– ARTICLE –

Death and Dark Deeds on the Goldfields: The tragedies of an unknown miner

Peter Petchey[1*], Hallie R. Buckley[2], Neville Ritchie[3], Charlotte King[2]

ABSTRACT

In 1983 the grave of an unknown man was excavated in the Cromwell Gorge, Otago, New Zealand, as part of the archaeological programme of the Clutha Valley Development Project. This project culminated in the construction of the Clyde Dam, a large hydro-electric dam across the Clutha River. At the time of the excavation it was noted that the grave had been disturbed, and the skeleton was sent to the Anatomy Department at the University of Otago for study. A short report was produced, identifying the individual as a tall European male. Because no next of kin could be determined, the skeletal remains stayed in the Anatomy Department.

Advances in bioarchaeological and archaeological methodology mean that a more detailed and nuanced study of this individual is now possible, and this research is presented in this paper and its companion (Buckley *et al.* this issue). In this paper, the life, death and burial, along with the circumstances and details of the grave disturbance are discussed. The material culture and manner of burial are typical of the nineteenth century goldfields frontier context, while the disturbance of the grave leads to the conclusion that this was a deliberate act of grave robbing, possibly to search the dead man's pockets for gold. There are no known records of such crime on the goldfields, but the archaeological evidence is unequivocal, shedding light on a previously unsuspected darker side of goldfields life.

INTRODUCTION

In 1983 Neville Ritchie, then of the New Zealand Historic Places Trust (NZHPT, now Heritage New Zealand Pouhere Taonga, HNZPT), conducted a rescue excavation of a nineteenth century burial (archaeological site G41/30) in the Cromwell Gorge, in Central Otago, New Zealand, prior to the development of the hydro-electric Clyde Dam (Figure 1). The lone grave had been reported by the landowner, who understood that it had been the grave of a 'black man' who had drowned in the Clutha River.

The burial was of a middle-aged man in a simple wooden coffin, buried wearing his boots, in a lone grave on the side of the gorge. Lone and remote graves were not uncommon in this place and period, as the Otago goldrushes of the 1860s created a new frontier and people flowed through the harsh landscape, many succumbing to the risks of exposure, drowning, disease, accident, violence and suicide. What is unusual about this burial is that there was clear archaeological evidence that after the initial interment the grave had been robbed and the human remains considerably disturbed. We can never know for certain what the robbers were looking for, although given the geographical and historical context the answer was probably gold.

After excavation the human remains were sent to the Medical School at the University of Otago, where Philip Houghton carried out an initial analysis, and concluded that the individual was a European male (Houghton 1983; *Otago Daily Times* 24 June 1983; 29 June 1983). The remains are still held in the Anatomy Department, providing the opportunity for reanalysis prior to formal reburial. Since the 1980s many new analytical approaches have become available, greatly enhancing our ability to study past lives, and these technical analyses are now framed within developing bioarchaeological theory to include consideration of life course theory (Argarwal & Glencross 2011) and the Bioarchaeology of Personhood (Boutin 2019). These models consider the biosocial experiences of an individual throughout the life course that have influenced health and wellbeing and by telling the narrative of the person's life in a manner that is accessible to people outside of the specialist fields of archaeology and osteology. The manner of this person's burial, evidence of post-deposition disturbance of the grave, local stories of his ancestry and cause of death all exemplify the divide that exists between historical narrative of this period of New Zealand's history and the direct and more nuanced evidence that can be gleaned from bioarchaeology enquiry.

The life course and burial context of this unknown man are the subject of two related papers: this one outlines

1 Southern Archaeology Ltd. / Honorary Research Fellow, Archaeology Programmme, University of Otago
2 Anatomy Department, University of Otago
3 Independent researcher, Hamilton
*Corresponding author: peter.petchey@xtra.co.nz
Submitted 10/6/21, accepted 22/11/21. First online 20/1/22.

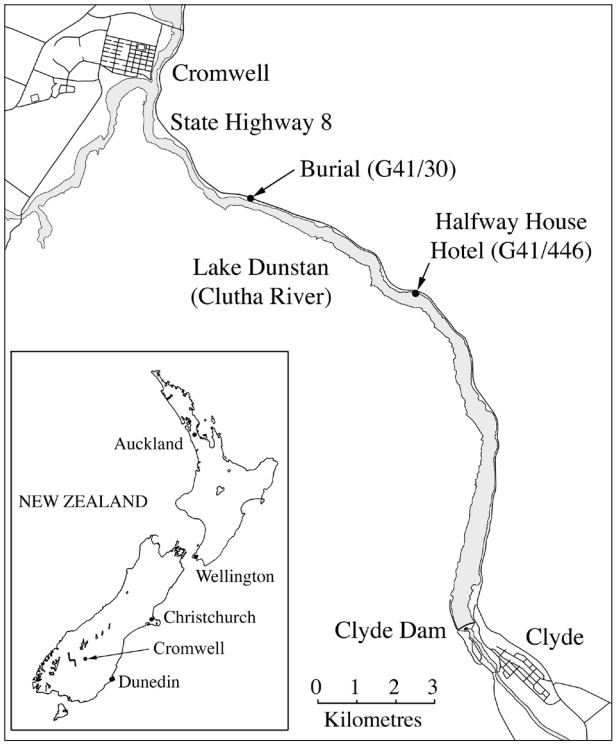

Figure 1. The location of the Cromwell Gorge burial and the Halfway House Hotel site discussed in this paper.

the historical background, archaeological excavation, material culture, and considers the social and historical context of the man's life and death and the robbing of his grave. The companion paper (Buckley *et al.*, this issue) describes the bioarchaeological evidence of the man's biological profile (age, sex, health, origins, diet), his life course, and other aspects of his lived experiences. Together these two papers present a detailed case study into the life and death of one previously lost and un-named individual in the nineteenth century Otago goldfields. Together the papers consider four overarching questions: who was he, how did he die, why was he buried alone on a hillside, and what happened to the grave after the burial?

HISTORICAL BACKGROUND: THE OTAGO GOLDFIELDS

In the second half of the nineteenth century there were a series of major international gold rushes, which can be very broadly summarised as California (1840s), Australia (1850s), New Zealand (1860s), South Africa (1880s). In Otago and Southland there had been hints of the presence of gold as early as 1849, and small amounts were found throughout the 1850s (OPC V&P Session XVI 1862:15–16; Salmon 1963:46). During 1858 Alexander Garvie found gold in the Lindis River and Edward Peters ('Black Peter,' an Indian probably from Bombay, present Mumbai) found gold in a number of places, including Evans Flat and Woolshed Creek. The first rush in Otago occurred at the Lindis Pass in 1861 when workmen found gold while building a road, and 300 men were there by the end of April. However, the arrival of winter and the discovery of gold at Gabriel's Gully brought the Lindis rush to a rapid end (Pyke 1887). By the beginning of August 1861 at least 2,000 men were camped at Gabriel's Gully, and in mid-September J.T. Thomson estimated that there were 3,000 men in the gully and 6,000 in the overall area (OPC Gazette 26th September 1861:238; Salmon 1963:54). Between December 1860 and December 1861 the population of Otago rose from 12,691 to 30,269 (King 2004) (OPC V&P Session XVI 1862:17).

