

Grand Subdivisional Sale  
BY PUBLIC AUCTION

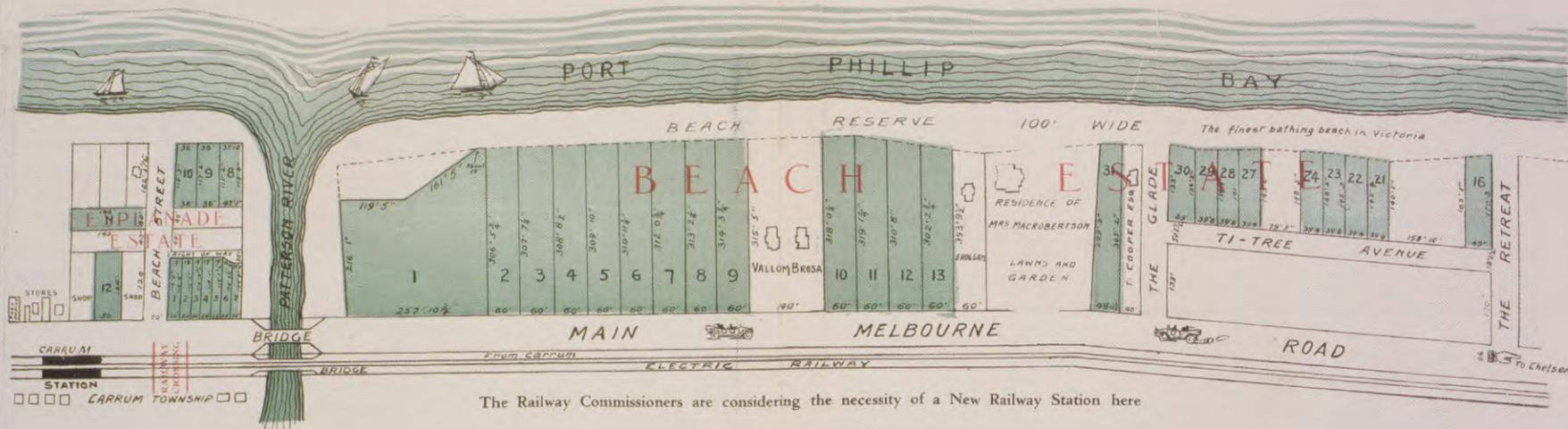
# BEACH AND ESPLANADE ESTATES CARRUM

Saturday,  
January 20th, 1923

On the Land at 3 o'clock  
in a Seated Marquee

**27** Glorious Seaside Home Sites, and **8** Valuable Shop Sites

Almost Opposite CARRUM  
Railway Station



**Electric Light**  
**Water Mains**  
**Electric Trains**  
in Front of this Estate

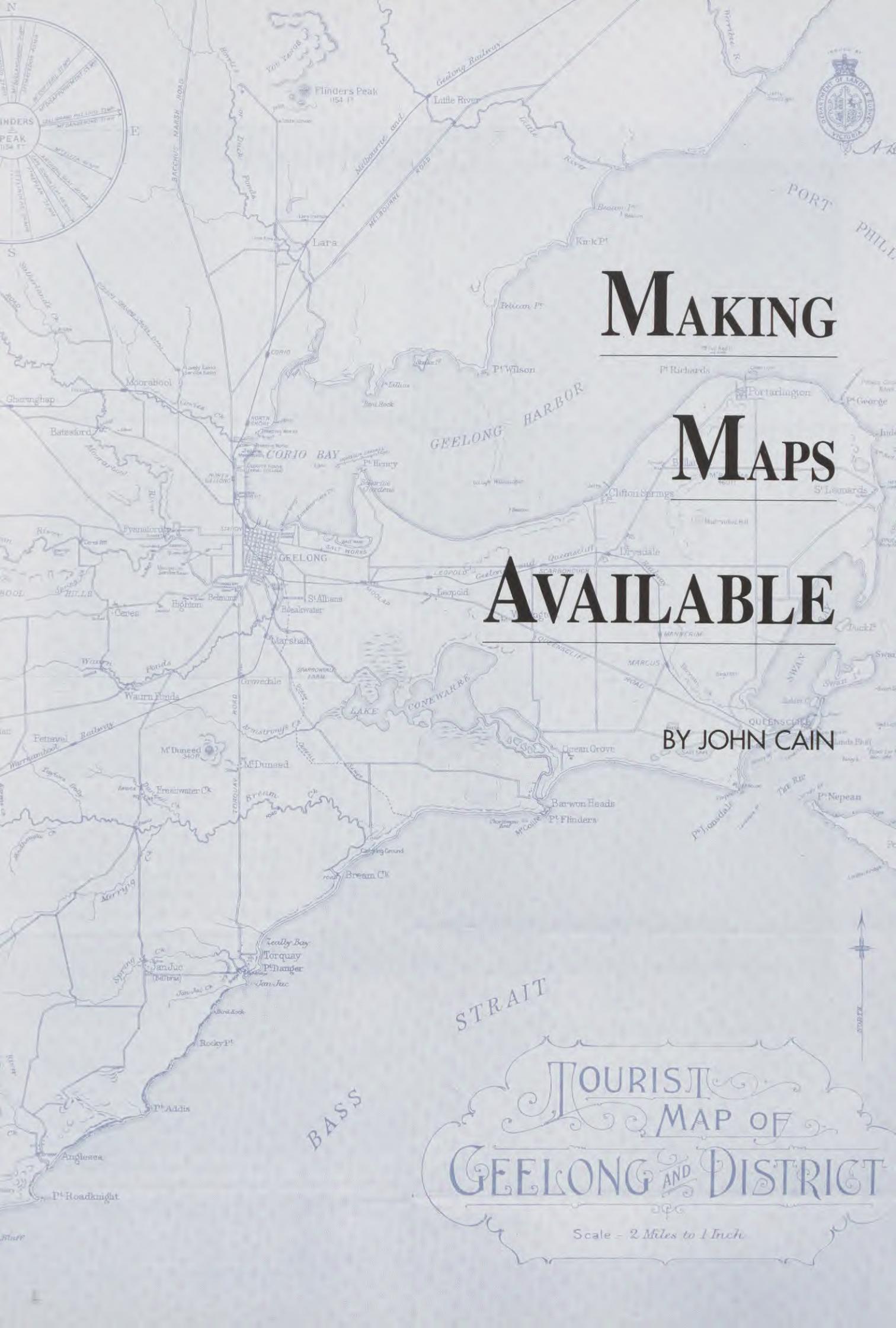
**Exceptionally Easy Terms :**  
**£25** per Lot **DEPOSIT**  
**£10** per Lot per Quarter  
For a Period of 3 Years—at which date  
the residue of purchase money shall be  
payable.  
Interest £6 per cent. per annum  
payable quarterly

**This Beautiful Beach Estate**  
With all the Seaside Attractions has now  
been thrown open, and is the last stretch  
of Natural Ti-Tree Sheltered Week-end  
and Seaside Home Allotments available  
along this choice Seafrent, close to Melb.

Auctioneers  
in conjunction:

**SYDNEY T. HAYNES & CO.** 60 Queen St., Melbourne Phone: 3400  
**KNIGHT & HARWOOD,** 315 Collins St., Melbourne Phones: 10610, 10616

