

ELSIE

and the Chocolate Factory

Early Dunedin Computers

Dunedin was at the forefront of computing in New Zealand in many ways, and the Museum contains many items from the early years among its collections. The earliest computers were mechanical, but in the early 1960s electronic computers were being installed in the city. There were not many of them, and they were very expensive. Cadbury's was the first, in 1963, followed not long after by the City Corporation and the University in 1964. The introduction of the new technologies had in general a positive impact, both in terms of productivity and, perhaps surprisingly, staffing. There were generally no significant lay-offs of clerical staff, and, contrary to expectations, sometimes staff numbers actually increased as a consequence of computerisation. Many aspects of early computer operations would seem to a present-day observer somewhat amateur; relatively junior technical staff quickly became the experts in dealing with the new technology.

The ICT 1301, an example of which is now in the Otago Settlers Museum collection.

The Dunedin City Corporation was among the first to enter the electronic age. Its first computers, acquired in 1957, had been purely mechanical, using 40-column punched cards. They were used to calculate the rates, together with electricity and gas bills. These could be calculated in less than three weeks, an enormous saving of time. Then in 1964 the Corporation obtained an electronic computer, the ICT 1300. It was leased for £10,000 per year (equivalent to about \$350,000 today). The machine arrived by ship, in the *Corinthic* in November 1964. The Mayor proudly announced that Dunedin had 'entered the information age.'

This British-made ICT 1300 computer was the first of its type to be installed by a local body in New Zealand, and the Mayor declared that it would 'revolutionise accounting methods.' Dunedin was the first place in Australasia to issue computerised electricity and gas bills, on average 1,000 a day from 1965. Not much processing power was needed for these calculations: the ICT 1300 was less powerful than a modern pocket calculator. In 1969 it was replaced with a 1902a model, and in the 1970s and 1980s a wider variety of applications was made possible by a shift to DEC PDP-11 minicomputers, for a range of tasks including traffic light control.

The banks had an obvious interest in computerisation from an early stage. They set up a joint venture company in 1969 to process transactions, Databank Systems Limited. Its branch in Anderson's Bay Road housed an IBM 360/40 machine, a powerful and popular model at the time. It could print reports at a rate of over 1,000 lines a minute. The *Otago Daily Times* got rather excited by this machine, declaring that with it, Dunedin had entered the 'science fiction age.' This computer held all the information for individual bank accounts south of the Waitaki. A fleet of customised Ford Cortinas travelled around the region picking up cheques from various branches and delivering them to the Databank in Dunedin. The facility needed to be highly secure, as it handled sensitive information. The building is still there, a low, white, anonymous-looking structure opposite Woolworth's supermarket. Databank operated 24 hours a day, and eventually employed over 100 staff, most of them young; their average age was 23.

Not everyone was as excited as the *ODT* by this brave new world: one letter to the editor saw Databank as an expression of the 'obsession with a narrow economic efficiency regardless of human consequences,' and lamented the 'mania for mechanisation which is one of the most disastrous follies of our time.'

The end for Databank came with banking deregulation in the 1980s and 1990s. Competition among banks increased, and they wanted to be able to offer different services, which required greater flexibility than was possible with a centralised joint venture. Denis Usherwood, a former bank teller at the Bank of New Zealand, joined Databank in Dunedin on its establishment in 1969. He worked there as a re-entry clerk, and later as a control operator, until the firm was sold to EDS in mid-1990s. He has been a fount of information for the Museum on the history of this company.

Another joint venture company set up to exploit the capabilities of the new technology was Allied Computer Processors. Founded in 1966, it carried out processing work for a variety of businesses, including the Otago Savings Bank. Its Burroughs B-500 computer arrived by ship and was so large and heavy it had to be hauled into the second floor of Plunket House in George Street by crane. This machine was decommissioned in the 1970s, but was saved from disposal by Cameron Latta who donated it to the Seacliff Museum of Transport and Technology. It is now in the Otago Settlers Museum's collection, and will soon have a purpose-built strong concrete floor to support it in the new storage building. The Burroughs B-500 had 192 kilobytes of memory capacity; most machines today have 5,000 times that amount. For processing data, the company charged \$100 an hour. Staff often worked through the night – there was a saying that 'you weren't really in the data processing business unless you'd seen dawn rise over the equipment.'

