Identification and Historical Truth: The Russell Street Police Garage Burials

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An intact human burial, together with a disturbed grave containing the partial remains of two further individuals, was found at the site of the former Russell Street Police Garage, Melbourne. The remains were located during an archaeological watching brief required as a condition of a permit issued by Heritage Victoria relating to redevelopment of the site. Before 1924, the Police Garage site had included the yard of the Melbourne Gaol men's hospital. During the nineteenth and early twentieth centuries the bodies of numerous executed criminals had been buried within the gaol grounds. Documentary research has been combined with osteological analysis of the skeletal remains with the aim of identification. Many burials were exhumed from the former Melbourne Gaol in 1929 and further exhumations were performed during 1937 when the Police Garage was constructed. Unfortunately, the exhumations in the past were somewhat chaotic and contemporary documentation of the exhumations and reburials is unreliable. Some key records contradict the physical evidence and, as a result, it is not possible to achieve a forensic standard of identification.

The former Police Garage site in Russell Street Melbourne, cited as No. 912 on the Heritage Council Victoria Register, was the subject of a watching brief conducted by the La Trobe University Archaeology Program on behalf of Royal Melbourne Institute of Technology University (RMITU), the owner and developer of the property. The watching brief was a condition of Permit No. P4780 issued by Heritage Victoria. During excavation of service trenches subsequent to the removal of upwards of 1000 cubic metres of contaminated fill from the site, an intact human burial was discovered, together with the remains of a further two individuals whose graves had been incompletely exhumed in 1937. This paper discusses our approach to identification, examining the articulation of the archaeological evidence and the historical record.

The Police Garage site (Fig. 1) is one part of the former Melbourne legal precinct; a locality that included a major

Fig. 1: Location map for the former Russell Street Police Garage, Melbourne, Australia. (Wei Ming)

prison complex, construction of which began in 1841. With the exception of the standing remains of the 'new' cellblock, commenced 1859, now the National Trust's 'Old Melbourne Gaol' Museum, this entire precinct has now become part of the City Campus of RMITU. Extant buildings within the precinct include the former gaol entrance buildings and chapel wing, the sandstone Romanesque-revival Magistrates' Court of 1913 and the brick and stucco former City Watch House of 1908. The latter buildings are presently undergoing meticulous restoration and adaptation, whereas the Police Garage, which had been the site of the men's prison hospital, together with the wardsmen's and bail yards, has now been redeveloped as the Alumni Courtyard, a landscaped open space (Heritage Assets Branch 1998).

When the Police Garage was constructed during 1937, old standing walls from the former gaol were retained as the boundary of the new garage. However, the steel-framed, factory-style roof of the new building was supported by rolled steel columns erected on concrete pad footings. During the gaol occupation, the site sloped downwards from Russell Street towards the southwest and in order to produce a level floor a substantial quantity of sand, clay and rubble fill was placed within the boundary walls, before installation of a reinforced concrete slab floor. The fill, which covered the footings of the demolished hospital and wardsmen's yard walls, was up to 1.5 m in depth at the southwest boundary of the new garage. The modern redevelopment of the site involved retention of the former gaol walls, demolition of the 1937 roof structure and removal of the concrete slab. Long-term leakage from a corroded underground bulk fuel storage tank necessitated removal of the fill beneath the slab.

HISTORICAL RESEARCH AND THE ARCHAEOLOGICAL PROJECT

Prior to demolition, the La Trobe University Archaeology Program, led by Professor Tim Murray, was contracted by RMIT University to carry out test excavations which revealed the remains of the hospital footings. This work, conducted by Maddy Atkinson together with Dr Peter Davies and Dr Chris Williamson, involved the removal of some ten per cent of the concrete floor and gave a good indication of the archaeological potential of the site (Atkinson & Davies 1999; Atkinson et al. 1999a; Atkinson et al. 1999b; Davies 2000). Subsequently, La Trobe Archaeology carried out a watching brief while the remaining concrete and fill was removed. The watching brief was commenced by Atkinson then completed and reported by La Trobe University graduate student Geoff Hewitt (Hewitt 2003b).

Previous historical research by Kasia Zygmuntowicz had identified a significant series of historical plans and construction drawings for the site. These covered a date range from 1837 to 1955, but unfortunately not without significant gaps. These documents were used to construct computer overlays onto the archaeological site plan and this technique, combined with information from early photographs, has allowed the remains to be interpreted and understood (Hewitt 2003a, 2003b). Subsequently, artefacts and faunal remains found during the watching brief have been analysed and discussed (Hewitt 2003c, Buckley 2003).

Zygmuntowicz's research brief required an investigation into the existence of historical evidence for the burial of dead prisoners within the former gaol hospital compound. The results of this work suggested that burials might or might not still be present within the former Police Garage as the sources were vague. A press report in *The Argus* of 17 April 1929, suggested that 'about half a dozen' executed criminals had been buried in the hospital yard 'in recent years' while it was reasonably certain that four bodies had been exhumed and reburied at Pentridge Prison during 1937. There was no documentary evidence regarding the location of the burials within the hospital yard but retired Pentridge Prison Governor Jim Armstrong, co-author of *From Pentonville to Pentridge* (Lynn & Armstrong 1996), suggested the likely places for burials would have been in close proximity to the former prison mortuary and close to a wall (Zygmuntowicz 1:18–21). Armstrong's speculation proved to be correct.

DISCOVERY OF HUMAN BURIALS AT THE POLICE GARAGE SITE

The complex archaeology of the Police Garage site (Hewitt 2003a, 2003b, 2003c) included numerous demolished and standing walls, which were recorded as they were cleared and uncovered. There were numerous false alarms, and any hint of bone in the fill was the focus of prompt attention. For example, a series of rectangular pits aligned parallel to the footing of a demolished wardsmen's yard wall fuelled speculation, but ultimately resolved into the shafts of a sewerage tunnel (Hewitt 2003b: Appendix 10.1 note 20).

Historical plans gave clear locations for the gaol mortuary at least from 1895 until the closure of the gaol. An 1895 Melbourne and Metropolitan Board of Works (MMBW) base plan showed the 'dead house' to be located against the southeast sandstone wall to the east of the hospital; but by 1910, a new mortuary had been constructed between the hospital and the Russell Street perimeter (Fig. 2).

Although the process of spoil removal by excavator bucket scraping had, within the general area shown in Figure 2, revealed architectural remains and the skeletons of six dogs (Feature F34) buried together in one pit (Buckley 2003, Hewitt & Buckley in prep.), no grave-like features had been found due to masking by disturbance from the wall footing trench. Indeed, it was not until a service trench was being dug at a slightly deeper level against the old sandstone wall that a suspicious piece of wood was encountered. Investigation revealed the presence of white residues and the outline of a substantially intact timber coffin which was designated Feature F85 (Fig. 3). The outer edge of the grave shaft was found to be only about 300 mm from the (earlier) dog burial. However, the lid of the coffin, although a mere 160 mm below the bottom of the dog burial pit, was at a sufficient depth for the human burial to have remained undiscovered.

Notification of the find was made to Heritage Victoria, the Department of Human Services and the Coroner's office. The latter agency decided that the involvement of the Victoria Police was not required. Aboriginal Affairs Victoria was also notified in view of the perception that the burial could possibly be that of an Aboriginal person. However, further historical research has clearly shown that no individual with a known claim to Aboriginality was buried at the gaol and one of the authors (Wright), as is discussed below, has compared the cranial dimensions of the individual F85 to his CRANID database, demonstrating the unlikely nature of such a claim in regard to this skeleton. The CRANID dataset consists of human cranial measurements covering a wide geographical and temporal diversity.

