

“Human Taphonomy Facility” Aka “The Body Farm”



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Mini Review

Would you donate your body to forensic science?

In 1971 forensic pathologist Ben Caleb Sturghill [1] along with another pathologist thought up the idea of the “body farm”, scientifically referred to as a “Human Taphonomy Facility” or “Outdoor Anthropology Research Facility”. This idea came about due to how little is understood about what happens to our bodies after we die. Although the idea was there it remained just that until one year on in 1972 Dr. William Bass [2] turned the idea into reality thus opening the first body farm on a 2.5 acre wooded plot surrounded by razor wire fencing in Knoxville, Tennessee.

William M Bass [2] was known primarily for his position as the head of Tennessee University’s Anthropology Department in 1981 subsequently becoming Tennessee official state anthropologist later in 1971. Bass [2] was a frequent contact for law enforcement and investigators who were dealing with cases involving decomposed human remains in need of Bass [2] scientific input allowing further understanding from factors such as the time of death and possible cause of death of the victim. Once this had been established, investigators could then correctly piece together a timeline of events surrounding the person’s death and this is essential for law enforcement to narrow down their potential leads and questioning possible suspects, ultimately eliminating suspects and charging perpetrators.

This Tennessee body farm would quite naturally conjure up all wild and gory thoughts and images! After all it is like a mass murderer’s play ground. Well what else would you make upon witnessing partially decomposing bodies flung over trees, hanging out the boot of a car rolled up in an old carpet or drowned in the stagnant swamp?....This would be more than enough to terrify even the most hardened of

Wanderers - well it is like a scene from a horror movie! Or even a Patricia Cornwell [3] Novel. In 1994, Patricia published

her book entitled ‘The Body Farm’, the fifth book in the Dr. Kay Scarpetta series. The story revolves around an FBI agent investigating the murder of an 11-year-old girl who turns to a “clandestine research facility in Tennessee known as The Body Farm” to find answers. The story isn’t based on any particular real-life case, but the inspiration for a facility in the story clearly comes from the ARF.

One may wonder where the body farm acquires these bodies?

Well, the University of Tennessee in Knoxville have an estimated 100 bodies donated to their facility each year & 1,300 people already pre-registered.60% of body donations are made by family members whereas others are donated by medical examiners. The most famous person to donate his body is that of anthropologist Grover Krantz [4].

Bodies will not be accepted if the individual has contracted any of the following;

- AIDS Virus
- Any form of Hepatitis (A,B,C)
- Tuberculosis (TB) or Antibiotic-resistant bacteria such as MRSA

Why is this facility necessary?

As well as gaining a better understanding of human decomposition and the various processes involved from the fresh stage, the bloated stage and finally the dry stage. Other uses of the facility include law enforcement training, crime scene techniques, skill building & cadaver dog training (CDT), all of which are essential aspects of law enforcement and scientific research and for that reason alone the 1980 opening of the Tennessee facility soon attracted scientists from other leading universities anthropology departments within the US which

subsequently seen the opening of five more research centers these include:-

- a) Western Carolina University 2006
- b) Texas State University 2008
- c) Sam Houston State University 2010
- d) Southern Illinois University 2012
- e) Colorado Mesa University 2013

Western Carolina University

This university was the second human decomposition research facility in the United States opening in 2006 located in Cullowhee North Carolina on a rural mountain campus and often referred to as the (Forensic Osteology Research Station), commonly referred to as FOrESt and was established and run by the WCU forensic anthropology program (WC1). The facility is also used for cadaver dog training (CDT) and is one of the only forensic programs in America to offer this training.

Texas State University

The Forensic Anthropology Center at Texas State (FACTS) is a 26-acre forensic anthropology research facility located on the Freeman Ranch in San Marcos, Texas and is also the largest such forensics research facility in the world. The facility was commissioned by the Texas State University Department of Anthropology and is under the direction of Michelle Hamilton, a former student of Bill Bass [2]. Prior to the selection of the location, objections by local residents and the nearby San Marcos Municipal Airport stalled the plan. But on February 12, 2008, Texas State University announced that its Freeman Ranch, off County Road 213 northwest of San Marcos, would be the location of the facility.

Sam Houston State University

(STAFS) Southeast Texas Applied Forensic Science facility, This facility is located within the Center for Biological Field Studies at Sam Houston State University within a 247-acre (100 ha) parcel of land adjacent to the Sam Houston National Forest, One acre of maximum security fencing surrounds the outdoor research facility with an additional 8 acres (32,000 m²) of minimum security reserved for other types of forensic training such as search and recovery maneuvers. Contained within the outdoor facility are a variety of various environmental conditions, including a fluvial environment. Web cams are positioned around the area in order to monitor decay process and environmental conditions etc .

