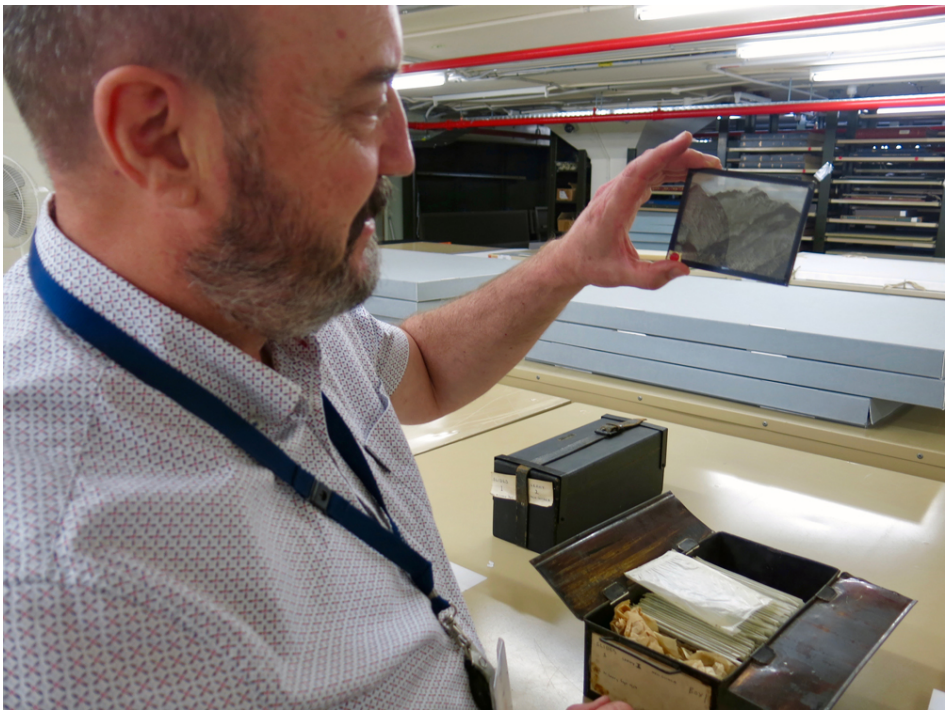
From the highlands of New Guinea to the ice floes of Antarctica: the diverse magic lantern slide collections of the State Library of New South Wales

Lead CI, Martyn Jolly and Geoff Barker, Senior Curator, Research and Discovery, Library and Information Services, State Library of New South Wales, spent a fascinating afternoon with the magic lantern slides discovering a diverse range of familiar and not so familiar slides. The Library holds a small set of truly stunning slides which are of absolutely global significance and which, we discovered, are still in beautiful condition. But more of them later, before we got to them we had the opportunity to discover other intriguing collections which await further research. For instance the library holds a collection of slides the prospector Michael Leahy, one of the first Europeans in the New Guinea highlands, used in New York for presentations to The Explorers Club and the Museum of Natural History. The volatile imperial politics of New Guinea is also illuminated by a set of over three hundred hand-coloured slides assembled by the missionary Benjamin Butcher, this set adds to the vast corpus of missionary slides we are discovering around the world. We also looked at slide sets that had come into the collection as part of larger manuscript collections. These included slide lectures made by the naturalist Brooke Nicholls and the bushwalker Myles Dunphy, which may help future researchers illuminate the development of conservation movements in Australia.



Senior Curator Geoff Barker with a slide shown by the New Guinea prospector Michael Leahy at The Explorers Club, New York (note its rectangular American format).

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After these and other slide sets it was time to see the jewel in the crown of the SLNSW magic lantern slide collections. These were 32 slides made in London in late 1916 by the Paget Prize Plate Company, from glass plates exposed by Frank Hurley in Antarctica in 1915. (The SLNSW have put these fabulous images online. These images, of polar explorer Ernest Shackleton's ship *The Endurance* stuck in the ice, were amongst the first 'natural' colour slides, as opposed to hand-coloured slides, ever made. In the Paget process a glass screen printed with crisscrossing coloured lines, about a tenth of a millimetre wide, was sandwiched with an ordinary panchromatic plate. It filtered a scene into a microscopic matrix of red green and blue squares, exposing a 'pixelated' image onto the monochromatic plate. Once developed and printed back onto glass as a monochrome positive, the glass plate could be realigned with an equivalent colour separation screen, so each grey 'pixel' was re-aligned with the colour through which it had originally been exposed. When viewed through the sandwich the colours of the original scene were restored.