The burial was located at a shallow depth. The top of the coffin was just 1 m below the upper surface of the concrete floor of the former garage. This corresponds to approximately 0.8 m below an earlier asphalt level possibly contemporary with the burial. The designed levels of the redevelopment afforded only a small increase in the burial depth, so it was considered to be appropriate to exhume the remains and

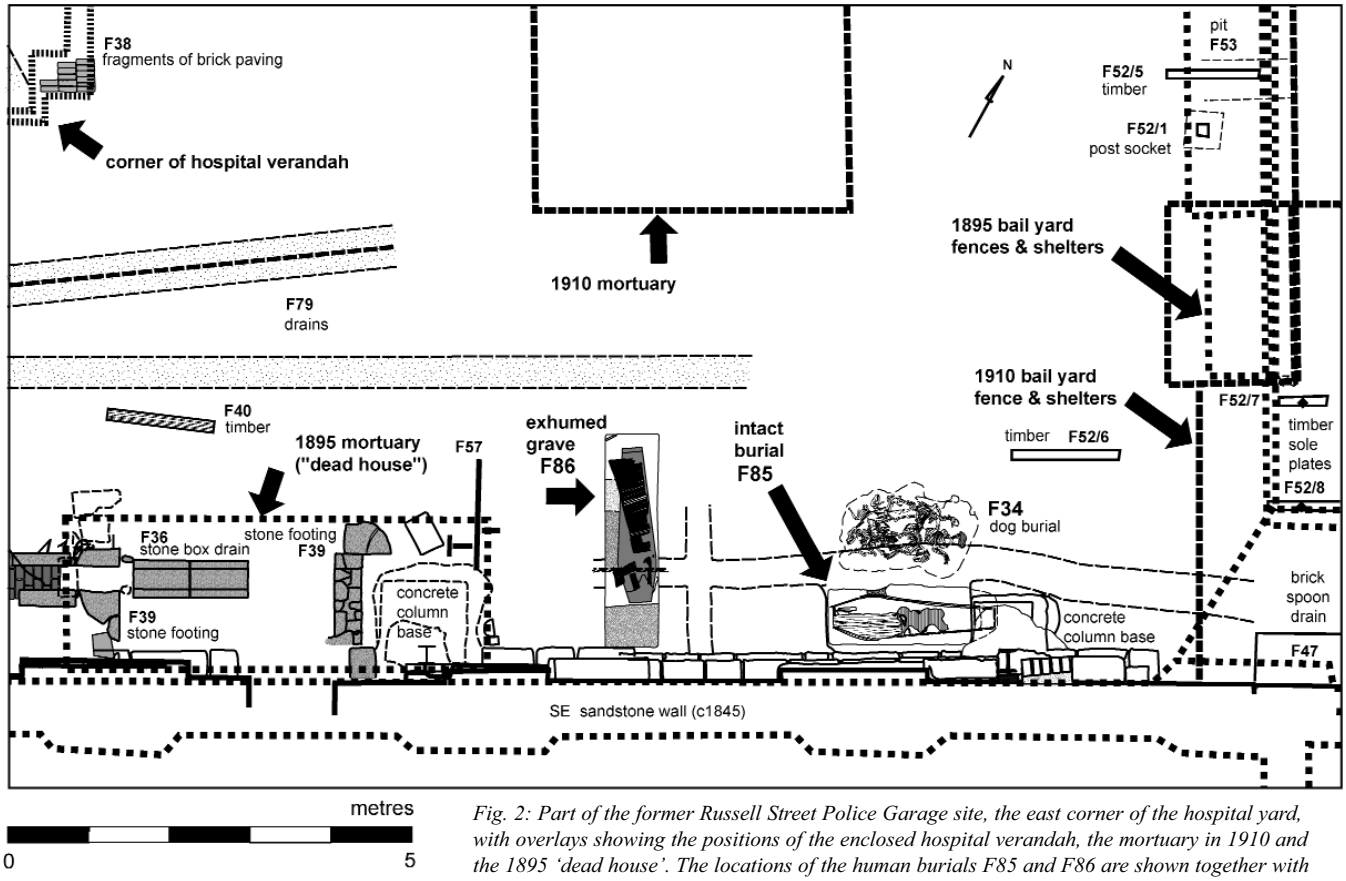


Fig. 2: Part of the former Russell Street Police Garage site, the east corner of the hospital yard, with overlays showing the positions of the enclosed hospital verandah, the mortuary in 1910 and the 1895 'dead house'. The locations of the human burials F85 and F86 are shown together with the dog burial F34.

rebury them elsewhere. At the invitation of Tim Murray, the exhumation and the subsequent forensic examination was directed by Richard Wright.

Prior to the exhumation, a *sondage* was made at the Russell Street (foot) end of the grave shaft. The purpose of this was to ascertain whether a second burial existed below F85, which may have explained the shallow burial of the latter. In order to gain access to this end of the grave, it was necessary to jackhammer away a mass of concrete comprising a footing for one of the columnar steel roof supports of the 1937 garage. The concrete extended some 300 mm over the grave. An impromptu reinforcing mesh, consisting of steel rods tied with wire, was found under the concrete that had been poured partly on an excavation into bedrock and partly on the unconsolidated fill of the grave. The 2.24 m long and 0.725 m wide grave shaft had been cut into the natural steeply-bedded mudstone bedrock hard up against the footing of the sandstone wall; the grave being parallel to the wall. Both the grave and the coffin were packed with a white strongly alkaline substance, probably the residue of quicklime. The sondage proceeded, following the intact foot end of the coffin down to underlying bedrock at a depth of 1.30 m below the upper surface of the concrete. It was concluded that there were no burials below F85.

Fig. 3: F85, the intact burial at the police garage site. The coffin in situ *viewed from above with concrete column base still in place over the foot end. (Photo by Hewitt)*

Previously exhumed burials

Continuation of the service trench that disclosed the intact burial revealed a patch of dark fill in the wall of the cut, together with a corresponding wet patch in the bottom, at a distance of 2.15 m southwest of the head end of the F85 grave. Fragmentary wood and white alkaline residue was found in a sondage dug towards the wall from the service trench, so the mechanical excavator was used to peel back the surface. This action revealed a second rectangular shaft, 2.56 x 0.65 m, extending from the southeast wall, with its long axis perpendicular to it.

Subsequent definition of this feature, identified as F86 (Fig. 4), revealed the presence of linear timbers and two bones. One of these bones was domestic food refuse but the other was identified as a human metatarsal V. Further investigation revealed that the rectangular pit contained the foot end of a broken coffin, the fill within which contained a small number of human bones which were designated F86/1. Beneath this lay a second intact *in situ* coffin from which the lid had been removed. Fragmentary timber thought to be part of the broken lid was also present. A larger quantity of human bones, stained black, together with fibrous material, probably hair, was found in this lower coffin. This material was designated F86/2. We found white strongly alkaline residue between the outside of the coffin that contained F86/2 and the wall of the grave, but not within the coffin itself. The mean depth of the lower burial was found to be 1.7 m below the upper surface of the concrete floor, which corresponds to a more respectable 1.5 m below the probably contemporaneous asphalt level.

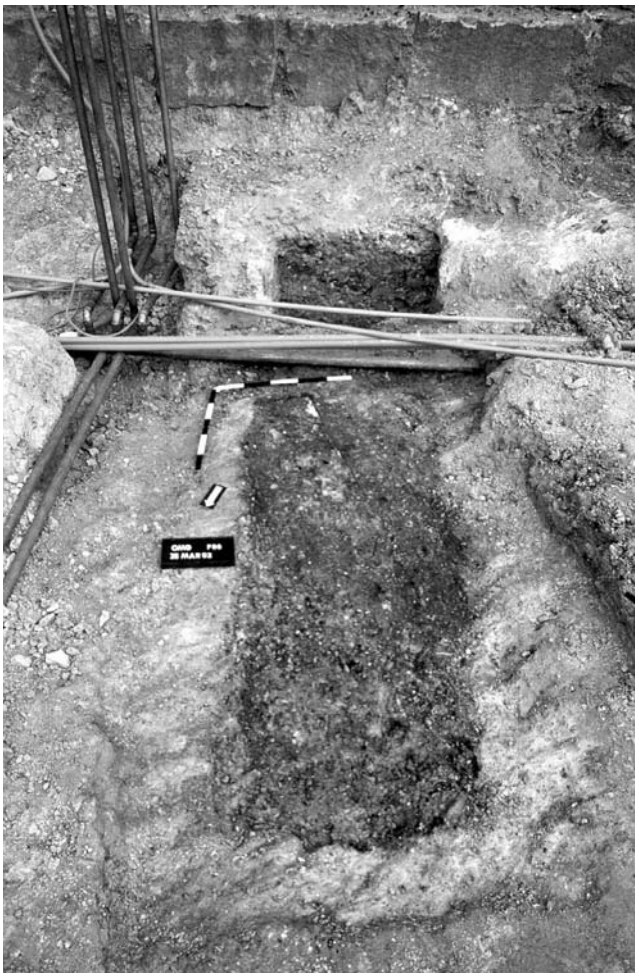


Fig. 4: The exhumed grave at the Police Garage site. (Photo by Hewitt)