Two other major Dunedin-based businesses computerised early on: the National Insurance Company and the National Mortgage and Agency Company. The former had Powers-Samas 80-column punched-card systems from the 1950s, but these were plagued with problems from the beginning. The firm replaced them with an IBM 360/30 electronic computer in 1965. The NMA's Dunedin office carried out all the accounting for the nationwide business. In the 1950s it used a 40-column Powers-Samas punched-card system to process mortgage invoices and statements. It produced, according to Fay Doig, who was an operator from 1961, a 'mind-boggling' noise. Things calmed down in 1968 when the NMA upgraded to a Burroughs electronic computer. Paradoxically, with the increasing levels of technology, staff numbers actually increased. Fay Doig, who left the company (now PGG Wrightson) only last year, emphasises how stable the early computers were: unlike today's systems where often new technology brings with it all sorts of bugs, in those days 'the usability of the new machine was fully checked before it was installed.'



The IBM System 360 in use in the National Insurance computer room, 1970-1 – Otago Settlers Museum collection

Perhaps the most famous Dunedin computer of all, and possibly the only one to have a familiar name, is ELSIE. In theory, this stood for Electronic Selection Indicator Equipment. She was a random number generator built by local Post Office engineers. The Post Office Savings bank used the ELSIE I machine to select the winning numbers for Bonus Bonds, which were introduced in 1970. Specialists from Otago University verified the randomness of the results. She lived on the third floor of the Chief Post Office in Princes Street, and the public could watch the draw from a special viewing gallery, with police officers on duty. After 1978, more advanced models of ELSIE were used. ELSIE I has been preserved, and is in the Museum's collection.

It was not just the financial world that had a need for large-scale data processing. Large manufacturing businesses used computers for, among other things, invoicing, payroll calculation and compiling sales statistics. Gregg's used 40-column punched-card equipment, some of which is now in the Museum's collection. These mechanical computers operated there from the 1950s until 1975, which illustrates their quality and reliability. Bruce McMillan recalls that the company was 'very switched on' in its use of computer technology. Cadbury's too used a mechanical computer, a Powers-Samas 80-column device, which speeded up statistical operations dramatically. According to Cadbury's staff magazine *The Chocolate Soldier*, this inanimate employee was helpful in 'alleviating staff problems' because 'at least it did not pop away and marry when it reached the height of its efficiency!'



Then in 1963 came the first electronic computer in the South Island, only the second in the entire country. (The Treasury had the first, in 1960.) The new ICT 1301 machine was being installed on the day President Kennedy was shot. It cost the equivalent of \$2.3 million today. This computer was in use until 1975, and survives in the Museum's collection. It is one of only three remaining intact 1301s in the world; only about 150 of them were ever produced.

Introducing the new machine, Cadbury's staff magazine said that employees would need to 'feed and take care of it.' It was a sensitive beast: some problems resulted from soot that blew over from the nearby railway station, and it could be affected by freezing temperatures in winter.

Bruce McMillan was the manager of the ICT 1301 at Cadbury's, which is now in the Museum. Bruce is widely credited with having saved many machines and related items from disposal or destruction. He had been an engineer with the Powers-Samas company from 1959, and was also involved in the installation and maintenance of many mechanical punched-card machines and later electronic computer installations around Dunedin. These included those for the City Corporation, Gregg's and National Insurance.

Tim Hyland

OSA History Award, Summer Intern 2008-9

Preserving Our Computer Heritage

As the equipment used by the companies mentioned above and others became obsolete, a movement began to preserve it. The Information Technology Heritage Society was born and, in partnership with the Dunedin Museum of Transport and Technology at Seacliff, set about saving the equipment. A significant collection was established that was later transferred to the Otago Settlers Museum. The ITHS/OSM mission to preserve our computing heritage continues today. The Museum would like to thank the members of the ITHS and others who assisted Tim with his project.