LOCAL AGENTS:  
**STEPHENS & ROBERTSON,** Carrum  
**W. McGARRY,** Chelsea



**MAKING**

**MAPS**

**AVAILABLE**

BY JOHN CAIN

**TOURIST  
MAP OF  
GEE LONG AND DISTRICT**

Scale - 2 Miles to 1 Inch

# MAKING MAPS AVAILABLE

## THE MAP DIGITISATION PROJECT

BY JOHN CAIN

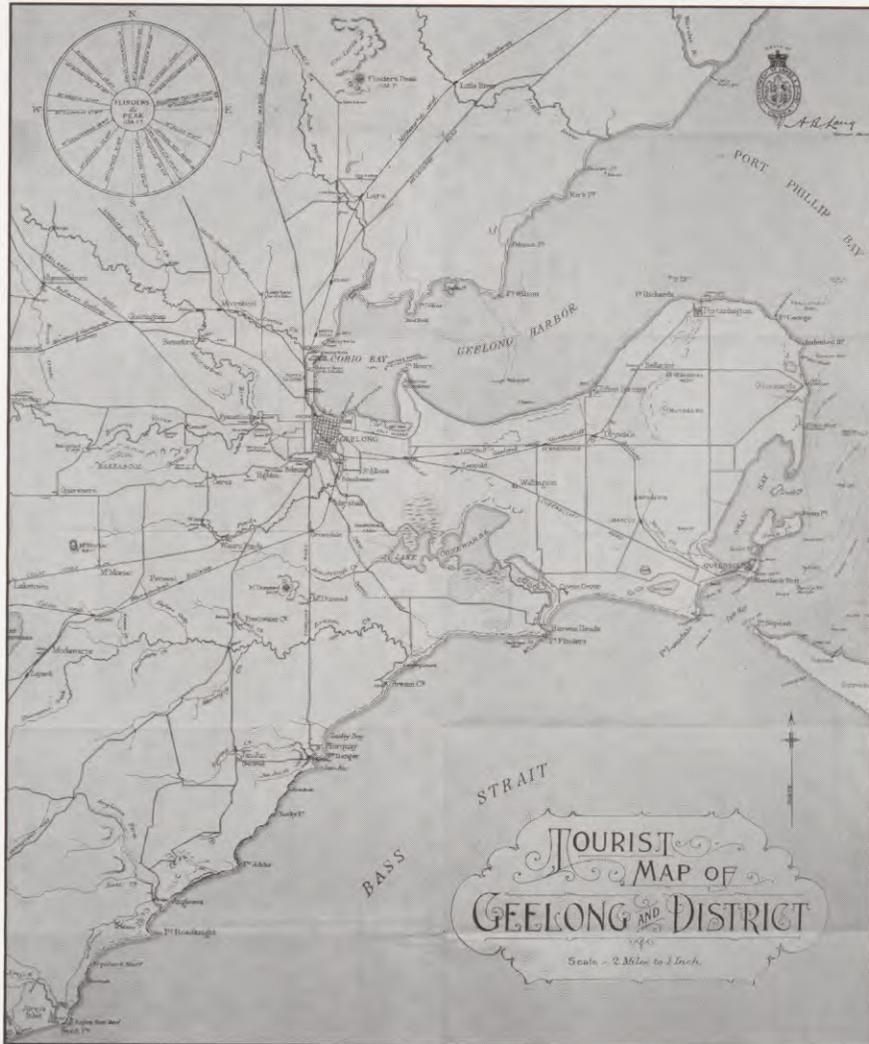


Illustration 1:

A 1924 tourist map of the Geelong region. Similar tourist maps were produced around this time for many areas of Victoria, such as Ballarat, the Dandenong Ranges, and the Buchan Caves. *Tourist map of Geelong & District*, Melbourne: Department of Lands and Survey, W. J. Butson, 1924. [University of Melbourne Library Map Collection.]

**D**URING 1999 THE UNIVERSITY of Melbourne Library began a project to digitise selected maps from its Map Collection. The Map Digitisation Project had three major aims. First, we wanted to trial the digitisation of maps in a variety of formats and conditions: from small to large; from simple black and white to highly coloured; and from robust newer materials to very fragile maps hundreds of years old. We also sought to develop staff knowledge and expertise to support future map digitisation projects. Finally, we aimed to produce an example of what we could achieve on a larger scale if the resources were available. This meant we needed a suitable “final product”, most probably display of the materials on the Library’s website, accessible using a standard Web browser and in a useable and useful format.