The exhumation of F85

The lid was intact only at the head end of the coffin in F85. At the foot end, lime originally packed inside the coffin had been in contact with the lid, forming a solid block and making a cast of the inside of the lid. In the middle of the coffin the block of lime was broken, with a jagged hole. Apparently, something blunt had penetrated into the coffin at this point, though at a time earlier than the current development at the site. Through this hole some bones could be seen, above the level of groundwater that lay in the base of the coffin.

The body lay on its back, with the head to the west-southwest (about 240 degrees magnetic). However, this approximation to the orientation of Christian burial may have been an accident, since the grave had been dug immediately up against a wall of the gaol.

We started exhumation by excavating the cemented lime at the foot end of the coffin. The bones were immediately seen to be in excellent condition. However, they were only in vague anatomical relationship, having fallen in a jumble to the bottom of the coffin. This array of bones continued along the length of the coffin. Our method of removal was to pick the bones out of the slurry in which they lay. The slurry was then wet sieved to recover small elements such as phalanges. In places, casts survived of the fleshed limbs and trunk in the lime, though the bones had generally fallen out of the casts. From the casts and bones it was possible to see that the right arm lay extended by the side, whereas the left arm was flexed with the hand lying over the pelvis. Where the hands were placed, the cast had been destroyed.

The skull was complete, with the mandible in anatomical position. However, the skull and mandible did not lie on the bottom of the coffin. Instead, they were suspended above the base of the coffin, by being embedded in the lime block. The embedding block extended back along the skull to beyond the mastoid processes (Fig. 5). In other words, the skull was suspended from the top of the coffin, but the vertebrae had fallen to the bottom. We removed the block of lime, with its contained skull, in one piece, turned it over, supported it on a board, and took it to Heritage Victoria's Conservation Laboratory for further excavation.

We extracted the skull from the block by using chisels to break off the cemented lime from the cranium. Generally, the

Fig. 5: The intact burial at the Police Garage site. The lime block at the head end of the coffin has been removed and inverted, revealing the cranium and mandible in anatomical relation within a cast of the head and shoulders. (Photo by Hewitt)

lime did not adhere to the bone and where it did adhere, it separated readily without damage to the bone. Not surprisingly, given the lime-rich environment, there was some secondary precipitation of lime on the bones of the cranium. These took the form of tiny excrescences which adhered strongly to the bone and were not removed.

We had two objectives in removing the skull from the concretion: to expose the cranium without damage and to optimise the chance of recovering a facial cast in the cemented lime. Both objectives were achieved, though the cast did not show the individual's facial features because the face had been covered with cloth before the lime was packed over the body (Fig. 6).

It might be thought that the presence of quicklime would have accelerated the decomposition of soft tissue and bone. James and Nasmyth-Jones (1992) certainly attribute the poor condition of bones of hanged individuals that they studied to the use of quicklime. However there would seem to be no theoretical reason to anticipate such accelerated destruction and considerable empirical evidence to the contrary (Jarvis 1997). Wright's conclusion, following a review of the literature, is that adding quicklime to a coffin will temporarily slow decomposition of soft tissue[1] and permanently enhance the survival of bone *contra* James and Nasmyth-Jones (1992).

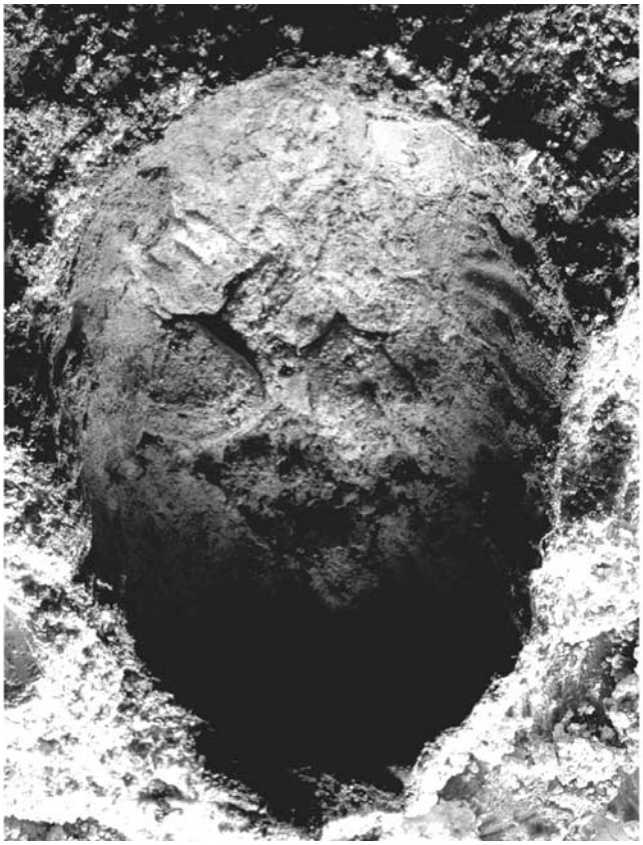


Fig. 6: F85, the intact burial at the Police Garage site. Removal of the cranium and mandible from the lime block revealed a cast of the face obscured by textile wrappings. (Photo by Frank)

Summary biological profile of individual F85

A summary biological profile of individual F85 is as follows. Attributes determined from examination of the remains are then discussed in greater detail.

Age: Young middle adult to middle adult (26–45 years).

Sex: Male.

Race: Caucasoid.

Stature: 175 ± 3.27 cm (femur) (5 ft 9 in ± 1.3 in using one standard error of Trotter & Gleser 1958).

Preservation: Bones excellent; no soft tissue, hair or nails.

Bones present: All, but a few terminal phalanges not recovered.

Dentition:

		ca **i**	
right upper	x x x x x 3 2 1	1 2 3 x x 6 x 8	*left upper*
right lower	x x x 5 4 3 2 x	x 2 3 4 5 x x x	*left lower*

number signifies tooth is present

- **a** abscess
- **c** caries
- **i** impacted
- **x** lost antemortem

Dental pathology: very poor dental condition resulting in major antemortem tooth loss, especially in the posterior teeth. Peculiarity of both mandibular central incisors lost well before death and sockets resorbed. No restorative dentistry.

Age at death

Skeletal methods for assessing the age of an adult at death are notoriously imprecise and inaccurate (Aykroyd et al. 1999; Cox 2000). Wright applied four of the standard methods in order to estimate the age of individual F85.

Pubic Symphysis. Compared with the standard casts the individual is within Phase III 1 to III 2 (Brooks & Suchey 1990). This suggests an age of between 21 and 46 years (to 1 standard deviation) with an average of 28.7 years.

Ribs. When compared with the standard casts of the sternal ends of rib 4, the individual is Phase M4a to M4b (Iscan et al. 1984). This suggests an age of between 26 and 32 years.

Auricular Surface of Pelvis. Compared with the standard illustrations, the individual is consistent with the phase that is aged as 32–34 years (Lovejoy et al. 1985).

Cranial Suture Closure. The degree of cranial suture closure increases with age, though the correlation is low (Buikstra & Ubelaker 1994:33). Individual F85 shows significant closure on the parietal, lambdoid and coronal sutures. This degree of closure is rather more than might be expected in an individual aged by the previous methods. However, cranial suture closure is not a preferred method. When it is wrong it may over-age younger individuals (Boylston et al. 2000).

