Tradition and change in contemporary burial practices: cemeteries and sustainability

Lou Wilson and Keri Chiveralls
University of South Australia

Abstract

The burial of the dead has been the concern of both mourners and civic authorities for as long as humans have lived in organised communities. Cemeteries have throughout history provided areas of open space to urban residents for civic activities and the maintenance of traditions, even in the most crowded areas. The emotional challenge of death is sometimes alleviated by traditionalism and continuity in burial forms which can be expressed through the perpetuation of ‘collective representations’, or patterns of ideas, values, beliefs and expectations that have emerged over time. It is generally easier when addressing the loss of loved ones to follow tradition or religion and normative social practices than to consider new procedures. Nevertheless normative burial practices are subject to cultural change over time. This paper argues that changes in contemporary burial practices in Australia can be understood as being mediated by tensions between cultural traditions, the act of mourning the dead, a regulated land market that restricts the space for attending to the dead, new demands for ecological sustainability, and state regulations relating to burial and mortuary processes.

Introduction

Death and its associated rituals are one of the key rites of passage in the human life cycle and play a significant role in the function and organisation of our societies (Turner 2008). Cemeteries are places where cultural practices are perpetuated in memory of the dead and might form a social focal point that brings families and communities together to mourn those who have passed. This may be especially so in newer, ‘lawn cemeteries’ such as Enfield Cemetery in Adelaide’s north where the presence of rose gardens, lawns and low-beam memorials encourage community activities in a less formal atmosphere. In the sociological imagination, perpetuation of these cultural and community activities can be understood as ‘collective representations’, or patterns of ideas, values, beliefs and expectations that emerge from the interactions of people from diverse backgrounds over time (Davies 2000). Recent social movements and technological developments in mortuary processes have also brought the ecological implications of in ground burials to the fore and raised questions over the greenhouse gases emitted by cremations. This
paper discusses research at the University of South Australia undertaken in partnership with the Adelaide Cemeteries Authority to unpack the changing social and ecological dimensions of burial and mortuary practices in Australia.

**The social dimensions of death**

While both mourners and the deceased are often present at funerals, the basic difference between these categories is that, at the time of burial, one set has agency and the other, technically, does not although the deceased is likely to influence the type and format of the ceremony and mortuary processes prior to their death (Sorenson 2009). The corpse at a funeral is considered to be lifeless and incapable of agency. However if the corpse is buried in a coffin it will move as putrefaction sets in, tissue dissolves and fluids and gases escape. If the corpse is cremated, greenhouse gases are burnt, mercury can be released from tooth fillings and there are other environmental implications. The presence of the corpse also generally causes mourners to act in certain ways, to weep or to be moved in some way. In this sense the emotional challenge that death confronts all of us with sooner or later is sometimes alleviated by cultural activities and continuity in burial forms (Sheets-Johnstone 1999). It is generally easier when addressing the loss of a loved one to follow tradition and/or religion and conform to normative social practices than to consider new procedures. The need to dispose of the dead also creates employment for funeral directors, grave diggers, crematorium workers and gardeners to maintain the cemetery grounds and has given rise to the development of thriving funereal industries. These industries also help establish and determine cultural practices in relation to the final rite of passage. Jackson (1989) noted more than two decades ago that cemeteries are commercial enterprises that market burial as a desirable commodity. Jackson (1989) wondered whether the shape of cemeteries in a future era marked by diminishing natural resources and changing values might also differ from the commercial cemeteries of his time. Change in this sense might be tempered by continuing cultural and religious funerary practices that require in ground or other forms of culturally appropriate burial that have been transplanted to Australian cities by the changing ethnic demography and culture of our communities. On this matter, Batchelor (2007) drew attention to
above ground multi-burial mausoleums that have become popular with Australia’s community of Italian
descent. Mausoleums at Adelaide’s Enfield cemetery have begun to be constructed to meet community
demand. These mausoleums represent a culturally appropriate way for some communities to bury their
dead that require less space than single tombs. Mausoleums also offer ecological advantages since the
embalmed body does not decompose or come into contact with the earth and is not cremated.

