[the**bone**project]

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Alternative applications for bovine bone

My initial research explored agricultural by-products. The idea was to give farmers the ability, not only to farm food, but also to farm products. I desired to create some form of local production, which would be beneficial to both the environment, and the economy. This research led me to an abattoir where I encountered a strange, yet wonderful, opportunity to use waste cow bones.

Abattoirs would previously get paid for their leftover bovine bones. However due to the feed ban imposed during the BSE crisis, this is no longer the case. An abattoir in Inverurie has to pay £1600 every day to have their bones incinerated. Around 3 million tonnes of bones are incinerated every year in Europe, despite the majority of them being classified as 'fit for human consumption'. This disposal method has a detrimental effect on both the environment, and Britain's rural economy.

The bone project was all about discovering ways to use this waste material. Research was divided between three different areas: perception, properties and fabrication.

Perception:
Could bone be made as acceptable as red meat or leather?

Properties:
Does bone possess any useful; structural, chemical or electrical properties?

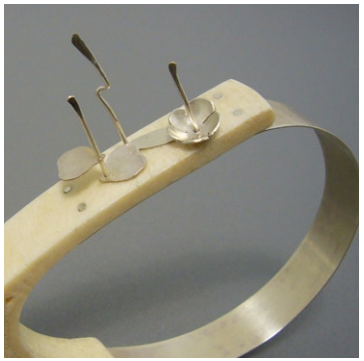
Fabrication:
How are bones currently disposed of? Could they be used for high volume applications?

It soon became apparent that bone was not immediately suitable for mass product design. Further work and research would be required to integrate it fully into society. Therefore a range of scenarios were created, and sources of further funding were identified. As a collection they demonstrate how bone could become a mainstream material for product applications.

1. **bone**Ivory

Sustainable Ivory

In this scenario, arts funding will be utilized to change the way bone is perceived, to make it desirable and valuable. This can be achieved through creating bespoke objects which present bone as a 'sustainable ivory'. The goal is to make bone as acceptable as leather.



1. Bone Watch. A watch mechanism is back-lit within a section of bone, casting a silhouette on the surface.

2,3 Bone Jewellery. These pieces were created as a result of "The Bone workshop". The workshop was organised as a research exercise to explore how designer-makers would feel working with the material. **2. Bracelet** by Jessica Buchanan. **3. Ring** by Laura Christie

2. boneLAB

Toxic Containment

Bone possesses unique chemical properties. Existing research proposes that ground bone can be used to remediate soil contaminated with heavy metals. However, it should be possible to use whole bone to absorb the toxins released by electronic products, and batteries, upon their disposal.

1

1. Bone Capsules. Symbolic objects designed to communicate the chemical properties of bone.

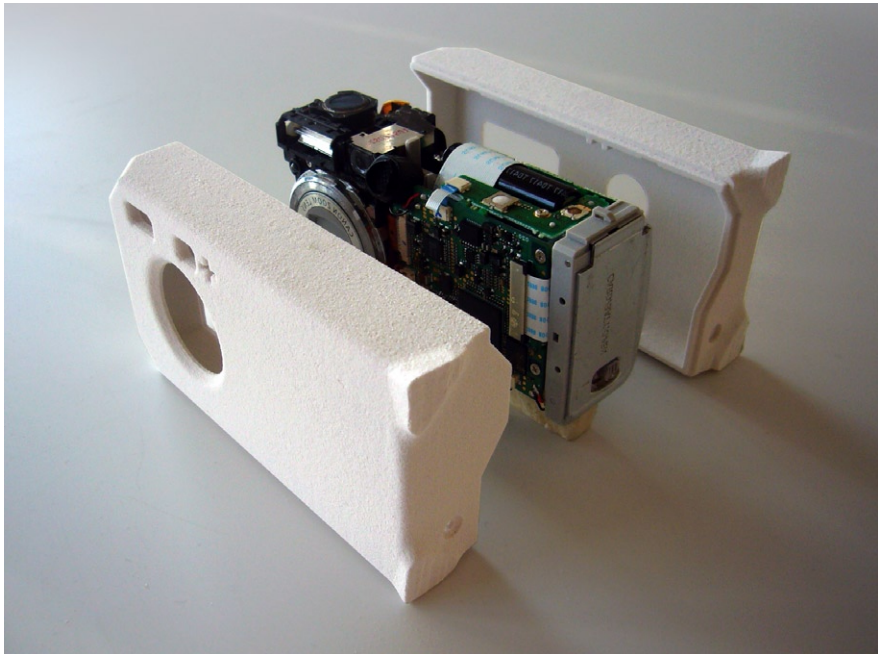
3. boneEngineer

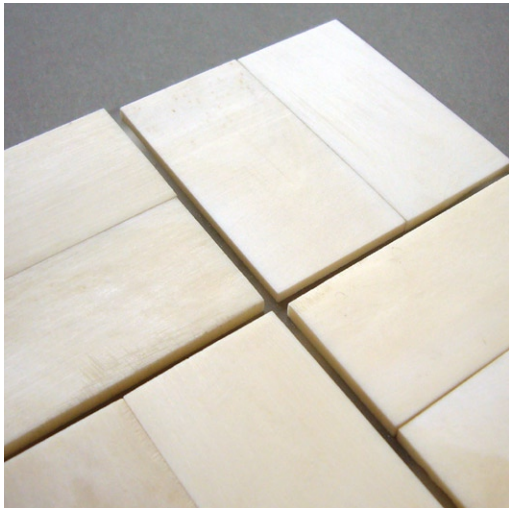
Mass Applications

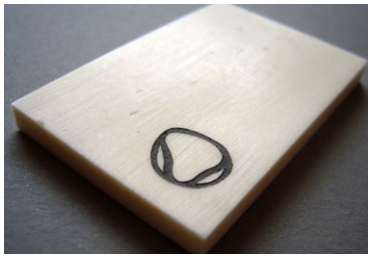
This scenario explores two high volume applications for bone:

Bone: Smart Material
Using crushed bone to make a new composite material. This would utilize the remediation properties of bone explored in BoneLAB, to create housings for toxic electronic products.

Bone: Laminate
Laminating sections of whole bone, to form large structural panels or tiles. This application would rely on bone becoming socially acceptable and desirable.







1 **1. Bone Housing.** Concept material utilizing powdered bone.

2 **2. Bone Tiles.** 'Sustainable Ivory' tiles for interior applications. Patterns and graphics can be laser etched into the bone.

Information.

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