

The Ultimate Post-Mortem

by Rosie Dent '06

Thou know'st 'tis common;
All that lives must die,
Passing through nature to eternity.

Hamlet 1.2.72-73

What do you find more uncomfortable: the thought of worms eating your decaying body after your death, or your best friend infusing your cells with plastic to preserve your flesh for "didactic eternity"? While it may not be the most comfortable thought to consider the decomposition of your body after your inevitable death, how does never decomposing compare?

The open halls of my favorite science museum, the Franklin Institute of Philadelphia, are currently inhabited by a troupe of athletes, thinkers, smokers, equestrians and the occasional duck. These inhabitants, with the exception of the ducks perhaps, were once rather like you and me. They probably lived busy, full lives, had bad habits, and likely ate less than the recommended daily value of vegetables. Quite unlike us, they also gave their consent to have their bodies preserved and displayed after their deaths. Before death they donated their bodies to *BodyWorlds*, an anatomical exhibit of preserved human bodies currently touring the United States. Rather than a layer of powder and a hasty burial, they opted for a slightly more involved post-mortem process.

Imagine the options: formaldehyde or none? A freezing cold acetone bath followed by a precise dissection, or the careful attentions of an undertaker to apply makeup? Vacuum plastination (a patented process to infuse your cells with resins and plastics), or worms and ashes? The folks populating the Franklin Institute after hours decided during their lives to opt for the former options.

Eternal life is one of those tantalizing, myth-inspiring concepts that continue to revolt and delight our curious species. Eternal death seems a less popular motivator of human imagination; apparently though, not entirely without appeal. At least, not for the 17 million people who have viewed Gunther Von Hagens' exhibitions since 1996.

Look inside

Folks have lined up in Tokyo, Berlin, Los Angeles and London. The exhibit attracted 550,000 people in Belgium, approximately 5% of the Belgian population. I joined the ranks in Philadelphia and filed through a packed exhibit on a Thursday night at 8pm. Parents, children, art students and trendily clad twenty-somethings lined up to look at cases of preserved body parts and wander around posed preserved bodies. Not only did all these people pay the steep entrance fee, some of them have signed up to join the exhibit, as soon as they die, that is. Their reasons? As varied as wanting to support health education and aversion to becoming worm meal.

"I wanted to give my body to something useful," Chrissy Jenks, a nursing student from the University of Delaware told the Philadelphia Inquirer in January, 2006. "I know I will feel better this way rather than being eaten up and digested by worms," another visitor told the British newspaper *The Guardian*. Gunther Von Hagens, the German anatomist and creator of *BodyWorlds* said in a 2002 interview "I think about the idea that my human body will continue to teach. This is a kind of consolation."

However, the exhibit is not merely homage to permanent preservation or for the consolation of those people who decide to be preserved as plastinates. People from all walks of life stand in front of the bodies, eyes wide with fascination. It is difficult not to ohh and ahh over the perfectly preserved and isolated vascular system and translucent slices of human brain illuminated by backlighting. A smoker's lungs, blackened from tar, are displayed for comparison with a non-smoker's pink pulmonary tissue. Slices of liver line up to illustrate the cirrhosis and liver cancer than can result from alcohol abuse, among other things. The stated goal of the exhibitions is to encourage a healthy life style by comparing disease organs with healthy. Von Hagens sees his full body "specimens" as a lesson that we are "naturally fragile in a mechanized world."

"One of my biggest aims is to democratize anatomy," Von Hagens said in an interview with Wendy Moore in 2002. The exhibit is explicitly aimed at a lay audience, and intended to open up the field of anatomy to the general public. Von Hagens is attempting to popularize a matter that has traditionally been reserved for medical students and pathologists. In 2002 he even went as far as breaking British laws to perform the first public autopsy recorded since the 19th century. Oliver Right, a reporter from *The Times*, along with 2000 other people vied for tickets that were eventually distributed by lottery. In an interview on *All Things Considered* (NPR) Right reported the televised late-night airing of the autopsy boasted 1.2 million viewers across Britain.

Fascination and disgust

There is no question that people are intrigued by anatomy, and engrossed by the concept of preservation. The Mütter Museum, a collection of medical oddities housed at the Philadelphia Physician's Association, has attracted people for years to look at preserved conjoined twins, a woman's body turned to soap post-burial by sub-terrain chemical reactions, and 19th century anthropologist Joseph Hyrtle's collection of skulls from around the world.