Sex

The pelvis is of the typical male form. The angle of the greater sciatic notch scores 5 according to the system of Walker (the most extreme male condition) and there is no preauricular sulcus (Buikstra & Ubelaker 1994:18–19).

Race

The cranium is excellently preserved, so Wright was able to evaluate race from the morphology of the cranium using his system called CRANID (Wright 1992, 2002a). Twenty-nine cranial measurements according to the codes defined by Howells (1973) were taken for F85. Multivariate methods of identification were used in the analysis of F85. They fall under the general heading of discriminant analysis including both linear discriminant and nearest neighbour analysis. A detailed account of the analytical approach of CRANID to the data for F85 is given in Wright 2002b.

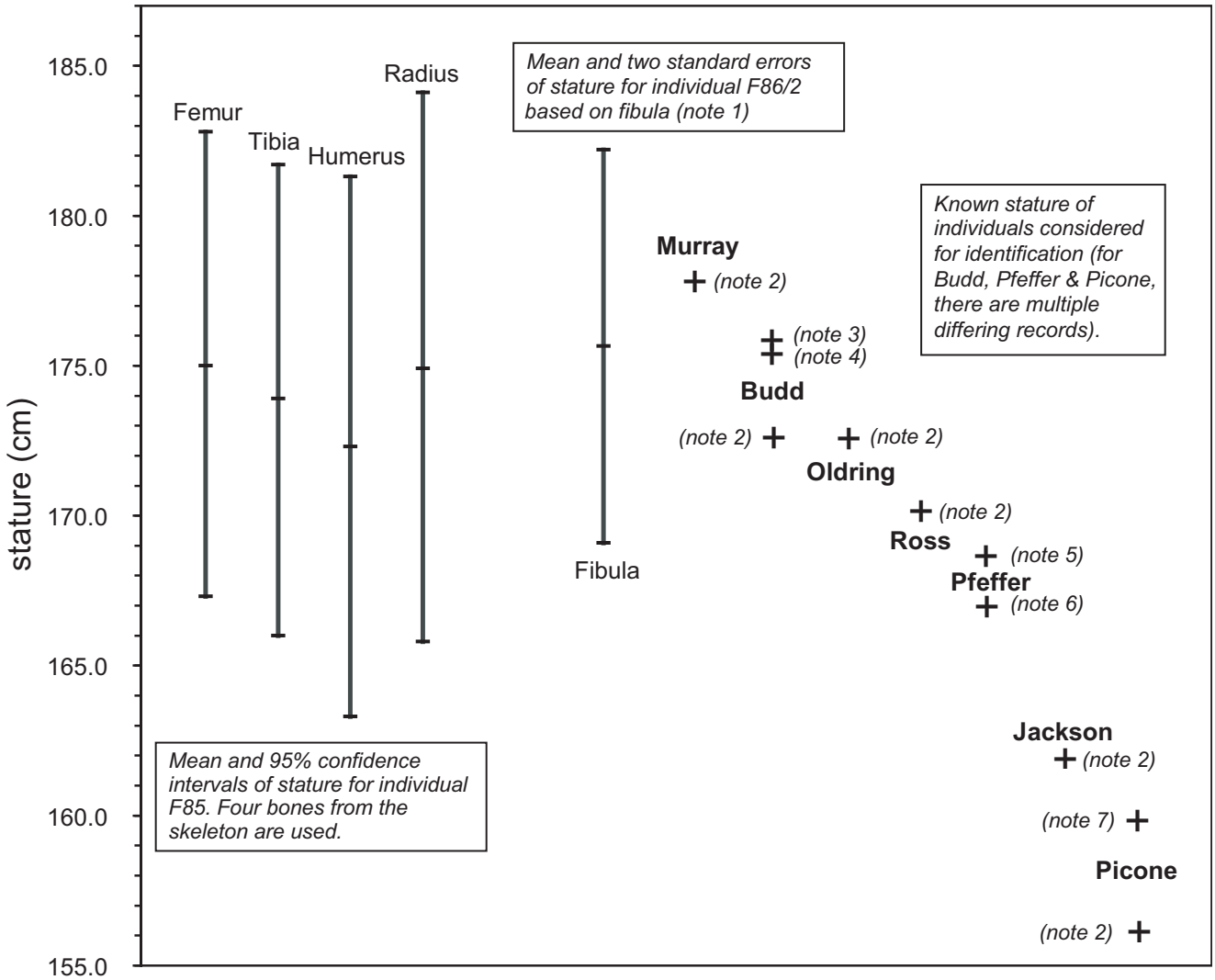
The result of linear discriminant analysis identifies F85's ancestors as unambiguously of European/Mediterranean origin; the chances of his being of Aboriginal origin are vanishingly small. The results for nearest neighbours analysis show that individual crania of European/Mediterranean origin overwhelmingly figure as nearest morphological neighbours of F85. We can conclude that the results by nearest neighbours analysis strengthen the case for a European/Mediterranean origin indicated by linear discriminant analysis. Furthermore, none of the nearest neighbours is an Australian Aboriginal cranium.

Stature

Wright paid considerable attention to an estimate of stature for F85, since stature is a property that bears closely on identification from among possible contenders. The chart, Figure 7, presents estimates of stature of F85, using four long bones from his body. The error terms are 95 per cent confidence intervals computed from the data of Trotter and Gleser (1958) for white males. The error terms signify that a series of white males drawn from Trotter and Gleser's hypothetical underlying population of white males, and with bones of F85's length, would have its real stature within the 95 per cent confidence intervals on 95 per cent of occasions. Because of the distribution of the probability curve, the individuals are more likely to be closer to the mean than to the extremes of the lines drawn on the chart. The interpretation is analogous to the interpretation of error terms in radiocarbon dating.

Indications of trauma from hanging

Waldron (1996) gives a useful summary of the archaeological and osteological indications of hanging. We are concerned here with the damage caused by the 'long drop' method of judicial execution. Where the rope's knot was submental (i.e. was placed under the chin), the injury was often separation by fracturing the arch of the axis (second cervical vertebra or C2) from the body of the axis and severing of the spinal cord



Fig, 7: Stature estimates for F85 and F86/2, compared with recorded stature of possible candidates for identification.

Notes:

1. *Values for 95% confidence intervals ae not avilable for stature based on the F86/2 fibula, hence the range is expressed in terms of standard errors.*
2. *Penal Dept. nd., 'Particulars of Executions'.*
3. *VPRS 521/PO Unit 38 No. 2576, Reg. No. 34790.*
4. *Description on enlistment in AIF, file B2455/1 Budd A.E., National Archives of Australia.*
5. *VPRS 515/PO Unit 63 page 138, prisoner number 32856.*
6. *Muster Roll of the Fifth Victorian Mounted Regiment, National Archives of Australia series B5179, item B.*
7. *VPRS 515/P Unit 67, page 201, prisoner number 34402, also VPRS 521/PO Unit 36, No. 2304, No. 34402.*

leading to instant death, the 'ideal lesion' according to Wood-Jones (1913).

Where the knot was subaural (i.e., was placed under the mastoid process) the arch of the axis was not so commonly fractured. Death therefore tended to be caused by massive shock and strangulation. Injuries associated with subaural knots are highly variable in distribution and quantity. They include fractures of the hyoid horn, styloid processes, occipital bones and transverse processes of the cervical vertebrae (Spence et al. 1999; James and Nasmyth-Jones 1992).

It is clear from the nature of the trauma described in contemporary autopsy reports (located in the Public Records Office, Victoria) that the Old Melbourne Gaol used subaural knots. It is therefore significant that individual F85 has damage consistent with that method, namely fracture of the hyoid horn, styloid process and one transverse process of the axis (C2).

In so interpreting the damage to F85 it is important to note that all bones were in excellent condition and the breaks discussed are the only breaks seen on the postcranial skeleton (with the exception of the posterior part of one calcaneus accidentally broken during excavation).