The ELSIE I now in the Otago Settlers Museum collection was used for selecting winning Bonus Bond numbers at the Dunedin Post Office Savings Bank in the 1970s.

Notes from the Archive

Last year was a bumper year for donations to the Archive — in fact, it was one of the Museum's busiest years for archival acquisitions. Almost 300 letters, diaries, certificates, books, family histories, photographs and other such items were generously given to the Museum by members of the community, many of whom are members of the Otago Settlers Association. A sampling of these diverse gifts include:

A collection of photographs and archival material relating to the family of John and Margaret Kelly (née Reid) who settled at Fairfield. This collection of 30 items contains birth and marriage certificates as well as photographs of family members and places around Dunedin — including Mavis Taylor sitting in the stone chair made for the visit of Prince George to Dunedin in 1901 now outside the Museum.

Photographs of the Booth family of Willowbank, Leith Valley. In his manuscript titled 'Owheo: the story of Leith Valley during the pioneering days 1848-1948' WH Davidson describes the Booths as 'The most important family in the Valley.'

A family history titled 'Hall 150, 1858-2008,' celebrating the arrival of Thomas and Janet Hall who arrived in the *Strathfieldsaye* in 1858.

A typed transcript of the log from the ship *Gareloch*, 1874-75, written by Captain William Nelson Greenwood. The first fortnight alone was marked by widespread seasickness, a brandy-loving doctor and impudent single females who fraternised with the males on deck after hours. The voyage ended three months later with the ship hoisting a yellow flag to indicate sickness on board and suffering a one-week detainment of the passengers on Quarantine Island.

A biography and photograph of James Fenton McLaren, Mayor of Caversham.

A transcript of letters from Joan Paulin Huggett, who was a medical missionary with the London Missionary Society, Shanghai. She describes the patients, staff and working conditions in the busy London Missionary Hospital in 1930. In that year alone the hospital had 131,400 visits, which averaged one patient every two minutes in a twelve-hour day.

A photograph of the winners of Otago Plate, New Zealand Championship Regatta, 1898.

Portraits of William and Mary Dallas, *Jura* 1858.

2009 is shaping up to be just as bountiful as 2008 with almost 70 archival items already given to the Museum for consideration. Watch this space for further updates.

Jill Haley
Archivist



Nurse Joan Huggitt, medical missionary with the London Missionary Society – Otago Settlers Museum

THE STORIES BEHIND

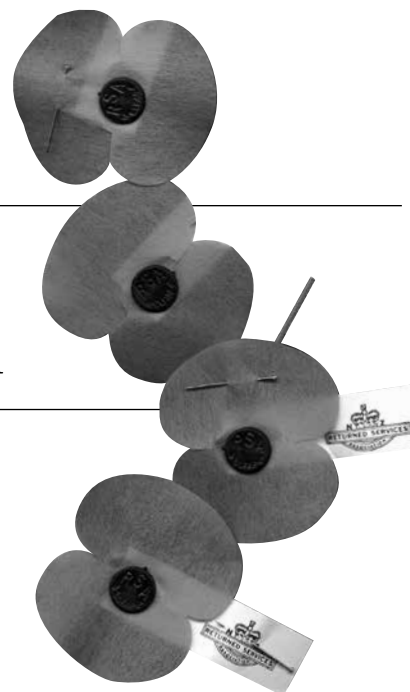
THE ROLL OF HONOUR

There are just over 2,500 names on Dunedin's Roll of Honour that lists those who served and made the ultimate sacrifice in twentieth-century wars, more than half (1,545) of them during the First World War. A number, including 22-year-old Corporal Donald Peter Brown Hosie, lost their lives at Passchendaele, on New Zealand's bloodiest day, 12 October 1917. Before he enlisted, Hosie, of Kirkland Hill, Kaikorai, worked as an architect for the Dunedin firm of Edmund Anscombe and Associates. Just prior to his conscription he had won a competition to design Wanganui's new art gallery, the Sarjeant Gallery, and the authorities agreed to a request by the then mayor to defer his overseas posting until he had completed the working drawings. Widely regarded as among the finest provincial art galleries in New Zealand, the Sarjeant was opened by Prime Minister William Massey in September 1919.