In 1862 an even larger gold rush struck Otago, after two Californian miners, Horatio Hartley and Christopher Reilly, deposited in Dunedin 1,047 oz. of gold that they had recovered from the beaches of the Molyneux (now Clutha) River near where Cromwell now stands (Oliver 1990); OPC V&P Session XVI 1862:18; Pyke 1887; Salmon 1963). By September 5th some 3,000 men had arrived at the Dunstan, the goldfield was proclaimed on 23rd September, and prospectors quickly moved further afield (Figure 2) and found gold in the Nokomai, Shotover and Arrow Rivers (OPC V&P Session XVI 1862:19; Salmon 1963). By 1869 seven Otago goldfields had been declared: Tuapeka, Dunstan, Teviot, Nokomai, Wakatipu, Mt. Ida and Taieri (Salmon 1963).

These immigrants were predominantly, but not exclusively, of British Isles origin (English, Scottish, Welsh and Irish), and most came across the Tasman from the Australian goldfields (the Chinese would not arrive in numbers until 1866). They were overwhelmingly male (87% of those arriving from Victoria), and were generally in their 20s or 30s (Phillips & Hearn 2008). Of course, not all inhabitants of the goldfields were gold miners–storekeepers, hotel keepers, packers, wives and barmaids all contributed to the mix. After the initial rushes had subsided, settlement began to become more permanent and balanced, with wives and families joining the men. Many rush settlements only existed for a short time and disappeared as quickly as they arose (such as German Hills and Chamounix), but others found a permanent role as rural service centres and have survived to the present day (for example, Cromwell, Clyde and Alexandra).

In their travels the hopeful gold diggers had to contend with many hazards for which they were unprepared. The unpredictable Central Otago weather and harsh winters caused numerous deaths from exposure, most famously in the 'Great Snow' of August 1863 when up to 13 men died after being caught in a snowstorm in the Old Man Range (Dwyer 2007:41–42). One of the few marked graves from this event is at Gorge Creek, in the Roxburgh Gorge, where up to eight other unmarked graves may also have been present (Dwyer 2007:35). But the greatest hazard for all travellers was river crossing: before ferries (and later bridges) were established, river crossings could be particularly treacherous, and drowning became known as 'the New

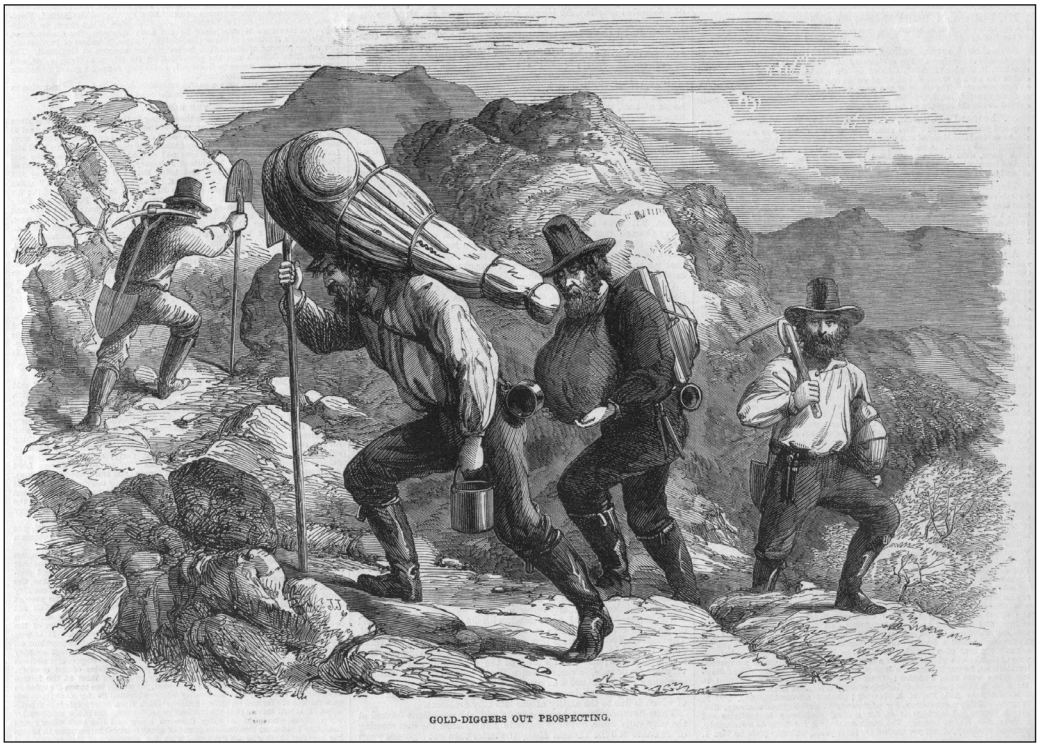

Figure 2. 'Gold Diggers out Prospecting.' An 1863 engraving of Otago miners from the *Illustrated London News*, giving an idea of the hardships faced by the diggers in the Dunstan goldfield.

Zealand death' with around 100 deaths nationwide a year in the 1890s (Ell & Ell 1995); *Lake County Press* 31 December 1885; *Otago Witness* 1 February 1894). Flash floods were another hazard, made more dangerous by the habit of diggers to camp on river flats while water levels were low, so that they could be close to their claim. Alexander Bathgate (1874:150–153) graphically described a flood in the Shotover that swept away many miners in the early 1860s, the bodies of several men later being recovered at the Kawarau Junction (see also Gilkison 1930:66–67). Some were only found years later: a private museum in the Shotover Valley displays a boot with a foot still inside that was discovered during modern mining operations in the river. One of the best-known goldfield graves is that of 'Somebody's Darling' at Horseshoe Bend beside the Clutha River, together with the companion grave of William Rigney, 'the man who buried somebody's darling.' 'Somebody's darling' was (almost certainly) Charles Alms who drowned while taking cattle across the river in January 1865, and whose body was found on a beach at the northern end of the Horseshoe Bend diggings; although William Rigney did not actually bury him he did arrange for a fence and grave marker to be erected at a later date (Sutton 2014; *Tuapeka Times* 19 January 1901). The numerous variations on the story that have grown up in some ways represent the many unknown young men who died in the early years of the goldfields, and were buried in unmarked graves (Hargreaves & Holland 1995).

CURRENT THEMES IN HISTORICAL ARCHAEOLOGICAL RESEARCH

One of the current themes in New Zealand historical archaeology is the examination of identity, and how this is expressed in the archaeological record (Smith 2004, 2008; 2019; Jones 2012; King *et al.* 2020; Petchey & Brosnahan 2016). Recent work by historians has examined the British origins of many early settlers, and has also shown how some of those that came to New Zealand took the opportunity to reinvent themselves in their new home (Phillips & Hearn 2008). This process of reinvention and reinterpretation continues today: for example, the southern franchise rugby team is called the 'Highlanders,' and yet Otago was principally a settlement of Lowlanders.