F85 osteopathologies

In addition to the indications of hanging there are two major pathologies on the bones of individual F85. These osteopathologies are suggestive of an occupation that included hard labour and the carrying of excessive weights. Perhaps individual F85 was a porter, or a builder's labourer who carried heavy hods of bricks. If he had a medical inspection it seems likely that he would have presented with pain in the back and hips.

Femoral Head Osteophytes. The first pathology appears as femoral head osteophytes, which occur bilaterally. They lie as a continuous ring around the fovea and also on the surface of the femoral head, in a location that is on top and slightly to the front. The act of walking would therefore have put pressure on these osteophytic surfaces of the femoral head.

The existence of these osteophytes may therefore be useful in identifying the individual F85 from any medical records. One can assume that he suffered pain. His medical record might refer to his walking with difficulty.

A review (Wright 2002b) suggests that femoral head osteophytes are very seldom reported in the archaeological, anthropological or medical literature. This pathology is an indicator of excessive stress and may arise from intensive sport, perhaps from horse riding and very likely from occupational exposure.

Schmorl's Nodes. The second pathology is known as Schmorl's nodes, located on several of the thoracic and lumbar vertebrae. They are associated with back pain. Schmorl's nodes, unlike degenerative osteoarthritic changes, are not correlated with age. They can occur in young people (Saluja et al. 1986). They occur in soldiers (Boylston et al. 2000), athletes (Sward et al. 1990), though not necessarily, it seems, in horse riders (Simonetti et al. 1996). Excessive axial loading (weight on the vertebrae) is a general explanation that has been given for Schmorl's nodes. However they occur in dogs, where axial loading is not possible (Gaschen et al. 1995). In brief, Schmorl's nodes are due to stress on the vertebral column, but not exclusively the stress of axial loading. Wright's impression, on comparing F85 with the literature, is that the individual has a high frequency of Schmorl's nodes; manifestations that are well-developed.

Possible trauma in occipital area. Individual F85 has what appears to be a healed trauma in the occipital area. There is what looks like a depressed fracture, shaped like a figure eight lying on its side (Fig. 8). There is also indication of associated bone growth in mounding around the parietal foramina. Examination of the inside of the cranium indicates that this trauma (if that is what it is) did not break the inner table of bone in the occipital area.

Fig. 8: Occipital area of F85, showing unusual bone growth that suggests a possible healed trauma to the back of the skull. (Photo by Wright)

The human remains from Feature F86

The remains of the two other individuals recovered from Feature F86, which is interpreted as a grave that had been incompletely exhumed in 1937, were also examined by Wright.

F86/1

These remains were recovered from part of a coffin that was evidently thrown into the grave that belonged to individual F86/2 when previously exhumed in 1937. The remains include seven assorted bones from the left hand and foot. Nothing of consequence can be said about these bones.

F86/2

These remains were recovered from an apparently *in situ* but lidless coffin from which a body had been exhumed in 1937. The remains include six cervical vertebrae (1 to 6), two thoracic vertebrae (1 and 6), two clavicles, two ribs (L 1 and 12), 12 left and right hand bones (carpals, metacarpals and phalanges), 21 left and right foot bones (tarsals, metatarsals and phalanges), two patellae and one left fibula. Nothing can be said about sex, race and adult age of F86/2; but stature can be estimated from the fibula as within the range 169.18 to 182.34 cm, to two standard errors (Fig. 7).

Wright examined the cervical vertebrae for indications of a hanging injury. A transverse process is broken off the third cervical vertebra, which is consistent with hanging. However one must remember that we are looking at what was left in the grave of a clumsily exhumed body, so there is the possibility of the damage being done post-mortem.

The second cervical vertebra (the axis) at first sight seems to have both transverse processes broken off. However proper inspection shows that they are there, but that the width of the axis is markedly shrunken. This is presumably a congenital abnormality.

Reburial of the remains

The F85 remains were re-interred at Fawkner Cemetery on the 26 April 2002 in plot CoE H602. The remains representing both of the individuals F86/1 and F86/2 were re-interred within the one grave on the 13 May 2002, at Fawkner in plot CoE H603, adjacent to F85. However, data and images relating to the skeletal material are held within the Police Garage Excavation Archive which has been agreed will be deposited with the Public Record Office, Victoria.

HISTORICAL BACKGROUND TO BURIALS WITHIN THE GAOL GROUNDS

Meanwhile, considerable effort was being made to sift through the historical records for clues to the identity of the persons interred in the burials. At the outset, we knew that executed prisoners were being buried at the Melbourne Gaol for a long time before the gaol was closed in 1924, but it was uncertain when the burials commenced. Exhumations had taken place in 1929 when the Working Men's College (now RMIT University) had taken over the Bowen Street yards, but it was uncertain where the burials had been and how many bodies had been removed. It was roughly estimated that a 'half dozen burials', from the last executions at Melbourne Gaol, had been placed in the hospital yard, but it was not known precisely when the burial location had changed. However, there was a list of names and dates of execution (Lynn & Armstrong 1996: Appendix I; Porter 1999), together with a sketch map of the cemetery at Pentridge Prison, where the exhumed remains had been reburied (Zygmuntowicz: Appendix D).

Unpublished research by Bransgrove and Webling (2002) has since pointed out that *contra* Lynn and Armstrong (1996:71), a requirement for burial within the gaol grounds came into existence only with the *Criminal Law and Practice Statute* (1864), effective from the 1 January 1865. Bransgrove and Webling, with Kevin Morgan, have demonstrated that between 15 March 1857 and 3 August 1864, 46 executed prisoners, plus Chew a'Key who committed suicide on the eve of his execution, were buried in the Melbourne General Cemetery. The locations of burials within the Melbourne General Cemetery of a further five prisoners executed during 1854 have also been identified. The bodies were interred in public common graves, the majority being located in Other Denominations, compartment B, row C.

According to the dates in Lynn and Armstrong's list, the first burial within the gaol grounds, under the 1864 statute, should be that of John Stacey who was hanged for murder at Melbourne on the 5 April 1865. Accordingly, it appears that the number of burials at the Melbourne Gaol should total 51; the last being Angus Murray, hanged on the 14 April 1924. After this date, all Victorian judicial executions and burials were carried out at Pentridge Prison.

A photograph in the RMIT University archives, taken when the gaol's curtain walls were being demolished to make way for construction of the Kernot building, clearly depicts exhumation of graves (Zygmuntowicz: Appendix B). This photograph, evidently made in 1929, makes clear that many of the burials at the former Melbourne Gaol were located within a narrow yard to the southwest of the existing bluestone curtain wall which forms the southwestern boundary of the former Police Garage site. Until its demolition, this narrow yard, which is oriented northeast–southwest, lay between the labour yard and the female prisoners' exercise yard. This location differs from that proposed by Zygmuntowicz (19). It also differs from the site of 'Ned Kelly's grave' as shown in the Heritage Assets Branch conservation plan (1998:9, 28).

What is also clear from the historical and archaeological record is that, due to a change in land tenure, the practice of burying executed prisoners in the narrow yard to the southwest of the hospital ceased early in the twentieth century, with subsequent burials placed in the hospital grounds. That part of the gaol precinct situated on the Bowen Street side of the southwest curtain wall of the former Police Garage site was reserved for educational purposes and vested in the Working Men's College during 1918 (Vic. Government Gazette no. 69, 18/1659-1660, 29 May 1918). What is not entirely clear is whether, and by what time interval, the gaol burial policy anticipated the change in land tenure. It appears that the area used for burials had been 'promised by Hon. T. Bent as Premier' to the College as early as 1908 (P. Navaretti, pers. com., 22 July 2002).

The hospital yard was not handed over to the control of the Victoria Police until 1924. During May 1929, Joseph Akeroyd, Inspector General of Penal Establishments, (indirectly) advised the Chief Commissioner of Police that five bodies were present in that location (VPRS 3992/P, unit 1858, file W4499). The last five prisoners to be executed at the Melbourne Gaol were Antonio Picone (September 1916), Albert Edward Budd (January 1918), Arthur Geoffrey Oldring (birth name George Farrow Blunderfield) (April 1918), Colin Campbell Ross (April 1922) and Angus Murray (April 1924). Hence, it is reasonable to infer that the change in policy with regard to burial place occurred during 1916 and that Picone was the first interment in the hospital yard.

