



Rest in Peace!

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Abstract

Background: Burial and cremation are the available methods of disposition of the dead. Religious and cultural beliefs play an important role in the decision to choose between cremation and burial as a way of disposition of the dead. Cremations are being promoted now because of social, technological and philosophical reasons. Statistics indicate that the decision to be cremated versus burial appears to be leaning towards the latter in future.

Methodology: Traditional open crematoriums and Electric crematoriums have been compared and the advantages and disadvantages of burial and cremation have been weighed and green alternatives have been suggested.

Results and Conclusion: Being buried in a modest, fully biodegradable coffin remains the option that is least harmful to the environment but paucity of land limits this option to be exercised freely. Electrical crematoriums may be used instead of traditional open crematoriums so that tree cutting is limited, and ashes generated are minimal. Disposal of ashes into the shrinking rivers and water bodies may be restricted and an appropriate respectful method of disposal of ashes may be devised to prevent water pollution so that the departed soul rests in peace.

Keywords: Cremation; burial; electrical crematorium; pyre

Introduction

Conversations about the environment or funerals don't appeal to most people. We exist in a time when "sentiment" can nullify sane argument. Religious and cultural beliefs play an important role in the decision to choose between cremation and burial as a way of disposition of the dead. Except for Judaism, Eastern Orthodox Church, and Islam, most religions accept the process of cremation. Hinduism since time immemorial believes that not only does cremation serve as a means of disposing of the body but also helps the departed soul in its journey into the next world. Cremation is the method of final disposition wherein combustion, vaporisation and oxidation turns cadavers to basic chemical compounds such as gases, ashes and mineral fragments retaining the appearance of dry bone [1]. Cremations are being promoted now because of social, technological and philosophical reasons. Due to rapid industrialization there is a need for more land and there are concerns about public hygiene because of corpses buried near the surface of the earth. Technological advancement has led to the creation of modern cremation equipment that can help reduce the body to its basic elements. Nevertheless, there are environmental concerns associated with emission of gases released during cremations.

Methodology

Traditional open crematoriums and Electric crematoriums have been compared and the advantages and disadvantages of burial and cremation have been weighed and green alternatives have been suggested.

Ethical Approval

Approval for the study was granted by the Ethics Committee.

History

There are references to cultural and historical ideals about conservation or about destruction of corpses that hark back to ancient civilizations [2]. The first practical apparatus to completely destroy corpses was made in Italy and Germany in the 1870s [2]. In 1872-1873, various methods of incineration of corpses were proposed in Italy. Paolo Gorini thought about dissolving them in a molten liquid [2]. Ludovico Brunetti considered the use of reverberatory furnaces [2].

Statistics

According to the Cremation Association of North America, the rate of cremation has grown from 48.6 in 2015 and is expected to

rise to 54.3 by 2020 indicating that the decision to be cremated versus buried is close to half and half, but appear to be leaning towards the latter in the future.

Cremation versus burial

Cremation reduces the body to cremated remains within a matter of hours whereas traditional burial follows the process of slow and natural decomposition. Some people respect the process of allowing the body to decompose naturally and consider cremation merely as hurrying the process while others believe that cremation denotes reverence. Cremation is a simpler process that also helps save ground space. The cremated remains can be stored in a cremation urn and displayed on a shelf or mantle at home, scattered on land, scattered from the air by plane, floated on water. You can carry the cremated remains of the deceased with you if you are moving elsewhere but this not possible in case of burial. Cremation is an irreversible process.

Advantages of cremation

- a) People choose cremation because they perceive it to be cheaper and quicker than burial.
- b) Cremation takes up less land and helps with the problem of overcrowded cemeteries.
- c) It is portable, so the ashes can be transported. You can put the ashes in an urn or other container and take them with you if you move.
- d) Families have more time to decide what to do with the ashes after the body has been cremated. Ideas include scattering ashes, interment, cremation jewelry, cremation diamonds, and cremation art are just a few.

Disadvantages of cremation

- a) It may be against the deceased's or a family member's religion.
- b) It is a permanent decision and the body cannot be exhumed at a later date.
- c) Sometimes cremation makes it more difficult for loved ones to mourn.

Advantages of burial

- a) Burial provides a gravesite for family and friends to visit and gives a feeling of more closure with the departed.
- b) It is considered a more natural method by some and is required by some religions.
- c) Burial provides the possibility of subsequent exhumation if necessary.

Disadvantages of burial

- a) Burial is more expensive than cremating.
- b) Burial is a source of environmental contamination including the casket.

Discussion

Cremation

Approximately 500kg of wood is required for a pyre for cremation of a single dead body and according to a report, in a year, around 50 to 60 million trees are burned during cremations in India. Some people use sandal wood which is costlier. It takes about half an hour for a team of four people to prepare the pyre. If there are say one million plinths in the country for cremation, imagine the daily requirement of wood and manpower. The heat generated is intense and so is the smoke from the pyre which continues to burn for about two days. Ashes are collected after two days after putting water to douse the remaining fire and heat to prevent ashes from spreading. Two days of continuous emission of heat, smoke and gas contributes significantly to the environmental pollution. Probably whilst offering respect to the dead, we unknowingly and unintentionally have punished the lungs of the living. Ashes are carried in a gunny bag and immersed into an already shrunken rivulet polluting it further.

