

**“Does it matter if the users are actually dead?”  
A database to reconnect with the borrowers and collection  
of a hundred year old library**

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***Abstract:***

*This paper describes the development of a database to facilitate research into 19<sup>th</sup> century library management practices and borrower behaviour in Bendigo, Australia. The database schema was designed to reflect the cataloguing and numbering systems utilised in the library in the 1880's. The schemes proved surprisingly versatile and effective in a database environment, and worked well to both illustrate and model the organisation of the library and to manage the data in a modern database.*

## Introduction

As books go, it is rather nondescript. A green cloth cover worn by a century of shelf-life, library number on the spine, the pages well thumbed and stained from decades of use.

On Tuesday the 20<sup>th</sup> of September 1904, Sidney Myer, a young businessman making his mark in the drapery trade in Bendigo, Victoria, walked into the Sandhurst Mechanics Institute Free Library and borrowed this book - a potboiler of Corsican vendettas entitled *The Isle of Unrest* by Henry Seton Meriman. A busy man, he didn't return it for four months...

We know a lot about Sidney Myer's membership of the library, because in 1904 it was clearly and efficiently recorded, and that data now resides in a database where it can be analysed and studied. The book itself also survives, as part of the Sandhurst Collection at the Heyward Library, La Trobe University Bendigo.

Whether in the twenty-first century or the nineteenth, libraries connect with their users through their systems and resources. This paper reports on a project to develop a database to analyse usage and the collection of the Sandhurst Mechanics Institute and Free Library, and on how the systems of the old library helped in the creation of the database.

The materials which formed the basis of the project are part of a collection which has supported the cultural and educational life of Bendigo for the last one hundred and fifty years.

Technical and tertiary education in central Victoria began with the Sandhurst Mechanics Institute. The organisation began in 1854, with the Free Library starting not long afterwards. The library grew in size and scope throughout the nineteenth century, until the depression of the 1890's saw a drying up of government funding.

The Institute closed in 1904, but the library itself continued for another forty years, as part of the Bendigo School of Mines. The library finally closed in 1946, and the remaining volumes of the collection became the 'Sandhurst Collection' at the Bendigo College of Advanced Education in the early 1980's. This collection consists of about 5500 books and bound volumes of periodicals, as well as substantial lending records from the nineteenth and twentieth centuries.

## Antecedent Projects and Papers

In 2003 a research project, under the auspices of the library research committee, began. The project had two aims. The first was to build a catalogue of the surviving books of the collection. The second was to analyse, in part, the borrowing data which survives with the collection.

A catalogue of the collection has already been developed, and has records for about 1400 of the 5500 volumes of the collection, with the rest being gradually added. The schema for this database is described in the original project report accessible through the La Trobe University library web site. This catalogue can be viewed at <http://library.bendigo.latrobe.edu.au/sandhurst>

A report was delivered on the first part of the project, which explains the database structure of the catalogue, and illustrates the practical collection analysis role which the database fills(Thompson, 2004).

Other papers resulting from this research have explored the historical contexts of the project, and the way in which the books themselves are historical documents that can tell us much about the role the library played in the development of Bendigo (Thompson, 2004).

## **Building the Borrower Database**

### **The Goal of the Project**

The goal of the project is to link the online catalogue of the collection with the database of the borrowing records. Early indications are that the database will reveal how library members behaved as library borrowers and the role the books of the Sandhurst Collection played in the intellectual life of the town.

A number of projects have used borrower data to tell us something of the reading culture of a particular community (Zboray, 1991, Dolin, 2004).This project is different, as it aims to examine how the readers interacted with the library, especially their visiting and borrowing patterns. It will also add to our knowledge of the reading culture of colonial Australia, by revealing what was being read, and by whom, in nineteenth and early twentieth century Bendigo.

In the early 1880's, there would have been approximately 6000 volumes of fiction in the library, out of holdings of approximately 10,000 volumes (Kwazitsu, 1992).The loan figures for 1881 illustrate the emphasis on novels:

<b>Loans for 1881</b>	
Novels, tales and sketches	<b>27,237</b>
All other categories combined	<b>4791</b>

Given these lending figures, the library must have had reasonable systems in place for patrons to find the books they wanted and for the library to control the lending. As this project is partly database development project, partly historical research, the primary sources of data are important.

Given the need for the library to efficiently manage its operations, the primary sources were also seen as possibly revealing approaches to data management which might help in building the database.