It must be considered then that normative burial practices are subject to cultural change over time.
Cremation, for example, was not available in Australia until the twentieth century. The first crematoria
opened in Adelaide in 1903. At the time it was considered to be an avante garde alternative to traditional
burial that few were likely to accept. Today more than three quarters of all burials in Australia are
cremations (ACA 2013). The rise in popularity of cremations was strongly associated with discourses
around public health. The large urban cemeteries that were filled with corpses in the course of nineteenth
century were associated with pandemics and other health problems. Corpses were often buried with
neglect to sanitary matters and contributed to outbreaks of disease. Cremation was promoted as offering
a clean alternative to traditional burials, with the cleanliness of fire and ashes seen to offer an aesthetic
end to life and deliver minimal, purified remains that would avoid contaminating the living (Prothero
2001). However, as Hertz (in Davies 2000: 90) argued, the corpse is both a biological entity and a social
one. In this sense, the maintenance of cultural heritage and social order, as well as cleanliness and the
hygienic burial of the dead, should be considered in the process of understanding death, burial and rites
of mourning. Moreover cemeteries in urban areas are regulated by state planning and legal structures that
restrict space and mortuary practices. In the current era new methods of burial are also associated with a
discourse on making our cities and landscapes more sustainable, as well as concerns with maintaining
public health and hygiene, and enabling the cultural activities associated with the burial of the deceased.
Sociological discussions of structure and agency and how these are mediated by tensions between
cultural traditions, a capitalist land market, new demands for ecological sustainability, and state
regulations relating to mortuary processes and funerary services must be considered in this debate.
The Role of Cemeteries

Cemeteries might have the capacity to integrate cultural landscapes into cities and regions while increasing the ecological sensitivity of burial practices and the social acceptance of death as a natural process. In dense urban areas, cemeteries can provide places for nature and recreation. Cemeteries in urban areas can also provide habitat for wildlife and biotic diversity that tends to be sorely lacking in denser urban areas (Barrett 2001). Cemeteries in this sense can serve as environmental spaces and corridors that support habitat and preserve biodiversity, as well as providing space for communities to meet their social and cultural obligations to the deceased.

Cemeteries and funeral rites provide a sense of meaning to communities and help establish a sense of historical and cultural continuity over time, as Davies (2000) has noted. Burying and remembering the dead has the potential to connect people to their environment and community along with create a sense of connection to ancestors. It is common in many cultures to embrace the connection between the environment and death. For example, across many cultures, planting a tree for the dead is often part of the burial ritual. The process of accepting habitats and landscapes as having an association with personal identity and history can also have the effect of encouraging citizens to sustain their community, their landscape, and their environment (Hester 2006). Funerary rites and practices also have the potential to bring community members together as they gather to remember the dead.

In Australia, these roles for cemeteries might become more urgent as our cities densify and civic authorities are compelled to incorporate cemetery planning into public infrastructure development. This might require the implementation of new policies and incentives to provide for sustainable cemeteries, which meet the environmental and cultural needs of local communities.

Our ageing population also presents challenges to the sustainability of cemeteries in urban areas, particularly in states such as South Australia and cities like Adelaide that have an older population than
the Australian average. As the baby boomers pass on, there will be demands for burials and cremations based upon changing socio-economic, cultural, religious, age demographics and technologies. Older urban cemeteries will be challenged by limited capacity to accommodate these demands. Critical to this debate is how communities and cultures construct knowledge and shared meanings for one another in relation to the processes associated with the burial, cremation or other funerary activities.

Cemeteries in many urban areas in Australia are also running out of space, restricting their capacity to meet community needs. Planning a new cemetery requires long-term thinking, well beyond political and standard social planning horizons. This issue is likely to become more acute as our population ages. The population of South Australia has a median age of 39.2 years, in comparison with New South Wales (37.2 years), Victoria (36.9 years), Western Australia and Queensland (36.2 years) and with significantly younger populations in the Australian Capital Territory and the Northern Territory (ABS 2010). The current available death rate forecasts are limited. The ABS provides some forward forecasting of rising death rates but specific detail beyond five years is minimal. Our ageing population, forecast rises in death rates, changing demographics and rapidly changing technologies means that cemetery planning has become more complex and harder to quantify. There is a need to balance the conservation of plots and monuments with the need to ensure the ongoing provision of accessible interment sites. This has been and continues to be a key issue for all major cities in Australia.