The project began with the selection of a group of maps for digitisation. In any digitisation project copyright of the original materials is a major issue, so the project was confined to older maps which are out of copyright. Digitising these maps has the added advantages of allowing their use without wear and tear to the fragile originals, and of allowing the use of rare maps from any location around the world if access is provided via the Internet. To make the materials most relevant for the teaching and research of the University, it was decided to concentrate mostly on historical maps of Melbourne and Victoria. With the assistance of the Library’s Publications Coordinator, Susan Reidy, around 80 maps were selected, ranging in size from A3 tourist maps (illustration

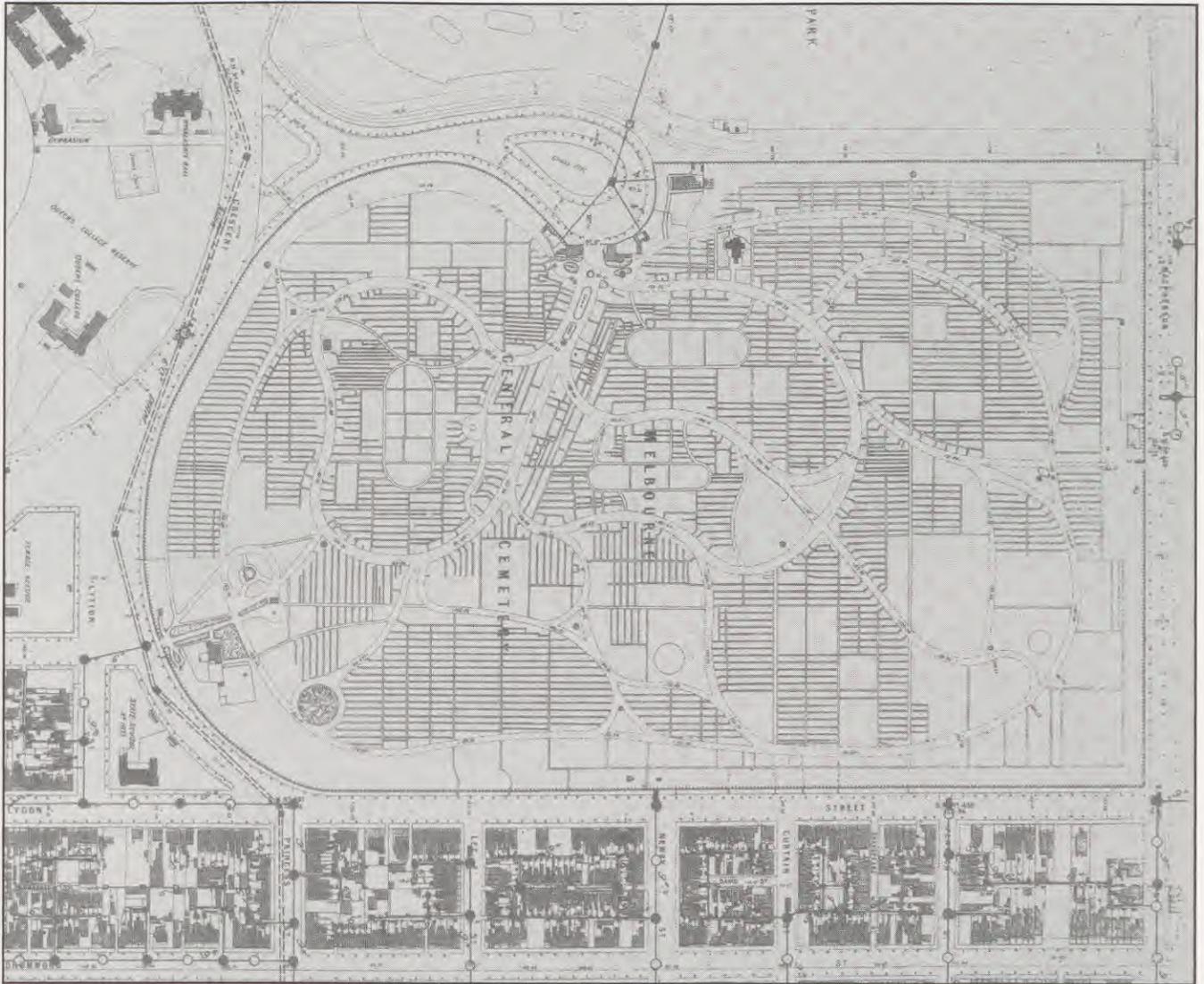


Illustration 2:  
Melbourne General Cemetery, detail extracted from a MMBW plan. *Melbourne Metropolitan Board of Works Plan no. 30 City of Melbourne 1:4,800*, Melbourne: MMBW, 1896. (University of Melbourne Library Map Collection.)

1) to the huge A0+ MMBW 1890s plans of Melbourne, which are up to 900 mm wide and 1,400 mm long (illustration 2).

As the University Library lacked the equipment and experience to carry out the actual digitisation of large sheet maps itself, an outside contractor, Michael Silver of Photonet, was selected to do the photography. Initially we were keen to use a high-resolution digital camera — this type of equipment had been used by the National Library of Australia to digitise about a dozen maps