It would be Hosie's only work. He died three weeks after the foundation stone was laid. He now lies buried at the Passchendaele New British Cemetery. Next month, the story of his sacrifice and that of his Otago mates will be commemorated with a special southern showing of the exhibition *Passchendaele: The Belgians Have Not Forgotten*.

The exhibition, developed by the Memorial Museum Passchendaele 1917, is being brought to Dunedin by the Belgians as a mark of deep respect for the 'southern men' who gave so much – more in fact, Curator, Franky Bostyn says, than any other region in New Zealand. Of the 2,700 New Zealand casualties on 12 October 1917 during the First Battle of Passchendaele, 800 were from Otago, of whom 195 were killed. 'It was the Otago Regiment who led the first wave against at least eight German pillboxes, without adequate artillery support. As a result Bellevue Spur would become the graveyard for many of these brave young men.'

Less than two months later on 3 December 1917, once again it was the Otago Regiment, who, shoulder to shoulder with the Canterbury Regiment, would be first in line for the attack on Polderhoek Chateau, where Sgt Henry Nicholas of the 1st Canterbury Battalion would earn his Victoria Cross. 'These young men from Otago and Southland constantly, tragically and heroically, put themselves on the line. They were extremely good soldiers.' Franky Bostyn believes it is also fitting the southernmost season of the exhibition will be hosted by the Otago Settlers Museum since it sits between the Railway Station – a Passchendaele Memorial in its own right - and the Cenotaph.



The exhibition is supported by the Waimakariri-Zonnebeke Trust, formed following the official twinning of the two districts during the 90th anniversary commemorations of the Battle of Passchendaele to promote cultural, educational and business opportunities between the two.

Passchendaele: The Belgians Have Not Forgotten opens on 6 June and runs through until 5 July. Visit the blogsite: www.thebelgianshavenotforgotten.blogspot.com



Corporal Donald Hosie's grave at the Paschendaele New British Cemetery – Memorial Museum Passchendaele 1917

Welcome to Linda Wigley

Our new Director Linda Wigley was welcomed formally by Deputy Mayor Syd Brown at a Dunedin City Council reception held on 18 March in the Museum concourse. The Association was delighted to be able to invite not only our own members, who turned out in force, but also representatives from a wide range of heritage organisations. Our President Dorothy Page welcomed Linda on behalf of the Association and looked forward to the future sisterly relations between the recently separated Siamese twins of the Museum and Art Gallery. She pointed out how fortunate we are to have Linda's enthusiasm and vision directed to the Museum at this new stage in its development.

Linda comes to us from a quite dazzling few years as Director of the Whangarei Museum and Heritage Park. There she was the driving force behind the transformation of this regional museum into a successful community heritage resource, educational facility and significant tourist attraction. The close warmth of the relationship she developed with Ngapuhi of Northland was evident in the moving ceremony on her first morning here, when their representatives escorted her to Dunedin to give her into our keeping. Linda said they are her northern *whanau* and they wanted to make sure she was going to be looked after. They wanted to see where she was going to be working and the people she would be working with: 'they all met their approval so they left me here, but they did say if I'm not well looked after they'll come and take me back.'

Linda's education for her career in museums began in her native England with an honours degree in Combined Studies (Art History, Ancient History, Classics and Social and Economic

History) from the University of Leicester. This was topped off by a diploma in Museum Studies, by which time she was already working as a curator at the Science Museum in London, in the textiles department. Linda then moved to specialised museums, of the woollen industry in Wiltshire, the Bath Royal Literary & Scientific Institution, and then in the late 1990s the Garden History Society (now the Garden Museum) near Lambeth Palace in London. From 2001 to 2005 she was Director of the Waikato Coalfields Museum, before moving to Whangarei.