This is notably so in the Adelaide metropolitan area where three quarters of the population of South Australia resides. Proposals to create more space or new cemeteries in urban areas tend to encounter significant popular opposition from local residents, as Nicol (1994) pointed out almost twenty years ago in relation to proposals to develop new cemeteries in the southern suburbs of Adelaide. A similar unsuccessful proposal for a cemetery and crematorium at Highbury in Adelaide’s northern suburbs was characterised as having produced ‘400 fuming residents’ (Nicol 1994: 429) in opposition to the plan.
Similar issues with neighbouring communities continue to confront cemetery planners who must also plan for changing forms of burial or cremation that may require more or less space.

More recently, opposition to the expansion of cemeteries has coalesced around the ecological consequences of conventional, in ground burial practices (e.g. see Law, 2009). Modern burial practices entail the use of significant amounts of waste products, some of which are toxic. For example, the embalming process requires formaldehyde and other preservatives to be pumped into bodies to slow their decay. The funeral industry in the US requires approximately 827,060 gallons of embalming fluid, primarily formaldehyde per year (Holness and Nethercott 1989). Formaldehyde exposure has significant implications for the health of funerary workers. Formaldehyde has been linked to a high incidence of leukaemia and brain and colon cancer among embalmers (Holness and Nethercott 1989). Embalming is used less in the funerary industry in Australia but any in ground burial contaminates the soil and is difficult to contain. A study by Spongberg and Becks (2000) of soil samples taken at coffin depth found toxic concentrations of copper, lead, zinc, and iron, that is, the metals used in casket construction. Conventional in ground burials also require the use of significant natural resources. For example, every year in the United States conventional in ground burials require approximately 30 million feet of hardwoods, 2,700 tons of copper and bronze, 104,272 tons of steel, and 1,636,000 tons of reinforced concrete (Basmajian et al. 2010).

Funerary practices in contemporary urban areas are also characterised by excessive use of water, a particular problem in drier parts of Australia. Memorial parks and lawn cemeteries tend to be much greener than traditional burial areas and rather than presenting a gloomy vista of ranks of tombstones, are characterised by manicured gardens and lawns. Cemeteries such as Adelaide’s Centennial Park in the southern suburbs require a significant volume of water to maintain the beautiful gardens that surround the burial plots and crematoria. While this provides a pleasant environment in which mourners can pay their
respects to the dead, these lawns and gardens are regularly doused with chemical fertilizers to keep them green, adding toxins to the surrounding soil.

In ground burials in Australia are less common than in the USA and cremation accounts for more than three quarters of all burials in Australia. When the first legal crematorium was constructed and commenced operating at West terrace Cemetery in Adelaide in 1903, cremation was viewed as a Bohemian alternative method to an in ground burial (Nicol 1994). However, throughout the 20th century, cremation came to be the predominant and preferred method in funerary services in Australia. In metropolitan Adelaide, cremation is now chosen for 77 per cent of all funerals. The challenge for cemetery planners is to identify if cremation will continue to increase as the preferred method and if so, to at what percentage is it likely to peak given there are religious and cultural groups whose beliefs are committed to in ground burial and prohibit cremation. This consideration will impact upon the take up rate of land for interments, the rate of grave reuse required and the planning for the provision of crematoria.

Moreover, while cremation might have ecological advantages over traditional burial, it uses large amounts of non-renewable energy sources to maintain body burning furnaces at a temperature of 800 - 1000 degrees Celsius and creates greenhouse gases. The average embodied emissions from the body, clothing and casket per cremation are 0.53 tCO2-e, that is, 530 kgCO2-e is emitted per cremation, or 0.43 tCO2-e when indirect emissions due to administration are omitted. GHG emissions for a conventional, in ground burial including the body, clothing and casket are 0.88 tCO2-e, that is, 883 kgCO2-e is emitted, or 0.78 tCO2-e when indirect emissions due to administration are omitted (ACA 2013).