Burn out or fade away

It's better to burn out than fade away. Most environmentalists feel that our lives already result in enough gratuitous combusting of fossil fuels and it is actually better to fade away than burn out. It is much better, in death, to compost down as nature intended. Burial at sea might seem a logical eco option, but the authorities generally frown on choosing to become fish-food. One of the reasons cremation superseded burials is because available space has greatly diminished over the decades and man is trying to "Save the land for the living". People have tried to freeze-dry its dead into brittle, compostable remains using liquid nitrogen. Solar-powered crematoria have been proposed to help save the millions of tonnes of wood burnt each year cremating dead.

Media and Technology

From Skyping funerals to chartered helicopters that disperse ashes over the Ganga, the economics of death is anything but morbid, writes Prince Mathews Thomas. Death care industry in India which is worth 2.5 billion USD where 8.5 million die every year is extremely unorganised at the moment. The public cremation of Mohandas Karamchand Gandhi and Jawaharlal Nehru demonstrated the importance and social acceptance of cremation. Media coverage of these 'ceremonial burnings' were relayed through newspapers, radio and television.

Save the Taj and the Ganga

The Taj Mahal is just 100 metres east from the Taj Ganj Shamshan or Moksh Dham, Agra's preferred crematorium which is a major source of pollution clouding the marble monument in a haze necessitating "SAVE the TAJ" campaign. Ganga is considered the holiest river in India and the major affluent of ashes of the dead are released in the holy Ganga causing pollution of this sacred river. Many people prefer the cremation over burial because they think that it is ecofriendly method of disposing off the body of their loved

ones. It is true that the cremations do not require any permanent piece of land but whether you believe it or not, the cremation is the least ecofriendly idea. Just think, the body of your loved one and the casket, both weigh about 150 pounds. After the cremation, you only get 4 pounds as the remaining. Where did the remains go? They become smoke and cause of heavy air pollution. Every single human body cremated uses as much energy in the form of gas and electricity as a 500mile car trip and releases approximately 400 kg of carbon dioxide.

Green Alternatives

Cow dung cakes: Cow dung cakes cause less air pollution as compared to wood.

Pyre ovens: Some villages along the shores of Ganga have been named "Ganga Grams" under the Namami Gange project. These villages have adopted a greener way of cremation by using 100kg wood in place of 500kg. They have also introduced 'pyre ovens' on cremation sites that would help generate enough heat to efficiently burn a human body with less wood. The special pyre ovens are designed to direct maximum heat near the head and waist parts of the body since these body parts require more time and intensity of heat to burn. Therefore, even with less wood fuel, the cremation can be done properly

White coal: White coal is also called as biomass briquette and is made from agricultural waste or biomass like sugarcane bagasse, wood chips and shavings, castor seed shells, rice husk and paddy straw. This alternative fuel will help reduce pollution.

Successful crematoriums: The Nagpur Municipal Corporation successfully made the Ambazari Ghat, India's first declared eco-friendly crematorium which uses agro-waste, LPG or cow dung for cremations reducing the levels of pollution. The Kolkata Municipal Corporation has also been approached with a proposal of using cow dung cakes instead of wood for cremation and is an attempt towards reducing environmental pollution.

Traditional funeral pyre: The traditional funeral pyre requires about 500-600kg of wood, 3 litres of kerosene and/or desi ghee and approximately 300-400 cow dung cakes per dead body. The cost turns out to be 2000-3000 INR and the mortal remains can be taken after 24 hours. The main drawbacks of traditional method of cremation are air pollution and deforestation. Also, cremation in open grounds generate large amounts of ashes which are later released into rivers and water bodies thereby polluting the rivers.

Electric cremation: The concept of electric cremation was commissioned in January 1989 as part of Ganga Action Plan to serve the purpose of river friendly cremation. Electric cremation is comparatively cheaper, and wood is not burnt and there is no gaseous emission. Comparing this conventional method of cremation with an electrical crematorium, it takes about two hours after which a handful of ashes are generated immediately. Gaseous effluents are well organised and least due to the body being burnt at intense heat. The electrical crematorium is woodless, cleaner with no smoke, ash, coal dust and is handled by only two men. Wood is not required, and trees don't need to be cut. Tree plantation is definitely important but equally or probably more important is protection and conservation of already existing trees which holds the key to retaining existing forests for good health of the general population.

Why is electric cremation not popular?

Hindus believe that the soul of a dead person should be completely detached from the body so that it can be reincarnated again. An open cremation is done while prayers are chanted so that the soul can be released after the body is burnt over a pile of wood draped in a white cloth. An electric crematorium is a covered crematorium which won't allow the soul to be released from the body and may mingle with other souls and the concerned person may not be reincarnated again.

Conclusion

Being buried in a modest, fully biodegradable coffin remains the option that is least harmful to the environment but paucity of land limits this option to be exercised freely. Electrical crematoriums may be used instead of traditional open crematoriums so that tree cutting is limited, and ashes generated are minimal. Disposal of ashes into the shrinking rivers and water bodies may be restricted and an appropriate respectful method of disposal of ashes may be devised to prevent water pollution so that the departed soul rests in peace.

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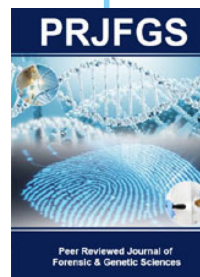
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