

JOHN ROACH'S INSTRUMENTS IN SYDNEY

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Most of the surveying instruments used in the Colony of New South Wales in the 19th century were imported from England. Towards the end of the century some large instruments were purchased from German manufacturers. Among the surviving instruments once used for official work in New South Wales, therefore, it is surprising to find three by John Roach of San Francisco, two surveyor's compasses and a solar compass.

Born in Ireland, John Roach (1813-1891) was in business in New York by 1834, advertising himself variously as a "philosophical instrument maker" and "optician". He offered a wide range of apparatus including cameras, galvanic batteries, thermometers, and achromatic objective lenses. Roach also made surveying instruments, which he seems to have specialized in after his move to San Francisco in the mid 1850s.¹

The surveyor's compass are marked "SGO / 71" and "SGO / 72" respectively, indicating that they once belonged to the Surveyor-General's Office in New South Wales. John Roach's trade label, dark blue with gold lettering, is in the lids of the wooden boxes holding the surveyor's compasses. This label lists six awards granted to Roach between 1862 and 1875, so it seems likely that the compasses were made after 1875.

Since the Surveyor-General's Office appears to have maintained a parallel series of SGO numbers for each type of instrument in their inventory, it should be possible to date one instrument relative to another. A surveyor's compass marked "SGO / 69", manufactured by Barker & Son of London probably not before 1880, suggests that the Roach instruments were acquired after that date.² When other numbers in the sequence can be correlated it may be possible to give a firmer date. The three American instruments may have been new when they came to Sydney and were purchased the Government. Or they may have been the property of a surveyor migrating from California who may have continued to use them after his arrival in New South Wales. Unfortunately, the Surveyor-General's Office inventory records appear to have been destroyed many years ago.

Other trade labels in the box lids provide further clues to the dates of the surveyor's compasses. Roach's label in the box for "SGO / 71" is obscured by the brittle and discolored label of H. A. Alexander & Co., "Mathematical and Scientific Instrument Makers" of 19 Macquarie Place, Sydney, an address just across the way from the

Land's Department building in Bridge Street. H. A. Alexander & C^o are recorded at this address in the Sydney directories for 1891-1894. The sale and repair of surveying instruments was an important feature of their business. Their label illustrates a theodolite and reports "new axes fitted to theodolites if broken, or straightened if bent, & guaranteed perfect." It is likely that the firm repaired or serviced the Roach instrument. The box for "SGO / 72" has a small label reading "CHAS. F. G. KOPSCH / Scientific Instrument Maker / and Nautical Optician, / 8 BRIDGE-ST., / SYDNEY." Charles Kopsch was born in Sydney in 1866. When he took over the business begun in the early 1870s by his father, Gustavus Adolphus Kopsch (1832?-1898), is unknown.



Surveyor's compass signed "J. Roach / SAN FRANCISCO" and marked "SGO / 71" now owned by the New South Wales Department of Lands. A similar instrument marked "SGO / 72" is now in the Department of Civil and Mining Engineering at the University of Sydney. Note the vernier on the face reading to one second of arc.

others--one of which has, apparently, recently come on the market⁸-had been serviced by Gurley. A transit instrument signed "John Roach Maker 218" was also recently offered for sale.⁹ A very heavy wye level marked "John Roach Maker San Francisco 730" is now in the National Museum of American History, a donation from the U. S. Geological Survey. Together with these instruments, the three in Sydney provide us with a better understanding of John Roach's business and craftsmanship.

1. Charles Smart, The Makers of Surveying Instruments in America Since 1700 (Troy, N.Y., 1962), pp. 144, 147. See also Roach's advertisements in the New York and San Francisco city directories.
2. This instrument, now in the Macleay Museum at the University of Sydney, matches item No. 1133 in the undated catalogue of F. Barker and Son of London. This reference was supplied by Dr. J. A. Bennett of the Whipple Museum, Cambridge.
3. William H. Skerritt, et. al., "The Solar Surveying Instruments of the W. & L. E. Gurley Company," Rittenhouse 3 (1988): 15-22.
4. Smart, pp. 148-149.
5. Roach's advertisement in San Francisco Mechanics' Institute, Visitor's Guide.
6. Skerritt, et. al., p. 19; Smart, p. 149.
7. Trigonometrical Branch letterbook, pp. 404-406. No other American instruments appear on the list.
8. The Antiquarian Scientist, Catalog 21 (Winter 1989), item 482.
9. Perceptions Scientifica (Winter 88/89), item 22.