



## Toxic Burials: The Final Insult

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One's death should mean something.

Edward Abbey  
Loeffler (1989)

For most of human history, the dead simply returned to the earth: "dust thou art, and unto dust shalt thou return" (Genesis 3:19). Aldo Leopold (1993:158-159) wrote:

'Dust to dust' is a desiccated version of the Round River concept. . . . [A] rock decays and forms soil. In the soil grows an oak, which bears an acorn, which feeds a squirrel, which feeds an Indian, who ultimately lays him down to his last sleep in the great tomb of man—to grow another oak.

What better fate than to have our bodies quickly recycled into the biota, our constituent atoms active once again in oaks and squirrels. Over the last century in the United States, however, we have institutionalized and ritualized an expensive and ecologically harmful burial process.

Until the early 1900s, family and community cared for the dying, prepared and "sat up with" the body, and dug and filled the grave. Every village had a cemetery, family graveyards were integral parts of communities, and funerals were simple graveside services (Young 1994). Cemeteries were not immaculately manicured: native trees provided shade, and markers were hewn from local rock or wood.

Embalming was uncommon until the Civil War, when dead soldiers were preserved for the journey home (Young 1994). By 1999, however, most of the 2.3 million people who died in the United States were embalmed (595,617 were cremated; Cremation Association of North America 2000). Yet embalming is required only if a body has not been buried, cremated, refrigerated, or placed in a hermetically sealed casket within 24 hours (or longer in some localities). Moreover, embalming serves no purpose in preventing communicable disease (Mitford 1998).

The Environmental Protection Agency has raised concerns about air pollution from cremations and discharge of embalming fluids from funeral homes into septic and sewage systems. Toxins, such as arsenic (outlawed in 1910; Toxic Materials News 1991), formaldehyde, and gluteraldehyde, may leak from gravesites and pollute groundwater. Cemeteries often require outer burial containers, but both caskets and vaults may contaminate soil and water by leaching varnishes, preservatives, sealants, and metals (Spongberg & Becks 2000). Many of the 115,000 cemeteries in the United States (U.S. Geological Survey 2000) are kept verdant by regular applications of biocides. Fossil fuels are used to produce these biocides and to dig and groom graves. Cemeteries are "beautified" with turf and invasive exotic species. The result is an artificial and toxic environment.

Alternatives exist. Graveyards can be ecologically significant. In the southeastern United States, where row cropping caused widespread erosion, old graveyards are some of the only places where original topsoil remains. In the Midwest, family cemeteries often are refugia where prairie species were spared the plow. In Ohio, two such cemeteries are nature preserves. Leopold (1966:49) described an old graveyard as a "yard-square relic of original Wisconsin."

Ramsey Creek Preserve in South Carolina was established to provide "green" burials. There, the cost of an environmentally friendly burial is less than a traditional one, with part of the fee reserved for maintenance, ecological restoration, and expansion of the preserve. Unembalmed bodies are buried in biodegradable caskets or cremated remains are scattered. The preserve is as natural as possible: there are only a few rough trails, and memorial stones must lie flat and be of local origin. Other alternatives include scattering cremated remains in natural areas, and creating "coral" reefs from concrete containing cremated remains. These examples can guide us back to environmentally responsible burial practices.

Religious institutions could play a significant role in restoring ecologically sound burial practices. Many seek spiritual solace when loved ones die, and 88% of the U.S.

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population considers religion an important part of life (Regosin & Frankel 2000). Davis and Angus (1992) assert that churches have always been responsible for environmental stewardship, which is scriptural in western religions. Jewish tradition prohibits cremation and embalming, and tree planting to honor the dead is an Israeli custom. Bartholomew I, the green patriarch of orthodox Christians, declared that “. . . for humans to contaminate the earth’s waters, its land, its air, and its life with poisonous substances—these are sins” (quoted by Newsome 1999:15). Few churches, however, acknowledge or accept environmental responsibility.

John Dewey (1974) describes two types of morality, customary and reflective. The first is based on blind adherence to custom: moral decisions are based on the way family and community did things in the past. Such decisions help maintain traditions and cultures. Reflective morality involves objectively contemplating whether or not certain customs should continue. Upon reflection, some customs will be deemed right (socially and ecologically sound), whereas others will be deemed wrong.

The “golden rule” of Leopold’s (1991:345) land ethic states that, “A thing is right only when it tends to preserve the integrity, stability, and beauty of the community, and the community includes the soil, waters, fauna, and flora, as well as people.” Holling and Meffe (1996: 334) assert that natural resource “management should *facilitate* existing processes and variabilities rather than changing or controlling them.” Gauged by either of these criteria, toxic burial practices are wrong.

Nature “teaches” us (Rolston 1979) that dead organisms are recycled into the biota. Death is an inevitable part of life. Edward Abbey urged us to strive for a good death, just as we do for a good life: “. . . we should get the hell out of the way, with our bodies decently planted into the earth to nourish other forms of life . . . which support other forms of life” (in Loeffler 1989:18). One way to follow his suggestion is to memorialize loved ones through land protection (Willers 1999–2000). If the funds used for toxic burials were used for “green” burials in designated reserves, much important habitat could be preserved. Land protection must incorporate social and moral values and provide a place for people to connect with the environment (Higgs 1997), and community involvement is vital to preserving important tracts of land. Landscapes are our personal and cultural biographies (Meekison & Higgs 1998): they provide greenspace and cultural centers where people can connect with the past. Green burials may reestablish an ancient, powerful connection to these landscapes.

Although there may always be a need for funeral providers, working with family and friends in burial ceremonies can help us cope with loss. Funerals and other ceremonies provide a meaningful way for people to act out their feelings; provide security, identity, and confidence; ensure remembrance of events; and connect with others

(Geist 1975). Leopold (1966) believed in the cultural value of human–Earth experiences and customs that help people maintain contacts with wild things. The physiological, psychological, and spiritual benefits from such contact may be linked to ecological restoration (Geist & Galatowitsch 1999).

Westerners are destroying nature at an unprecedented rate. The United States has the largest per capita ecological footprint of any nation (Wackernagel & Rees 1996). Our ignorance, denial, apathy, complacency, greed, and arrogance are evident in the way we tend our dead. Shrader-Frechette (1996) noted that by failing to call for change we offer tacit approval of the status quo and perpetuate ethical and environmental problems.

Leopold (1991:346), in calling for an ecological conscience, wrote:

The first step is to throw your weight around on matters right and wrong in land-use. Cease being intimidated by the arguments that a right action is impossible because it does not yield maximum profits, or that a wrong action is to be condoned because it pays. That philosophy is dead in human relations and its funeral in land-relations is overdue.

Conservation biologists need to answer Leopold’s call. We need to recognize and de-institutionalize toxic burial customs and return to the environmentally friendly practices that once linked humans to the earth and better helped us cope with loss.

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