The Argus (17 April 1929) supports this suggestion in citing 'the records of the Penal department', showing that 27 executed prisoners were buried 'in the labour yard at the old Melbourne Gaol *after* 1880' (emphasis added). The records cited could not be traced. However, after Ned Kelly (11 November 1880), according to Lynn and Armstrong's list, the 27th execution was John Jackson (24 January 1916) and Picone's was the 28th.

An identification for F85 and the two individuals from F86?

Working backwards from 1924, our list (extended to seven—the high side of the rough half dozen) of 'possibles' is shown in Table 1. Picone and Jackson were eliminated immediately because they were too short (Fig. 7). Furthermore, Jackson had suffered fractures above the left ankle in a shootout at the Trades Hall (Brown et al. 1994:77–9) and there was no sign of this type of injury in F85.

Pfeffer was a likely candidate. A horseman, he had received a blow in the back of the head from the butt of a Boer rifle during the South African war (VPRS 264/P Capital Cases Files (Attorney General) unit 28, item '1912 Joseph Victor Pfeffer'). However, his recorded injuries from hanging, clearly did not match F85 as the axis is not fractured transversely as was Pfeffer's according to a description and photograph in the 'Particulars of Executions' (Penal Department, nd); Wood-Jones' 'ideal lesion' (Wood-Jones 1913).

Table 1: Possible persons for identification of two skeletons, F85, F86/2.

Name	Age[2]	Height[3]	Date of execution
Angus Murray	41	5' 10" (1.78m)	14 April 1924
Colin Campbell Ross	29	5' 7" (1.70m)	24 April 1922
Arthur Geoffrey Oldring (aka. George Farrow Blunderfield)	47	5' 8" (1.73m)	15 April 1918
Albert Edward Budd	39	5' 8" (1.73m)	29 January 1918
Antonio Picone	36	5' 1½" (1.56m)	18 September 1916
John Jackson	51	5' 3¾" (1.62m)	24 January 1916
Joseph Victor Pfeffer	32	5' 5¾" (1.67m)	29 February 1912

The known stature of Murray, Budd, Oldring and Ross all fitted within the estimated range of Figure 7. However, Murray could be eliminated because his autopsy revealed a fracture of the base of the skull across the occipital line; an injury inconsistent with F85 (Penal Dept. nd.: Particulars of the execution of Angus Murray). Ross, too could be eliminated because he was known to have many gold fillings which did not accord with the dental state of our unknown individual (Brennan 1922:42).

Thus we were left with either Oldring or Budd as the identity of F85. Both Oldring and Budd had enlisted in the AIF (Australian Imperial Forces) and we were able to obtain copies of their army records from National Archives of Australia. Budd, formerly a stevedore, had sustained a gunshot wound in the left forearm during the 1915 Gallipoli landing. Unfortunately, there were no dental records in Budd's army file. However, the records include medical reports and one entitled 'C.M. Form D2, detailed medical history of an invalid', dated 8 August 1915, states that an operation was performed on Budd to remove shrapnel in which 'some of the bone [was] taken away'. Although the muscle attachments on the left radius of F85 are well marked, suggesting that he was left handed, examination of the left forearm bones revealed no *prima facie* indications of injury. A concavity along the interosseous border of the radius noted by Hewitt was interpreted by Wright, following the examination of some 30 radius bones, as nothing more than an area between two raised areas of muscle attachment.[4] In other words, F85 is well within the range of variation seen in the sample examined. There is no indication that any bone was taken away in an operation, as Budd's medical report states. Therefore, the results of this examination do not support the remains being those of Budd.

Oldring (aka Blunderfield) is only a little beyond the estimated range of age at death and his recorded age is not inconsistent with the F85 cranial suture closure status. In addition, Oldring, during a medical examination to determine fitness to plead, had made claims of prior head injury (Criminal Trial Briefs VPRS 30/P Unit 1814 File 2/1918). Blunderfield had been sentenced to nine-years hard labour during December 1909 (State Records Office of WA, Consignment 4173, item 9, Prisoner Register, Prisoner Number 8812), which may be consistent with the skeletal pathologies. He was an escapee from Rottnest Island (WA) and was on the run from the police when he joined the AIF as Oldring in Adelaide during 1916. An habitual offender, with a lengthy history of theft and criminal assault, Blunderfield/Oldring was attracted by khaki anonymity and the prospect of an overseas posting (Kelly 1999).

Mug shot photographs of the executed prisoners were obtained from prison records held in the Victorian Public Records Office (Fig. 9). Hewitt and Wright independently attempted superimposition of photographs of the F85 cranium and mandible onto the photographs of Budd and Oldring. These attempts were made in full acknowledgement that professional 'skull to photograph superimposition' is an expert task that requires special equipment (Yoshino et al. 1997; Jayaprakash et al. 2001). However, we hoped to be able to eliminate one or both of those candidates for identification in the case of a clear mismatch. We quickly encountered technical problems. Although Rudy Frank, La Trobe University's Archaeology Program technician, had photographed the cranium and mandible strictly in accordance with standard viewpoints, the prison record mug shot profile photograph of Oldring (Fig. 9) is not fully *in norma lateralis*. With Budd's mug shot profile photograph, the back of the head is in shadow and virtually indiscernible. In the case of Budd, the distance from base of nose to occlusal surface of the front teeth seems too great in the skull both frontal and profile. For Oldring, however, a virtual rotation of the skull to correct for the angularity of the profile photograph makes the chins match reasonably well.

Reference has been made to the distinctive (and appalling) dental condition of the individual F85 and it was hoped that identification might be assisted by reference to dental fitness reports within army records. Unfortunately, no such record was found for Budd, who enlisted in the AIF very early in the war (20 August 1914) and was discharged as an invalid during February 1916. In contrast, the army records for Oldring (Blunderfield), who enlisted 27 December 1916, within a serial form headed 'Medical History', revealed an initial dental classification 'C' (i.e. poor). Subsequent endorsements included an account of dental work: exodonty and fitting of 'artificial teeth' carried out during March 1917, together with the endorsement 'dentally fit' added the following month. There is no diagrammatic dental chart for Oldring, but according to the medical records, at the conclusion of treatment in April 1917, Oldring had ten natural teeth on the right and seven on the left, just twelve months before his death. This is highly significant evidence. F85 has nine teeth on the right and seven on the left.

During the process of obtaining copies of Budd's army record, an error in communication resulted in our receipt of the record for one Albert Howard Budd who enlisted 1 November 1915 and was discharged 22 August 1919. Interestingly, A. H. Budd's file contains considerable detail concerning dental health, including a diagrammatic dental

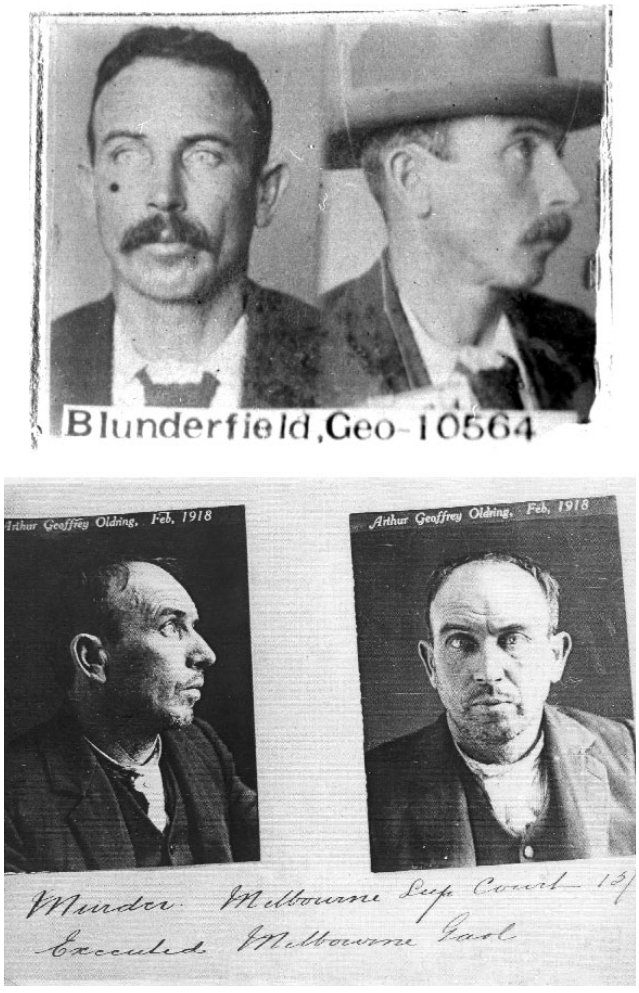


Fig. 9: Mug shots of George Farrow Blunderfield as himself and as Arthur Geoffrey Oldring (below). State Archives of Western Australia and Public Records Office Victoria.