There has been a lot of historical and archaeological research carried out on early historic-era New Zealand settlement e.g. (Hamel 2001; Ng 1993; Phillips & Hearn 2008; Smith 2019), but what do we really know about these early European settlers? How did they interact with each other? There were European, Chinese and Māori on the goldfields, all with different cultural norms. Who were the women and children, and how did the goldfields lifestyle affect their health and survival? Conventional archaeological research has involved the excavation and analysis of the places that these people lived and worked e.g. (Bedford 1986; Ritchie 1986; Petchey 1999; Hamel 2004), and more recent research has moved beyond basic artefact analy-

sis to examine ideas of life course or life cycle narratives (Campbell & Furey 2007; Woods 2019). But a more direct way of studying peoples' origins, health and diet is to study the people themselves through analysis of their skeletal remains using modern bioarchaeological methods. Since 2016 the Southern Cemeteries Project has undertaken the excavation of individuals from unmarked and previously 'lost' graves in the Otago region of New Zealand in order to address these questions. One of the aims of this Project is to bring the individual stories of these people to light through integrated case studies (Snoddy *et al.* 2020) and broader cemetery-based reports (Buckley *et al.* 2020; Petchey *et al.* 2017; Petchey *et al.* 2018a; Petchey *et al.* 2018b). The application of high-precision isotope analyses of these people's diet throughout the life course has also provided direct evidence to build and support these narratives that would otherwise remain unknown (King *et al.* 2020; King *et al.* 2021).

CLUTHA VALLEY DEVELOPMENT PROJECT AND SITE IDENTIFICATION

During the late 1970s and the 1980s the Ministry of Works and Development (MWD) and the New Zealand Electricity Department (NZED) conducted wide-scale investigations into the hydro-power generation potential of the Clutha Valley (the Clutha Valley Development Project, CVD), which ultimately led to the construction of the Clyde Dam on the Clutha River at the mouth of the Cromwell Gorge (Figure 1). The resulting Lake Dunstan (filled in 1992–93) extended up the Cromwell Gorge, inundated most of the old part of Cromwell, and covered an extensive area of the river flats upstream of the township.

Preliminary archaeological surveys had identified a rich archaeological landscape in the wider area (and many more sites would be found during later surveys) (Higham *et al.* 1976; Mason 1977; Newman 1977). As a result, the Clutha Valley Archaeological Project was established, funded by MWD and NZED, and administered by the NZHPT. The project ran from 1977 until 1987, with a wide brief that did not just include investigation of archaeological sites that were to be destroyed, but also a wider mitigation package of investigation, research and publication of results. Neville Ritchie was appointed as director of the project, and he and a team of archaeologists were based in Cromwell while working in an area that stretched from the Shotover River near Queenstown to the Waitaki Valley (Ritchie 1990). Within the Cromwell Gorge several archaeological investigations were undertaken, including the excavation of the Halfway House Hotel site (Bedford 1986) and the subject of this paper, the recovery of a grave of an unknown individual (Ritchie 1990).

The grave itself was located at the northern end of the Cromwell Gorge, above the old road, in an area that has since been considerably modified by the construction of the new State Highway. The site was recorded by Mary Newman (NZHPT Cromwell) in 1977, based on information provided by Maurice Spain, a previous landowner (Site Record Form S133/327). Maurice Spain had been shown the grave by his father, and local historian James Parcell had told him that it was reputed to be the burial of a 'coloured man whose body was found in the river.' As Spain had been shown the grave by his father in about 1916, when presumably it was already old, it can confidently be stated that it

Figure 3. The schist slabs that marked the grave prior to excavation, June 1983 (N. Ritchie).

dates to the nineteenth century, and was not associated with a nearby railway workers' camp for the Otago Central Railway that was constructed through this section of the gorge in 1917 (Dangerfield & Emerson 1995: 34; Site Record Form S133/327).

ARCHAEOLOGICAL EXCAVATION

The excavation was carried out in 1983, and this full description has been written in 2021, using the original field notes, drawings and photographs, along with Ritchie's personal memories. In addition Agisoft Metashape photogrammetry software was used to process the 1983 photographs to produce 3D models of the burial, which has allowed detailed descriptions of archaeological context to be made (see Figures 4 to 7).

As the grave was in an area of the gorge that was to be modified by the proposed dam development, it needed to be removed, and accordingly Neville Ritchie and Stuart Bedford carried out the excavation from 14 to 17 June 1983. The grave site was marked by a rectangle of schist slabs, covering an area of 2 by 1 metres (Figure 3). After these were cleaned and photographed the excavation commenced with two 350 mm square test pits, one at each end of the grave. These were then extended within the grave cut where human remains were encountered from a depth of 800 mm to the bottom of the grave at 1.3 m, and also to the south side outside the grave cut, where dislocated human remains were found at a depth of 100 mm to 300 mm. It quickly became apparent that the burial had been disturbed, with human remains scattered both vertically and horizontally (Figures 4 to 6).

At the base of the grave (1.3 m below the surface) the remains of a simple wooden coffin of traditional single-break form were found, with the head to the west. The coffin contained the majority of the human remains, but apart from the feet and part of the lower legs most of the bones were disturbed. The feet were still encased within a pair of leather boots (Figure 7 and described below), with the left tibia and right fibula in articulation, but the other leg bones had all been moved. The femora were present but were lying jumbled at approximately knee level, and the right femur sloped up so that the proximal end was only 800 mm below the surface. The cranium was near the head of the coffin, but was upside down against the north side. The mandible was upside down at about hip level, again on the north side. The left humerus was in approximate anatomical position, while the right humerus was at about right hip level. The scapulae were in approximately correct position. Ribs and vertebra were scattered about the chest area, and one vertebra was beneath the cranium. In the grave fill above the coffin level a piece of the sternum was found 1 m below the surface. Above that the left half of the pelvis, the right tibia and a number of metacarpals were found 800 mm below the surface in the centre of the grave. Timber fragments, nails, a button and a buckle were also found at this level.

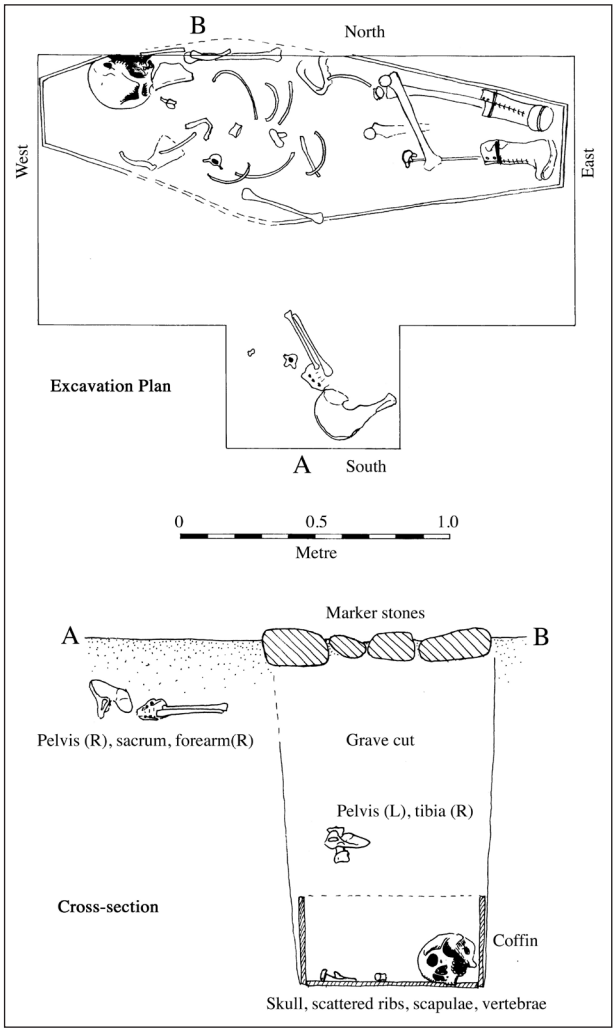

Figure 4. Plan and cross-section of the burial, based on the 1983 field drawings and 2021 photogrammetric reconstructions of the grave context.