"Disgusting but fascinating" seems to be the refrain in any of these exhibits. It's not exactly pleasant to look at the largest human colon ever collected, but more of a cover-your-eyes-and-then-peek kind of experience to see all 27 feet of preserved intestinal tissue. The *BodyWorlds* exhibits induce a similar "yuck-factor" as one writer for *Science* described it. One visitor described seeing *BodyWorlds* as "kind of like a car crash, gross but you can't stop looking." But it also has thousands of people comparing a healthy aorta with those plaque-caked by atherosclerosis. People are interested, but is it ethical to display bodies to the public? Critics of the exhibits hark on questionable consent practices by Von Hagens and his Plastination Institute, while proponents laud his efforts to interest the public.

Body art

Individuals who decide to join the ranks of full body specimens must fill in a four-page document to insure "informed consent." The document includes a long list of possible uses for bodies, allowing donors to opt in or out of certain fates. Among the possibilities are sale to an educational institution, public display as in a museum exhibit, and being touched by visitors to the exhibits. However, many people question how thoroughly consent is informed.

"There is no box to check that says, 'yes you can dissect my muscles and then dress me in a hat so people laugh at me,'" one visitor to the exhibit commented to me. "They didn't have any say in how they were posed," another pointed out. Others question the inclusion of children's bodies in the exhibit. One of the three preserved vascular systems in the Blood Vessel Family came from a child under the age of eighteen. A number of other partial specimens came from toddlers and infants, who could not have given consent.

In interviews and on the official *BodyWorlds* website Von Hagens emphasizes that most full body specimens came from German donors who saw previous versions of the exhibit before deciding to donate their bodies. He maintains that partial body specimens (including single organ specimens, small sections from a limb, or bones with prosthetic joints attached) do not require the kind of informed consent necessary for preserving an entire body. Von Hagens asserts donors are fully informed as to how their preserved remains may be displayed.

One of the articles on the list of possible body-uses specifically addresses the use of bodies for "anatomical art." The document states that "[p]lastinated specimens, especially whole body plastinates, are occasionally interpreted as anatomical works of art. Hence the question 'I agree that my body can be used for an anatomical work of art.'" Donors check yes or no.

The exact meaning of "anatomical art" is not entirely clear. Treating previously living bodies as sculptures is controversial to say the least. Von Hagens ostensibly makes no claims to the title of artist and does not promote the idea of the exhibit as an art exhibit. In a guide called "Donating your Body for Plastination" the Plastination Institute writes that "...the purpose of creating a permanent anatomical specimen is not to achieve perfect shape with beautiful appearance, rather highlight those details of a preexisting natural organism that best illuminate relationships between structures and their functions in a living body." Official information from Von Hagens and the organizers of the exhibit consistently emphasizes the educational nature of the exhibit and the inherent beauty of the human body, but small black placards with Von Hagens' signature at the base of each plastinate do little to contradict the "artistic anatomy" image that the exhibit has picked up.

Return to the Renaissance?

The final hall of the Franklin Institute could be mistaken for a sports museum, if it weren't for the skinlessness of the athletes and the realness of their bodies. A dancer is caught for eternity mid leap, a runner leaves his muscles splayed out behind him in his haste, a hurdler clears his forty-two inch challenge with ease, and a fencer lunges, foil in one hand and layers of his body staggered behind him.

However, it's not exclusively an athletic club. *BodyWorlds 2* (currently in Denver) hosts a man seated, chin on hand in perpetual thought. This "thinker" is not the only body posed to mimic well-known works of art. One stands triumphantly holding his own skin, a direct recreation of one of 16th century Gaspar Beccera's anatomical drawings. Other plastinates evoke Dalí or classic roman torso sculpture.

Von Hagen's positioning of the whole bodies harkens back to the tradition of anatomical art and popular anatomy beginning in the 15th century. During this early period in the history of anatomy, bodies were portrayed in specific contexts, posed in lavish landscapes and decorated with imagery from Christianity or mythology. Bodies were depicted displaying themselves, holding the skin of their abdomens open to allow the audience a voyeuristic glance inside, peeling the epidermis off of their backs to expose exquisite musculature. Reproductions of these playfully coquettish drawings drape the otherwise empty walls of the Franklin Institute galleries.