chart showing condition on discharge. The apparent change in approach, through time, on the part of the army towards the dental health of soldiers, evident from this admittedly small sample of records, closely parallels Butler's historical account of the beginnings of the Australian Army Dental Service (Butler 1943:433–484), a specialist branch that did not exist in 1914. According to Butler, the AIF relied upon the British Army for policy in medical matters and the latter, at this time, had a negative attitude towards dentistry.

Butler (1943:435) emphatically states that 'decay or loss of teeth (was) a definite bar to fitness for military service' at the beginning of the 1914–1918 war. However, Butler (1943:447–8) also cites a British medical officer who examined Australian troops at Gallipoli (Turkey) and Lemnos (Greece), reporting widespread dental problems: 'broken dentures, decayed stumps, oral sepsis and teeth which otherwise required attention'. Elsewhere, Butler reveals that the army had no explicit standard defining dental fitness until 1917 (1943:463). Also illuminating is Butler's lament that depot military and medical officers, rather than dentists, subjectively determined dental fitness. Butler suggests that their duty to provide men for fighting on the Front might, indeed, have taken priority (Butler 1943:460).

A similar issue arises in regard to physical fitness on enlistment. If F85 is Oldring, and a similar situation applies to Budd, one may reasonably ask how it could be that a man presenting with the painful and probably restrictive osteopathologies of F85 could be acceptable to the AIF. One might argue, in Oldring's case that a combination of effort on the part of the applicant to disguise disability, age (which Blunderfield honestly stated) together with the recruitment imperatives previously alluded to, might have influenced the Adelaide depot decision.

From the weight of circumstantial evidence, we now conclude that an identification of F85 as Oldring is highly suggestive. However, further consideration of the historical record is needed because such an identification seems to fly in the face of the history of prior exhumations at the Melbourne Gaol as discussed below.

F86/1 had too few elements present for identification beyond *Homo sapiens*. A fibula present in the remains identified as F86/2 allowed an estimation of stature and the upper six cervical vertebrae were useful in comparing possible hanging-related injury to the historical record. The remains known as F86/2 may be Murray, Budd, Ross or Oldring. The tragedy of the infamous Gun Alley murder, as has been powerfully argued (Morgan, in press), was compounded by the execution, at the Melbourne Gaol, of Colin Campbell Ross. This hapless man, apparently convicted of the crime through flawed forensic evidence and perjured testimony, was executed and buried in the hospital yard during April 1922 then exhumed and removed to Pentridge in 1937. Could the apparent absence of quicklime within the F86/2 coffin be a tacit gesture of sympathy towards innocence maintained to the last, or is it a mark of respect to Budd, the veteran soldier, a sad alcoholic destroyed by his Gallipoli experience?

BURIALS AND EXHUMATIONS: THE HISTORICAL RECORD

As has been noted, Zygmuntowicz obtained a copy of a plan of the burial ground at Pentridge Prison from the files of the Office of Corrections from J. Erftmeyer (Zygmuntowicz: Appendix D). This typescript plan recorded that 27 individuals, including Ned Kelly and five 'unknowns', were re-interred in two mass graves at Pentridge. Although this is not stated explicitly, it may be inferred that these individuals were exhumed from the Melbourne Gaol yard during 1929. Also noted on the Erftmeyer typescript plan is the reburial of Ross, Murray, Oldring and an 'unknown' together in plot 5; the date '15/9/37' appearing next to the name of Ross.

The Erftmeyer plan not only shaped our view in regard to the likely number of burials within the hospital yard, but also seriously impedes the identification of F85 as Oldring. Subsequently, a National Trust staff member, Ian Keeble, produced a copy of a different, formal hand-drafted version of the Pentridge graveyard plan which indicates that Erftmeyer's version has substantially important details missing due simply to a failure to photocopy the complete document at some time in the past. Keeble's version shows that there were not two but *three* mass graves used for reburial of the 1929 exhumations and that the third grave contains the remains of two 'unknowns' together with Pfeffer, Picone and Jackson. Hence, the number of 1929 reburials according to the Pentridge plan becomes 32 rather than 27.

The historical records thus imply that Picone was buried in the hospital yard but exhumed from the yard on the other side of the southwest wall in 1929. Further, Inspector General Akeroyd's report dated 8 May 1929 (VPRS 3992/P, unit 1858, file W4499), asserts that no fewer than 47 bodies had been exhumed from the gaol and taken to Pentridge. Akeroyd's count of 47 exhumations in 1929, the four exhumed in 1937 and burial F85 found during the course of the present work, now gives a total of 52 burials at the gaol. However, according to Lynn and Armstrong's list, there should only be 51. Whether we had found an unknown or forgotten burial, or Akeroyd had simply miscounted, became an important but unresolved question.

Other evidence tends to support a notion that the 1929 exhumations were not conducted in a manner conducive to either secure identification of the remains or a reliable body count. According to Akeroyd, writing on the 12 March 1930, and echoed by contemporary press reports, finding the bodies came as a complete surprise. The prevailing expectation clearly was that burials would have been entirely destroyed due to the use of quicklime in the graves (VPRS3992/P unit 1858, file W4499; *The Argus* 13, 15, 16, 17, 19, 20 April, 3 of May 1929; *The Herald*, 13, 18 April 1929).

These sources reveal a disturbing tale of official disarray while the public made trophies of the skeletal remains of 'Kelly' and 'Deeming'. Ned Kelly's fame continues in the present, while the serially-murderous conman Frederick Bailey Deeming, who is now largely forgotten, would have been well-remembered in 1929, probably second only to Ned in notoriety. The extraordinary coincidence of accidentally finding the remains of Kelly and Deeming first out of more than forty other burials—and then in the likely order of their popular notoriety—defies belief. Perhaps a more rational explanation is that no one, least of all the general public, had the slightest idea of the identity of the remains, but that wishful thinking and folklore combined to fill the gap.

The unpleasant nature of the work prompted the builders' labourers exhuming the bodies to go on strike. While the press carried pleas for return of the souvenirs, undertaker Josiah Holdsworth was brought in to supervise exhumation with the assistance of experienced gravediggers from Fawkner Cemetery. Prior to this, however, the Secretary of the Builders Labourers' Union described to the press how there had been no apparent attempt at identification of the 'remains [that] had been placed in sacks about the works' (*The Argus*, 19 April 1929). In distancing himself from these disorderly proceedings, Holdsworth (*The Argus*, 10 April 1929), noted that prior to his involvement, bones had already been taken to Pentridge for reburial.

Difficulties in identification during the debacle of 1929 are

highlighted by the romantic circumstances of the discovery of the remains of 'Kelly' and 'Deeming'. Also to be considered is inclusion, among the names of the exhumed in the Pentridge 1929 reburial listing, of convicted murderer Elizabeth Scott who, according to Bransgrove et al. (2002), was buried in the Melbourne General Cemetery during November 1863 as registered number 127154. Then there is the inclusion of the name 'Thomas'. Although three persons having that surname died in the Melbourne Gaol during the late nineteenth century (Peter Navaretti pers. com.) none of these deaths was the result of a judicial execution. Zygmuntowicz (21) dismisses the possibility of burial within the gaol curtilage for those prisoners who died while 'inside' but who were not under sentence of death. Those bodies were released to families for private disposal. In short, the 'identifications' of 1929 and the Pentridge 'cemetery records' are highly suspect.

