LESSONS FROM THE MUSEUM



Line of fire – what happened at the Wantabadgery seige?

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Abstract A gunfight between police and a gang of men led by the self-styled "Captain Moonlite", a.k.a. George Scott, occurred on 16th November 1879 at a farmhouse near Wantabadgery Station in the colony of New South Wales. The skirmish resulted in the deaths of two bushrangers and one police officer. As a result, Captain Moonlite and Thomas Rogan were hung in Sydney's Darlinghurst Gaol on 20 January 1880 for the murder of Constable Edward Webb-Bowen. Culpability for firing the fatal shot, however, has remained a source of controversy. Information obtained from an analysis of historical records was used to guide an archeological excavation at the scene of the shooting in which Terrestrial Laser Scanning (TLS) technology was employed to produce a digital (3D) terrain model of the siege location. Utilizing the terrain model, the relative positions of Moonlite, Webb-Bowen, and the other gang members were established with possible projectile trajectories plotted.

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This, in combination with inquest evidence from a gun maker and the medical practitioner who examined Constable Webb-Bowen's wound, indicates that the most likely shooter was Gus Warnicke, aged 15 years, the youngest member of the gang, who was also killed in the exchange of fire.

 $\label{eq:constraint} \begin{array}{l} \textbf{Keywords} \hspace{0.1cm} \text{Bushrangers} \, \cdot \text{Police} \, \cdot \, \text{Colonial Australia} \, \cdot \\ \text{Wantabadgery} \, \cdot \, \text{Hanging} \, \cdot \, \text{Gunshot} \, \cdot \, \text{Captain Moonlight} \, \cdot \\ \text{Moonlite} \end{array}$

Introduction

Andrew George Scott (Fig. 1), who was the son of a clergyman, was born in Rathfriland, Ireland, sometime in the 1840's [1]. His record at Darlinghurst Police Station (No 2170) (Fig. 2) specifies his birth year as 1843, but just as with other aspects of this enigmatic individual the historical record varies, with birth years of 1842 and 1845 also being recorded [1-3]. From a boyhood in Ireland Scott would go on to become the infamous "bushranger", Australian outlaw [4], Captain Moonlite, who was executed by hanging in the colony of New South Wales, Australia, on the 20th January 1880, for the murder of a serving police officer, Constable Edward Webb-Bowen after the Wantabadgery siege. As much of his story is unclear, including the exact events at Wantabadgery in the early morning of 16th of November 1879 [5], the following investigations were undertaken in an attempt to clarify the shooting of the policeman. It is recognized, however, that as original witness statements are sometimes quite scanty, the police investigations perfunctory and not of a contemporary standard, and that important documentation has gone missing over time, that the following represents just one possible scenario.

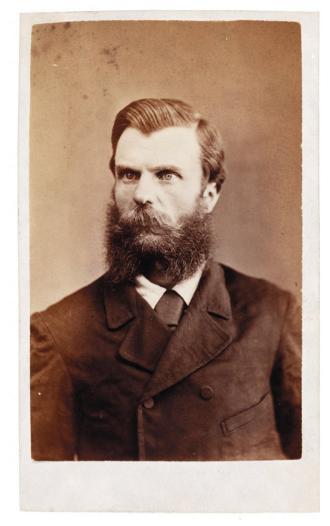


Fig. 1 A photograph of Captain Moonlight a.k.a. George Scott (Reproduced with permission from the collection of Victoria Police)

Background

Scott's family moved to New Zealand in 1862 where it has been alleged that he enlisted and fought in the Maori Wars, being wounded at the Battle of Orakau two years later [1]. Following an accusation of malingering he moved to the colony of Victoria in nearby Australia where he took up a position as a lay reader at Bacchus Marsh in preparation for entering the Anglican priesthood. In 1869, during his term at Mount Egerton, he was implicated in a gold robbery where a note was left, signed "Captain Moonlite" [2, 6].

Although he was not initially charged with the gold theft, Scott left the church and commenced a career culminating in his being jailed for obtaining goods by false pretenses. Following this, he was eventually arrested for his involvement in the gold robbery in 1872. He escaped from prison, was recaptured and, despite mounting his own apparently quite vigorous defence, was sentenced to 10 years hard labor. Upon his early release from Melbourne's Pentridge Goal in 1879 Scott began a career of public lectures detailing evils of the prison system, which certainly did not endear him to the authorities [1].