Outside the main grave cut, a concentration of jumbled bones had been deposited on the south side of the grave. A metacarpal was found at 100 mm depth, above the right half of the pelvis, the sacrum, a vertebra, the right radius and ulna and a phalanx (the lowest of which was at 300 mm depth).

The bones were mostly in excellent condition, and after they were recorded and photographed they were lifted and transported to the Anatomy Department for analysis. The boots were lifted with the foot bones inside, and no effort was made at the time to remove these.

MATERIAL CULTURE

The artefactual material associated with the burial consisted of the remains of the wooden coffin, the pair of leather boots, several buttons and a buckle.

Figure 5. The burial during excavation. The (L) pelvis, sacrum and (R) forearm are sitting beside the grave cut nearthe surface, while the (L) pelvis and (R) tibia are exposed about half way down into the grave fill (N. Ritchie).

Figure 6. The burial after all of the grave fill had been removed. The disturbed and scattered nature of the remains is obvious (N. Ritchie).

Figure 7. The partial lower legs with the boots still in place and laced up, June 1983 (N. Ritchie).

The coffin was of the traditional single-break form (narrow at the feet and head, wide at the shoulders), made from plain timber nailed together and without handles. The sides overlapped the base and were nailed horizontally. The coffin measured 2 m (6 feet 6 inches) long and 430 mm (17 inches) wide at the shoulder break. The timber was very decayed, and no samples survive for identification, but it was noted during the excavation that it was very knotty. Pieces of decayed timber were found mixed into the same grave fill matrix as disarticulated bones above the main burial level; this was possibly the remains of the smashed coffin lid.

There is nothing that can be used to date the coffin: the form and method of construction is the same as many of those investigated recently in Milton, Lawrence, Cromwell and Drybread that date to the 1870s–1890s (Petchey *et al.* 2017; 2018a; 2018b; in preparation). The lack of any adornment or handles in some of these cases was probably the result of socio-economic status of the individual, but in this case (as in Lawrence) was more likely to be the result of a simple frontier burial.

The small personal items consisted of a small white shirt-type button (almost certainly a milk-glass button), a wooden button and a buckle. None still remain with the human remains in storage. All are consistent with the individual having been buried clothed, a conclusion supported by the fact that he was still wearing his boots when buried.

The boots (Figure 8) were well-preserved except for the soles and are still stored with the human remains in the Anatomy Department (the left foot bones have now been removed from the boot). The boots were constructed with leather uppers, soles and stacked heels, but while the uppers were made from a fine-grained tanned leather and are still in reasonable condition, the soles and heels appear to have been made from coarser leather, and are very fragmentary. Computed tomography (CT scanning) was undertaken in order to examine the human foot bones within the boots, and this also allowed the boot construction to be examined in more detail (Figure 9).

The boots were constructed with one piece quarters triple stitched to the vamps, and then attached to the leather soles using stitched welts. The heels were attached using wooden pegs and iron nails. They are 11 hole boots that stand 184 mm (left) and 180 mm (right) high (excluding soles and heels), and 280 mm (left) and 270 mm (right) long. The lace holes are all fitted with non-ferrous (probably brass) eyelets. There are no toecaps, counters or other detailing.

The individual was buried wearing his boots with the laces still tied, and they remain this way today (Figure 10). The laces are strip leather (2 mm wide) mounted with a knot tied at one end and laced through a bottom eyelet, wound up through the eyelets on alternate sides of the closure until the 9th hole, and then wrapped around the top of the boot and tied off, both sides with the loop of the knot to the right and the tail to the left. Informal experiments with both left and right-handed people indicate that the boots were probably tied by a right-handed person.

The style of the boots is a simple form often referred to as a 'Blucher' boot, which was a basic working boot made with the quarters stitched over the vamp (Veres 2005: 91). Their simple construction and lack of any detailing suggests a basic work boot, but the welted construction, good quality stitching and lack of toecap or counter all suggest a reasonable quality medium weight boot rather than a heavy

Figure 8. The boots from the burial, photographed in 2020. A typical pair of late nineteenth century men's leather boots.

Figure 9. A CT scan of one boot, showing the foot bones jumbled inside, and also showing details of the boot construction, particularly the welt stitching holes.

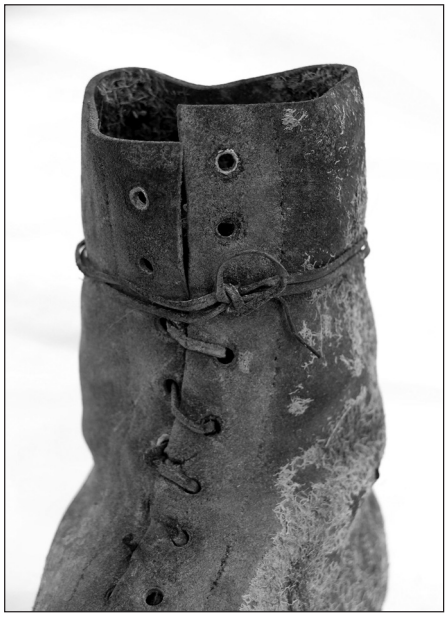

Figure 10. A detail of the laces of one boot, still as tied by the individual shortly before he met his untimely death. Informal attempts by several people to recreate the same lacing pattern and knot suggest that he was right-handed.

working man's boot. The lack of soles is unfortunate, but it is unlikely that they were hobnailed (which was often done to working boots) as no corroded hobnails were found and there is no evidence of rust staining on the boots. In conclusion, they were probably a sturdy pair of everyday boots, but not heavy-duty hobnailed working boots.

THE SKELETON

The near complete skeleton recovered in 1983 is curated in the Anatomy Department, and the paper (in this issue) by Buckley *et al.* describes it in detail. The locations of the main elements are described above, and the main other feature of note here is that the right anterior superior iliac spine (part of the pelvis) had been cut with a sharp instrument perimortem. The colour of the cut edges indicates that this did not occur during the 1983 excavation.

DISCUSSION

As stated in the introduction, the archaeology and bioarchaeology of this lone burial have four overarching questions to address: who was he, how did he die, why was he buried alone on a hillside, and what happened to the grave after the burial?

Who was he?

Firstly, the remains are biologically male (Buckley *et al.* this issue), and this gender identity is supported by the boots that are of a typical male style of the period. The 'who was he' question can probably never be answered with a name. A search of newspapers accounts of drownings in the area (using www.paperspast.natlib.govt.nz) did not find any likely matches. However, the bioarchaeological investigation (Buckley at al this issue) provides a great deal of information on biological identity, including his ancestry, geographical origins, health, diet, stature and age.