Frank Hurley. 'A mid-winter glow. Weddell Sea' Shackleton expedition. 1915. Half-plate Paget Prize Plate process magic lantern slide. Collection: State Library of New South Wales.

When he saw the slides projected, Hurley was delighted with the 'exquisitely bright and vivid' colours of the process. In a crowded marketplace for spectacle and entertainment, public-pleasing innovations such as natural colour were crucial to Hurley and his collaborator in London, Ernest Perris, who was the business partner of Ernest Shackleton. The heroic explorer expeditions of this period were only financed against future earnings from the film and

photography rights. At this time Hurley, and Shackleton himself, were both developing what Robert Dixon calls, in his excellent book *Photography, Early Cinema and Colonial Modernity*, 'synchronized lecture entertainments'. These combined films, lantern slides, props and, most importantly, the actual 'presence' of the returned explorer himself, into an enormously popular, and sometime even profitable, spectacle.

The day after Hurley first saw the 'bright and vivid' colours of the Paget plates projected on a screen, he and Perris went to Newton & Co to order a special lantern that would be able to project non-standard slides. While a standard slide was 83 x 83 mm, Hurley and Perris wanted to project half-plate Paget transparencies of over twice the size. Later, using the half-plate transparencies that are now in the SLNSW, the pair tested the projection in the hall of the Polytechnic, a London institution that had been world famous for its magic lantern shows in the nineteenth century, and had also hosted London's first screening of the Lumiere cinematograph in 1896. Were they aware of the long association of this venue with the development of optical spectacle going back to the 1830s? The throw of the lantern was almost 23 metres, the electrical current consumption of the incandescent bulb was 60 amps. Would the projected image be bright enough? Could the plates withstand the heat? Hurley reported that the projected image was 'magnificent' at a size of almost 8 metres across, overflowing the Polytechnic's 5.5 metre screen, while in the lantern the plates just 'warmed up' and did not crack with the high current. However, judging by the pristine condition of the slides we saw, it is safe to assume that after the 'unqualified success' of their experiment, the special lantern was not used to project half-plate slides very much, and conventional lanterns projecting conventionally sized Paget slides were mostly used by Shackleton and Hurley in their travelling synchronized lecture entertainments.

Frank Hurley. 'A typical sub-Antarctic sunrise' 1915. Half-plate Paget Prize Plate process magic lantern slide. Collection: State Library of New South Wales.

Nonetheless the naturally coloured slides were a feature of Hurley's lectures around Australia from 1919 to 1920. In particular they allowed him to introduce an element of aesthetic sublimity into the dramatic arc of his narrative. For instance he may have projected a Paget plate as he told his audiences:

> *The Endurance* was sometimes held up for days, when nothing could be done but await the opening of the ice field. In these periods the sunrise lit up the fields of desolation tingeing pack and sky with a rosy flush of pink.

Most importantly, the famous story of the rescue of the very images the audience were seeing from the defeated *Endurance* was self-reflexively incorporated into the climax of Hurley's show:

> The darkroom was crushed in … the wreck was still held up by the pressure ice … after hacking our way through the wreckage, we located the cases of film beneath feet of mush ice … I tossed up with Seaman Howe as to who should dive in. I lost — and dived! The ice-clad cases were passed up one by one. The wreck was groaning under the pressure, but I kept saying to myself: 'Keep cool!' Those film cases and I became inseparable during the six months we drifted on the ice floe … but our luck held out, and we reached England safely. On opening the cases [actually in Chile, but Hurley was never one to let facts get in the way of a good story] the Antarctic air came out with a hiss, and I found all my films and negatives to be intact. Not a single foot of film had been lost. Not a single negative broken.