**New forms of burial**

Other, newer forms of burial that may be seen to be more sustainable include natural burials, Resomation and Promessia. The average GHG emissions for a natural, in ground burial is lower than both
conventional burial and cremation at 0.48 tCO2-e, i.e 483 kgCO2-e, or 0.38 tCO2-e when indirect emissions due to administration are omitted (ACA 2013). Natural burial requires the interment of the body in the soil in a manner that does not inhibit decomposition and hence allows the body to recycle naturally. Chemical preservatives or disinfectants such as embalming fluid are not used and bodies are buried in a biodegradable coffin, casket, or shroud. The grave is shallow enough to allow microbial activity similar to decomposing and does not use any outer burial container that might prevent the body’s contact with soil. Caskets may be made of bamboo, paper, cardboard, wool, banana leaf, or willow. Grave digging and other funerary activities are managed so as to minimise the impact on the surrounding land in natural burials. Enfield Memorial Park in the northern suburbs of Adelaide established the first natural burial ground ‘Wirra Wonga’ in Australia. This environmentally sustainable burial area now accounts for 2 per cent of annual burials at Enfield Memorial Park. Natural burials have significantly less ‘whole of life’ greenhouse gas emissions but the less formal layout of plots within the natural burial area also means that the land may be used less efficiently than in a traditional cemetery. At Enfield cemetery in Adelaide’s north, conventional graves are buried three deep and each plot is leased for periods of 50 to 99 years, after which it may be reused. Leasing arrangements are more difficult to implement with natural burials. In this sense, shallow, unmarked natural graves offer less scope for the efficient use and re-use of grave space than conventional burials. Shallow, unmarked graves mean that other bodies cannot be buried below the initial grave and there is uncertainty where bodies are buried once the site has grown over. Similarly, mortuary practices such as Promessa and Resomation appear to be perceived to be more environmentally friendly, yet these practices might suffer from a lack of public acceptance because of religious requirements or a reluctance to forgo continuity in burial forms.

Resomation is a relatively new commercial burial practice that is used in the USA, Britain and Canada but is yet to be offered in Australia. It has synergies with cremation but instead of fire, uses water and alkali based methods, which are described as alkaline hydrolysis to break the body down chemically. Resomation reduces the body to a green-brown liquid and white bone remains that are crushed to form a
white-coloured dust. The ash is then be placed in an urn as is the case with cremation, and returned to the next of kin of the deceased. Moreover dental mercury is not dissolved or burnt by the process and can be removed from the ash (Bowdler 2011). Promessa is another new form of burial in which human remains are disposed of by freeze drying. The first facility opened in Sweden in 2011. The body is frozen with liquid nitrogen, making it brittle enough to be shattered by vibration. The body is reduced to powder, which weighs 50 to 70 per cent less than the original body. The dry powder is placed in a biodegradable casket and buried in soil where bacteria decompose the remains into humus. Promessa has significant advantages over cremation as there are no polluting direct emissions of gas into the atmosphere (McNally 2008).

These new mortuary practices may, in time, come to be accepted in the same manner that cremation became the normative mode in Australia but there is a dearth of research into these processes, their legal status and their relative acceptance by diverse communities and cultures. Similarly there appears to be only limited research available on understanding contemporary burial practices in Australia relative to the tensions between cultural traditions, the act of mourning the dead, a regulated land market that restricts the space in cemeteries, new demands for ecological sustainability, and state regulations relating to burial and mortuary processes.

**Conclusion**

This paper has unpacked the role of cemeteries in urban areas relative to debates on mourning the dead, the maintenance of cultural heritage, public hygiene and new ways of burying and mourning the deceased. Moreover, restricted land markets, planning structures, and new environmental concerns are challenging the traditions surrounding death and its associated rituals in Australia’s urban areas. Traditions are also challenged by new technologies and ways of burying the dead. Structures associated with maintaining cultural heritage and the social body in Australia might come into tension with diverse individuals, new religions, communities and cultural identities in the process of disposing of and
attending to the dead. We have also illustrated that conventional in ground burials are ecologically problematic. Pollutants such as formaldehyde and mercury might contaminate the soil and air of cemeteries and present a health hazard to funerary workers and mourners. Conventional, in ground burials in urban areas also require large plots of scarce land to be set aside for burials. While this is less so for cremation, this method of disposing of the dead burns fossil fuels and releases greenhouse gases and mercury into the atmosphere. Newer methods of burial such as natural burial, while less toxic, tend to use space inefficiently and there may be cultural, social and religious barriers to their acceptance. This paper, while indicating the need for more research in this area, has offered an understanding of changing contemporary burial practices in Australia that is linked to a debate over structure and agency. That is, changes in contemporary burial practices in Australia can be understood as being mediated by tensions between cultural traditions, the act of mourning the dead, a regulated land market that restricts the space for attending to the dead, new demands for ecological sustainability, and state regulations relating to burial and mortuary processes.

Acknowledgements

We wish to acknowledge the support provided to this research by the Adelaide Cemeteries Authority and the Barbara Hardy Institute at the University of South Australia.

References