with some success. However, testing of the digital camera found that it did not meet our requirements. In particular: it was costly to hire making each image captured very expensive; the capture of each image took about half an hour and was thus very time consuming; and the images captured were subject to random errors due to issues like electrical interference. There is no doubt that in the future direct digital capture will be the way to go, but at this stage the digital camera technology is not sufficiently mature to meet our needs for quick,

inexpensive images that are also of a high quality.

Given the unsatisfactory results with the digital camera, the more traditional process of photographing the maps onto transparencies and then scanning these using a high-resolution scanner was tested. This proved successful using both 4" x 5" transparencies and (lower resolution) 120 mm transparencies. After reviewing the results, it was decided to proceed with the 120 mm transparency — this comes in rolls and

*continued on page 13*



Illustration 3: Map vignettes, showing the level of detail in the scanned images:

above: A vignette of a battle. On the original map this image is approximately 35 cm wide. Extract from Gerard van Keulen, *Nieuwe Paskaart Van de Geheele Swarte Zee*, Amsterdam: Iohannes van Keulen, (1695).

below: A vignette of a naval battle. On the original map this image is approximately 11 cm wide. Extract from Pierre Mariette, *Natalia quae olim Asia Minor*, Paris: Pierre Mariette, (ca. 1660). Both from the Walker Collection, University of Melbourne Library Map Collection.



