

Bioethics in Anatomy Education Resources:

The Visible Human Project: History, Applications, and Ethical Questions

Description:

This resource outlines the history of the male dataset in the Visible Human Project of the National Library of Medicine. The images represent the body of Joseph Paul Jernigan, executed in Texas on August 5, 1993. This freely available dataset has been used in conventional anatomy curricula and is frequently included in 2D and 3D anatomy education software applications. There are several ethical concerns surrounding the use of this resource.

The topics covered by this resource include:

Human datasets and imaging, Capital punishment and anatomy, Transparency in anatomy education.

Creator(s): Sabine Hildebrandt, with Tom Champney and Jon Cornwall

Contact details: sabine.hildebrandt@childrens.harvard.edu

Further reading:

Hildebrandt S. Capital punishment and anatomy: history and ethics of an ongoing association. *Clin Anat*. 2008. 21(1):5-14. doi: 10.1002/ca.20571.

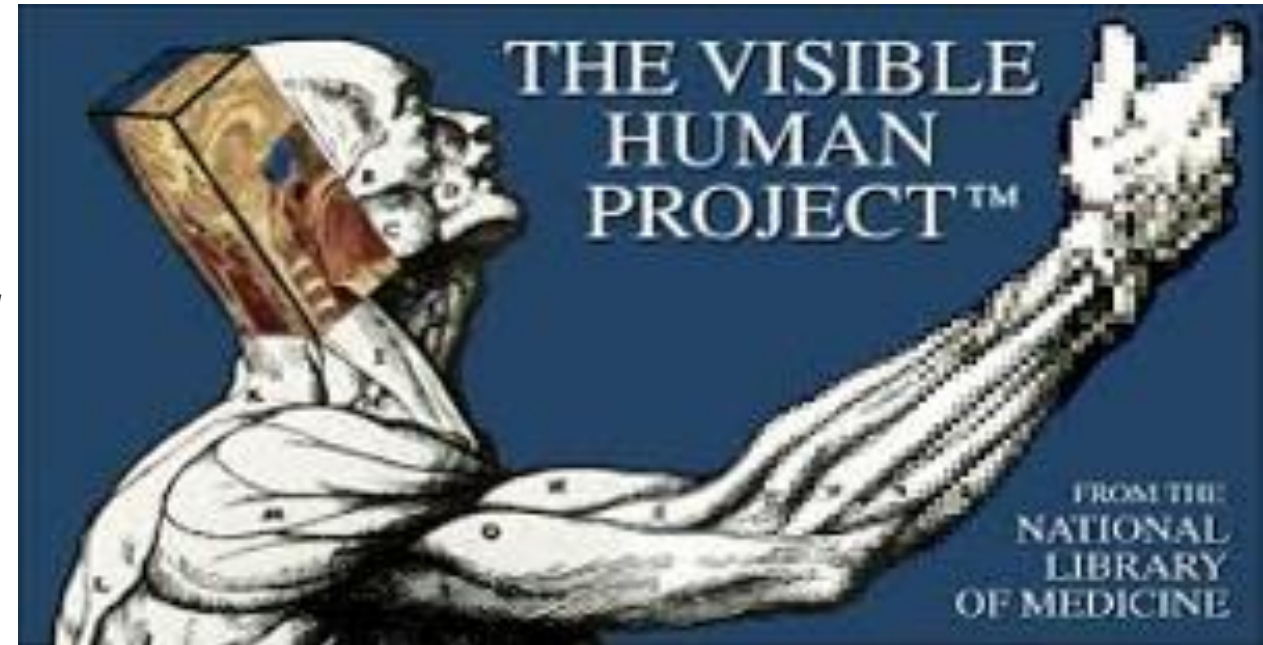
Spitzer VM, Whitlock DG. *Atlas of the Visible Human Male: Reverse Engineering of the Human Body*. Jones & Bartlett Learning; 1997.

Wadman M. Ethics worries over execution twist to Internet's 'visible man'. *Nature*. 1996. 382(6593):657. doi: 10.1038/382657a0.

Cornwall J, Hildebrandt S, Champney TH, Billings B, Schmitt B, Winkelmann A. IFAA recommendations for the ethical use of anatomical images. *Anat Sci Educ*. 2024. 17(1):7-10. doi: 10.1002/ase.2349.

The Visible Human Project Creator and Funder: The National Library of Medicine

During the 1980s, the US National Library of Medicine decided to create a Visible Human Data Set as part of a new biomedical library. The goal of the approach was to obtain digital images of computer-assisted tomography (CAT) scans, magnetic resonance imaging (MRI) scans, and cryosections of a “*representative, carefully selected and prepared male and female cadaver*”. A contract to create the data set was awarded to the University of Colorado Denver in 1991. The search for appropriate bodies proved to be the most time-consuming part at the start of the project, according to the Denver anatomists.