## Primary Sources - The Borrowing Records

Loans records, in the form of three ledger books, exist for periods of the years 1880/1881 and for the years 1901 through to 1945. The details for the three ledgers are as follows:

<b>LEDGER</b>	<b>DATES</b>
Ledger 1	9/4/1880-7/5/1880
Ledger 2	18/12/1880-21/4/1881
Ledger 3	4/4/1901-23/4/1945

For the two ledgers from the 1880s, only surnames and initials are used. The variation in handwriting indicates that borrowers may have occasionally entered their own details. No borrower addresses are recorded. The arrangement makes it somewhat difficult to trace issues and returns visually through the ledger.

The ledger dating from 1901 is very much an improvement as a loans system. The name and address head the page and the loan records are clearly laid out with date of borrowing, the author number, the total number, then the date of return, all in neat legible printing. A period of borrowing can be scanned, and outstanding issues are plain to see.

A major advantage of this ledger is that the number is recorded, rather than the title. We may not know what book the number refers to anymore (due to the lack a catalogue for the period), but we can track borrowing behaviour because of the way the numbers refer to author/title combinations. The database has been designed to model the structure of the 1901 ledger.

## Primary Sources - The Printed Catalogues

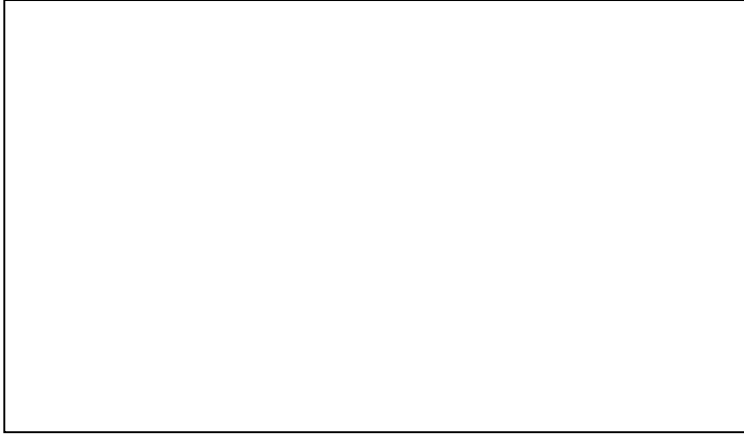
The librarians would organise the production of a printed catalogue every few years. This was a laborious and painstaking process. The production of the catalogues was a major stimulant to the refinement of the numbering schemes, as can be seen by studying the antecedent catalogues and schemes of the library. These schemes are outside the scope of this paper. The catalogues were than sold to subscribers.

## The Book Numbering System

What features would make an efficient numbering system for the delivery of fiction to the readership? It would need to

- facilitate shelf browsing;
- group the works of authors together;
- highlight the new titles as well as authors;
- be comprehensible to both clients and staff;
- be comprehensive in its applicability to the whole collection.

The broad subject divisions used at Bendigo are:



Each book, as it was accessioned in the library, was placed in one of these categories. The most important, by position and range, was fiction.

Within these ranges, each author is assigned a number, alphabetically starting from 1. Around 1880, the library was completely renumbered using this system. Each title for the author was given a suffix number, arranged alphabetically at the time of renumbering.

### **Shelving Arrangement**

For shelf-browsing, the effect of the system would have been clear. Once a number was known then locating the desired books on the shelves would have been simple. New titles would have been obvious by having the highest suffix number.

This orderly arrangement would have been enhanced by the uniform binding practices adopted by the library. Up until the late early 1890's, all fiction was rebound in a brown calf binding which gave the books a uniform appearance and resilience to wear and tear. The call number, title, author and institution name were printed in gold lettering on the spine, which would have given the shelves an attractive, uniform appearance

### **The Role of the Librarian**

The Secretary Librarian (they acted as the secretary to the library committee) was expected to open, maintain and close the library, handle desk transactions, keep the reading room clear of riff-raff, and manage subscriptions. Managing subscriptions included signing up (in some cases soliciting) new members, and more odiously, chasing up debtor subscribers.

In the catalogues of the Sandhurst Institute, the librarian appears on the bottom of the listing of persons connected with the library.

The minutes of the Institute make clear that the important decisions were made by the Committee, and were to be carried-out by the librarian, with little input on his part (all the librarians at Bendigo in the nineteenth century were men).

## The Structure of the Database

The primary key in a relational database is a field which uniquely identifies each record. The primary key linking the tables of the catalogue database is derived from the book numbering system of the old library. In the previous section the numbering system was described, where each author was assigned a number, and each title an incrementing suffix number under each author number.