EXHUMATIONS FROM THE POLICE GARAGE SITE DURING 1937

It is not clear that the process of exhumation and identification during 1937 was much better organised than that of 1929. During construction of the Police Garage, members of the police force who claimed knowledge of those matters, marked the 'location' of three of the burials within the former hospital yard which were expected to be disturbed by the contractor's excavations prior to pouring the concrete footings for the roof supports. Funeral director W. G. Raven was awarded the contract for removal of the remains and reburial at Pentridge at the rate of £4 per body. However, after fruitless searching, it became necessary to call in a retired Chief Warder (Stein) who eventually found four bodies buried in graves eight feet apart under a four inch layer of concrete (Chief Commissioner of Police file 54/453/1103). Although Raven was compensated £1 for the additional work of concrete breaking, the imperfect result of exhumation, evidenced by F86/1 and F86/2, shows that this task was performed carelessly. Indeed, the thoroughness in identification of the individuals exhumed in 1937 becomes questionable. At least it seems clear that the Penal Department maintained its tradition of poor record keeping. Notwithstanding, Stein remembered where the burials were, so perhaps written records mattered less than the collective memories of a close-knit group of prison officials. Those memories, 'the local knowledge of those who once occupied these places eludes us' (Mayne & Murray 2001:2).

It is not unknown for tensions to arise between archaeological evidence and the written record (Ferguson 1977:7; Leone & Crosby 1987:398–9; Leone 1988:33; Johnson 1999:30; Davies 2001a:9–10). The existence of contradictions and equivocations such as these highlights the uncertainties that reflect upon the truth of received history and underlines the importance of an archaeological role in attempts towards the establishment of 'historical veracity' through synthesis and integration (Schuyler 1978; Deagan 1983:263–4, 1988:8).

In this particular example, the relationship between the physical evidence (the skeletal material together with its context) and the historical record is complex. The remains in F85 are an empirical entity, allowing, through attribute analysis, the establishment of a physical profile, possible cause of death and classification within established constructs such as race; a methodology that can stand alone, requiring little engagement with documentary data. Derivation of meaning from F85, however, begins with linkages between the evidence of skeletal trauma and the context of the burial—a context the broad historical record is entirely adequate to identify as a prison where judicial sentences of death were carried out and the bodies of the executed were (for a time) buried as the law required. At this level of articulation, the documentary record allows F85 to become an anonymous example of a small cohort of condemned prisoners within the broad grouping of early twentieth-century Australian men. Articulation at a higher level, the restoration of identity to the skeletal material, requires engagement with historical data on a much finer scale. However, in this instance, the fine-grained resolution required has revealed uncertainty and contradiction within the historical record so that secure identification based upon that resource has been impossible.

Documentary problems were not restricted to exhumation and burial records. Our process of identification relied significantly on the records of post mortem examinations. However, the evidence from the Penal Department's 'Particulars of Executions', varies enormously in usefulness. Two Government Medical Officers were involved and were responsible for different entries. One clearly relished the details, while the other, perhaps not surprisingly, seems to have been revolted by them, maintaining his distance through cursory description.

It might be thought that DNA techniques could help resolve the issues of identification of the individuals represented by F85, F86/1 and F86/2. Any possibility of success with DNA matching in these instances relies on two important assumptions. The first is that relatives willing to participate in such an activity can be located. It is also unclear if DNA would adequately survive exposure to the highly alkaline conditions arising from the use of quicklime in the burials.

CONCLUSION

There is strong evidence, both negative and positive, that the identity of F85 is George Farrow Blunderfield alias Arthur Geoffrey Oldring, convicted of a double murder at Trawool, Victoria. Identification beyond reasonable doubt has not, however, been possible due to conflicts between the physical evidence and highly questionable documentary records of exhumations and reburials. The remains known as F85 were re-interred as an unidentified Caucasian male. F86/1 and F86/2 were re-interred as unidentified persons.

In view of the depth of the social and ethical implications, Shannon Novak and Derinna Kopp have recently questioned whether human remains should be studied at all; arguing that, 'after all, artifacts and written records document behaviour in the past and can provide insight without disturbing the dead' (Novak & Kopp 2003:102). In this instance, the dead were either disturbed long ago or, because their resting place had become no longer appropriate or secure, disturbance in the future was inevitable. Indeed, in regard to ethics, one could question whether the resting place was ever appropriate. Consider that these burials reflect notions of punishment requiring that identity be forfeited, that captivity be symbolically continued after execution of the death sentence, that funerary rites performed in the presence of loved ones are denied and that quicklime be used in the grave with intent to destroy the bodies.

Although Novak and Kopp recognise that written records might not, 'provide a basis for political consensus about past events' (2003:102), they appear not to have considered the variation in scale at which enquiry about the past is pursued. Where investigation goes beyond broad questions of past behaviour to address personal histories, individual identities and perhaps the redressing, as best we can, of tragic judicial error, the structure of those written records becomes acutely important. This point is amply illustrated by the present work, where reattachment of a lost identity has failed through inadequacy of the documentary record.

The human burials discussed in this paper are illuminating in a number of ways. Primarily, they are confronting in terms of the stark realities of capital punishment. Although there seems no doubt that Arthur Oldring was a villain, Albert Budd was a tragic figure, destroyed by his experiences in the AIF. Colin Ross most probably died on the gallows as an innocent man. These stories of the past are painful, but poignantly relevant now, as the debate about capital punishment resurfaces in our present

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NOTES

1. Quicklime was commonly put into the graves of the hanged. Oscar Wilde, in his *Ballad of Reading Gaol*, gives a vivid account of how it was used in a prison in late nineteenth-century England. It insulted the corpse and filled other prisoners with dread, when they saw the white and pasty lime on warders' boots after a hanging and burial. Contact of quicklime with soil moisture and body fluids produces calcium hydroxide ($Ca(OH)_2$)and thus a heat that would have temporarily sterilised the soft tissues. Decomposition of soft tissues, at least initially, would therefore have been delayed. Subsequently air would have (albeit slowly) caused carbonation of the calcium hydroxide, producing calcium carbonate ($CaCO_3$). Once the heat had dissipated, decomposition of soft tissue would have resumed and accelerated in an alkaline environment. As for the bones, although the survival of the organic component is minimized, the end product of calcium carbonate creates a soil chemistry favourable to the survival of their mineral component and thus helps to preserve their structural integrity and surface details. So any intended insult to the corpse was based on a misunderstanding.
2. Except for Ross, Oldring, Picone and Pfeffer, the ages at execution are from Penal Dept., nd., 'Particulars of executions'. For Ross, the information is from Kevin Morgan (pers. com.). Oldring, as Blunderfield, was born during the July–September quarter of 1871 (St Catherine's House index 1871, reference 4a642; Peter Navaretti, pers. com.). Picone's age is from Lynn and Armstrong's (1996:Appendix I) list and Pfeffer's is from the Muster Roll of the Fifth Victorian Mounted Regiment, National Archives of Australia series B5179, item B.
3. Except for Pfeffer, heights are from Penal Dept., nd., 'Particulars of executions'. For Pfeffer, the information is from the Muster Roll of the Fifth Victorian Mounted Regiment, National Archives of Australia series B5179, item B (but see Figure 7).
4. In the collections of the Shellshear Museum, Department of Anatomy and Histology, University of Sydney; with the assistance of Denise Donlon.

ABBREVIATIONS

AIF	Australian Imperial Forces
RMIT	Royal Melbourne Institute of Technology
RMITU	RMIT University
VPRS	Victorian Public Record Series, Public Record Office of Victoria
aka	also known as (alias)
AIF	Australian Imperial Force

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