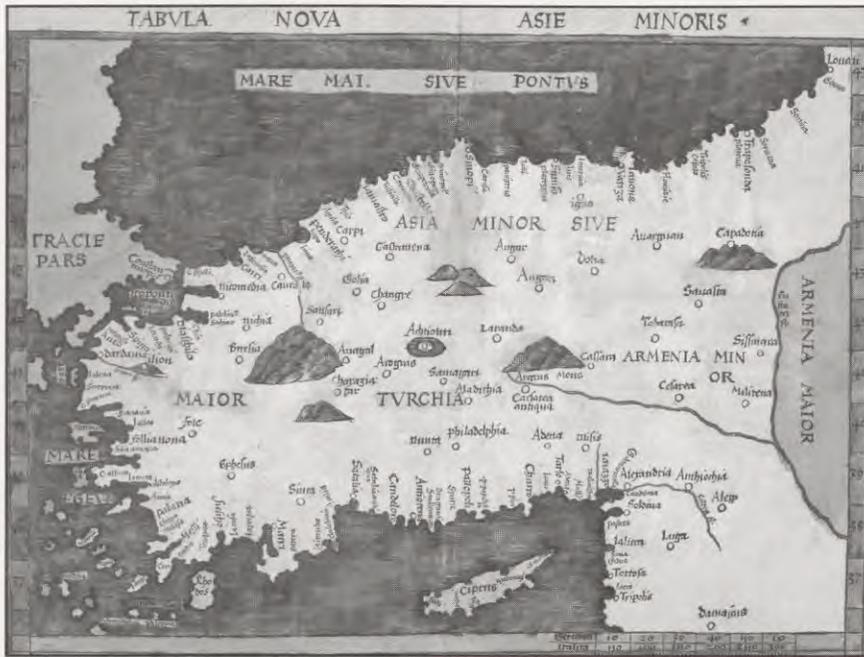


Illustration 4:  
A beautiful 1513 map of Asia Minor, using woodcut printing. The map is after the Ptolemy model and was prepared by Martin Waldseemüller. Ptolemy (Martin Waldseemüller), *Tabvla nova Asiae Minoris*, Strasbourg, Ioannis Schottii, 1513. Map no. 83, from the Walker Collection, University of Melbourne Library Map Collection.

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is thus quicker and cheaper than the 4" x 5" transparency which comes in single plates. The 120 mm transparencies gave good results at the desired resolution (300 dpi) for maps up to a size somewhere between A2 and A1, which covered most of the maps selected for digitisation (illustration 3 and 7).

We also wanted to have at least part of the project deliver a complete "final product". By using 120 mm transparencies we estimated we could digitise some 160 maps within the resources assigned for the project, twice as many as the 80 already selected. With the support of academic staff, in particular Richard Pennell of the History Department, we therefore decided to digitise the larger maps from the Walker Collection. This collection comprises 135 original historical maps of Asia Minor and the Middle East dated between 1511 and 1774. Ronald Walker

was an Australian diplomat stationed in Turkey for many years, during which time he and his wife built up the collection, which they donated to the Library in 1991. Around half of the Walker maps are over A3 in size; the remaining smaller maps could easily be digitised on a flatbed scanner at a later stage (illustration 4).

The photography of the maps was undertaken on site in the Map Collection, as transporting almost 200 fragile and valuable maps elsewhere was not a realistic option. The maps were hung vertically and photographed against a matt white background. 180 maps were photographed over two days during August 1999, with three people involved: the photographer Michael Silver, his assistant and David Jones from the Map Collection who was responsible for handling the maps.

Michael subsequently processed the transparencies.

The resulting 180 transparencies were then reviewed and 60 selected for scanning, again by Michael Silver, using a high-resolution transparency scanner. The resulting scans were output as TIF files (approximately 130 MB per image), burnt to CD and supplied to the Library in October 1999.

With the digital images in our hands, the next step was making them available for use. While the photography options were investigated, we had also been examining how to make the resultant products available. Providing access via the Library's website was of course the obvious choice. However, the map image files were huge, 130 MB per map, and it was totally impractical to provide direct access to files of this size over the Internet. Even if we compressed them, for example using JPEG image compression, retaining a reasonable image quality resulted in images of around 5 MB. Files of this size are slow to download and the very large images are difficult to view on a computer screen.

Research showed that the best available solution was to use the MrSID Image Server. MrSID stores the image using efficient "wavelet" compression, then serves up only that part of the image requested by the viewer. This part of the image is provided at screen resolution and in standard JPEG compressed format, which can be viewed by any Web browser. This means only a 50 KB file has to be sent over the Internet — compared with a 5 MB plus file for the full image in JPEG format — greatly enhancing speed and convenience of access.

The MrSID Image Server software was obtained and installed on one of the Library's Internet servers in November 1999. Forty trial images were successfully mounted and enabled for Internet access. This allowed end users — such as the University's academic staff — to view the images and provide feedback on issues such as access, quality and

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what type of maps might most usefully be selected for digitisation in future.