Until the 19th century "science" as we conceive of it today had not come into being. Anatomy and art were intricately

interwoven. Illustrated anatomies were rich volumes employing the highest quality printing technology available at the time. Anatomists sometimes based drawings on their own dissections, but often interpreted from other artists' work. As "science" emerged as a professional discipline distinct from informal natural history, anatomists moved away from contextualized, interpretive illustrations. By the end of the 19th century human anatomy was within the realm of medicine, and considered by many inappropriate for the public eye.

Gunther Von Hagens conceives of his exhibits as a throwback to a time before anatomy became the domain of academia. Stuart Jeffries, a writer from *The Guardian*, described Von Hagens as "on a global mission to end the elitism of the medical profession which, he believes, has denied the lay public access to a better understanding of their own bodies." The anatomists of the 17th, 18th and 19th century dramatized and moralized their images of the body. *BodyWorlds* achieves a similar feat, but using real people's bodies.

Promenaded, pickled and plastinated

For the first two hundred years of the study of anatomy in Europe, most work was recorded in drawings, sketches and paintings. By the time of the American Revolution however, European fascination with the body had thoroughly extended into the realm of the real. Public fascination with the human form made Frederik Ruysch's museum of anatomical specimens spectacularly successful in 18th century Amsterdam. Live specimens drew crowds to the Picadilly Circus of London, where people were paraded as medical oddities, samples of "inferior races", and sexual symbols.

The display of humans and human remains was contentious even then. Abolitionists and members of various faiths debated the commercialization of human bodies. Controversy over these "exhibits" continues even today. The repatriation of Saartjie Baartman's remains to South Africa made headlines around the world in 2002. Her case is a particularly salient example of the body on display. Publicized as The Venus Hottentot, Saartjie (or Sara) Baartman gained fame not only in London, but in the intellectual circles of 18th century Paris. A Khoi-khoi woman from South Africa, her body was dissected after her death by the prominent Georges Cuvier. A cast of her body, her skeleton and her preserved genitalia remained in Le Musee D'homme in Paris until 2002, an insight into the European fascination with the bodies of "savage" people.

The sordid history of displays of humans and human remains contributes to the objections many raise to Von Hagens' work, as well as to the sometimes-defensive presentation of the exhibit. I shuddered to look at the glass-enclosed specimens of the female reproductive system, for although Von Hagens' specimens may have come from consenting individuals, women's bodies have not always been preserved and displayed with their approval.

Of all the members of the exhibit, the pregnant Venus is perhaps the most fascinating and problematic. Upon learning of her terminal illness, the donor agreed to the plastination of her body. She died shortly thereafter, eight months into a pregnancy. According to *The Observer* she died too far from medical attention for her unborn child to be saved, but as with all of the plastinates, the exhibit does not include a placard telling visitors anything of her life, death, or her choice to donate her body.

Reclining on one arm, she is preserved in a seductive pose, her womb opened to show in exquisite detail her twenty-four week old fetus. She is one of few female bodies in an exhibit that has been criticized for posing women's bodies in passive poses and men's in active, athletic positions. Displayed in a room separated by red curtains and a sign warning that plastinated fetuses, infants, and a pregnant woman are housed within, visitors have the choice to bypass this portion of the exhibit if they choose.

Educate, or entertain?

The Philadelphia exhibit has raised some eyebrows, but little serious ethical questioning or criticism. Most people I talked with about the exhibit had qualms about the presentation, or some discomfort with the form, but overwhelmingly visitors signing the guest book raved about the show. "Excellent", "informative", "amazing" and "fantastic" predominate in the pages of the sixty thick books filled with visitor comments. Nurses, teachers, students and artists rave in their short notes to Von Hagens, many exuberantly thanking the creator of *BodyWorlds* and the staff of the Franklin Institute. The exhibits are enormously successful because people are enormously interested.

The designers of the exhibit were careful to arrange the topics so as to ease visitors into the idea of looking at real bodies preserved. The first half of the exhibit works its way from the skeletal system, to the nervous system and then onto circulation. At the end of the circulation display visitors move on to another set of halls where they are greeted by "The Goalkeeper," a whole body plastinate sliced sagittally in two with one arm catching a soccer ball and the other holding on to his own guts, as if they were accidentally loosened and nearly left behind. The rest of the exhibit explores the gastrointestinal tract, the liver, spleen and reproductive tracts, before culminating in the hall full of athletes. So where does the line lie between respectful use of real specimens to educate and inappropriate display of bodies for sensational, commercialized, entertainment?

