Human remains and the archaeology of burials

What are human remains?

The term 'human remains' applies to parts of previously living peoples of the *Homo sapiens sapiens* subspecies. This definition includes materials such as skeletons, individual bones, and bone fragments or teeth. This definition may also include 'bog bodies'. These are human remains which have become naturally mummified due to the high acidity, low temperatures and lack of oxygen within bogs. Unlike other remains, bog bodies can have parts of their skin and internal organs intact centuries after death. In Great Britain such finds are rare, but those which have been found contribute greatly to our understanding of the past.

The treatment of human remains is one of the most sensitive and debated areas of archaeological activity and the fact that legislation is not easily accessible can often lead to confusion around how to deal with them properly.

What happens to bones when they are buried?

Bones buried in soil are affected by numerous factors which ultimately lead to decomposition. The temperature and the pH of the soil have an impact on decomposition and can also help archaeologists determine the likelihood of finding human remains.

1. Temperature affects bones as if they are close to the surface they are more susceptible to temperature changes above ground. This increased temperature can lead to an increased rate of decomposition.
2. Deeper below the surface, temperatures are lower. This is beneficial to bone preservation as there is less biological activity.
3. If temperatures continuously fluctuate between hot and cold, this can result in a freeze-thaw effect causing bone splintering. Remains buried below one meter are unlikely to be significantly affected by above ground temperature changes.
4. Soil pH can also impact bone decomposition. A pH below 7 is regarded as acidic and anything higher is an alkaline, a pH of 7

is neutral.

5. Acidic soil, particularly pH of 5 and lower is likely to increase the rate of decomposition as acidic soil breaks down the calcium apatite (hydroxyapatite) in the bones
6. Neutral or alkaline soil is likely to help preserve the bone. Soil that is extremely alkaline can help keep bones in good condition for a long time.
7. Soil surveys map these factors and can help predict the likelihood of finding bones on site. The UK Soil Observatory have maps which provided a soilscape of England and Wales, presenting the acidity, texture, common rock, drainage etc. of the soil http://mapapps2.bgs.ac.uk/ukso/home.html?lay+er=NSRISoilscapes. In much of South Wales the soil is acidic and has a significant impact on bones

What can archaeologists learn from human remains?

By studying human remains, we can find out important information about people in the past, including:

Causes of death

Diet, growth and activity patterns

Health, disease and medicine

Burial practices

Diversity of cultural practices over time

Demographic changes

Population relationships

Evidence of evolution, adaption etc.

Physical attributes such as, sex, diet, activities, health, age and cause of death can be determined to varying degrees by studying human remains, depending on the condition of the remains. Discovery of groups of remains can provide insight into wider societies. Almost all the remains found in Britain are those of anatomically modern humans. In rare cases Neanderthal remains have been found, but these are the only other human species that have been found in Great Britain.

Is it ethical to exhume and study human remains?

Human remains are important not just to archaeologists, but to a wide range of disciplines such as forensic scientists and anthropologists; however, these specialists understand it is a *privilege* and not a *right* to study human remains. Guidance such as the British Association of Biological Anthropologists and Osteoarchaelogy's (BABAO) *Code of Ethics*, emphasise the necessity to treat human remains with respect and due caution.

In order to ethically deal with human remains:

All relevant legislation pertaining to human remains must be followed. The removal shall be done with due care and the remains treated with respect and dignity.

The ground from which the remains are interred shall be screened from the public while the removal is in progress.

Human remains should only be exhumed and studied for legitimate reasons.

Remains should not be obtained, sold or trafficked illegally, and archaeologists should attempt to avoid working with remains that have been acquired in such a manner.

Remains should not be treated in a manner which may hinder any future study. Any arrangements for scientific examination should be clarified as soon as possible. The disposal of remains must be done with correct licencing or faculties.

Researchers have a moral obligation to be honest about the purpose and outcome of their investigations.

It is generally agreed by the public that the study of human remains is acceptable in the pursuit of furthering our knowledge of the past, so long as the remains are reburied when no more information can be obtained. As a result, the reburial of human remains is often a condition of the licence and remains are usually reburied within two years, unless an extension is granted. However, in some cases reburial is not entirely straight forward. This can be especially true when it comes to arranging the reburial of non-Christian remains. In these instances, special interest groups can become involved in the consultation process. For example, the organisation for Honouring the Ancient Dead (HAD) may give advice on the burial of non-Christian remains. It is considered more ethical by archaeologists to rebury

remains in alignment with the customs of their own time than to bury them in accordance with modern norms.

Human remains and development

Although some ancient cemeteries may be excavated as part of a research project, or because they are threatened by coastal erosion, most human remains of archaeological interest come to light as a result of development. If it is known that the development will disturb a burial ground, arrangements for the proper removal of the remains should be factored into the development plans; this may involve archaeological excavation. However, in some cases human remains are discovered unexpectedly, either as a result of ground disturbances or discovery during development. Under the *Burial Act 1857* it is illegal to disturb human remains without a licence, but if you happen across them on a development site then it is possible to get an emergency excavation licence through the Ministry of Justice. Excavation should be carried out by an archaeologist.

Sites where there are burials cannot be developed until all human remains have been removed and the decision of reburial, cremation or retention finalised. The age of the remains can often impact the decision about whether it is ethical to proceed with exhumation. The exhumation and study of older human remains is generally more acceptable because of a sense of anonymity. People are more likely to be upset by the excavation of more modern remains which likely have known relatives. Where burial have taken place in the last one hundred years, the developer and/or site manager has the responsibility of notifying the public that the excavation of human remains is taking place; this is usually advertised in a local newspaper, allowing the public a chance to challenge development or exhumation. Any existing family will also have to be notified, provided that they can be traced.