

Body Worlds

Body Worlds is an exhibition featuring plastinates, human bodies that have been preserved using a plastination process. First displayed in 1995 in Tokyo, Japan, this collection of anatomical specimens has since been displayed around the world. Although the exhibition debuted in Japan, the idea for the displays began at Heidelberg University in Heidelberg, Germany, where anatomist Gunther von Hagens invented a technique for plastination in the 1970s. After years of research and small-scale presentations of his work, von Hagens created Body Worlds, or Körperwelten in German. The attraction, which has been viewed by greater than 25 million people, has spread the study of anatomy into the public realm, making it possible for many to see inside an actual human body. Body Worlds has shown plastinated human embryos and fetuses.

The original aim of von Hagens was not to publicly display human plastinates; instead, he wanted to use plastinates as medical school tools. While studying medicine at Heidelberg University in the 1970s, he noticed medical students struggled with the use of cadaver models, because the cadavers quickly decomposed. To fill the need for long-lasting specimens, von Hagens spent a decade developing a new plastination method. Von Hagens' plastination technique involves the removal of fluids and fats from the body followed by an injection of resin. Plastinated organs and bodies are now used in medical schools.

Von Hagens started his own company to distribute tools and chemicals for plastination to medical schools. In 1993 he formed the Institute for Plastination at Heidelberg University, where he and colleagues created body plastinates and researched to improve the plastination technique. His work culminated in the Body Worlds exhibition, which he created in collaboration with his wife, Angelina Whalley, who became creative director of the organization.

The public reviews in Asia of the 1995 Tokyo Body Worlds display were so positive that von Hagens was offered a professorship at the Dalian Medical University in Dalian, Liaoning Province, China, which he accepted. The exhibition received acclaim in Asia, but was also popular in Europe and the United States. Body Worlds I, which is still touring as of early 2012, is comprised of greater than twenty posed, full body specimens, as well as a collection of greater than 200 organs and cross sections of bodies. The variety of views and components of the human body are displayed for the purposes of increasing awareness of the effects of disease and for educating the public on human anatomy. Body Worlds endured some public backlash early on in Germany due to the graphic nature of the displays, which include real fetuses and cadavers. When Body Worlds II premiered in 2003, it traveled only to Asian countries, to the United States, and to Canada.

The second version of the exhibition is still touring as of early 2012. Titled Body Worlds II & The Brain—Our Three Pound Gem, Body Worlds II has a different set of plastinates from the original exhibit. These pieces are similar to Body Worlds I in that the exhibition includes bodies posed in different ways, for example in running or in chess playing positions. While maintaining continuity between the two versions of Body Worlds, the second version also featured brains. Much of the exhibition's contents juxtapose diseased and healthy or old and young brains. The brains are shown from different perspectives, including cross sections, which support von Hagens' explicit goals of educating and inspiring awe by showing the body in interesting ways. Body Worlds III & The Story of the Heart opened in 2006, and follows a similar format, but it focuses on the cardiovascular system. This exhibition includes hearts affected by cardiovascular disease, healthy hearts, valves, and the intricacies of the veins and arteries.

Body Worlds IV first went on display in 2008 and is the first installment to use bodies solely obtained through the Institute for Plastination's adult body donation program. Prior to the existence of the

Institute, many of the specimens were donated for general educational purposes and not tied to Body Worlds. The Institute for Plastination in Heidelberg, Germany, was developed to produce pieces for both the exhibition and for education. It can take as much as 1500 hours to complete a full-body plastinate. To keep up with the demand for specimens and the plastination time requirements, there are now greater than 400 centers around the globe.

In response to the popularity of the themed components of the first four Body Worlds traveling exhibits, more focused exhibits were regularly created and still travel as of 2012, such as Body Worlds & The Mirror of Time and Body Worlds & The Life Cycle. Body Worlds & The Mirror of Time focuses on the anatomy of aging. This display shows the changes that occur in the body through time. It includes depictions of growth, maturation, and senescence. Body Worlds & The Cycle of Life illustrates changes over the life cycle—from conception to death. It also includes animal plastinates, such as a gorilla and a giraffe. The giraffe is the largest display to date and took three years to complete.

Many versions of Body Worlds include a prenatal component, which is comprised of specimens of pregnant women at different stages of gestation, and of embryos and fetuses at significant points in prenatal development. A woman six months into her pregnancy is shown lying down with her belly open to show how the fetus and her own internal organs are positioned. Some of the fetus displays depict congenital disorders, while the purpose of others is for size comparison. A small 14-week specimen is contrasted with a placenta, which is larger. Fetuses at different stages are also compared by their size and complexity. The display clarifies the process and speed at which development occurs prior to birth.

Some viewers have described the prenatal display is saddening, while others say that it is illuminating and profound. When the exhibits are in the United States, most of the embryos and fetuses are concealed in a separate area of the exhibit and labeled with a description of the contents and the optional nature of this portion of Body Worlds. Reactions to the prenatal display vary with religion and culture, but some viewers do leave reporting more appreciation for the processes that mark the beginnings of life.

Although pregnant women are part of the prenatal component of Body Worlds, some have criticized Body Worlds about the lack of females in the exhibitions. Von Hagens has responded to accusations of sexism by stating that he has used male full body plastinates because of the definition of the muscles and body parts. Many of the organs that are displayed, according to Body Worlds officials, do come from female donors. Regardless, the exhibitions now include more female specimens because of public demand. In addition, all of the bodies on display now come to Body Worlds through the body donation program, where adults volunteer their bodies for plastination and display after their deaths. The embryos and fetuses, however, mostly come from research and medical facilities that have the specimens.

Questions about the validity of the body donation process have led to controversy. Some have speculated that the earlier bodies were obtained unethically through theft or sale. This speculation notes the disproportionately large number of donations from Asian countries. It is unclear how to classify the specimens when they are brought into the United States; they can be deemed as bodies and as art. Von Hagens and Body Worlds have stated that they policies to govern the collection of specimens, and that all specimens have been collected legally according to their own requirements and the laws in the countries of donation. Some have also expressed their dislike for the display of the bodies after death. Some religious individuals do not approve. Critics also complain about children being brought to the exhibition on field trips, due to the displays of nudity and concerns about the respectful treatment of bodies. Body Worlds has responded that it upholds the rights of parents to decide the appropriateness of the exhibitions for their children.

Educators and medical professionals have stated that Body Worlds events provide unique and important information about health and the workings of the body. It has brought anatomy and embryology into the public realm, and it exposes people to the complexities of the form of the human organism.

Sources

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