



Capsula Mundi: Life Never Stops

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Abstract

Capsula Mundi is a cultural and broad-based project, which envisions a different approach to the way we think about death. It's an egg-shaped pod, an ancient and perfect form, made of biodegradable material, where our departed loved ones are placed for burial. Ashes will be held in small egg-shaped urns while bodies will be laid down in a fetal position in larger pods. The Capsula will then be buried as a seed in the earth. A tree, chosen in life by the deceased, will be planted on top of it and serve as a memorial for the departed and as a legacy for posterity and the future of our planet. Family and friends will continue to care for the tree as it grows. Cemeteries will acquire a new-look and, instead of the cold grey landscape we see today, they will grow into vibrant wood.

Keywords: Green burial; Death; Trees; Ecofriendly; Green cemeteries

Introduction

The Capsula Mundi project rises from a deep examination of the role of designers in our society. In a culture far removed from nature, overloaded with objects for the needs of daily life and focused on youth, death is often dealt with as a taboo [1].

We believe that this unavoidable passage, so meaningful, is not the end, but the beginning of a way back to nature.

Inspired by these reflections, we decided to redesign the coffin-an object entirely left out of the design world-using ecological materials, and laic and universal life symbols, such as the egg and the tree.

Presently, to make a coffin, a tree must be cut down. The coffin has a short life cycle and a strong environmental impact. A tree takes between 10 and 40 years to reach maturity and the coffin is of use for just three days! We want to plant trees instead of cutting them down! Furthermore, Capsula Mundi is made from 100% biodegradable material and come from seasonal plants.

Materials and Methods

The process starts when the person is still alive, when they make the decision to be buried with Capsula Mundi and with the choice of the tree (Figure 1).

The body can be set in fetal position before or after rigor mortis has set in, which generally comes few hours after the death and lasts between 24 and 84 hours. Then, because of the autolysis process, the muscles relax and the body is malleable again.

The prototype under study has a standard dimension of about 43.3 × 31.49 inch and it's composed of an internal and an external part. The external part is a rigid pod made of biodegradable material and it opens lengthwise in two shells. The thickness is about 0.31 inch and it increases in the area of the seal, up to 1.18 inch [2].

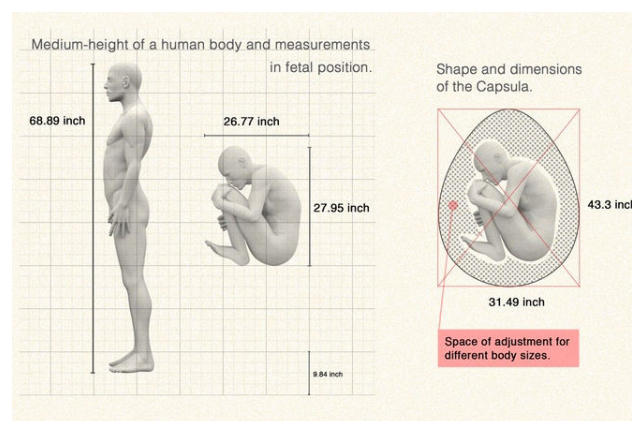


Figure 1: Process of Capsula Mundi.

The size of the internal part is made to order, to contain the body. It also serves as a stabilizer for the body during the transportation and the burying, when the two shells are locked.

The Capsula is laid down vertically in a hole in the ground, around 78.74 inch deep and 39.37 inch wide, covered with soil up to the level for bedding with the roots of the tree. Then, the hole is filled with soil up to ground level (Figure 2).

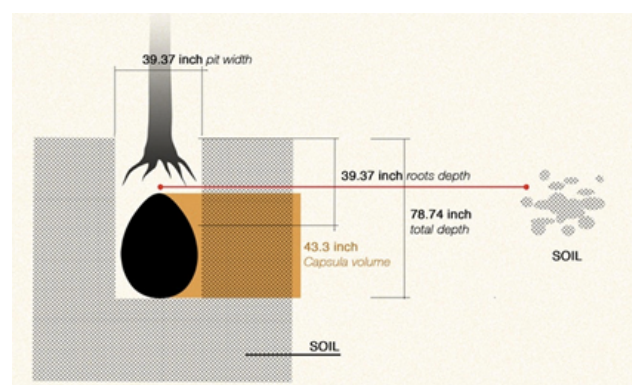


Figure 2: Interment of the Capsula and tree planting.

The process of the anaerobic decomposition starts involving the body and the material of the Capsula and leads to the their mineralization. The timing of this process depends on the chemical composition of the soil, the relative humidity and the temperature. It could vary from some weeks to many months.

The human body is mainly made up of nitrogen, sulfur, phosphorus, calcium, magnesium (in addition to carbon, hydrogen and oxygen), and indispensable substances for vegetation. The tree

completes this transformation process, engaging and complex, that brings us back to the cycle of life (Figure 3).

The tree marks the remembrance place and provides a permanent memory of the person. Taking care of it will build up a feeling of continuity and the whole community will benefit from this legacy. The forest becomes not only a site of memories but a space of life, shared and respected by everybody [3].