In the catalogue, the **AUTHOR** file has the author number as the primary key, as it is a unique numeric (sometimes alpha-numeric) identifier. The **BOOK** file has a composite primary key made up of the two fields, the author number and the suffix.

The borrowers' database is composed of three files, linked to the main catalogue database. These files are **BORROWERS**, **FOLIOS** and **LOANS**. The files are designed to reflect the structure of the 1901 ledger described above, and can also be used for the data from the 1880's.

The **BORROWERS** and **LOANS** files are self-explanatory. The **FOLIOS** table links the two, by describing the exact locations in the folio where the borrowers' loans may be found. Loans for a borrower may be spread out over many pages.

TABLE NAME	PRIMARY KEY	FIELDS			
<b>BORROWERS</b>	BORROWERID	NAME	ADDRESS		
<b>FOLIO</b>	FOLIO	BORROWERID	PAGE		
<b>LOANS</b>		DATE	BOOK	DATEIN	FOLIO

The database is in Microsoft Access format. The interface for the catalogue is written in PHP, running on Apache for Windows.

## The Establishment of a Test Data Set

For the borrowers, transactions from the 1901 ledger have begun to be entered. So far loans for one month in 1901 have been entered, representing 53 borrowers and 299 loans. Comparative data for a few days in from the 1880 ledgers is also being entered.

The library was a much busier place in the 1880's, but (or consequently) the data is less tidily presented for transcription than in the 1901 ledger. In the 1880's, there were a hundred or so loans a day, but by the 1900's, there were usually about 600 a month.

The two data sets offer different opportunities. The data for the 1900's will allow usage to be tracked for individual borrowers actively over time, while the 1880's loans figures, while incomplete, represent borrowing during the years when the library was at its most popular.

There is also the opportunity to use the database to compare the borrowing behavior of the same individual twenty years apart. The borrowing records for most of 1880 survive, and many of the same individuals that were borrowing in 1880 re-appear in the early 1900's.

## **Sample Reports**

The combination of Access ad-hoc report generation and the ability to export to Excel spreadsheets provides enormous flexibility when exploring the data.

As at December 2005, there were fifty-three borrowers entered into the database, who were responsible for 299 loans in the month of June 1901. This is a very small sample size, but as the reports below indicate, even that small sample size is sufficient to illustrate the potential of the database.

### **The Borrowers**

The very small sample data supports the generally accepted belief that the library was used in the main by the middle classes, professionals and business people of Bendigo society, for the borrowing of light fiction. These figures are of course for the borrowers A through G, for one month in 1901, so extrapolating too much from the data is unwise (but interesting all the same!).

The top ten borrowers include some names, particularly Henry Birch, who featured in the 1880's borrowing. Demographic data has not been completed, but the borrowers are in the main professionals and businesspeople.

When the loans are broken down by address of borrower, the impression of the library membership is emphasised once again. View St, in the Cathedral area, was a good address, and many of the other streets are in the central business area.

### ***Overdue Books***

Of the 299 loans recorded, thirty one percent or 93 of the 299 were returned after the stipulated 14 day borrowing period. Some of the worst offenders were also the heaviest borrowers. Some books were returned months afterwards. Although the rules of the library state a penny-per-day fine was applicable, income from fines does not appear in the accounts of the Institute.

### **The Books**

From the 299 loans records entered, 163 individual authors emerge. We can quickly ascertain the names of only 80 of these authors, due to the lack of a printed catalogue for the period. The ledger, of course, records only the number, not the title.

The most popular authors are typical popular novelists of the time, with the most popular, Guy Boothby, an Australian. The most popular title, an unknown title by Frederic Moore, was borrowed four times in the month.

In the 299 loans, there were 250 individual titles. Twenty are still in the collection, which is unexpectedly high, considering that of the 6000 or so novels in the library in the 1900's, only about 400 remain. Of those twenty books, the publication dates range from 1867 through to 1900, but thirteen of the twenty were published after 1890. Ninety two percent of the loans were for novels.

## **Conclusion**

Data for the full year of 1901, all the 1880/81 data, and some selected individual data will eventually be input. Analysis will then begin to build a comprehensive picture of borrower behavior and preferences.

In terms of the catalogue, the rest of the collection will gradually be added, and considering the rarity of some of the remaining items, the possibility of digitisation of selected items will be investigated.

As libraries increase the pace of the move away from physical resources and spaces, an understanding of our past becomes important in order to be able to contextualise the present. The ultimate goal of the database project will be to provide us with an accurate picture of library usage from the late nineteenth and early twentieth centuries. In understanding the users and systems of the long-past library, we may gain a better understanding of how far we have developed.

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