Linda first visited Dunedin a decade ago with her husband, the musician Johnny Morris, who performed in the Octagon. She says she was attracted to Dunedin by the city's strong sense of heritage and culture and the way it looks after and celebrates it. The Museum has some fine collections, with excellent archives and social history collections. Linda explains what is particularly important though are the people and stories associated with the collections: people who have given the Museum their family treasures have made a point of including information about their families, and it is this supporting information that brings the collections alive.

Linda has a particular interest in textiles, but has lacked the time recently to pursue her hobby of weaving. She was awarded a Winston Churchill Travelling Fellowship in 1991 that took her to Guatemala and Mexico to study textiles, and she has also researched Romanian, Palestinian and Jewish textiles and costume.

Please note:

Linda will be speaking at the OSA Winter Meeting, which will be later than usual on 9 July.



Linda Wigley in the Smith Gallery – Allied Press

What We Have in Store for You

The Museum's new storage building, the first phase of the redevelopment project, has over the past few months been nearing its final appearance, from the outside at least. Inside, a great deal of work has been going on out of sight to fit out the various store rooms, work rooms and facilities needed for a modern dedicated museum store. The new building will be linked to the original OESA Burnside building and to the glass-walled 1990s concourse in the near future. A large goods lift connected to the concourse will serve two floors of storage. They are huge spaces, with high ceilings: the storage systems are 3.8 metres high downstairs and 3.2 metres high upstairs. There are wide corridors, designed to make the movement of large items easier. The doorways downstairs are 2.4 metres wide and 2.7 high downstairs, and 2.4 high upstairs. The sheer scale of the still largely empty interior impressed those members of the Association kindly given tours of the site by Bronwyn Symes, the project manager, in March and April.

A section of the ground floor is specially strengthened with concrete shell beams below the floor slab in order to withstand the weight of heavy items such as the museum's collection of computers and printing presses. Some of the latter can weigh about three tons; these items are stored on pallets and moved with a forklift. Lighter, smaller items are stored higher up on the shelves and a cherry picker-style machine is used when they need to be moved. The floors throughout the building are hard-wearing polished concrete, as is familiar from warehouse-style super-stores.

Though the external walls are pre-cast solid concrete slabs, all the internal walls are wooden framed, and will be lined with foil-backed foam board insulation panels. When finished, the interior will be white and grey; the colourlessness is deliberate, since if any item is dropped, it can be found more easily. Floor coverings such as linoleum have deliberately been avoided, as they can eventually curl up at the edges and harbour insects.

The main ground floor corridor runs north-south, with the restoration/conservation, fumigation and registration work rooms on the east side, and a large collection store room for large or heavy objects on the west side alongside the old buildings. Nearest the goods lift in the south-west corner are rooms for exhibition preparation and for storing exhibition furniture. On the south side, facing the glass wall of the Museum concourse, is a large workshop. Two rooms for the plant equipment, one on each floor, are accessible from the outside, so that maintenance

can be carried out without the need to enter the building. A goods loading bay is positioned in the south-east corner, allowing vehicles to reach it along the back wall of the old NZR Road Services building.

Above it, upstairs in the south-east corner, a specially manufactured sliding storage system will be installed by October to house the art collection. It has been manufactured partly locally and partly in Sydney. A good price was obtained as the order could be combined with a much larger one for the Art Gallery of New South Wales. Other areas of the storage use heavy-duty static shelving supplied by Dexion, and lighter-weight 'compacta' shelving supplied by Hydestor.

Next to the art store will be a dedicated textile storage room, which will have space set aside so that some items can be displayed on mannequins for showing items to researchers or visiting groups. If the nature of their research requires it, researchers will be able to use the collections in the storage building, though at the moment there is no dedicated research room planned.

The remainder of the first floor is a single large storage room running the length of the building. It is designed for the smaller and lighter objects. Some of the space will be left vacant for future expansion.