Southern Illinois University

The Centre for Forensic Anthropology Research (CFAR) opened at Southern Illinois University (Carbondale, IL) in October 2010 working with pigs as human proxies. The co-founders, Gretchen R. Dabbs and D.C. Martin, built the facility

to examine the rate and pattern of decomposition in the unique environment of southern Illinois. In comparison to the other facilities open at the time, CFAR has the lowest average temperature, highest average wind speed, second lowest elevation, the most acidic soil, and the worst soil drainage. Since climate and environment are major factors affecting the rate and pattern of decomposition, these differences between southern Illinois and the other established facilities were expected (and have proven) to heavily influence the rate and pattern of decomposition. The first human donation was accepted at CFAR in January 2012.

Colorado Mesa University

The Forensic Investigation Research Station (FIRS) opened as part of Colorado Mesa University in Grand Junction and is under the direction of Dr. Melissa Connor. Its location outside of Whitewater Colorado provides, compared to the other facilities open at the time, the highest altitude (4750' AMSL) and the most arid (averaging 8" of rain a year) environment. FIRS consists of both indoor and outdoor research facilities. The outdoor facility is about an acre of fenced area surrounded by privacy fencing with razor wire. Outdoor cameras are used both for security and research. The indoor facility consists of a classroom, wet lab/morgue, walk-in cooler, intake area, office, and secure storage areas.

The first pig was placed in the outdoor facility in Sept 2012, the indoor facility opened for classes in January 2013, and the first human donation was placed in November, 2013. Most remains desiccate quickly and current research focuses on the variation in the desiccation process and determining the post-mortem interval on mummified or desiccated remains. The focus at FIRS is on education and students include Colorado Mesa students, as well as practitioners, law enforcement, coroners, coroner deputies, and forensic scientists.

Why does the UK also need this facility?

There are numerous reasons as to why the United Kingdom would benefit from such research. First of all, turning public attention towards the reasons we need such research is crucial because the first mentions of "The Body Farm" may be enough for people to switch off from the real reason why this establishment would make such an impact on law enforcement and the scientific community and academics. The reason we need such a facility is for establishments to undertake scientifically rigorous empirical research on donated human cadavers for forensic purposes.

The research centre's operating in America and Australia are extremely useful for us to see how bodies decompose in those environments, but the data produced by these facilities is not DIRECTLY applicable to forensic cases here in the UK. We have different soil, climate, micro-climates, insects and scavengers - all the things that will make their decomposition process different than that of the UK.

So why, if this is so promising, don't the UK already have this facility up and running?

There were attempts to set one up in the UK in 2011, but for various reasons such as academics not being willing to work together and public opinion on the matter, this did not go ahead. Yet this is a very poor excuse for the failed project because public acceptance of such a facility has never been greater. Surely the negative factors delaying such a promising research facility from being established here in the UK are nothing compared to the overall goals that the positive factors will bring to the scientific community, but the matter of finances certainly impacts the progress and until funding is available, things can't progress.

Another negative factor is that the (HTA) - Human Tissue Authority do not issue licenses for this sort of research to be done on human remains and it is important for them to consider making forensic decomposition research a "Scheduled Purpose", which would mean that institutions can apply for a license to undertake this kind of work and Abide by their regulations. "The work carried out by the centre is invaluable to proving someone's guilt or innocence and crucial to ensure justice is properly served. The power of the findings here should not be underestimated. Even by the way a body is left, we can often tell if the killer knew the victim," Dr Danny Wescott (Leading Decomposition Expert).

If such a facility was given the green light, who would oversee such a facility?

If a "Human Taphonomy Facility" was given the go-ahead in the UK, it would be down to the HTA (Human Tissue Authority) to regulate. The HTA is in regular communication with Dr A. Williams in order to establish a regime for such a facility A spokesman for the (HTA) said "The (HTA,)along with the forensic pathology unit at the Home Office, is considering how to bring human taphonomy within the scope of the (HTA) regulatory remit"

(HTA) will make the decisions on what will happen to the bodies once their use for research is finished

There will be a range of options available for donors, such as handing the skeletal remains back to the families in order to carry out burial/crematorium wishes, or these could possibly be used for further research in universities, medical schools etc for teaching purposes.

References

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