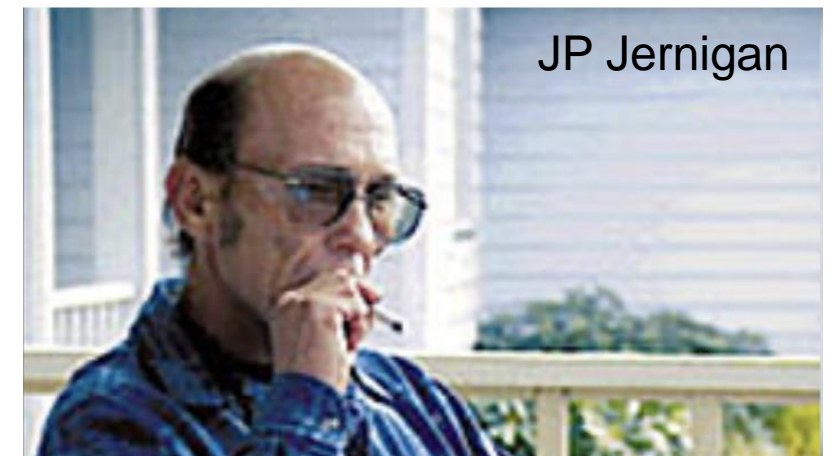
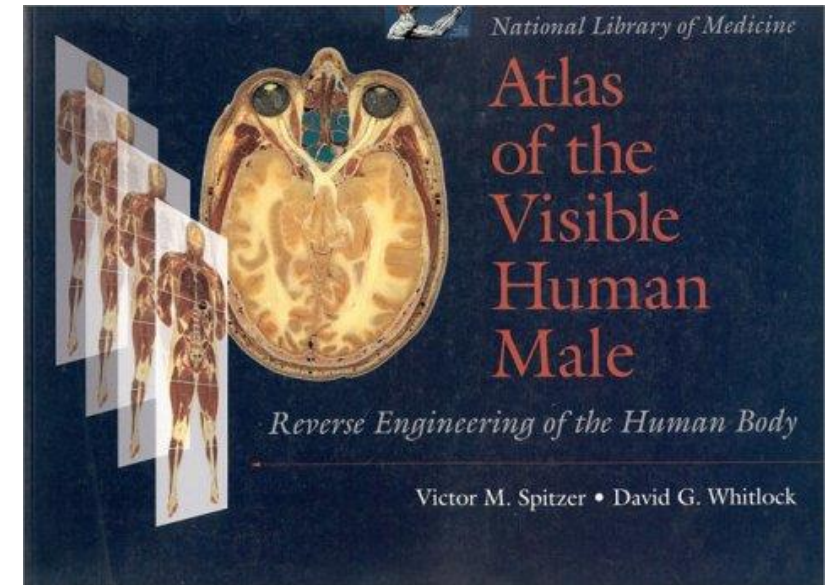
The Anatomists, the Anatomical Board and the Donor Body

“What we were searching for was someone 21- to 60-years of age who died without traumatic injuries or invasive or infectious disease. We got lucky. Some inmates on death row in Texas had decided to donate their bodies to science. They were young, relatively healthy men whose organs, tainted by lethal injection, were rendered unsuitable for transplant.” [Spitzer and Whitlock, 1998]

It was intended to keep the identity of the Visible Male anonymous, but reporters were able to identify him after the time, place, and manner of his death were published. Joseph Paul Jernigan was executed in Texas for murder on August 5, 1993. His motivation for the bequest of his body to science has been reported as either wanting to save his family the cost of the burial, to bring something good to society after a life of crime, or to become famous. He personally signed the consent form of the Anatomical Board of the State of Texas, which after the execution facilitated the transfer of his body to the anatomists within 8 hours.

“It was extremely convenient” Michael Ackerman, Nat. Library of Med.

“I'm not condoning execution. But I don't believe in wasting resources either.” Spitzer [both quoted by Wadman, 1996]



<https://www.swissfilms.ch/en/movie/blue-end/bbba2b3749584ea2bb34748c8dddcc66>

The Visible Human Project: How Are The Images Used?

Frequently, anatomy education software uses the free dataset of the National Library of Medicine, including the images derived from Joseph Paul Jernigan's body. This includes many commercially available 2D and 3D products, such as the Anatomage Table (<https://anatomage.com/>).

A disclosure of the origin of the data used in these applications is typically not provided, thus there is no information that some of the data may derive from Joseph Paul Jernigan.

The first known example of a provenance statement for the Anatomage Table was created by Dominic Hall, curator of the Warren Anatomical Museum, for the Countway Library at Harvard Medical School:

<https://countway.harvard.edu/services/publishing-data-services/digital-anatomy-3d-printing/anatomage-table>