During his time in prison Scott met a young man, James Nesbitt. In the 1980's a series of letters written by Scott were found in the Archives Office of New South Wales which indicate that the two men most likely had a romantic relationship; e.g. in several letters written before his execution he stated that "he died in my arms, his death has broken my heart" [3]. Scott then assembled a group of young men, Thomas Rogan (22 years), Frank Johns (a.k.a. Thomas Williams) (19 years), Graham Bennett (20 years), and Gus Warnicke (15 years) who accompanied him on his lectures and ultimately followed him, on foot, to New South Wales [7]. Although they have been classed as bushrangers their exploits were evidently more hapless than organized.

During this final trek the "gang" held up Wantabadgery Station, approximately 35 km east of Wagga Wagga, taking hostages before becoming involved in a gunfight with police [2]. Scott then moved his men to nearby McGlede's farm where the police approached with reinforcements (Fig. 3). The ensuing shoot out resulted in both Warnicke and Nesbitt being fatally shot, the latter, as noted, dying in Scott's arms. Also dying several days later from his wounds was Constable Webb-Bowen.

Although it could not be determined who fired the fatal shot that killed Webb-Bowen, both Rogan and Scott were hanged at Darlinghurst Goal in Sydney at 0800 on 20th January 1880 for his murder. Scott wore a ring woven from a lock of Nesbitt's hair to the gallows [8].

Controversy

While Scott was clearly the leader of the gang, and therefore responsible for their actions, it is known that he was armed with a Snider rifle amongst other firearms and that the bullet removed from Webb-Bowen's neck after his death, was from a small caliber colt revolver. This weapon was not used by the police who, although also using colt firearms, were armed with larger caliber weapons. The small caliber colt, however, was known to be utilized by the gang. The objective of this study was to investigate the death of Webb-Bowen using information obtained by an archeological excavation at McGlede's farm employing modern imaging techniques for 3D reconstruction of the scene, in conjunction with reviewing the autopsy records from the event.

Investigations

Archeology

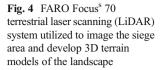
Collating records from the time with excavations at the site revealed the position of the original farm house (where Rogan

132 Name A. G. Scott als Capt Moonly No. 2170 hh Date when Portrait was taken, 26th nov? 1879 8269.70 . Court Native place Where and) when tried) Year of birth Arrived in Ship Colony Year en allen Offence 2 Muny Trade or occupation previous to conviction Sentence Deal ngina in Religion Remarks :-Education, degree of Height 5 feet inch Weight { On committal in lbs. { On discharge Executed 20 Jany, 1880, Colour of hair um. Colour of eyes Marks or special features

Fig. 2 Documentation of Moonlight's execution on 20th January 1880. (Reproduced with permission from the State Archives NSW)

Fig. 3 A contemporary newspaper depiction of the capture of Moonlight and his men at Wantabadgery. (Reproduced with permission from the State Library of Victoria)







had spent the time hiding under a bed and not firing his revolver or shotgun) [8], and the kitchen at the back where Nesbitt, Johns and Bennett were located.

Although there are some historical discrepancies it appears from the inquest findings into Webb-Bowen's death that Bennett, Nesbitt and Williams were in the kitchen, Rogan was in the farm house, Moonlite was moving constantly between the kitchen and the outside to the right of the house, and Warnicke was outside to the left and front of the house [7].

Terrestrial laser scanning capture and processing

Contemporary Terrestrial Laser Scanning (TLS) systems use the Light Detection and Reflection (LiDAR) method to capture millions of recorded points very quickly, and standard reconstruction techniques, that combine LiDAR data from different positions that have collected overlapping data, make it reasonably straightforward to capture quite large environments. The principal output dataset from a scan is a "point cloud" which is a simply a list of (x, y, z) positions in a mapped space that represent reflective points on objects (e.g. the ground, trees, fences, buildings etc) [9]. Secondary datasets can be derived from the point cloud include meshes (digital surfaces) and other 3D models that represent the scanning environment.

In this study, TLS data was obtained across the investigation area using a FARO Focus^s 70 terrestrial laser scanner (FARO, Florida, USA). With a distance accuracy up to ± 1 mm and range of 70 m, the Focus^s 70 and six standard reference spheres (Ø 145 mm), were utilized to obtain 14 overlapping scans across the siege area (Fig. 4). These data were then processed with FARO SCENE (v. 7.0) software package to unify the individual scans into a single image (unified residual fit = 0.006 m) (Fig. 5). A digital terrain model (i.e. with trees and other surface objects removed) of the siege area was then created using ENVI LiDAR (v. 5.2) and Global Mapper (v. 18.1) software and exported for visualization and interpretation at Monash University (Fig. 6).