Work on the project has continued during 2000. To enable easier access to the images, Andrew Gfrerer of the Library's Information Development and Marketing unit has developed a customised Library website interface for them (illustration 5). This Map Image Database allows browsing of the images by categories such as author, title, date and the geographic area depicted. This single interface to all of the digital map images makes them much more accessible than they are in the Library catalogue, where they are just a few hundred images amongst several million records. The interface also provides some other information about the map and a direct link to the full record for the map on the Library catalogue. This allows users to

easily access all known information about the original map. This interface will be further developed during 2000. The Map Image Database can be accessed at: <[http://xena.lib.unimelb.edu.au/cgi/map\\_view.cgi](http://xena.lib.unimelb.edu.au/cgi/map_view.cgi)>

At the same time, additional images have been added to the Map Image Database, with 80 images now available for viewing online (illustration 6). The remaining 120 transparencies are also being scanned and made available on the Internet, and by the end of 2000 we plan to have around 200 images online. The remaining 60 or so smaller maps from the Walker Collection which were not photographed to transparency will be directly scanned on A3 and A4 flatbed scanners. We plan to have the entire Walker Collection, 135 maps, available for viewing online by 2001.

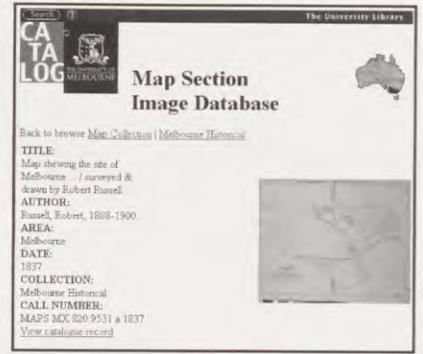


Illustration 5:  
The Map Image Database interface on the University Library's website.  
[http://xena.lib.unimelb.edu.au/cgi/map\\_view.cgi](http://xena.lib.unimelb.edu.au/cgi/map_view.cgi)

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**Electric Light  
Water Mains  
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Illustration 6:  
A 1923 sale plan for a subdivision in Carrum, on the shores of Port Phillip Bay. *Beach and Esplanade Estates: Carrum — by the sea, Melbourne*: Farrow Falcon Press, 1923. (University of Melbourne Library Map Collection.)



For the future, we are investigating the possibility of using large flatbed or drum scanners (up to A0 size) to directly scan maps. This could be particularly productive for large sets of maps, especially black and white maps, such as the MMBW 1890s Base Plans and Detail Plans of Melbourne. The selection of maps for future digitisation projects will depend on priorities indicated by the University's academic staff to

support their teaching and research requirements. Consultation so far indicates that the highest demand is for detailed historical maps of Melbourne (illustration 8); particularly fire insurance plans and MMBW plans from the 1890s and early 1900s.

The Map Digitisation Project has been a great success. The project has developed an ongoing framework that

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Illustration 7:  
A map of Canberra showing Walter Burley Griffin's design. *Canberra: design by Walter Burley Griffin*, Melbourne, Government Printer, after 1917. (University of Melbourne Library Map Collection.)



Illustration 8:  
*Plan of Melbourne showing proposed new railway station*, Melbourne: Railway Department, 1878. (University of Melbourne Library Map Collection.)

allows the Map Collection to use its own resources to digitise a small number of extra maps each year and make them available using the Map Image Database. The expertise developed during the project means the staff of the Map Collection are now well placed to undertake further map digitisation projects, as resources are made available to do so. ♦

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- Maura O'Connor, "National Library of Australia's Rare Map Digitisation Project", pp. 25–30 in *The Globe*, No. 49. 2000.
- *Map Image Database*, University of Melbourne Library, <[http://xena.lib.unimelb.edu.au/cgi/map\\_view.cgi](http://xena.lib.unimelb.edu.au/cgi/map_view.cgi)>.

John Cain is the Map Curator, University of Melbourne Library and manager of the Map Digitisation Project.

The Map Digitisation Project is part of the University Library's digitisation initiatives program, which is coordinated by David Cunnington, Information Development and Marketing Manager.

For interested readers, John Cain's e-mail address is <[cain@lib.unimelb.edu.au](mailto:cain@lib.unimelb.edu.au)>.

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