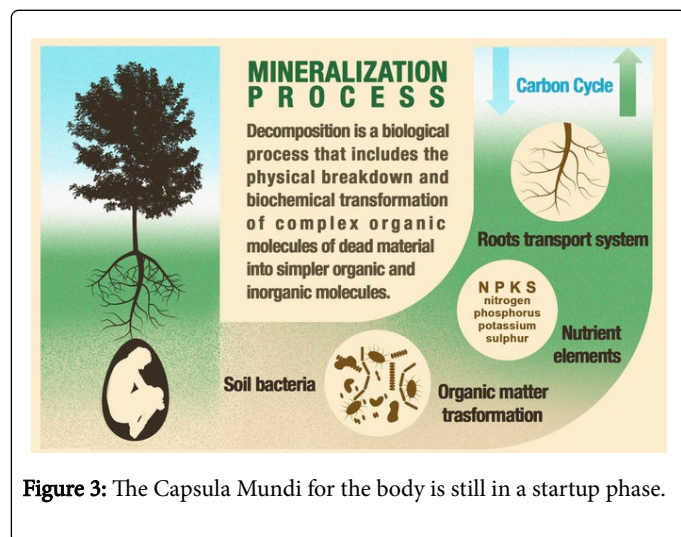


Figure 3: The Capsula Mundi for the body is still in a startup phase.

Capsula Mundi Urn

The Capsula Mundi urn is a biodegradable urn, a device for the slow dispersal of the ashes in the soil.

The ashes are put in through a hole, closed with a cone shaped screw top. After the burial, a tree, chosen in life by the deceased, in consideration of the local ecosystem, will be planted in top of it.

The urn is made by a biodegradable polymer (bioplastic). The time it takes to biodegrade ranges from few months to few years, depending on local climate and soil conditions. The urn is 29 cm (11,4 inches) tall and its maximum width is 22 cm (8,7 inches). The inner volume is 3.5 liters. The weight is cut about 1,4 kg (50 ounces).

Each urn is unique, thanks to handcrafted interventions during production.

We are aware that cremation is still an environmental issue but we hope that green methods of cremation, like the alkaline hydrolysis ("water cremation") will become more popular and common soon.

Also we are aware that ashes have a very high pH level that could prevent the growth of plants, but the bio-plastic we have chosen to produce the Capsule Mundi urns breaks down slowly, starting with small fractures. In this way, the ashes mix gradually with the ground. This slow dispersion process helps to equilibrate the soil action: the soil is a powerful buffer solution and it is therefore able to neutralize the

high PH level of the ash, it just needs time. In addition, the rainwater that penetrates into the soil gradually dissolves the sodium and potassium salts, which become attractive and useful for the growth of the plants (Figure 4) [4].

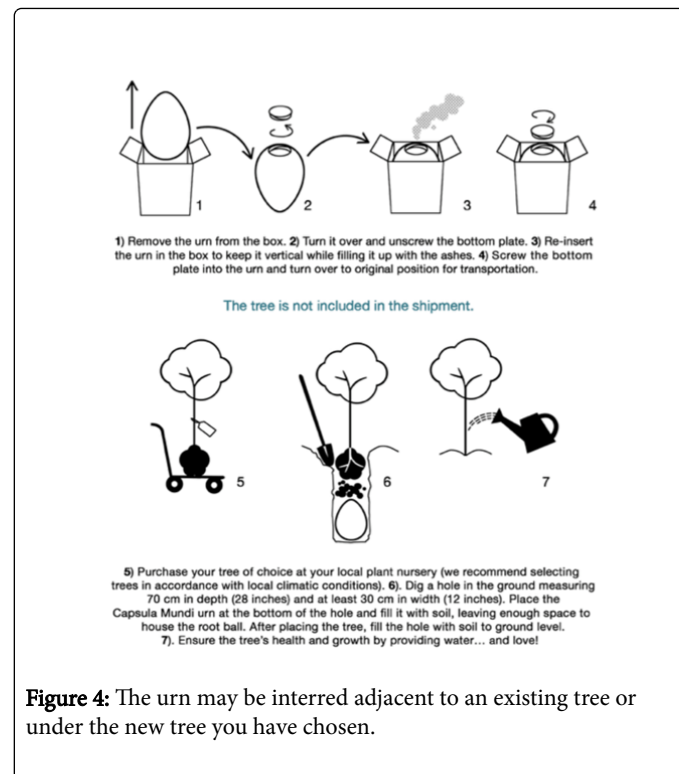


Figure 4: The urn may be interred adjacent to an existing tree or under the new tree you have chosen.

Conclusion

The so called "green burials" have opened a new and wider feeling with regard to death. Capsula Mundi, by recalling symbolic shapes, is the project that more than other can get closer to people's sensitivity. Looking at this inevitable moment on our life and envisioning a different way on our departures, there is the hope that the heavy taboo o death becomes lighter.

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