Autopsy

Constable Webb-Bowen was shot in the neck and died of this wound in Gundagai Hospital six days later. During his admission, an attending doctor had noted that he was febrile (102 °F) and although there was some movement in his arms, his legs were completely paralyzed [10]. The autopsy report by Dr. Robert McKillop described a single bullet wound which entered "the base of the neck on the left side" passing through muscle and the seventh cervical vertebra to lodge in muscle "on the right side of the vertebral column and close to it" [11]. This could have easily been inflicted if the constable had been bending forward to reload his rifle while facing the farm house. Warnicke was the only gang member to his left, with Moonlite on his right. Death was attributed to "shock to the system and absorption of inflammatory products which lay in the track of the wound. The primary cause of death being the gunshot wound" [11].

Although there was initial confusion, the findings of the inquest which involved the testimony of a gun maker, Peter Burnes, and re-evaluation by Dr. McKillop, were that the fatal bullet had been fired from a small colt revolver, such as Warnicke was carrying, and not a small Snider rifle of the type that Moonlite had [12, 13].

3D reconstruction and synthesis

TLS point cloud data was loaded into the Monash CAVE2 for immersive exploration and visualization. The Monash CAVE2

Fig. 5 Visualization of the siege location LiDAR derived digital terrain model at the Monash University 'CAVE2' facility



Fig. 6 Visualization of the siege location LiDAR derived digital terrain model at the Monash University 'CAVE2' facility with vegetation removed to expose the archeological site



Fig. 7 A view from above with insertion of buildings and protagonists into the Wantabadgery siege location LiDAR derived digital terrain model, with lines of fire and protagonists added

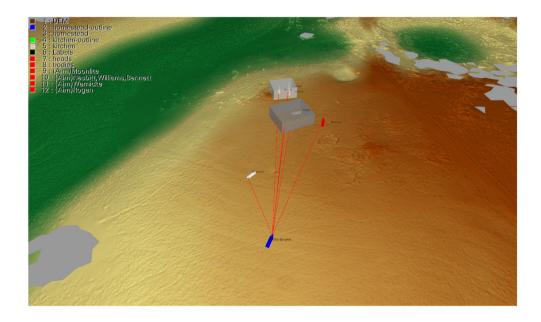
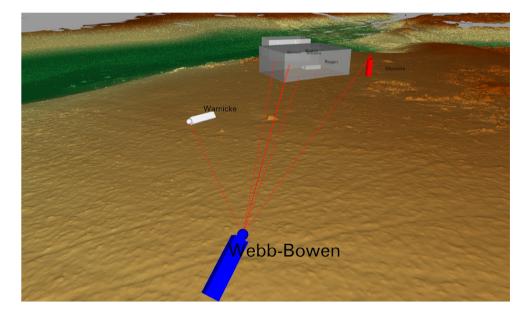


Fig. 8 A view from near ground level with insertion of buildings and protagonists into the Wantabadgery siege location LiDAR derived digital terrain model with lines of fire and protagonists added. The farm house is clearly blocking the line of sight to Const. Webb-Bowen from the three bushrangers in the kitchen



is an ultra-scale, surround, 3-dimensional (3-d) and stereoscopic display that enables the virtual exploration of any 3-d model, at any scale. For this work, the captured point cloud data was visualized at a 1:1 scale, and based on original records; the positions of Moonlite, Webb-Bowen and the other gang members were added to the environment as vertical markers (Figs. 7 and 8). Using the archeological data, a simple framework representing the farmhouse was added at the determined position, and the kitchen marked out.

With the gang members positioned in the virtual 3D landscape in the CAVE2, it was possible to see directly who could have been in a position to shoot the police officer. That is, in the virtual environment the user is able to position themselves at exactly the location of any gang member and "see for themselves" if there was a line of sight to the police officer. As can be observed from Figs. 7 and 8, the line of fire of the three gang members in the kitchen was blocked by the farm house which left only Moonlite and Warnicke as possible shooters. Given that Moonlite was not firing a small colt revolver, and was on the right of the Constable, this leaves only Gus Warnicke who was located outside between a cart and a fence [14]. He was, therefore, in a position to inflict a bullet wound with the described trajectory, and he had the appropriate weapon. The others were either blocked from view or did not have the relevant firearms.

Conclusions

With three gang members behind the farm house in the kitchen and Rogan under a bed, the only two "bushrangers" with a line of fire on the Constable were Moonlite and Warnicke. Although, as it was pointed out in the press of the day, "it was of no consequence whether it was from a Snider rifle, a Henry or a Colt's revolver they having taken part in the encounter, were equally guilty" [14], it appears that Warnicke was certainly the closest person to the police office and thus was the most likely shooter. This study has demonstrated that re-evaluation of primary records with utilization of modern technologies may be of considerable use in clarifying unanswered forensic questions from Australian colonial history.

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Compliance with ethical standards

Ethical approval This article does not contain any studies with human participants.

Conflict of interest The authors declare that they have no conflicts of interest.

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