Some aspects of his childhood can be determined. He was probably not born locally, but was of European, likely British Isles, origin, possibly from the southeast of England or from Ireland (based on strontium isotope analysis of his teeth and mitochondrial DNA analysis (Buckley *et al.* this issue). The local account that he was a 'coloured man' who drowned in the Clutha River can therefore at least be partly discounted. As suggested in Buckley *et al.* this issue, however, it is possible that, if he did drown in the river, his skin had darkened in the water as this can occur with decomposition in a wet environment (Caruso 2016), which may account for this aspect of the story.

Analysis of his teeth showed that linear enamel hypoplasia (LEH) was present on most of his teeth: a failure of the tooth enamel to develop properly during infancy and childhood when the teeth are being formed, due to various stressors, especially infection and malnutrition. His childhood was therefore challenging at times, with several periods of stress affecting development. But as he aged his protein consumption appears to have increased, possibility indicating an improvement in his financial circumstances (Buckley *et al.*, this issue).

His adult life we can tell more about. He was very tall for the period, about 6 feet 2 inches (188.78 cm ± 3.85 cm), and probably middle-aged (30 to 40+ years old). He had injured his right ankle, which may have left him with a limp and some discomfort. One shoulder was also possibly stiff, due to a defect in his right scapula that would have been exacerbated by physical work.

A number of lesions on the skeleton may suggest that he suffered from periods of scurvy due to deficiency of Vitamin C in his diet. Prior to the advent of market gardens in the goldfields (which the Chinese are often credited for) the diet tended to be monotonous and expensive as most goods had to be packed or carted into the interior. Vincent Pyke (1887: 47–48) listed the prices of staples at Tuapeka in August 1861: 'butcher meat' (probably mutton or beef) 1s to 1s 6d per lb., tea 6s per lb., sugar 1s 6d per lb., flour 1s 10d per lb (equal to 7s 4d for a four-pound loaf of bread), butter 3s 6d per lb., potatoes 6d per lb. At the same time a four-pound loaf of bread in Dunedin cost 1s 2d. Pyke (1887: 104) went on to comment:

> The hardships which the miners had to endure in the early days of the Dunstan were very great, not the least being the entire absence of fresh vegetable food. Flour and bacon were the most portable provisions, and on these they chiefly subsisted,

> with the consequences that, like sailors in similar circumstances, they began to suffer from scurvy.

Archaeological excavations at the nearby site of the Halfway House Hotel (in business from ca. 1864 to 1917, see Figure 1 for location) provide some insight into local consumption patterns of the goldrush and post-rush periods (Bedford 1986: 90–100). There meat cuts predominated, although it must be remembered that there would be little or no archaeological evidence of vegetable or fruit consumption, apart from the kernels of nectarine or peach (n=72) and apricot (n=4) which were present but would only have been seasonally available. Within the meat cuts, beef consisted of 59% of the total meat weight consumed, sheep meat (mutton and lamb) 28%, and pig 13 %. Chicken and geese bones shows that these were also being eaten, and eggs consumed, along with a small amount of fish (blue and red cod) and shellfish (oyster). Dietary isotopic analysis suggests that in adulthood the Cromwell Gorge burial's diet was focussed on C_3 crops and terrestrial meat (Buckley *et al.* this issue). It is therefore probably safe to conclude that he ate a diet dominated by bread, tea, sugar, potatoes, beef and mutton.

Such a diet would not only have affected his general health, but also more specifically his dental health, especially in the absence of regular teeth cleaning. His oral health was very poor, with high rates of caries, calculus, alveolar lesions, tooth loss and periodontal disease (Buckley *et al.*, this issue). He also had pipe facets: the distinctive wear grooves on the teeth worn when a clay pipe (which is slightly abrasive) is repeatedly clenched between the teeth. Brown staining on some teeth may also be from tobacco smoking. To put this poor dental health into contemporary perspective, all of the individuals examined as part of the present research programme into historic Otago cemeteries have exhibited extremely poor dental health, and all of the men (and some women) also had pipe facets (Buckley *et al.* 2020; Petchey *et al.* 2018a; 2018b). In other words, the individual buried in the Cromwell Gorge would have been in constant discomfort from his decayed teeth, but so was almost everyone else in this period.

There is only limited evidence as to what he was wearing when he died, namely some buttons, a buckle and his boots, but these do fit into the general narrative of what was worn in the goldfields. There was almost a colonial goldfields 'uniform' of boots, moleskin trousers, flannel shirt, jacket and felt hat (see Figure 2). Recent excavations in cemeteries at Lawrence (2019) and Drybread (2020) encountered conditions conducive to the good preservation of fabric, and have found extensive evidence of this type of garb, including sturdy leather boots, felt hats and woollen jackets (reports in preparation). The Cromwell Gorge burial's boots are typical of the period. Everyone wore boots: Swann (1982: 43) commented 'the predominant footwear, as the British set out to conquer the world, was naturally boots.' As with clothing styles (particularly for men), practical footwear would have been important in a new country with rudimentary roads in the towns as well as the country. As such it is to be expected that someone working in or travelling through the Cromwell Gorge in the late nineteenth century would be wearing boots: anything else would be surprising. The basic 'Blucher' boot was a popular choice of the period (Ebbett 1977: 37; see also Swann 1982: Fig. 38a), and examples have been found in numerous archaeological excavations in New Zealand; Blucher boots were the second most common style of boots found at the Sky City Site in Auckland, where they made up 16.5% of the total boots, and several examples were found at the Farmers site in Dunedin (Bioresearches 1995: 161; Petchey 2004: 64).

What is slightly unusual about the boots in the present instance is the fact that there were still on the feet and laced up. In the burials excavated in colonial Otago contexts to date, no European burials were found with footwear included, while four Chinese burials at Lawrence and Drybread did have boots. However, of these only one (Drybread Burial D8) was still wearing these; in all other instances the footwear had been placed in the coffin over the legs and feet. While far from conclusive, this suggests that the Cromwell Gorge burial was one of circumstance where 'normal' burial practices were not all necessarily followed and he was simply buried wearing what he died in.

How did he die?

There was no evidence on the skeleton to suggest how he met his death. The right pelvis had a perimortem cut from a sharp instrument, but this may have occurred as the grave was robbed (discussed below), and if he had been a known murder victim it is likely that there would be a newspaper record. There are no other visible injuries to his skeleton that would have contributed to his death: such direct evidence of traumatic death is rare in the archaeological record but does occur. In the goldfields, accidents were common, and a burial excavated at St. Johns' Milton in 2016 is thought to have been a miner killed in 1877 in a rockfall underground, as his extensive skeletal injuries match the inquest details published at the time (Buckley *et al.* 2020; *Tuapeka Times* 14 November 1877: 3). The fact that the Cromwell Gorge burial was interred wearing his boots still tightly laced up suggests that his death was not expected: he did not die in bed from sickness or injury. Death was therefore likely to have been from accident or misadventure.