As I rounded the corner at the end of the circulatory system my first trip through *BodyWorlds*, I turned to a friend I was walking with and we both puzzled for a moment over why this exhibit attracted such criticisms. By that point I still found it extremely interesting, and respectfully displayed. I had walked through the first portion of the exhibit with Dr. John Hansen-Flaschen, a family friend well known in Philadelphia for his work on compassionate care for the dying. As we looked at the different displayed bodies he pointed out to me little clues preserved in the body as to how these people lived. He pointed out smokers' blackened lungs, arthritic joints, and unique vasculature that distinguished the plastinates

from standardized textbook models.

Stopping at one plastinate he explained that the exquisitely sculpted muscles of the preserved man indicated he had not died after a long illness, but must have been extremely fit at the time of his death. Listening to a physician's interpretation of the preserved tissues elucidated the uniqueness of each body. It conferred in me an appreciation for the realness of each person who checked boxes and signed consent. I shared the sense of awe that so many visitors record on the white pages of the comments books.

Much of the controversy surrounding *BodyWorlds* stems from qualms about the use of human remains. How necessary is it to display real bodies to achieve the goals of the exhibit? Stephen Snyder of the Franklin Institute wrote in the Philadelphia Inquirer "experience has taught us that when it comes to education, nothing can compare with the real thing. Visitors are more engaged, ask better questions, and learn more when real specimens are used." The authority academia and medicine have assumed over the human body, and the assertion that bodies are the realm of scientists privilege knowledge of anatomy to a select few. Seeing sixteen year olds marvel over the brain and twelve year olds tug on their parents' sleeves with questions was enough to convince me *BodyWorlds* is doing something correctly.

However, by the time I turned the final corner into the hall of athletes, a queasy feeling had settled in my stomach. The sheer number of bodies, an army of plastinates, was overwhelming. The purpose of the resin infused teacher and silicon chess player may be to examine the nervous system and its intricate relationship to intellect and motion, but a troupe of gymnasts seems excessive to showcase musculature and motion. Comments wafting past me from other observers did little to alleviate my discomfort; "See, I told you it looks just like corned beef."

Speaking with Dr. Hansen-Flaschen, head of pulmonary care at the Hospital of the University of Pennsylvania, about the exhibit and his thoughts on its educational use he said "[Within *BodyWorlds*] there were two exhibits. The first exhibit was an excellent, educational exhibit making anatomy accessible to the general public. The second used real human bodies to entertain. That is where I became uncomfortable." Another visitor echoed this sentiment with a note in the comments book saying "I found it bazaar and surreal. The exhibits about describing [how the] body works I enjoyed, but not the dead human art."

My tour through the progression of plastinated fetuses and the opening up of pregnancy left me feeling exposed and displayed myself. I wondered how many of the other guests of the museum were familiar with the history of how bodies have been possessed and displayed in the name of science. I couldn't help thinking there should have been some tribute to bodies taken and displayed without permission. The fact that Von Hagens obtains consent from his donors cannot erase the legacy of earlier anatomists who obtained their subjects by less transparent means.

People will always be fascinated by bodies, their own and others. While making anatomy accessible seems a useful goal, the line between ethical use of human bodies for education and unethical display for entertainment is a thin one. People are bound to interpret what is acceptable differently. For me though, the collection of cyclists, field athletes, dancers and the reclining pregnant woman crossed that line. The dramatic display of so many bodies nauseated and numbed me. By the time I reached the final hall, the exhibit had become a testament to the skill of the anatomist rather than a lesson for the public or a monument to the beauty of the human body. The preservation of bodies was no longer intended to display the intricate systems that keep us alive. Rather the steep entrance fee seemed to buy admission to a show of amazing human power- one man showing off his ability to preserve the human form for eternity.

As folks line up in Denver, Houston and St. Paul in the coming months as the *BodyWorlds* exhibits tour the United States, many will likely sign up for the fate of plastination. For me, however, the choice is clear. I would rather be eaten by worms, thank you.

Additional Information:

www.bodyworlds.com

<http://www.nlm.nih.gov/exhibition/dreamanatomy/index.html>

<http://www.guardian.co.uk/g2/story/0,3604,669775,00.html>