Survey Cairns in Tasmania

The stone survey cairns we find on mountain tops in the course of our wanderings have a long history and should rightly be considered as part of Tasmania's built heritage. This article is written to encourage appreciation of our heritage and treatment of these monuments with the care they deserve.

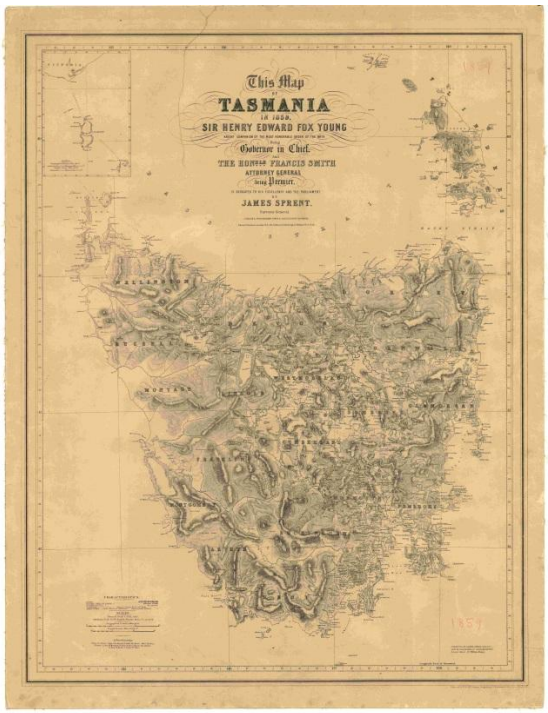
The two most prolific constructors of survey cairns in Tasmania were James Sprent and Wentworth Hardy. Sprent came to Tasmania in 1830, working both in a private capacity and for the State Department of Lands and Surveys, rising to the position of Surveyor General in 1857. Hardy came from South Australia in 1884 to work for the Department of Lands and Surveys in various roles.

Sprent's cairns were built from the 1830s through to the 1850s, and Hardy's during the 1880s. Hardy's cairns therefore are 130 years old and Sprent's 160 to 180 years, older even than St David's Cathedral in Hobart. While some of these cairns remain in good condition, many have been destroyed or are falling into disrepair. The main agents of their destruction have been lightning, frost heave exacerbating a lack of structural integrity, dismantling to enable erection of steel survey beacons, deliberate vandalism and inadvertent damage. About 50 remain, in various states of repair.

The purpose of the survey cairns was to serve as visual markers for theodolite sightings. Sprent organised and was personally involved in the original Trigonometric Survey of Tasmania, which involved the raising of 206 survey stations constructed on mountain tops for inter-visibility, each consisting of a stone cairn, a tall timber tripod or a large single tree. The geographic position of individual survey stations was determined by trigonometric (lengths and angles within triangles) calculations based on a single distance measured at a conveniently placed baseline propagated through angles read to these monuments. The difference in length between the baseline measured near Lauderdale and that propagated through the triangulation to a second base measured for length near Longford was less than 0.1 metres over a distance of 150 km through 13 triangles with sides up to 50km, an absolutely astounding result given the survey system employed.

Sprent's 8 inch theodolite, used for minor trigonometric network surveys, currently displayed in TMAG

It is difficult to imagine the scale of the effort required, given that this work encompassed the whole of the State when there were very few roads or significant development of the countryside. Access to coastal peaks was often by boat. Not only were the angles measured, but the surrounding countryside was sketched in detail. The culmination of this effort, which ultimately cost Sprent his health and shortened his life significantly, was the first accurate and comprehensive topographic map of Tasmania, issued in 1859.



Sprent's map of Tasmania 1859

Sprent and his teams of free men and convicts constructed both square stepped cairns such as still exists on Mt La Perouse and bee hive shaped cairns such as existed on Mt Field East, up to about four metres in height with a vertical pole extending from the top. Because Hardy was in-filling Sprent's major triangulation, his cairns tended to be of the smaller bee hive type, about 2.5 metres in diameter at the base and three metres in height, also with a central pole. He sometimes repaired Sprent's cairns, erecting and/or repairing about 50 cairns in all. He worked primarily in the north-east and south-east of the State, and later returned to South Australia.

Mt La Perouse cairn 1982

Platform Peak cairn with Mt Dromedary in background 2016 (Possibly a Sprent cairn reconstructed by Hardy)

The degradation of cairns, particularly with human intervention, may be witnessed in the total destruction of the Field East cairn by vandals, but also the progressive disintegration of the Adamsons Peak cairn. In the mid-1900s this cairn still had two stages and appears from photos to have been about four metres tall. By 1982 it had lost its top level and was down to about three metres, after which it was almost totally demolished, with some rebuilding bringing it up to 1.5 metres at present.

Adamsons Peak cairn from the East 1982

Adamsons Peak cairn from the East 2011, partially rebuilt

Adamsons Peak cairn from the South 2011, in a state of collapse

Of the approximately 50 survey cairns still in existence only Mt La Perouse is listed on the Tasmanian Heritage Register. The Office of the Surveyor General restored the Mt Hean Cairn (on the De Witt Range north of Port Davey) in 2006, which gives an idea of how Sprent's Cairns would have originally looked.

Mt Hean cairn prior to restoration

Mt Hean cairn following restoration

One thing clear from comparing photos of cairns taken in the 1980s with those taken more recently is that many have become considerably 'shorter' even in that brief period. Even a cairn as remote as that on Mt La Perouse exhibits this characteristic, having been partially repaired by staff from the Office of the Surveyor General in 2004. While there seems to have been a rash of vandalism of mountain-top survey beacons and cairns during the 1970s to 1990s, at least some of this degradation is due to the gradual dislodgement of stones from the tops of the cairns as visitors climb over them. Although inadvertent, this is leading to the slow destruction of these historic monuments, and could easily be avoided with a little care.

As Tasmanians we are the predominant visitors to these historic monuments, and may now also be the greatest threat to their survival. Please treat them in a way that honours the work that was required to build them so many years ago. In particular this means not interfering with survey cairns by climbing over them or potential weakening them in other ways.

Acknowledgements

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Author John VanderNiet is a staff member of the Office of the Surveyor General.