The local story that he drowned in the river is quite likely, as the grave was on the side of the Cromwell Gorge above the Clutha River, and as discussed above drowning was a common death in early New Zealand. And, in most circumstances, it is a death that would leave no evidence of trauma on the skeleton. Further downstream the grave of 'Somebody's Darling' at Horseshoe Bend was a drowning victim, also buried on the true left bank of the Clutha some

distance above the water level. Newspaper searches found accounts of 25 adult male individuals who drowned in the Cromwell area between 1864 and 1900, illustrating how common this form of death was, but none of these aligned with the known facts about the Cromwell Gorge burial.

The other likely possibility is that he died from exposure: as discussed above the Great Snow of August 1863 killed up to 13 men in the Old Man Range, and nine of these may be buried at Gorge Creek in the Roxburgh Gorge (with just one grave marker). But in the absence of any other evidence, and given the proximity of the river, drowning does seem the most logical cause of death.

Why was he buried on his own?

The Cromwell Gorge burial was buried in a liminal position, alone, and outside of a formal burial ground. In contemporary Britain and Ireland liminal burials were unusual, and generally symbolic of the circumstances of death. So-called 'deviant' or boundary burials were individuals who committed suicide and were relegated to burial at the crossroads or boundaries of settlements as a form of punishment for their actions against God (Harte 2011: 273). In colonial-era New Zealand suicides often seem to have been given the benefit of the doubt and recorded as 'temporarily insane,' allowing for a Christian burial, but at least one contemporary nearby death was not: in 1864 the inquest into a suicide by drowning at Tuapeka returned the verdict of *felo-de-se* (felon of oneself) and directed that the deceased should be buried 'between the hours of nine and twelve that night, without Christian or any religious service being read, the grave to be flattened down as though no interment had taken place' (*Otago Witness*, 26 March 1864).

The careful marking of the Cromwell Gorge grave with stones and the use of a coffin would not support this explanation for his burial type. As already discussed above, lone and small clusters of burials away from formal cemeteries were not uncommon in the New Zealand frontier colonial context. As people died in remote places many were buried close to where they fell, but sometimes great efforts were made to move the body to a place of burial: for example 18 men laboured in relays to bring to coffin of John Stewart down to Gorge Creek after his death in the Great Snow of 1863 (Dwyer 2007: 12). But even in this case it should be noted that only one grave of possibly nine is marked, and the area has never been formally declared a cemetery.

The Cromwell Gorge burial was interred only 6 km from the Cromwell Cemetery, which was surveyed in 1863 but was probably in use prior to that. It is possible that he died prior to the establishment of the cemetery, but alternatively the challenge of carrying a decaying body weighing in the region of 70kg over rough tracks and a river crossing may have led to the decision to place him in a lone grave. A coffin was obtained for him, but this was very simple and it is possible that it was made close to the grave site, as transporting timber planks would be much easier than carrying an assembled coffin.

It is therefore most likely that the Cromwell Gorge burial was placed close to either where he died or where the body was found, in a typical frontier burial: a plain wooden coffin on a hillside under a pile of schist slabs.

What happened to the grave: the graverobbers

In most of the aspects discussed above the Cromwell Gorge burial is little different from many of the others who lived and died on the Otago goldfields, and now lie in marked and unmarked graves. What does mark him apart is the unequivocal evidence that the grave was reopened and the remains disturbed. Exhumations in the goldfields are not unknown; in particular many Chinese burials were exhumed for repatriation in 1888 and 1902 and archaeological evidence of these events was found at Lawrence and Drybread (Petchey *et al.* 2018a; report in preparation); but this situation was very different. The Chinese exhumations were all carefully executed, with all human remains removed and the clothes and coffins left behind: in the recent excavations at Lawrence and Drybread not a single fragment of human bone was found in an exhumed grave.

In the Cromwell Gorge burial no such care was exhibited, and the human remains were pulled apart and scattered, with some left only 100 mm below the ground surface. The boots, feet, left tibia, right fibula, left humerus, and both scapulae were in approximately the correct positions, and the skull had rolled to one side. But the femora had been pushed down over the knees, and pulled up at their proximal ends, and the pelvis had been separated and pulled up, with one half left at the top of the grave on the south side together with the left forearm, and the other half in the grave fill. The body appears to have been disturbed at a point where decomposition was well advanced, allowing it to be broken up, but with some of the ligaments still intact as some elements were still in articulation, such as the right forearm bones and right pelvis and sacrum. The joints of the pelvis are among the last of the body to release during decomposition (Duday 2006), which suggests the disturbance occurred weeks or months after burial (if he was a drowning victim, he may have been in the water for a while and decomposition may have been advanced by the time of burial).

What this tells us about the actions of those who disturbed the grave is that they knew exactly where it was, and excavated into the middle of the soft grave fill. Once they reached the centre of the coffin lid, they broke through this to expose the body, and began to search through the remains. The nature and direction of the cut mark on the right pelvis suggests that they may have smashed through the coffin lid with a spade or similar instrument over the hips, damaging the bones beneath. The metal buckle found in the grave fill suggest that the corpse was wearing a belt, and the robbers possibly hauled the belt, remains of the trousers and the pelvis up together. The partially intact

ligaments pulled the femora and one tibia up, while the left knee joint separated leaving the left tibia in place. The robbers rifled thoroughly through the waist and chest area, probably searching the pockets of the man's clothes. Some body parts were pulled up out of the way and placed on the side of the grave, including the left forearm and left half of the pelvis. Once they had finished the hole was quickly refilled to cover their traces, with the body parts at the top of the grave pushed back with the fill (the R tibia and L pelvis) or simply left there and covered with loose dirt. It is possible that they then placed the schist slabs back over the grave to hide the evidence of their actions and made their exit.

What were the robber(s) searching for? There is of course now no way of telling, but given the historical and geographical context of the burial in the goldfields the answer is probably gold. It is reasonable to assume that whoever found and buried the body would have checked the pockets for any identification evidence and valuables: accounts and inquests of other deaths in the goldfields often refer to the personal effects of the deceased (Dwyer 2007: 47–70). But possibly local rumours grew (maybe at the nearby Halfway House Hotel), and someone decided to have another look at the body? Whoever it was had a strong stomach and few qualms: head down in a hole with a decomposing corpse would have been confronting.

This was a disturbance carried out in a hurry with no regard or respect for the human remains, which were then equally carelessly reburied to hide the evidence of the crime. And crime it was. The Otago Province *Cemeteries Ordinance 1856* and later Section 58 of the *Cemeteries Act 1882* (which covered the entire country) required written permission to disturb a burial. Grave robbing has always been a taboo subject: in the UK during the early nineteenth century the activities of body snatchers who sought recently buried bodies to provide cadavers for medical schools had caused particular horror, and led to the development of anti-grave robbing devices such as iron cages set over the grave. The practice had been ended by the *Anatomy Act 1832*, but the infamy of two perpetrators, Burke and Hare who even resorted to murdering their victims, lives on today.