The humidity will be maintained at a constant level (50% plus or minus 5% relative humidity), and the temperature will be stable (20 degrees plus or minus one degree) throughout the new storage building, including the existing archive. The exception will be the new photographic store which is programmed to be cool (18 degrees plus or minus one degree) and dry (30-50% plus or minus 5% over 24 hours); it will be relocated to the former toilet area.

The building has a shallow-pitch full-span steel beam roof, which does not need internal pillars for support. The underside will be exposed, without a suspended ceiling, so that the source of any leaks can be identified easily, and to avoid the possibility of a pest infestation. As you would expect, no natural light is allowed into the interior. A sprinkler system will be fitted throughout.

Despite the enormous scale of the new facility, not all items in the collection will be stored there. Planning has always assumed that a number of large transport and technology items will be on display in the revamped exhibition spaces.



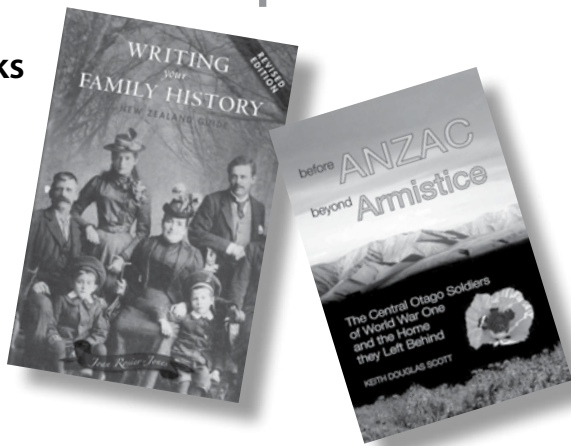
A panorama of the interior of the new collection store earlier in the construction.

Readers who have enjoyed Donald Gordon's many articles in past newsletters may be interested that he has recently published *Robbie: The Story of Dunedin's Burns Statue*. The book was launched at Speight's Brewery on 8 May.

Apologies to Margaret-Ann Howard for mis-spelling her name not once but twice in the last issue, and thanks to Norman Ledgerwood for pointing out the error.

The Otago Settlers Museum Shop

Books



Writing Your Family History: A New Zealand Guide
Joan Rosier-Jones
Published by Random House

This revised edition of the guide by respected author Joan Rosier-Jones takes the reader through the process of building on the materials available to create a highly readable and accurate history. She cites a wide range of effective examples, as well as offering a wealth of practical information that will help keen amateur genealogists to produce impressive results.

175 pages, paperback: \$34.99

Before ANZAC, Beyond Armistice: The Central Otago Soldiers of World War One and the Home They Left Behind

Keith Scott
Published by Activity Press

Keith Scott presents a 'keyhole' study of the character, background, fortunes and fate of the men from Central Otago who went to war together, using the soldiers' service files, a valuable source largely neglected by historians.

Woven through the research are personal stories of, and encounters with, war as told by the soldiers themselves: shared experiences of fun, endurance, death and mateship. This is also a story of the home from which these soldiers came: before, during and after war.

352 pages, paperback: \$39.99



Keith Scott's new book was launched by the Association in conjunction with the Museum and supported by the RSA Choir on 3 April. The banners listing Dunedin's losses in twentieth-century wars were again on display, accompanied by hundreds of photographs of servicemen supplied by members of the public. More than 600 people came into the museum after the dawn service to see the exhibition and enjoy a hot drink and an Anzac biscuit. In a brief but moving ceremony the Braithwaite family presented to the Museum the medals of John Braithwaite, executed for mutiny in the Great War and recently pardoned.

General Information

The shop holds a wide selection of Dunedin- and New Zealand-made books, cards and gifts. You are always welcome to browse.



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This newsletter was produced by the Otago Settlers Association, founder and supporter of the Otago Settlers Museum. Membership of the Association is open to everyone interested in the heritage of this region. Details of membership are available from the Museum Reception desk or Otago Settlers Association Secretary, Box 74, Dunedin. Phone/fax 03 477 8677, email otago.settlers.assn@xtra.co.nz

 **Otago Daily Times** *The Otago Daily Times supports Otago Settlers Museum*

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