is also clear that, once inside the asylum doors, patients were not necessary doomed to perpetual confinement. After about 1860, there was a great deal of political and public hostility toward asylums, which were labelled as "modern Bastilles", where people languished in unjust internment. Although doctors certainly had extensive legal powers, an analysis of the length of stay of patients over 40 or 50 years paints a more complicated picture. At Sainte-Anne, in the period up to the First World War, about 45% of all patients were released, 30% died and

25% were transferred. The length of stay for those who were released is shorter than one would expect.

Release:	25%	50%	75%
all :	40 days	94	220
cut to : 800 days :	36	78	162

Of course, these statistics can only be interpreted by relating them to the diagnoses. For example, the 30% death rate, which was higher for men than for women, is directly related to the high number of male patients interned for general paralysis, the third and fatal stage of syphilis . (General paralysis made up 22% of male internments. Eighty-Seven % of GP cases were men and the death rate at the asylum itself was about 75%.

The analysis of the data is useful simply to give some idea of how patients were diagnosed and, although my analysis of this aspect is not finished, there seem to be fairly discrete diagnosis, with not too much overlap. The most common diagnoses were general paralysis , alcoholism, depression, persecution and old age in various forms. It is revealing to compare what doctors faced in the asylums— quite often what they would label " banal" or "uninteresting" problems— and what they discussed in their medical literature, which was usually the unusual, exotic or, as they said the " interesting".

The question of what interested doctors can be approached in another way through the data, for I have records not only from the asylum itself, but from the teaching clinic at Sainte-Anne. By comparing the patterns of diagnosis of the asylum and the clinic, I hope to make some deductions about what interested doctors and how comprehensive an education medical students received.

Aside from giving certain basic information about who was interned and why, the data can also begin the process of answering some of the questions about the role of families in the whole process of internment. One of the important aspects of the data is that admissions were divided into two types. The first was placement officiel (PO)—a legal internment which involved police action. Usually the person was taken to the local police station and then to the police dispensary, where a police doctor made the final decision as to whether the person would be sent to the Bureau of Admissions at Sainte-Anne. But by the 1880s, there was a second type of admission, the placement volontaire (PV), which allowed families and even friends to intern someone without going through the police, although this involved paying the internment expenses in most cases.

The PV admissions will give some insights into family behaviour, that is, what behaviour was considered so unacceptable or intolerable as to lead to internment and, conversely, under what conditions would families request the release of patients. This is not to imply, of course, that family decisions were not involved in placement legal. It is clear from the records that a number of families, presumably the poorer ones, would simply call in the police to deal with an intolerable family situation, such as an alcoholic father or a senile elderly relative. But the PV admissions give much clearer evidence of the family's role because they usually indicate who interned the patient (a mother, spouse, friend, etc.) . Also, because a patient interned "voluntarily" could be released at the insistence of a family member, even if the doctor objected, these files give some insights into the complex relationship between doctors and families.

One good example of family power comes from an examination of data on patients who were transferred. Transfer of patients from Sainte-Anne to more distant asylums became increasingly necessary as the asylum became overcrowded in the latter part of the nineteenth century. Transfers were strongly resisted, both by patients and families, because it usually meant transfer to poorer care and at a distance that made family intervention impossible. My analysis of length of stay shows that PV patients stayed considerably longer (i.e., in terms of years) than PO patients before they were transferred and that, significantly, this pattern was true for both men and women. I would argue that here is a clear indication of effective family influence.

A third aspect that emerges from the analysis of the data is the gendered nature of the asylum. Although feminist historians have speculated a great deal about the tendency to label women as mad if they did not conform to societal norms, there has been relatively little analysis of the asylum from the point of view gender. Again, statistical analysis is useful to clear away some myths. Women, for example, were not interned more frequently than men, nor did they have a lower release rate. But, they did stay longer and consequently, they had a higher rate of transfer. These differences are clearly related to different patterns of diagnosis. Women and men, on the whole, were diagnosed differently. The clearest example is between alcoholism and depression. Nearly 30% of the men, but only 10 percent of the women were diagnosed as alcoholic, whereas approximately 30% of the women were diagnosed as depressive, and only 10 % of the men. Men and women therefore had different experiences in the asylum. Why women were labelled as depressive and men as alcoholic is a question that cannot be answered by the statistical data, of course, but can only be explored by examining more traditional written sources.

This is my first foray into this type of analysis and I clearly have much still to learn. (Although I now admit

the superiority of the computer over index cards!) I wish that I had had some idea of the possibilities of computer analysis before I began to collect the data, but that was impossible. I obtained access to these records purely by chance; I recognized the their richness in terms of social history, but I simply had to trust that I would eventually find the right people and the right techniques to help me use the data. Whether I will ever use this type of analysis again will depend on the research project. My real problem now is to integrate this statistical analysis into a broader, more traditional narrative and to convey this analysis effectively to my audience of historians, who for the most part still skip the statistical sections in any book.

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