No instances of grave robbing have been identified in the historic New Zealand context through a search of historic newspapers (using www.paperspast.natlib.govt.nz). However, this does raise the problematic issue of early New Zealand archaeological investigations of Māori burials, which began at about this time with Haast's investigation of the Sumner burial ground (site M36/22) after workmen found a number of 'crouched' burials (Haast 1874; Hudson 2020: 161). Nineteenth end early- to mid-twentieth century archaeological investigations of Māori burial sites failed to recognise the significance of these sites and the koiwi tangata (Māori human remains) that they contained to local Māori, despite growing vocal objections from the 1930s (Hudson 2020: 139). However, from the mainstream (ie Pākehā settler population) perspective of the time, desecration of the Christian grave of a European would have been deplorable, and the fact that nothing is recorded about the grave or its disturbance suggests that it was never discovered: the robber(s) hid their tracks effectively.

CONCLUSIONS

In these two papers we set out to recover as much of the biological and social identity as possible of the unknown man buried over a century ago on the side of the Cromwell Gorge. In the process we rediscovered the story of the grave-robbing, forgotten since the excavation notes were written in 1983, thereby exposing a dark moment in the history of the goldfields.

In life he was a tall man for the time, just over six feet, and walked with a limp due to an old ankle injury. He probably also had a stiff shoulder. Like almost everyone around him he smoked a pipe, and suffered from constant discomfort from his poor teeth. His health and diet were as good as most of the rest of the goldfields population, although we now recognise now that their diet was deficient in many regards. Even at the time it was realised that the lack of fresh fruit and vegetables on the goldfields was causing widespread scurvy, and he probably suffered from this. In common with most in the goldfields he was born overseas, probably in the British Isles, where his childhood was probably lived in some poverty. He would have talked with his local accent, adding to the international sounds of the goldfields. Once he reached adolescence he appears to have improved his lot: perhaps he emigrated and found gainful work. Whatever his life story was, middle age saw him make the decision to travel to the Central Otago goldfields, one of thousands of immigrants who flocked there in the hope, if not of riches, at least of a better future. However, somewhere in the Cromwell Gorge or upriver he met with an untimely death. He may have slipped and fallen when crossing a river or stream, or been working on a dredge and fallen into the fast-flowing Clutha River (this happened many times). His body ended up on the bank of the Gorge, where he was found and someone made the effort to give him a Christian burial. A rough timber coffin was made, and he was buried in the traditional manner with his head to the west (so that he faced east, ready to face Christ during His second coming). Schist slabs were laid over the burial to mark it. A frontier burial, with no finery but with all the respect that could be expected in the circumstances.

However, some weeks later someone, with presumably few scruples and maybe too much imagination, thought that there was something valuable buried in the grave. Maybe a story had circulated in the local pub that there was gold in the pockets of the dead man. One night one or two men crept to the lonely grave and dug into the soft earth. They dug down into the middle of the grave until they reached the coffin lid that they then smashed through, the spade going through the timbers and cutting

into the bones beneath. The smell of corruption would have hit them then. Undeterred they reached down, and started to search the corpse. The decaying body began to come apart as they tugged at the clothes, possibly using the leather belt to pull up the trousers: the pelvis came up in two pieces, dragging the partially-connected legs with it. When they pulled at the jacket, one sleeve came away with the forearm inside it. The skull rolled to the side, but the mandible caught on something and tumbled along the grave. As the gruesome collection of disconnected body parts grew, the grave robbers piled them up at the side of the hole. Whether they found what they were looking for will never be known (probably not: who would bury a gold-miner without checking his pockets first?), but once they had finished their distasteful business they quickly refilled the hole, not even bothering to put the bones piled at the graveside back in the coffin, but simply pushing some back with the earth and leaving others on the side of the grave covered by just a few inches of soil. They then replaced the schist slabs to hide their deeds and departed the scene.

The unknown man buried in the Cromwell Gorge therefore suffered two tragedies; an early and accidental death and the robbing of his grave; and a third tragedy if one counts the fact that he was then completely forgotten. Through this investigation, we have attempted to use modern archaeological and bioarchaeological techniques to recover his story and give him some agency. In the process we have uncovered a hitherto unknown darker side of the goldfields history, one of night-time grave robbing and desecration. While undoubtedly unseemly, this illustrates how archaeological methods can recover information that is otherwise lost to written history.

The remains were not reburied in 1983 as no next of kin could be identified (*Otago Daily Times* 29 June 1983). Currently we are discussing with the Central Otago District Council and Contact Energy (the owner and operator of the Clyde Dam) the reburial of this individual in the Cromwell Cemetery, close to where he died and was originally buried over a century ago.

References

Anatomy Act 1882(UK).

Argarwal S., Glencross, B. (ed.) 2011. *Social Bioarchaeology*. Chichester, Wiley-Blackwell.

Bathgate, A. 1874. *Colonial Experiences*. James Maclehouse, Glasgow.

Bedford, S. 1986. 'The History and Archaeology of the Halfway House Hotel Site, Cromwell Gorge.' New Zealand Historic Places Trust, Cromwell.

Bioresearches 1995. The Archaeology of the Sky City Site, Auckland (Sites R11/1813 & R11/1814). Report for Terra Firma Group Limited.

Boutin, A. 2019. Writing bioarchaeological stories to right past wrongs. In: Buikstra J ed. *Bioarchaeologists Speak Out: Deep Time perspectives on contemporary issues*. Switzerland Springer. Pp. 283–304.

Buckley H.R., Tayles, N., Halcrow, S., Robb, K., and Fyfe, R. 2010. 'The People of Wairau Bar: A re-examination.' *Journal of Pacific Archaeology*. 1(1):1–20.

Buckley, H.R., Roberts, P., Kinaston, R., Petchey, P., King, C., Domett, K., Snoddy, A.M., & Matisoo-Smith, E. 2020. Living and dying on the edge of the Empire: A bioarchaeological examination of Otago's early European settlers. *Journal of the Royal Society of New Zealand*. Advance online publication. doi:10.1080/03036758.2020.1837189

Campbell, M., Furey, L. 2007. 'Archaeological Investigations at the Wstney Farmstead, Mangare.' Unpublished report to the New Zealand Historic Places Trust, C.F.G. Heritage Ltd., Auckland.

Cemeteries Act 1882(NZ).

Dangerfield, J.A., Emerson, G.W. 1995. *Over the Garden Wall, Story of the Otago Central Railway.* The Otago Railway & Locomotive Society Inc., Dunedin (Third edition).

Duday H. 2006. 'Archaeothanatology or the Archaeology of Death.' In: Gowland R, Knusel C ed. *Social Archaeology of Funerary Remains*.

Dunstan Times (newspaper, Clyde) 26 October 1894.

Dwyer, E.J. 2007. *Deaths on the Old Man Range 1862–1900, Otago Goldfields*. The author, Clyde.

Ebbett, E. 1977. *In the Colonial Fashion. A lively look at what New Zealanders wore*. Wellington, A.H. & A.W. Reed.

Ell, G., Ell, S. 1995. *Great Journeys in Old New Zealand: Travel and Exploration in a New Land.* Bush Press Communications, Auckland, New Zealand.

Haast, Julius von, 1874. Notes on an ancient native burial place near the Moa-Bone Point, Sumner. *Transactions and Proceedings of the New Zealand Institute* 7:86–91.

Hamel, G.E. 2001. *The Archaeology of Otago*. Dunedin: Department of Conservation.

Hamel, G.E. 2004. 'Potable Water and Sanitation in Early Queenstown, New Zealand.' *New Zealand Journal of Archaeology*, 2004, Vol. 24(2002), pp. 107–133.

Hargreaves, R., Holland, P. 1995. *The Duel on the Creek, and other tales of Victorian New Zealand*. University of Otago Press, Dunedin.

Hearn, T.J. 1990. 'Hartley, Horatio,' in, Oliver, W.H. (ed.) *The Dictionary of New Zealand Biography*. Volume One. Department of Internal Affairs.

Hearn, T.J. 1990. 'Read, Thomas Gabriel,' in, Oliver, W.H. (ed.) *The Dictionary of New Zealand Biography*. Volume One. Department of Internal Affairs.

Higham, C., Mason, G., Moore, S. 1976. 'Upper Clutha Valley, An Archaeological Survey.' University of Otago, Studies in Prehistoric Anthropology, Vol. 8.

Houghton, P. 1983. 'Cromwell Gorge Burial, June '83.' Letter to Neville Ritchie, Clutha Valley Development Project from P. Houghton, University of Otago.

Hudson, B. 2020. Variation And Process: The History, Current Practice And Future Potential Of Mortuary Archaeology In Aotearoa New Zealand *Journal of the Polynesian Society*, 129(2):125–170.

Illustrated London News (newspaper, London).

Jones, M. 2012. 'Dalmatian Settlement and Identity in New Zealand: the Devcich Farm, Kauaeranga Valley, near Thames.' *Australasian Historical Archaeology*, 30, 2012: 24–33.

King, M. 2004. *The Penguin History of New Zealand*. Viking, Auckland.

King, C.L., Buckley, H.R., Petchey, P., Kinaston, R., Millard, A., Zech, J., Matisoo-Smith, E., Gröcke, D.R. 2020. A multi-isotope, multi-tissue study of colonial origins and diet in New Zealand. *American Journal of Physical Anthropology*, 172: 605–620. doi: 10.1002/ajpa.24077

King, C.L., Petchey, P., Kinaston, R., Gröcke, D.R., Millard, A.R., Wanhalla, A., Brooking, T., Matisoo-Smith, E., & Buckley, H.R. 2021. A land of plenty? Colonial diet in rural New Zealand. *Historical Archaeology*. Advance online publication. doi: 10.1007/s41636-020-00276-y

Knapp, M., Horsburgh, K., Prost, S., Stanton, J., Buckley H., Walter, R., Matisoo-Smith, E. 2012. 'Complete mitochondrial DNA genome sequences from the first New Zealanders.' *Proceedings of the National Academy of Sciences*. 109(45): 18350–18354.

Lake County Press (newspaper, Queenstown) 31 December 1885.

Mason, G. 1977. 'The DG3 Dam, An Assessment of it Impact on Prehistoric and Historic Remains.' Unpublished report, Department of Anthropology, University of Otago.

Newman, M. 1977. 'Archaeological and Historic Sites Affected by Realignment of State Highway 8, Cromwell to Clyde.' New Zealand Historic Places Trust.

Ng, J. 1993. *Windows on a Chinese Past*, *Volume 1*. Otago Heritage Books, Dunedin.

Otago Daily Times (newspaper, Dunedin) 24 June 1983; 29 June 1983.

Otago Provincial Council, Gazette. 26th September 1861.

Otago Provincial Council Cemeteries Ordinance 1856.

Otago Provincial Council, Votes & Proceedings, Session XVI, 1862.

Otago Witness (newspaper, Otago) 26 March 1874; 1 February 1894.

Petchey, P.G. 1999. 'The Excavation of Three Miners' Hut Sites, Macraes Flat.' *Archaeology in New Zealand*, 42(1): 66–78.

Petchey, P.G., Brosnahan, S. 2016. 'Finding Meaning and Identity in New Zealand Buildings Archaeology: The Example of 'Parihaka' House, Dunedin.' *Journal of Pacific Archaeology*, Vol. 7 No. 2: 26–42.

Petchey P., Buckley H., Kinaston R., Smith B. 2017) A Nineteenth Century Settlers' Graveyard: Preliminary Report on the Excavation of St. John's Cemetery, Back Road, Milton, Otago. *Archaeology in New Zealand* 60(1): 19–30.

Petchey P., Buckley H., Hil G., Kelly A., Kinaston R., King C., Scott R. 2018a. Life & Death on the Otago Frontier: Preliminary Report on the Lawrence Cemeteries. *Archaeology in New Zealand* 61(2): 20–38.

Petchey P., Buckley H., Scott R. 2018b. Life, Death and Care on the Otago Goldfields: A preliminary glimpse. *Journal of Pacific Archaeology* Vol. 9 No. 2: 44–58.

Phillips, J., Hearn, T. 2008. *Settlers: New Zealand Immigrants from England, Ireland and Scotland 1800–1945*. Auckland: Auckland University Press.

Pyke, V. 1887. *History of Early Gold Discoveries in Otago*. Otago Daily Times & Witness Newspapers Co. Ltd.

Ritchie, N.A. 1986. 'Archaeology and History of the Chinese in Southern New Zealand During the Nineteenth Century: A Study of Acculturation, Adaptation and Change.' Phd dissertation, University of Otago, New Zealand.

Ritchie, N.A. 1990. The Clutha Valley Archaeological Project 1977–87: A Summary Report. *Archaeology in New Zealand*, Vol. 33 No. 1: pp. 4–20.

Salmon, J.H.M. 1963. *A History of Goldmining in New Zealand*. Government Printer, Wellington.

Smith, I. 2004. 'Archaeologies of Identity: Historical Archaeology for the 21st Century.' In, Furey, L., Holdaway, S. (eds) *Change Through Time: 50 Years of New Zealand Archaeology*. New Zealand Archaeological Association Monograph No. 26.

Smith, I. 2008. 'Maori, Pakeha and Kiwi: Peoples, culture and sequence in New Zealand archaeology.' In Clark, G., Leach, F., O'Connor, S. (eds) *Islands of Inquiry.* Terra Australis 29, Australian National Univertsity.

Smith, I.W.G. 2019. *Pakeha Settlements in a Maori World*. Bridget Williams Books, Wellington.

Snoddy, A.M.E., Buckley, H.R., King, C.L., Kinaston, R.L., Nowell, G., Gröcke, D.R., Duncan, W.J., & Petchey, P. 2019. 'Captain of All These Men of Death': An integrated case study of tuberculosis in nineteenth-century Otago, New Zealand. *Bioarchaeology International*, 3(4). doi: 10.5744/bi.2019.1014

Sutton, M. 2014. 'Heritage Assessment, Lonely Graves Historic Reserve.' Department of Conservation, DM-1020551.

Swann, J. 1982. *Shoes*. The Costume Accessories Series. London, Batsford.

Tuapeka Times (newspaper, Lawrence) 14 November 1877; 19 January 1901.

Veres, M. 2005. Introduction to the Analysis of Archaeological Footwear. *Australasian Historical Archaeology*, 23: 89–96.

Woods, N. 2019. 'Storm in a Teacup: The Life of a Ninteenth Century Settler Told Throough her Tea Ware.' *Historical Archaeology* Vol. 53 No. 4: 702–721.

Websites

www.paperspast.natlib.govt.nz